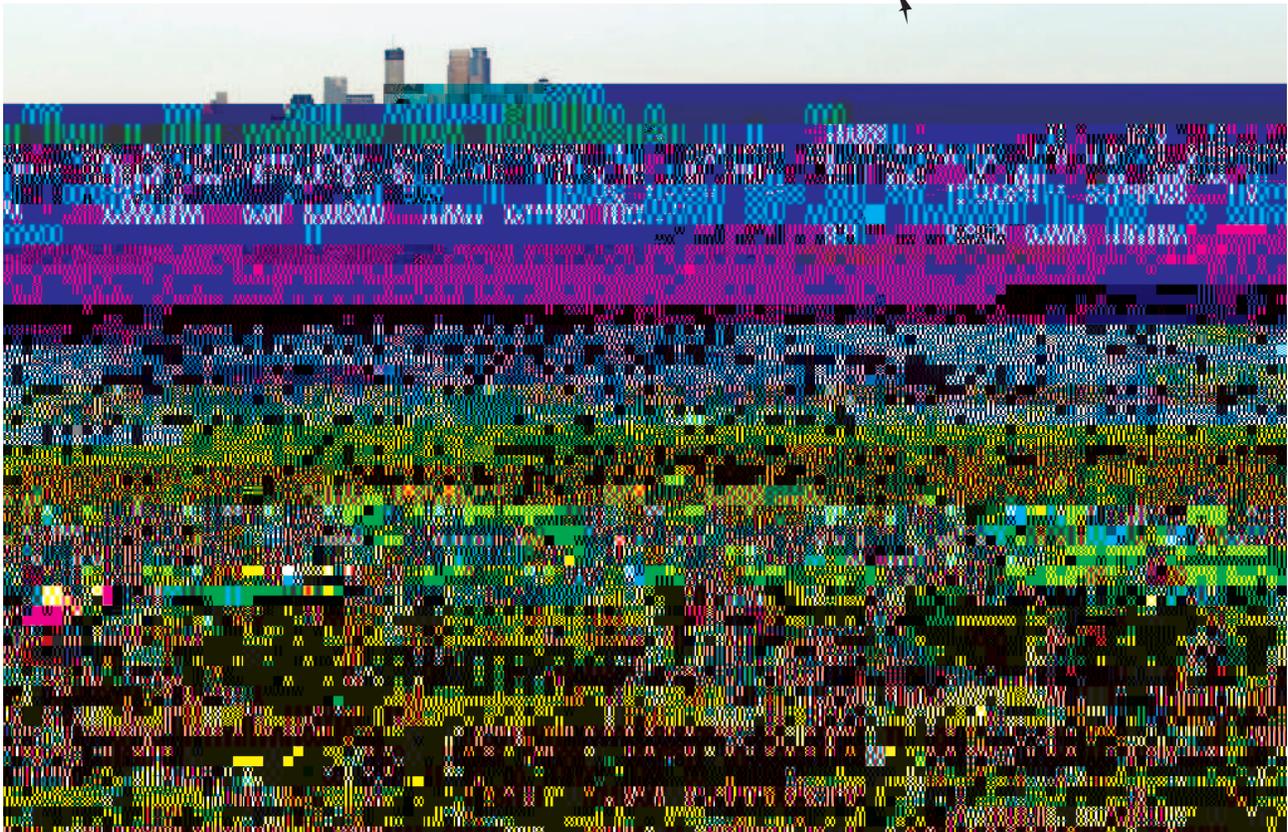




Undergraduate Catalog *

eb&te
www.stthomas.edu/catalog

- * A proposal has been submitted to change to a single academic year catalog. This proposal will be reviewed during the ● ● academic year.



Fa e ester **Pre' nary**

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Business Administration	217
German	270
Greek (minor only)	272
Health Promotion - Science (B.S.)	225
History	233
Human Resource Management (Business Admin)	98
Information and Decision Theory	140
Information Security	140
Information Systems (IS)	139
International Business (Business Administration)	88
International Business - French Intensive	
International Business - German Intensive	
International Business - Spanish Intensive	
International Studies	245
Japanese (minor only)	275
Justice and Peace Studies	250
Latin	276
Leadership and Management (Business Admin)	
Legal Studies (minor only)	256
Legal Studies in Business	

(Business Admin)	
Literary Studies	256
Marketing Management (Business Admin)	100
Materials, Science Engineering (Minor)	257
Mathematics	259
Mechanical Engineering (B.S.M.E.)	180
Music	284
Music Business	286
Music - Liturgical	285
Music - Performance (B.M.)	285
Neuroscience (B.S.)	302
Operations Management (Business Admin)	101
Philosophy	304
Physical Education, Health Education	164
Physics (B.A. & B.S.)	310
Political Science	314
Popular Music (minor only)	288
Psychology	323
Public Health Studies	224
Real Estate Studies (B.S.) (Business Admin)	95
Renaissance Program (minor only)	329
Science, Technology, Engineering and Mathematics for Elementary Education (STEM)	156
Social Sciences	330
Social Studies (teacher licensures)	165
Social Welfare (minor only)	333
Social Work	332
Sociology	338
Spanish	278
Statistics (B.S.)	345
Theology	350
Women's Studies [ACTC]	367

Accreditation and Membership

In 1992 the university opened a permanent campus in downtown Minneapolis, which is home to most of the graduate programs in the Opus College of Business, the Graduate School of Professional Psychology, the School of Education, and the School of Law.

The Bernardi Residence in Rome, which opened in 2000, is a remodeled residential estate on the banks of the Tiber River. Serving as home to students on the university's core semester program and the Center for Catholic Studies' Rome programs, the Bernardi Residence is also available for conferences, study tours and housing for faculty, students, and visitors to Rome.

History

As St. Paul's third bishop. What began as the St. Thomas Aquinas Seminary - with 62 students and a faculty of five - has grown to be Minnesota's largest independent university with three campuses and more than 10,000 students.

Built near a river bluff on farmland that was still considered "far removed from town" in the late 1800s, the university's main campus is nestled today in a residential area midway between the downtowns of St. Paul and Minneapolis.

In its first decade, St. Thomas was a high school, offering a liberal arts education. Over the years, the university has expanded its offerings to include a wide range of undergraduate and graduate programs. The university's growth over the past three decades. Enrollment increased from under 2,500 students in 1970 to 10,245 today. The undergraduate program currently enrolls approximately 6,240 students.

Long-standing graduate programs in business, education, professional psychology and social work offer degrees at the master's, specialist, and doctoral levels. St. Thomas' original "classical" and "theological" departments came together once again in 1987 through an affiliation between the seminary and university. Together they created the School of Divinity, which offers graduate degrees in pastoral studies, divinity and theology. St. Thomas is also home to the undergraduate St. John Vianney Seminary.

In 1990, recognizing the many changes and the addition of graduate programs to the institution, the name of the College of St. Thomas was changed to the University of St. Thomas.

Locations

The university's main, 78-acre campus anchors the western end of St. Paul's historic Summit Avenue.

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St. Paul Seminary School of Divinity
The St. Paul Seminary School of Divinity offers master's-
and doctoral-level degrees oriented to theological study
and the practice of ministry. The school also offers a
two-year pre-theology program for priesthood candidates
who require additional preparation.

St. Paul Seminary School of Divinity

The St. Paul Seminary School of Divinity offers master's-
and doctoral-level degrees oriented to theological study
and the practice of ministry. The school also offers a
two-year pre-theology program for priesthood candidates
who require additional preparation.

School of Education Leadership Counseling

Graduate study leading to certificates, master's, educa-
tional specialist, and doctoral degrees is offered. Master's-
and doctoral-level degrees are offered in counseling psy-
chology. A certificate in family psychology also is offered.

School of Engineering

St. Thomas graduate engineering programs have served
students and regional industries since 1986. The School
of Engineering offers graduate degrees in manufacturing
engineering, mechanical engineering, systems engineer-
ing, technology management, and regulatory science.
(more information is available at www.stthomas.edu/engi-

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Mathematics Resource Center

The Mathematics Resource Center (MaRC) provides a variety of resources including a tutoring staff, math placement exam proctoring and preparation, and general mathematics advising. Also available from the MaRC is a list of private tutors, whose rates are subject to individual negotiations.

Students must satisfy all prerequisites in order to enroll in a math course. Most entry-level math courses require an appropriate math placement derived from an ACT math score or from a UST Math Placement Exam, which is a proctored test offered weekly by the MaRC Director.

Students whose math placement is 099 cannot

Admission Policies

The university's policy of nondiscrimination extends to all aspects of its operations, including but not limited to, employment, educational policies, admissions policies, scholarship and loan programs and

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University of Saint Thomas
 International Students
 This policy applies to all international students who are enrolled in any degree program at the University of Saint Thomas. International students are defined as those who are not citizens or permanent residents of the United States. This policy is designed to ensure that all international students have the opportunity to complete their education at the University of Saint Thomas and to provide them with the support and resources they need to be successful. The University of Saint Thomas is committed to providing a high quality education for all students, and this policy is a key part of our commitment. The University of Saint Thomas will not accept any international student who is not in good academic standing at the time of admission. The University of Saint Thomas will not accept any international student who is not in good academic standing at the time of admission. The University of Saint Thomas will not accept any international student who is not in good academic standing at the time of admission.

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University of Saint Thomas
 International Students

Non Degree Students

This policy applies to all non-degree students who are enrolled in any program at the University of Saint Thomas. Non-degree students are defined as those who are not enrolled in a degree program. This policy is designed to ensure that all non-degree students have the opportunity to complete their education at the University of Saint Thomas and to provide them with the support and resources they need to be successful. The University of Saint Thomas is committed to providing a high quality education for all students, and this policy is a key part of our commitment. The University of Saint Thomas will not accept any non-degree student who is not in good academic standing at the time of admission. The University of Saint Thomas will not accept any non-degree student who is not in good academic standing at the time of admission. The University of Saint Thomas will not accept any non-degree student who is not in good academic standing at the time of admission.

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At Saint Thomas, the University Registrar will verify that the student left St. Thomas in good academic standing, and if the student is eligible to return to the university as certified by the Dean of Student Life. However, if the student has been enrolled at another college after initial enrollment at St. Thomas, an official transcript and a completed Dean of Students form must be submitted to St. Thomas from that institution. The student will then be reinstated by if the transcript indicates work of a C average or better and the Dean of Students form indicates the student left that institution in good standing.

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- knowledge of their own and others' cultures and traditions, including non-Western and non-majority cultures, and respect for the diversity of peoples and cultures within the fundamental unity of humankind
- knowledge of the natural world and of the modes of inquiry cultivated by the natural sciences
- the ability to reason quantitatively and to evaluate basic mathematical and statistical arguments
- the ability to understand how the power of technology can be used in service of the common good and as a tool within academic disciplines
- the ability to use knowledge from various fields and to integrate ideas across disciplinary boundaries
- knowledge in depth in at least one field of study, including an understanding of the route to acquiring knowledge and demonstration of some ability to do research or learn independently in that field.

courses contribute to students' liberal arts education at the University through the development of writing, reading, and critical thinking skills.

The first course, "The Christian Theological Tradition," introduces students to the theological frameworks that Christians have historically used to address questions of faith and human existence. The core readings for the course are from the Bible and from classic writers within the Christian tradition. The course provides students with an opportunity to reflect critically on the Catholic and Christian traditions within the context of contemporary life. Finally, it provides students with a basic level of theological literacy to prepare them for the second and third-level courses.

The second-level (200-numbered and 300-numbered) courses invite students to practice theology by engaging at a deeper level in the discipline of "faith seeking understanding." Courses at this level focus on a particular area of the Christian tradition, namely: the Bible, historical theology, systematic theology or moral theology. Students critically examine core elements of the tradition, such as classic texts, concepts, persons, and events while remaining mindful of the contemporary context. Through these courses, students learn the skills and methods of the discipline. These second-level courses then serve as a foundation for the interdisciplinary "Bridge Courses" at the next level.

The "Bridge Course," as the third course in the Faith and the Catholic Tradition sequence (400-numbered THEO or CATH 401), will provide an opportunity for students to draw upon their entire program of studies. Serving as the culminating point for the curriculum, the Bridge Course prepares students to build connections between their studies in the liberal arts and the broader world for which their St. Thomas education has prepared them. A principal concern of the course is to guide students toward experiencing a sense of vocation in their professional, familial, and social lives. Because no single type of course can be expected to address all such areas, students will be offered three different types of bridge courses exploring different aspects of the broader world they are preparing to serve.

The three levels of courses in the Faith and Catholic Tradition core area requirement, thus, form an integrated sequence. The first course (THEO 101) introduces the tradition of Christian theological reflection. The second-level courses (at the THEO 200 or THEO 300 level) invite students "to do" theology—that is, to engage in reasoning about faith. In the third-level courses, students bring theological concepts and methods into dialogue with other disciplines.

Students select three courses as follows:
Theology 101

Courses used to satisfy the requirement in a curricular area are of two types:

Core courses - in which a specific course is designated as fulfilling a requirement

Core-area courses - in which a selection is made from a list of courses designated as fulfilling the requirement.

Overview of requirements

Literature, History, Philosophy, Science, Mathematics, Foreign Languages, Physical Education, Music, Art, and other liberal arts disciplines.

Curricular Areas
Faith and the Catholic Tradition

Theology 101, Theology 200, Theology 300, Theology 401, Catholic Tradition 401.

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Human Diversity

Courses in this category address the individual's position within structures of privilege, affect understanding of issues related to diversity. In addition, the course addresses ways in which power and privilege operate at the institutional/systemic level. These courses address at least two of the following areas of inquiry: race and ethnicity, gender, religion, class, sexual orientation, disability status, or geopolitical status.

These courses assist students in understanding the perspectives, values, experiences, works and achievements of the peoples and cultures being studied, recognizing that the experiences, beliefs, and values of any group being studied are not monolithic, but may vary widely within the group. Whenever possible, courses include materials (e.g., writings, films, narratives, oral histories, artwork) that are produced by the population or culture under study.

Courses fulfilling the human diversity requirement explicitly address the ways in which the study of diversity is valuable to a liberal arts education and fosters respect for the diversity of peoples and cultures within the fundamental unity of humankind. These courses also address how the discipline involved contributes to an understanding of the groups or culture under study and how the perspectives of the groups or culture might expand understanding of the discipline itself.

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Minimum Credit Requirement

To receive a bachelor's degree, a student must successfully complete a minimum of 132 credits and fulfill all degree requirements. Students who complete a minimum of 131 credits may petition the Committee on Studies for the waiver of 1 credit.

Minimum Credit Requirement

Outside Major

In addition, students in all majors except business major areas, electrical engineering and mechanical engineering must earn a minimum of

12 credits in courses outside the major. For students in business, electrical engineering, and mechanical engineering, the minimum is 15 credits. For students in other majors, the minimum is 12 credits. For students in business, electrical engineering, and mechanical engineering, the minimum is 15 credits. For students in other majors, the minimum is 12 credits.

Maximum Credits in Experiential Learning and Courses Graded

DR

Students may earn a maximum of 12 credits in experiential learning and courses graded DR. This includes internships, cooperative education, and independent study. The maximum is 12 credits in total.

Students may earn a maximum of 12 credits in experiential learning and courses graded DR. This includes internships, cooperative education, and independent study. The maximum is 12 credits in total.

Overlapping or Equivalent

Courses and Courses at the Same Time

More than One Requirement

No two courses may be equivalent or overlapping. (Credit is not given for a course that overlaps a course previously taken or a cross-listed course in another department. Such courses are indicated in the course descriptions by the number of the conflicting courses in parentheses following the title.)

Within the core curriculum, the only instance in which one course may satisfy more than one requirement is when a course fulfills a core or core-area requirement and simultaneously satisfies the requirement in human diversity.

The same course may be used to satisfy both a requirement in the core curriculum and in the major and minor fields.

Senior Residency Requirement

Senior residency requires that a graduate have completed

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The University of St. Thomas libraries' print collections (including the Law Library) contain more than 700,000 volumes. Our growing electronic library now provides anytime/anywhere access to 114,000 electronic book titles, 58,000 electronic and print journals, 383 electronic databases and over 77,000 streaming audio and video items. These collections support student scholarship and faculty research through integration of technology, electronic and print content with research assistance and instruction from librarians and technical staff.

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includes grant funds, federal rules allow the grant to be reduced by 50 percent. In such cases, St. Thomas repays the grant programs on the student's behalf and the student is then responsible for repaying St. Thomas. If this causes undue hardship, a satisfactory payment arrangement can be made with St. Thomas.

Institutional Charges and State

Aid

Refund Policy

The Return of Title IV Aid calculation, as cited above, only considers federal funds - not institutional, state or outside funding sources that may be included in the student's financial aid package. St. Thomas offers tuition refunds if a student withdraws from the university according to the following schedule for fall and spring semesters:

The first 14 calendar days of the semester

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credit with the grade of D, D+, or D- becoming the grade of record and used in computing the GPA.

R Grades

Graduation

Date of Graduation

To be considered completed, all courses must meet the university's degree requirements. To be considered completed, all courses

Major Categories

Majors

Majors

American Studies B.A. -
Anthropology B.A. -
Art History B.A. -
Biology B.S. -
Biology B.A. -
Business Administration B.S. -
Chemistry B.S. -
Classical Studies B.A. -
Communication B.A. -
Computer Science B.S. -
Criminal Justice B.A. -
Cultural Studies B.A. -
Economics B.A. -
Education B.A. -
English B.A. -
Environmental Science B.S. -
Environmental Studies B.A. -
Exercise Science B.S. -
Finance B.B.A. -
Health, Behavior & Society B.S. -
History B.A. -
International Studies B.A. -
Journalism B.S. -
Latin American Studies B.A. -
Law & Public Policy B.S. -
Liberal Studies B.A. -
Mathematics B.S. -
Mechanical Engineering B.S.M.E. -
Media Studies B.A. -
Music Business B.B.M. -
Music - Liturgical Music B.M. -
Music - Performance B.M. -
Neuroscience B.S. -
Philosophy B.A. -
Physics B.S. -
Political Science B.A. -
Psychology B.A. -
Public Health Studies B.S. -
Social Sciences (Economics, History, Political Science, & Sociology and Criminal Justice) B.A. -
Social Work B.S. -
Sociology B.A. -
Spanish B.A. -
Statistics B.S. -
Theology B.A. -
Theology - Lay Ministry B.A. -
Women's Studies [ACTC] B.A. -

Anthropology B.A. -
Art History B.A. -
Biology B.S. -
Biology B.A. -
Business Administration B.S. -
Chemistry B.S. -
Classical Studies B.A. -
Communication B.A. -
Computer Science B.S. -
Criminal Justice B.A. -
Cultural Studies B.A. -
Economics B.A. -
Education B.A. -
English B.A. -
Environmental Science B.S. -
Environmental Studies B.A. -
Exercise Science B.S. -
Finance B.B.A. -
Health, Behavior & Society B.S. -
History B.A. -
International Studies B.A. -
Journalism B.S. -
Latin American Studies B.A. -
Law & Public Policy B.S. -
Liberal Studies B.A. -
Mathematics B.S. -
Mechanical Engineering B.S.M.E. -
Media Studies B.A. -
Music Business B.B.M. -
Music - Liturgical Music B.M. -
Music - Performance B.M. -
Neuroscience B.S. -
Philosophy B.A. -
Physics B.S. -
Political Science B.A. -
Psychology B.A. -
Public Health Studies B.S. -
Social Sciences (Economics, History, Political Science, & Sociology and Criminal Justice) B.A. -
Social Work B.S. -
Sociology B.A. -
Spanish B.A. -
Statistics B.S. -
Theology B.A. -
Theology - Lay Ministry B.A. -
Women's Studies [ACTC] B.A. -

Justice & Peace Studies (generalist track)

Justice & Peace Studies: Concentration in Conflict Transformation

Justice & Peace Studies: Concentration in Leadership for Social Justice

Justice & Peace Studies: Concentration in Public Analysis and Advocacy

Latin

Liberal Arts Engineering/Pre-Engineering

Literary Studies

Mathematics

Mechanical Engineering (B.S.M.E.)

Music

Music Business

Music - Liturgical Music

Music - Performance (B.M.)

Neuroscience (B.S.)

Philosophy

Physics

Physics (B.S.)

Political Science

Psychology

Public Health Studies

Social Sciences (Economics, History, Political Science, & Sociology and Criminal Justice)

Social Work

Sociology

Spanish

Statistics (B.S.)

Theology

Theology - Lay Ministry

Women's Studies [ACTC]

Educational Categories

The following sets of majors (with specialty) require a second major. They cannot be "stand-alone" majors.

Elementary Education- Science, Technology, Engineering and Mathematics (STEM)

Middle/Secondary Education and Chemistry (9-12)

Middle/Secondary Education and Communication Arts and Literature (5-12)

Middle/Secondary Education and Earth and Space Science (9-12)

Middle/Secondary Education and Life Science (9-12)

Middle/Secondary Education and Physics (9-12)

Middle/Secondary Education and Social Studies (5-12) - (Economics, Geography, History, Political Science, Psychology, or Sociology)

Music Education - Instrumental Music Education (K-12) (B.M.)

Music Education - Vocal Music Education (K-12) (B.M.)

The following sets of majors constitute a double major when taken together. The education component cannot be a "stand-alone" major.

Middle/Secondary Education and Mathematics (5-12)

Middle/Secondary Education and Physical Education Health

Education - Teaching (5(g)2 . 112. 12 (h)2 .u 2 . 112. 12 21e-13116((-1311 326es88(o. 42(c)5 (h)2 . 53(i)2 (n)5 . 5 (02 i)5 .n 5 (01 E (thc450)36. 88T [(Mid66es5-12s together)48gy)pcondary Edoy)36. 8((m major)25 9(n s . cience,)3 . Educa.

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Reg strat on

A student must register for a course before attending, and will not receive credit unless registered.

Students must attend the first day of class in

Changes in Regulation

Add ng Courses

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cannot assume that this will happen and are responsible for following the appropriate steps to withdraw from a course they do not attend. Non-attendance or minimal attendance of a class does not justify a tuition refund for the course if the instructor does not drop the student from a course and the student does not withdraw using Murphy online or the add/drop form.

If, for some emergency situation, attendance on the first day is not possible, the student should notify the instructor of the situation by e-mail or telephone. Students who are absent for a prolonged period of time due to illness should contact the Academic Counseling Office.

Requests for Withdrawal from Classes under Special Circumstances

To withdraw from the University for a special circumstance such as physical or mental health emergency, the student must contact Pam Peterson, Director of the Business Office, and indicate their intention to withdraw from all courses due to special/extenuating circumstances.

Pam Peterson
Director, Business Office
Murray Herrick Center (MHC) Room 110
St. Thomas University
P.O. Box 10000
St. Thomas, FL 34981

This policy enhances the University's published tuition refund policy and applies only if the student withdraws from all classes in the term. The University's tuition refund schedule will apply if students are required to withdraw from at least one course, but remain enrolled in one or more courses.

Participation in the Tuition Refund Plan offered by A.W.G. Dewar is entirely optional, however, students who choose not to purchase tuition insurance will not be granted refunds beyond those provided for by the University's published tuition refund schedule.

The University of St. Thomas does not endorse this or any other private tuition insurance program, but we invite you to be informed of this option. For questions regarding the Tuition Refund Plan, please contact the Business Office.

Courses

Additional information on courses can be found on the University website at <http://www.stthomas.edu>. For more information on courses, please contact the Business Office.

Courses with numbers 1000 or above are lower division courses, and those with numbers 2000 or above are upper division courses.

Lower division courses are designed to give students a broad liberal arts education, preparing them for the more specialized education offered at the upper division level.

When students become juniors, they generally pursue upper division courses. Upper division courses are designed to acquaint students with the content and methodology of a particular field.

The number of class meetings for a course varies with the nature of the course. The annual class schedule indicates the days and times each class meets.

Course Load

The normal course load is 12 credits. During the first semester at the University, a freshman is limited to 12 credits. Students may take no more than 12 credits without permission from the Associate Vice Provost for Undergraduate Studies.

Freshmen may not register for courses numbered 3000 or above without permission from the department chair (except for foreign language courses when they have a ready completed a fourth semester of the language or its equivalent).

Students on academic probation may not register for more than 12 credits.

Exchange Courses

Courses taken by undergraduate day, degree-seeking students at Auburn College, Hamilton University, Macalester College and the Catholic University of St. Thomas are called exchange courses. These courses may be substituted for courses at the University of St. Thomas, subject to the following conditions:

1. The course is not one specified by a specific course number in the list of core curriculum requirements and
2. The student has the written permission of the department chair of the area or origin of the course in the area or origin of concentration and taken to satisfy a particular requirement for that area or origin and
3. The student consults the University Registrar before registering for more than one course at Auburn, Hamilton, Macalester or the Catholic University during one semester. This one course limit does not apply to students pursuing a dual area or origin at these schools and
4. The selected courses are not being offered at the University of St. Thomas during the same term.

Additional restrictions may apply. See the AC Catalog website for additional restrictions: <http://act.stthomas.edu>

For exchange courses in the fall and spring semesters, the St. Thomas students register at the St. Thomas. Grades for these courses are automatically recorded on

interests.

At this meeting, transfer students should identify any transfer courses they think should count as fulfilling particular core requirements. The academic counselor will assist the transfer student with a petition form used to request consideration of one or more transfer courses for fulfillment of core requirements. The petition form should be submitted to the Associate Vice Provost for Undergraduate Studies during the first semester of enrollment at UST.

Upper division transfer students are encouraged to declare a specific major field. Separate summer orientation programs are held for new freshmen and transfer students.

All new students are assigned faculty advisers.

Retaking a Course

A student may retake a course if her or his grade or mark is F, R, D-, D or D+. Only the higher grade will be used to compute the GPA. Credit will not be given more than once for the same course. Both notations, however, will remain on the transcript.

A student may retake a University of St. Thomas course only at St. Thomas.

Special Academic Programs

The undergraduate program offers several programs that a student may pursue in addition to a major concentration. These include:

- Air Force, Army, and Navy ROTC
- Certificate In Lay Ministry
- Community Engagement
- Pre-Engineering
- Pre-Law
- Study Away Programs
- Washington Semester

Associated Colleges of the University

Courses

The University of St. Thomas is a member of the Association of American Universities (AAU). The AAU is the highest honor society of American universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of Catholic Colleges and Universities (ACCU). The ACCU is a national organization of Catholic colleges and universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of Christian Colleges and Universities (ACCU). The ACCU is a national organization of Christian colleges and universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of Independent Colleges and Universities (AICU). The AICU is a national organization of independent colleges and universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of Liberal Arts Colleges (ALAC). The ALAC is a national organization of liberal arts colleges, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of Midwestern Universities (AMU). The AMU is a national organization of midwestern universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of Southern Universities (ASU). The ASU is a national organization of southern universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of Western Universities (AWU). The AWU is a national organization of western universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of North Central Universities (NCU). The NCU is a national organization of north central universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of Eastern Universities (EU). The EU is a national organization of eastern universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of Southern Baptist Universities (ASBU). The ASBU is a national organization of southern Baptist universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of Lutheran Universities (ALU). The ALU is a national organization of Lutheran universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of Methodist Universities (AMU). The AMU is a national organization of Methodist universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of Presbyterian Universities (APU). The APU is a national organization of Presbyterian universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of Reformed Universities (ARU). The ARU is a national organization of Reformed universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of United Methodist Universities (UMU). The UMU is a national organization of United Methodist universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of Baptist Universities (ABU). The ABU is a national organization of Baptist universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of Lutheran Universities (ALU). The ALU is a national organization of Lutheran universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of Methodist Universities (AMU). The AMU is a national organization of Methodist universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of Presbyterian Universities (APU). The APU is a national organization of Presbyterian universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of Reformed Universities (ARU). The ARU is a national organization of Reformed universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of United Methodist Universities (UMU). The UMU is a national organization of United Methodist universities, and membership is a mark of distinction. The University of St. Thomas is also a member of the Association of Baptist Universities (ABU). The ABU is a national organization of Baptist universities, and membership is a mark of distinction.

Certificate in Lay Ministry

See Theology

Community Engagement

The University of St. Thomas offers courses that engage in the community through non-profit organizations, schools, and governmental agencies. These courses require community service, most in collaboration with specific community partners who have identified projects for students to complete in the timeframe of one semester. These opportunities provide students with real world experiences even as they learn their discipline-specific course content. Community partners become co-educators with our faculty—all with the goal of advancing the common good. The courses that include a service component change each semester, but students can find the “service learning component” attribute on classfinder when searching for courses; designated courses can also be viewed on the community engagement website: <http://www.stthomas.edu/gale/communityengagement/>

Study Away Programs

Higher Education Consortium for Urban Affairs HECUA

Muse (ENGL), adviser; International Education staff co-adviser

The Higher Education Consortium for Urban Affairs offers off-campus educational experiences focused on social justice issues. HECUA provides experiential learning opportunities that link academic study with hands-on work for social change. Students earn sixteen credits in the semester-long programs and four credits in January term programs. Open to all majors. See Web site: www.hecua.org.

International and Off Campus Programs

Study Abroad Programs (SABD)
Spencer (Office of Study Abroad)

The University of St. Thomas encourages its students to integrate intercultural experiences into their degree plans. Study Abroad staff guide students of all majors through the process of choosing and applying for a program that will advance their degree and fit their personal desires and goals. Students may choose from more than 130 programs in over 40 countries around the world. Visit the Study Abroad web site for current program options, application deadlines, scholarships and health and safety information: www.stthomas.edu/studyabroad.

Semester Year Long and Short term

Programs

Students may choose from more than 130 programs in over 40 countries around the world through St Thomas sponsored programs, co-sponsored programs or direct enrollment in a university abroad. St Thomas sponsored programs are led by St Thomas faculty and attended by St Thomas students. Co-Sponsored programs are organized by a St Thomas approved program provider.

Rome CORE Semester

All majors may study in Rome during this fall program and take core curriculum courses including Fine Arts, Social Analysis, Literature and Writing, Historical Studies, Moral and Philosophical Reasoning and Faith and Catholic Tradition. Students live at the St Thomas Bernardi Residence. Priority deadline is January 15th.

London Business Semester

Business majors and minors study abroad during this annual fall semester program in London. Students take regular St. Thomas business and liberal arts courses, as well as complete the Business 200 Community Service requirement. Priority deadline is the first Friday of December; final deadline, if spaces remain, is February 15.

Catholic Studies in Rome

Catholic Studies majors and minors may study Catholic social thought, theology, and social justice, as well as introductory Italian language. Program takes place each spring; students live at the St Thomas Bernardi Residence. Priority deadline is January 15th.

Co-sponsored Programs and Exchanges

Semester and Year-Long opportunities are also available through co-sponsored program providers and a number of universities with which St. Thomas partners. Check with the Office of Study Abroad for exchange opportunities.

January and Summer Programs

The University of St. Thomas offers a number of two- to six-week, faculty-directed programs during January and summer terms. January Term programs are offered by the University of St. Thomas, co-sponsored programs and UMAIE, a seven-member consortium of schools in the Midwest.

St Thomas sponsored January Term courses are announced in February; summer courses are announced in September. Topics and locations vary each year.

Participation Requirements for Study Abroad Academic and Conduct

Students may not apply for, maintain an approved application, nor participate in a study abroad or off-campus program while on academic or conduct probation. Semester and academic year programs require at least a 2.5 GPA, while short-term programs require a 2.0 GPA.

Language Requirement

The overseas study program must include study of the native language in non-English-speaking countries.

Deadlines

Students must submit study abroad applications by October 1 for January Term and spring semester participation, and by March 15 for summer, fall semester or year-long programs. See deadlines above for St Thomas semester programs.

research and internships drawing on governmental and private organization resources in the Washington area. Nominations to participate are made by the university, with final acceptance decided by American University.

ABD Study Abroad Credits

Students participating in the University of St. Thomas overseas study program register for this interdisciplinary listing for the first semester they are abroad. Permission from Office of Study Abroad staff required.

ABD Study Abroad Credits

A continuation of SABD 300. Permission from Office of Study Abroad staff required.

Parents on Campus Program

Parents of full-time students in the undergraduate day program are eligible to take up to two undergraduate courses (or eight credits) on a space-available basis in fall and spring semesters without tuition charge. The dependent daughter/son must be a full-time day student taking at least twelve credits.

Parents may audit courses or take them for credit. Parents may be non-degree or degree-seeking students. If the parent chooses to become a degree-seeking student, an application must be made through the Office of Undergraduate Admissions.

Fees will be charged for books, music lessons, laboratory charges, individual studies, and experiential learning. There is a fee charged for all business courses.

Not included in this program are: Graduate courses, courses at ACTC schools, courses taught in January term or summer sessions, and study abroad courses.

Registration for Parents-on-Campus (non-degree and degree-seeking) will begin five business days prior to the start of the term.

Additional information on this program can be obtained from the Office of the University Registrar.

Washington Semester

Cross-College Program

The University of St. Thomas is affiliated with American University's Washington Semester Program, Washington, D.C.

Students selected from across the nation to participate in the program have the option of studying in various subject areas that have included: American Politics, Economic Policy, Foreign Policy, Gender and Politics, Information Technology and Telecom, International Business and Trade, International Environment and Development, Journalism, Justice, Law Enforcement vs. Liberty, Peace and Conflict Resolution, Public Law, and Transforming Communities. Program areas are subject to change.

The Washington Semester involves seminars,

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Students will find that there are many cultural, social, and

o eMedia

TommieMedia is the student produced on-line news source at St. Thomas. Its primary purpose is to serve as a voice of the St. Thomas community.

Students produce stories using a variety of digital formats, including video, slideshows, audio and text, social media are emphasized to build an audience of community members throughout the university. TommieMedia is a member of the Associated Press and its stories are available to all AP members. Applications are available on-line at tommiemedia.com.

he Aquinas

The *Aquinas* is the university digital yearbook, and its student staff captures the school year's events through words, pictures, videos, and graphic theme. The current yearbook, as well as the opportunity to view and search past yearbooks, is available online throughout the year. Applications for Aquinas student staff positions are made available through the Aquinas yearbook managing editor's office in the Anderson Student Center suite 325.

u t Avenue Review

Summit Avenue Review is the literary and visual arts magazine at St. Thomas. Designed and edited by students, the magazine publishes poetry, fiction, literary nonfiction, photography, and other visual art from the St. Thomas community. Work on the magazine begins in early fall, with a first submissions deadline in December and an April publication date. Inquiries should be sent to the Department of English. The magazine's Web address is: www.stthomas.edu/summitavenuereview

Musical Organizations

Student music ensembles appear regularly in concerts on campus, perform in a variety of venues in the Twin Cities area, and tour nationally and internationally.

Instrumentalists and vocalists can choose from a diverse selection of large and small ensembles - bands, orchestra, choirs, jazz ensembles (both vocal and instrumental), staged musical theater productions, ensembles for pianos, guitars, woodwinds, brass, strings, percussion, and new and popular music. Membership in most ensembles is by audition. For details consult www.stthomas.edu/music.

Dean of Students Office

The Dean of Students Office assists and supports students in achieving their academic and personal goals. Staff are available to answer questions, to help resolve issues or concerns, and to refer students to the appropriate department, office or community resource.

The Dean of Students Office provides a variety of programs and services for undergraduate and graduate students. These include new student orientation, student advocacy services, students' rights and responsibilities

information, judicial/conduct services, ombuds and parent liaison services, emergency loans, off-campus student services and the publication of the online Student Policy Book.

Contact the Dean of Students Office at (651) 962-6050, Room 241 Anderson Student Center, or www.stthomas.edu/deanofstudents.

he Online Student Policy Book

The Student Policy Book is published by the Dean of Students Office. It contains information regarding the Student Code of Conduct (www.stthomas.edu/002TJ) ([651] 962-3355) and the Ins isET nt C

The Center for Ministry also offers the Rite of Christian Initiation for Adults (RCIA) to those who are preparing for Baptism, Eucharist and Confirmation in the Catholic Church.

The Center for Ministry is located in Suite 207 of the Anderson Student Center.

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campus. The Department of Residence Life works to en-

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p.m. Same-day appointments may be available for acute illness, however it is preferred that you call 651-962-6750 to schedule an appointment, or schedule online through *myhealthportal* at <http://www.stthomas.edu/studenthealth>. Services include a certified travel clinic, care of acute and chronic illnesses, allergy injections, sports related injuries, GYN exams, immunizations, laboratory services, physical exams, stress management, smoking cessation, etc. Students will be asked for a copy of their insurance card at the time of service. Co-pays or fees not covered by insurance will be billed to the student account.

Health Insurance Verification Requirement

Domestic students: Undergraduate students enrolled in 12 or more credits are required to demonstrate health insurance coverage annually. Students may voluntarily purchase the UST-sponsored health insurance plan during the enrollment period. **Students who do not complete the health insurance verification process by the 15th day of classes will be automatically enrolled and billed for the UST-sponsored plan.** Students must enter their information via Murphy Online at <http://banner.stthomas.edu>.

More information about the requirement and the health insurance plan is available at:

<http://www.stthomas.edu/studenthealth/Insurance>

International students: F-1 and J-1 international students on a St. Thomas I-20 or DS-2019 will be automatically enrolled in and billed for the UST-sponsored health insurance plan. F-1 international students who want to waive the UST-sponsored health insurance plan can submit their U.S.-based health insurance information that meets the minimum requirements via Murphy Online at <http://banner.stthomas.edu>. **International students who do not complete the Murphy Online waiver process by the 15th day of classes will be automatically enrolled and billed for the UST-sponsored plan.** Those whose waiver request is approved will still be enrolled in and billed for an evacuation and repatriation plan. J-1 international students are not eligible to waive the UST-sponsored plan due to Department of State requirements.

Additional Health Records

The state of Minnesota requires Mumps, Measles and Rubella (MMR) and Tetanus/Diphtheria(Td) dates on all students. Immunization information is to be entered under the Student Service tab via Murphy Online at <http://banner.stthomas.edu>. Registration holds will be placed on students that do not enter this information by the 45th day of classes.

Wellness Center

The Wellness Center is dedicated to assisting students in developing healthy lifestyle choices and promoting behaviors that result in enhanced wellbeing. The center embraces the concept of wellness in developing the whole person.

The center offers programs, resources, and educational material on health promotion and illness prevention. The center is designed to increase the overall health of the university community and promote healthy lifestyle choices that will serve individuals throughout their lives.

The center is located in Murray Herrick, 3rd floor,

Campus Public Safety

The Public Safety Department is responsible for providing immediate response to medical emergencies, responding to crimes in progress or suspicious persons, providing escorts, assisting with vehicle lockouts, doing jumpstarts, and conducting safety inspections and operations of the University's lost and found. The department is also responsible for the campus wide emergency notification system. Students and employees are encouraged to sign up for this notification at <http://www.stthomas.edu/ustcares/emergencynot/default.html>.

The Public Safety officers are professionals, well trained in first aid, crisis management, emergency response, investigation, general safety, crime prevention and application of policies and laws.

For any on-campus emergency call 651-962-5555. For an off campus emergency please call 9-1-1. For all other matters related to Public Safety please call 651-962-5100. Students and employees are encouraged to program these numbers in their cell phones.

Public Safety Offices

The Public Safety Office on the St. Paul campus is located on the first floor of Morrison Hall. Please use the north door for entrance. On the Minneapolis Campus, public safety and parking information can be obtained at the second floor skyway of the Law School (MSL 252).

The Public Safety Department maintains "The Campus Security and Fire Report." The report is required by the Higher Education Act and includes a listing of crimes and fires within the campus boundaries. For details, please go to: <http://www.stthomas.edu/publicsafety/securityact/>

Parking and Transportation

The Parking and Transportation Services Office, a division of the Public Safety department, is located in the lower level of the Murray Herrick Center on the St. Paul campus.

For the Minneapolis Campus, call 651-962-5100.

For the St. Paul Campus, call 651-962-5100.

For more information, please visit our website at <http://www.stthomas.edu/parking>.

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Transfer Courses

Courses taken at regionally accredited institutions of higher learning other than the University of St. Thomas

of academic dishonesty, suspension from the university. Here are the common ways to violate the academic integrity code:

- 4 Intentionally using or attempting to use unauthorized materials, information, or study aids in any academic exercise. The term academic exercise includes all forms of work submitted for credit.
- 4 Intentional and unauthorized falsification or invention of any information or citation in an academic exercise.
- 4 Intentionally or knowingly helping or attempting to help another to violate a provision of the institutional code of academic integrity.
- 4 The deliberate adoption or reproduction of ideas or words or statements of another person as one's own without acknowledgement. You commit plagiarism whenever you use a source in any way without indicating that you have used it. If you quote anything at all, even a phrase, you must put quotation marks around it, or set it off from your text; if you summarize or paraphrase an author's words, you must clearly indicate where the summary or paraphrase begins and ends; if you use an author's idea, you must say that you are doing so. In every instance, you also must formally acknowledge the written source from which you took the material. (This includes material taken from the World Wide Web and other internet sources.)

Reprinted from "*Writing: A College Handbook*" by James A.W. Heffernan and John E. Lincoln. By Permission W.W. Norton & Co. Inc., Copyright 1982 by W.W. Norton & Co. Inc.

Students are encouraged to report incidents of academic dishonesty to course instructors. When academic dishonesty occurs, the following procedures will be followed:

- The instructor will impose a minimum sanction of failure for the work involved. The instructor also will notify the student and the appropriate academic dean (or designee) in writing of the nature of the offense and that the minimum sanction has been imposed. The instructor may recommend to the dean that further penalties should be imposed. If further penalties are imposed, the dean will notify the student immediately and the student will have five working days to respond to the intention to impose additional penalties. The student has the right to respond to the charge of academic dishonesty and may request in writing that the dean review the charge of academic dishonesty as fully as possible. If the dean determines that no further sanctions will be applied, the instructor's sanction will stand and the instructor's letter to the dean and student will be placed in the student's file. If no further charges of academic dishonesty involving the student occur during the student's tenure at St. Thomas, the materials will be removed from the file upon graduation.
- If the student has been involved in a previous incident

of academic dishonesty, the dean (or designee) will convene a hearing, following guidelines listed under "Hearings and Procedures" in the *Student Policy Book*. During the hearing, all violations of academic integrity will be reviewed. The student and the faculty member charging the most recent incident will be present at the hearing.

- In either situation, A or B, if the dean determines that further sanctions are warranted, the student will be informed in writing. Among the sanctions considered by the dean will be the following: failure for the course in which the incident occurred; suspension from the university for the following semester; expulsion from the university; community service; a written assignment in which the student explores the principles of honesty and trust; other appropriate action or sanctions listed under "Sanctions" in the *Student Policy Book*. The materials relating to the incident, including the instructor's original letter to the student and dean and the dean's decision following the hearing, will become part of the student's file.
- A student may appeal the dean's decision to the Committee on Discipline. To appeal, the student must send written notice to the chair of the Committee on Discipline within seven days of the date of the dean's letter notifying the student of the penalty. If the chair of the Committee on Discipline receives no written request within the time specified, the penalty shall be imposed and the action shall be considered final. If a written request of appeal is received within the time specified, the hearing procedures of the Committee on Discipline will be followed.

The Committee on Discipline shall have the authority to investigate the facts of the particular case that has been appealed and the committee may:

1. Affirm the original decision and sanction.
2. Affirm the original decision and reduce or increase the original sanction.
3. Reverse the original decision.
4. Disallow the original decision and order a new hearing by the dean (or designee).

Credit Hour Definition

A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that reasonably approximates: (1) one hour (50 minutes) of classroom or faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester of credit, or the equivalent amount of work over a different amount of time; or (2) at least an equivalent amount of work as required in paragraph (1) of this definition for other activities as established by the institution, including laboratory work, internships, practica, and other academic works leading toward the award of credit hours.

Excused Absence

Students have the responsibility to attend their classes

and complete their coursework. If a student wishes to be excused from the equivalent of one full week of class or less per semester due to illness, a family or parent-related emergency, or a UST-sponsored event, it is the responsibility of that student to inform his or her instructor(s) of the absence as soon as possible.

In the case of numerous and excessive absences (total absences amounting to the equivalent of more than one full week of class per semester), students must inform their instructor(s) of the situation responsible for the absences as soon as possible and comply with verification requests/requirements that the instructor(s) may have. Students should also notify the Office of the **Director of Academic Counseling and Support** at

. The contact with the Academic Counseling and Support department is not intended to legitimize the student's illness, but rather provides the student and instructor with a consultant about if/how the student may or may not proceed in courses. Instructors should use their own discretion to determine whether the absences warrant a grade penalty, an incomplete status, a recommendation of withdrawal from the course, or the completion of coursework missed (or an appropriate equivalent) without grade penalty for late submission.

may choose to place limitations on these courses, or may have additional requirements. Additional information will be found in the departmental listings. Generic courses include Topics, Experiential Learning, Seminars, Research, and Individual Study.

Options Courses

CURRICULA

CURRICULA

Programs and courses in this section are available to undergraduate students in all colleges and schools of the university.

Course Offerings

The courses listed in this section of the catalog are arranged alphabetically by discipline. Each listing includes a description of the course, the number of credits, and an indication of any prerequisites. Numbers which appear in parentheses next to a course title refer to courses whose content overlaps with the course described. Students may not receive credit for both of the courses in such cases.

Course Unit

The basic unit of instruction is a four-credit course. The ordinary academic load for a student during one semester is sixteen credits.

GENERIC COURSE

Some courses are offered under the same numbers in all or most academic departments. Since the particular subject matter changes, these course numbers may be taken more than once in a given department. Departments

Thomas who will approve the proposal, maintain



pending on the department and the topic.

Individual study or credits

This individual study can be either a 2 or 4 credit course depending on the department and the topic.

Individual study or credits

This individual study can be either a 2 or 4 credit course depending on the department and the topic.

ACCOUNTING

See Business Administration

ACTUARIAL SCIENCE MAJOR

College of Arts and Sciences, Interdisciplinary Program
O'Shaughnessy Science Hall (OSS) 201, (651) 962-5538
Youn (MATH) - director, Shemyakin (MATH), Zheng (MATH)

The Bachelor of Science in Actuarial Science is an interdisciplinary degree program offered through the Department of Mathematics. (See also the Department of Mathematics in this catalog.)

Actuarial science education equips students with strong mathematical problem-solving skills that can be applied to business careers. The major requirements consist of courses in mathematics, actuarial science, computer science, business, economics and a course in communication. Coupled with a firm foundation in the liberal arts, this major provides a sound grounding in analytical problem-solving and communication skills.

This program prepares students for a variety of careers with insurance companies, consulting firms, financial institutions, industrial corporations, or government agencies. It also provides a good preparation for non-actuarial careers in banking, finance, or insurance. In addition, the statistical background developed by an actuarial student is valuable in a variety of other fields.

Students graduating with a major in Actuarial Science will become proficient in basic mathematics through multivariate calculus and probability together with basic notions of insurance and risk management. They will demonstrate the ability to think clearly and critically in solving problems related to the analysis and management of risk. They will be able to effectively communicate technical and non-technical information to their peers and to non-specialists in their work environment.

To be certified as a Fellow or an Associate by either the Society of Actuaries or the Casualty Actuarial Society, one must pass a series of rigorous examinations. The earlier examinations are focused on mathematics and statistics

FINC 321 Financial Management (4 credits)
 FINC 325 Investments (4 credits)
 MATH 113 Calculus I (4 credits) (or MATH 108 and MATH 109)
 MATH 114 Calculus II (4 credits)
 MATH 200 Multi-Variable Calculus (4 credits)
 MATH 240 Linear Algebra (4 credits)
 MATH 313 Probability (4 credits)
 STAT 314 Mathematical Statistics (4 credits)

Plus four credits from the following:

ACSC 464 Mathematical Finance (4 credits)
 STAT 333 Applied Statistical Methods: Regression, Time Series, Forecasting (4 credits)
 MATH 385 Mathematical Methods of Numerical Analysis (4 credits)

Allied requirement

One of: ENGL 211 or above; COJO 100 (Public Speaking); COJO 105 (Communication in the Workplace)

uggested Electives

BETH 301 Business Ethics (4 credits)
 BLAW 301 Legal Environment of Business (4 credits)
 CISC 230 Object-Oriented Design and Programming (4 credits)
 CISC 450 Database Design I (4 credits)
 ECON 251 Principles of Macroeconomics (4 credits)
 ECON 351 Macroeconomic Theory (4 credits)
 ECON 352 Microeconomic Theory (4 credits)
 ECON 355 Game Theory (4 credits)
 FINC 324 Corporate Finance (4 credits)
 FINC 400-level Investment Courses (4 credits)
 MBIS 701 Insurance Seminar (3 credits)
 MKTG 300 Principles of Marketing (4 credits)
 STAT 370 Bayesian Statistical Models and Credibility Theory (4 credits)

Minor in Actuarial Science

ACSC 264 Theory of Interest (4 credits)
 ACSC 320 Risk Management and Insurance (4 credits)
 MATH 113 Calculus I (4 credits) (or MATH 108 or MATH 109)
 MATH 114 Calculus II (4 credits)

Plus eight credits from the following:

Note: At least four credits must not satisfy the student's major field requirement (including allied requirements)

ACCT 210 Introduction to Financial Accounting (4 credits)
 ACCT 215 Managerial Accounting (4 credits)
 ACSC 351 Foundations of Actuarial Mathematics (4 credits)
 ACSC 464 Mathematical Finance (4 credits)
 ECON 252 Principles of Microeconomics (4 credits)
 FINC 321 Financial Management (4 credits) or FINC 300 Finance for non-Business Majors (4 credits)
 MATH 200 Multi-Variable Calculus (4 credits)
 MATH 313 Probability (4 credits) or MATH 303 Statistics for the Applied Sciences (4 credits)

ACSC Theory of Interest credits

A survey of topics in the mathematical analysis of financial transactions which involve payments made over time. Specific areas of concentration will include the time value of money, the analysis of annuities, amortization and sinking funds, and the pricing and rates of return on investments. Both continuous time and discrete time problems will be considered.

Prerequisite: a grade of C- or above in MATH 114.

ACSC Risk Management and Insurance credits

This course introduces students to the subjects of insurance—theory and practice—and corporate risk management. In

addressing these subjects, students will receive exposure to risk theory, insurance pricing, contract analysis, insurance company operations, reinsurance, regulation and the concepts and principles of business risk management.

Prerequisite: Junior standing or MATH 114

AC C Foundations of Actuarial Mathematics credits

The course covers the theory and applications of contingency mathematics in the area of life and health insurance, annuities and pensions from both the probabilistic and deterministic approaches. Topics will include: survival distributions, actuarial notation, life insurance and life annuities, net premiums and reserves.

Prerequisite: a grade of C- or above in ACSC 264 and MATH 313.

AC C Actuarial Contingencies credits

Extension of the analysis of ACSC 351 to multiple life functions and multiple decrement theory. Topics will include: multiple life functions and multiple decrement models, valuation of pensions, insurance models including expenses, non-forfeiture benefits and dividends.

Prerequisite: a grade of C- or above in ACSC 351

AC C Mathematics in Finance credits

The focus of this course is on applications of probability, stochastic processes, and other mathematical tools to problems in finance. Both discrete and continuous models, including binomial, Brownian motion, and geometric Brownian motion models will be used to investigate the effects of randomness in financial markets and the behavior of financial instruments. The mathematical realization of arbitrage and hedging strategies will be examined, including the Arbitrage Theorem and the concept of risk-neutral pricing. Applications will include the pricing of equity options, currency transactions, and the use of duration and convexity in fixed income analysis. The course will be of interest to students of actuarial science, mathematics, finance and economics who want to develop a better quantitative understanding of financial risk.

Prerequisites: a grade of C- or above in MATH 313 or MATH 303 and ACSC 264 or a course in FINC approved by the instructor

on the career field to which they are assigned.

Leadership Laboratory and Physical Training are mandatory aspects of the aerospace studies program which round out cadets' preparation for gaining a commission in the Air Force. Instruction is conducted within the framework of an organized cadet wing with a progression of experiences designed to develop leadership potential. Leadership Laboratory involves study of Air Force customs and courtesies, drill and ceremonies, career opportunities, and the life and work of an Air Force junior officer. Leadership potential is developed in a practical, supervised laboratory. The other mandatory aspect, Physical Fitness Lab, is conducted within the framework of the cadet wing with a progression of experiences designed to improve fitness and develop teamwork. Cadets will need to pass physical fitness assessments comprised of aerobic fitness, strength fitness and body composition.

The Air Force offers three- and four-year college scholarships. See "Scholarships not awarded by the university" in the Financial Services section of this catalog.

Most students complete AFROTC via the four-year program, completing both the GMC and the POC. However, even if a student does not enroll until sophomore year, it is still possible to complete the 100- and 200-level GMC courses concurrently during sophomore year, followed by Field Training at Maxwell Air Force Base.

St. Thomas offers its students who are winners of Air Force ROTC scholarships up to full subsidy (room and board and remaining tuition) on almost every Air Force ROTC scholarship awarded. For information on Air Force scholarships, call the AFROTC Unit Admissions Officer at 651-962-6329.

The minor in Aerospace Studies is open to all undergraduate students at the University of St. Thomas. Students who are not seeking an Air Force commission may enroll in Option 1 below with the permission of the Aerospace Studies department chair. Students (AFROTC cadets) who wish to receive a commission in the Air Force must complete Option 2, which includes the Leadership and AFROTC Physical Fitness Laboratory courses, as well as Field Training (normally taken the summer between sophomore and junior year). While the courses are intended to be taken sequentially, students may complete the minor by taking more than one AERO class per term, with the permission of the department chair. All of the coursework generally contributes to and enhances diversity objectives.

Student must complete twenty credits. This requirement must be accomplished by completing one of the following sequences:

Option 1: 20 credits, open to all undergraduate students

AERO 111 Foundations of the United States Air Force I (1 credit)
AERO 112 Foundations of the United States Air Force II (1 credit)
AERO 211 Evolution of USAF Air and Space Power I (1 credit)
AERO 212 Evolution of USAF Air and Space Power II (1 credit)
AERO 321 Air Force Leadership Studies I (4 credits)
AERO 322 Air Force Leadership Studies II (4 credits)
AERO 421 National Security Affairs I (4 credits)
AERO 422 National Security Affairs II (4 credits)

Option 2: 20 credits, AFROTC cadets only

AERO 111 Foundations of the United States Air Force I (1 credit)
AERO 112 Foundations of the United States Air Force II (1 credit)
AERO 200 Leadership Laboratory (0 credits)
AERO 201 AFROTC Physical Fitness Laboratory (0 credit)
AERO 321 Air Force Leadership Studies I (4 credits)
AERO 322 Air Force Leadership Studies II (4 credits)

Air Force and provide an overview of the basic characteristics, missions, and organization of the Air Force.

AERO Foundations of the United States Air Force II credit

Continuation of AERO 111

Prerequisite: AERO 111 or permission of instructor

AERO Leadership Laboratory credit

Leadership Laboratory is mandatory for AFROTC cadets (e.g., students pursuing an officer's commission in the USAF) every fall and spring semester unless excused by the department chair for an authorized period of non-attendance. Leadership Laboratory complements each of the courses listed below by providing cadets with leadership and followership experiences. This course is only for AFROTC cadets pursuing Option 2 above.

AERO AFROTC Physical Fitness Laboratory credit

AFROTC Physical Fitness Laboratory is mandatory for AFROTC cadets (e.g., students pursuing an officer's commission in the USAF) every fall and spring semester unless excused by the department chair for an authorized period of non-attendance. AFROTC Physical Fitness Laboratory complements each of the courses listed below by providing cadets with leadership, followership, and team building experiences while teaching them to maintain physical fitness required for military service. AFROTC cadets must attend two sessions per week to pass the course. In order to remain in the program and gain a commission, cadets must pass a physical fitness assessment each term. This course is only for AFROTC cadets pursuing Option 2 above.

AERO Evolution of Air and Space Power I credit

The Evolution of USAF Air and Space Power features topics on Air Force heritage and leaders, introduction to air and space power through examination of distinctive capabilities and functions, and continued application of communication skills. Its purpose is to instill an appreciation of the development and employment of air and space power and to motivate sophomore students to transition from AFROTC cadet to Air Force ROTC officer candidate.

Prerequisite: AERO 112 or permission of instructor

AERO Evolution of Air and Space Power II credit

Continuation of AERO 211

Prerequisite: AERO 211 or permission of instructor

AERO AF Leadership Studies I credits

The United States Air Force Leadership Studies course teaches students advanced skills and knowledge in management and leadership. Special emphasis is placed on enhancing leadership skills. AFROTC cadets have an opportunity to try out these leadership and management techniques in a supervised environment as juniors and seniors.

Prerequisite: AERO 212

AERO AF Leadership Studies II credits

Continuation of AERO 321.

Prerequisite: AERO 321 or permission of instructor

AERO National Security Affairs I credits

National Security Affairs/Preparation for Active Duty is designed for college seniors and gives them the foundation to understand their role as military officers in American society. It is an overview of the complex social and political issues facing the military profession and requires a measure of sophistication commensurate with the senior college level.

Prerequisite: AERO 322 or permission of instructor

AERO National Security Affairs II credits

Continuation of AERO 421.

Prerequisite: AERO 421

AERO Federal Training credits

Training and evaluation on an Air Force base during the summer. The experience is designed to

ties-157 hours of total core curriculum hours consisting of Air Force orientation, leadership training, and officership training. This course is only for AFROTC cadets pursuing Option 2 above.

Prerequisite: AERO 212

AERO 450 Cadet rã ñ ng Ass stant C A cred ts

A cadet who previously completed Field Training and who successfully competes to be assigned as a staff member at a Field Training encampment. Discharges staff responsibilities to meet the objectives described in AERO 450. This course is only for AFROTC cadets pursuing Option 2 above.

AERO 451 Profess ona Deve op ent rã ñ ng PD cred t

The objective of PDT is to provide opportunities to cadets to gain knowledge and appreciation for the human relations and leadership challenge encountered by junior Air Force officers. Further, the program is designed to motivate cadets in their pursuit of an Air Force career. This course is only for AFROTC cadets pursuing Option 2 above.

AMERICAN C L RE

- ENGL 215 American Authors II (4 credits)
- ENGL 373 Contemporary American Literature (4 credits)
- ENGL 395 Issues in Literature and Culture (4 credits)
- MUSC 216 Jazz in America (4 credits)
- MUSC 217 Music of the Americas (4 credits)
- MUSC 218 Black American Music: A Historical Survey (4 credits)
- MUSC 219 Music in the United States (4 credits)
- THTR 223 American Theater (History of Theater III) (4 credits)

American Cultures Mass Culture Popular Culture and Communication Media

- COJO 326 Communication in Popular Culture (4 credits)
- COJO 328 Communication of Race, Class, and Gender (4 credits)
- COJO 334 Literary Journalism (4 credits)
- COJO 338 Political Communication (4 credits)
- COJO 340 Television Criticism (4 credits)
- COJO 342 Media, Culture and Society (4 credits)
- COJO 352 Media Structure and Power (4 credits)

ACST 200 Introduction to American Culture and Difference credits

In ACST 200, students learn about the historical and theoretical foundations of Cultural Studies as an academic discipline and use cultural theory to analyze a variety of cultural products and representations. In this course, students look specifically at dominant and subversive constructions of gender, race, ethnicity, national and sexual identities, and how these constructions are deployed through cultural practices and productions such as sports, film and television, folklore and popular culture, youth subcultures, music, and so on. For example, the course may contain units on "nation" and the creation of American mythologies; the process of hero-making in American history; stereotypes and the representation of race and ethnicity in television and film; representations of gender and sexuality in advertising; as well as a section on American music from jazz, blue



CURRICULA

Minor in Art History

ARTH 110 Introduction to Art History (4 credits)

Plus:

Sixteen credits chosen with the approval of the department chair or a department adviser.

ARTH 110 Introduction to Art History 4 credits

Through a series of case studies, this course examines the importance of art as cultural expression across time and from a global perspective. In each course section, students will analyze the style, subject, and patronage of works of art, and will explore art's relationship to religion, ideology, society and economy, gender roles, and the interaction of cultures. Case studies will include architecture, sculpture, painting, and other arts, such as ceramics, textiles, and photography. This course fulfills the Fine Arts and Human Diversity requirements in the core curriculum. Consult the department website for details about the specific sections offered.

ARTH 111 Methods Approaches and Problems in Art History 4 credits

An introduction to the methods and problems of art history, including the theoretical approaches to art and its history, the examination and analysis of the work and its medium, the role of the museum and gallery in the study of art, and bibliographic tools of the different disciplines of the field.

Prerequisite: ARTH 110 or permission of chair or instructor

CURRICULA

ARTH 112 Women in Ancient Art and Culture 4 credits

The history of the ancient world—its politics, philosophy, and literature—is mostly silent or slanderous about the lives of women. In most times and places their role in public life and their ability to express themselves were severely circumscribed. However, a study of archaeological material, representations in art and literature, and the occasional writing of women themselves allows us to look behind the curtain that veiled their lives. This class will examine the evidence to reconstruct a picture of what the life of women was like in Egyptian, Greek, and Roman culture throughout the ancient Mediterranean. This course fulfills the Fine Arts and Human Diversity requirement in the core curriculum.

ARTH 113 Art of Mesopotamia 4 credits

tional China and Japan. This course will fulfill the Fine Arts and Human Diversity requirements in the core curriculum.

AR H Sacred Architecture and Space Credits

Throughout history, humans have set aside spaces for religious purposes. Frequently these are the most visible remains or representatives of a culture and are keys to understanding the place of humans within the world and universe. This course examines sacred architecture and spaces from a variety of perspectives, including materials and structure, ritual function and liturgy, decoration, symbolism, physical context, and social/religious context. The course will exam-

architecture and the everyday environment of the Romans, and Rome's relationship to Greece and the Near East. This course fulfills the Fine Arts requirement in the core curriculum.

AR H The Art and Culture of Modern Mexico credits

This course examines the art and culture of Mexico from Independence through the Revolutionary and post-Revolutionary periods (c. 1824-1940). Painting, sculpture, architecture and popular arts are investigated in the context of broader political and intellectual movements during this period of tremendous societal change. The class begins with an overview of art history from the pre-Hispanic and Colonial periods. The core course content focuses on academic and popular arts following Mexico's independence; in this context we discuss the intense search for national identity, or mexicanidad, that marks the modern era. This class also explores the impact of the Mexican Revolution on the work of Mexican artists; readings and discussions also investigate the work of Mexican-born artists in the United States and Europe as well as the ways in which outsiders conceived of and represented Mexico during the Revolutionary Period. This course fulfills the Fine Arts and Human Diversity requirements in the core curriculum.

AR H Colonial Art of Latin America credits

This course is designed to provide an understanding of the foundations of the arts of Spanish-speaking Latin America. Its focus will be the development of the arts from the time of the Spanish entrada in the late 15th century through the time of the independence movements of the 19th century and beyond. In general, it will focus on Early Colonial and Viceregal New Spain and Peru. At the close of this course participants will be expected to approach any period of Latin American art with a deeper awareness of its historical context and an increased sense of analytical confidence. This course fulfills the Fine Arts and Human Diversity requirements in the core curriculum.

AR H Chinese Sculpture and Architecture credits

This course will examine the historical development of Chinese sculpture and architecture from the Neolithic period of the 21st century. The issues to be addressed will include possible functions and the development of early tombs, sculpted burial goods and imperial spirit roads; patronage, iconographic, and reception studies of Buddhist cave shrines and sculpture; the stylistic development of figural and animal sculpture; the development of both secular and religious Chinese architecture and garden design; the major figures and the "monuments" of sculpture and architectural studies; the development of Daoist sculpture; and the role of modern and contemporary sculpture and architecture in the public and private sphere. This course fulfills the Fine Arts and Human Diversity requirements in the core curriculum.

AR H Chinese Painting credits

The goal of this course is to engage students in a comprehensive examination of the historical development of Chinese painting from the Paleolithic period to the 20th century. The issues to be addressed will include the stylistic development of figure and landscape painting; the major figures and the "monuments" of painting; the influence of format on Chinese painting; the classification of subject matter and favored themes of Chinese painters; the early emergence of art history in Chinese painting and its later effects; changes in the socio-political influences on painters and their work; and methodological differences between modern Chinese and Western art historians. This course fulfills the Fine Arts and Human Diversity requirements in the core curriculum.

AR H Churches and Mosques in the First Millennium credits

This course examines the formation and development of the first Christian and Islamic art and architecture during the first millennium C.E. of Europe and the Mediterranean. The class will examine the development of religious structures for these new religions, the role of visual images in both religious and secular contexts, and the influences that these cultures exerted on each other. Areas to be covered include: the Early Christian period; the Germanic, Celtic, Anglo-Saxon, Scandinavian cultures of the sixth to eighth centuries; the Carolingian and Ottonian periods; Byzantine art and architecture; Islamic art and architecture. This course fulfills the Fine Arts requirement in the core curriculum.

AR H Cathedrals, Monasteries and Chapels credits

A survey of the arts in Europe during the Romanesque and Gothic periods, c. 1000-1400. Emphasis will also be given to contemporaneous currents in Byzantine and Islamic art and their influence on the art of the West. This course fulfills the Fine Arts core requirement.

“Curricula” section of this catalog.
Prerequisite: previous course or courses in art history

AR H Senior or Paper and Presentation credits

During the senior year, art history majors are expected to write a major research paper with an abstract and to describe the results of their research in an oral presentation to a departmental symposium to be held prior to graduation. The purpose of this paper and presentation is to allow the student to demonstrate competency in art historical methodology and to gain experience from presenting the results to a group of peers and faculty. The topic and instructor must be chosen in consultation with the department chair during the semester prior to writing the senior paper.

Prerequisite: ARTH 110 and 211 and permission of department chair

AR H Senior credits

AR H Senior credits

See the description of these courses at the beginning of the “Curricula” section of this catalog.

AR H Options credits

AR H Options credits

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

AR H Research or credits

See the description of these courses at the beginning of the “Curricula” section of this catalog.

AR H Individual study or credits

See the description of these courses at the beginning of the “Curricula” section of this catalog.

Prerequisite: permission of the instructor or supervisor and previous work in art history

BIOCHEMISTRY

- Successful defense of the thesis before an examining panel which includes the thesis director, a



CURRICULA

Courses taken at other colleges by students already matriculated at St. Thomas may be credited toward the requirements of the major only with prior and explicit written approval of the departmental transcript evaluator. Approval will be granted only to reconcile schedule conflicts which otherwise would be unavoidable, to provide opportunities to enroll in appropriate courses that are not available in the St. Thomas curriculum, or to rectify problems arising from other special circumstances. These limitations apply to all requirements of the major, including courses in the allied requirements.

Transfer students desiring credit toward the major for work completed prior to matriculation at St. Thomas should contact the transcript evaluator in the Office of the University Registrar before seeking departmental approval. For biology courses numbered higher than BIOL 209, no more than 12 transfer credits can be counted towards the major. Of these 12, no more than 8 credits can be from academic institutions within the USA, and no more than 12 credits can be from study abroad courses registered through St. Thomas.

Students who receive at least a score of 4 on the Biology or Environmental Science Advanced Placement Exam or at least a score of 5 on the International Baccalaureate exam will receive 4 college credits in biology. Students not intending to major in biology will receive credit for BIOL 101 (fulfills a natural science with laboratory course requirement). Students intending to major in biology or related programs who score 4 on the AP exam will receive credit for BIOL 101, which will fulfill a core lab science requirement but will not fulfill a major field requirement. Students intending to major in biology or related programs who score 5 on the AP exam or 5-7 on the IB exam will receive 4 credits for BIOL 243, which counts toward the biology major.

Extracurricular Expectations

of Science degree: Biochemistry (with Chemistry), Environmental Science (with Chemistry and Geology), and Neuroscience (with Psychology). These programs are described elsewhere in the catalog. Students interested in concentrating in biology as part of the environmental studies major listed in this catalog should consult with a Department of Biology adviser to select appropriate courses.

Pre-Health Professions Programs

Students interested in a career in the health professions should consult the university's pre-health professions advising committee. See Pre-Professional Programs in this catalog for coursework suggestions, internships, and other information.

Life Science Education

For information on the teaching licensure program in Life Science, see the Education section of this catalog. Students interested in specializing in biology at the elementary school level should consider the integrated major in Science and Mathematics for Elementary Education (SMEE), also described in the Education section.

Major in Biology B.A.

BIOL 207 Genetics, Ecology, and Evolution (4 credits)

BIOL 208 Biological Communication and Energetics (4 credits)

BIOL 209 Biology of Sustainability (4 credits)

Note: The normal expectation is that students will complete BIOL 207, 208, and 209 by the end of their sophomore year.

Plus twenty-four credits, at least four credits of which must be in courses numbered 400-498 (excluding 476, 478) from:

BIOL 210 Introduction to Laboratory Research (2 credits)

BIOL 211 Introduction to Field Research (4 credits)

BIOL 243 Individual Study (2 or 4 credits)*

BIOL 269 Research (2 or 4 credits)*

BIOL 287 Biology of HIV and AIDS (2 credits)

BIOL 292 Topics without laboratory (4 credits)

BIOL 296 Topics (2 credits)

BIOL 298 Topics (4 credits)

BIOL 302 Animal Diversity (4 credits)

BIOL 315 Plants, Food and Medicine (4 credits)

BIOL 320 Plant Physiology (4 credits)

BIOL 328 Environmental Toxicology and Health (4 credits)

BIOL 330 Animal Behavior (4 credits)

BIOL 333 Ecology (4 credits)

BIOL 335 Conservation Biology (4 credits)

BIOL 349 Comparative Anatomy and Physiology: Locomotion and Systems Regulation (4 credits)

BIOL 350 Comparative Anatomy and Physiology: Energy Acquisition and Processing (4 credits)

BIOL 353 Microscopic Anatomy (4 credits)

BIOL 354 Neurobiology (4 credits)

BIOL 356 Microbiology (4 credits)

BIOL 360 Genetics (4 credits)

BIOL 361 Medical Geology (4 credits)

BIOL 363 Immunology (4 credits)

BIOL 365 Developmental Biology (4 credits)

BIOL 371 Cell Biology (4 credits)

BIOL 375 Endocrinology (4 credits)

BIOL 389 Research (2 or 4 credits)*

BIOL 393 Individual Study (2 or 4 credits)*

BIOL 396 Topics (2 credits)

BIOL 398 Topics (4 credits)

BIOL 415 Plant Physiology and Adaptations to Stress (4 credits)

BIOL 430 Evolutionary Ecology (4 credits)

BIOL 435 Aquatic Biology (4 credits)

BIOL 462 Molecular Biology (4 credits)
BIOL 464 Bioinformatics (4 credits)
BIOL 467 Biology of Emerging Infectious Diseases (4 credits)
BIOL 471 Evolution (4 credits)
BIOL 472 Evolution, **Medicine & Psychology (4 credits)**
BIOL 476 Experiential Learning (2 credits)
BIOL 478 Experiential Learning (4 credits)
BIOL 484 Seminar (2 credits)
BIOL 486 Seminar (4 credits)
BIOL 488 Topics (2 credits)
BIOL 490 Topics (4 credits)
BIOL 491 Research (**2 or 4 credits**)*
BIOL 495 Individual Study (2 or 4 credits)*
CHEM 440 Biochemistry I (4 credits)**
ESCI 310 Environmental Problem Solving (4 credits)**

BIOL 490 Urban Ecosystems (4 credits)

Ad Required Courses

- CHEM 111 General Chemistry I (4 credits) and CHEM 112 General Chemistry II (4 credits) or CHEM 115 Accelerated General Chemistry (4 credits)
- HLTH 353 Consumer, Community and Environmental Health (4 credits)
- HLTH 400 Epidemiology (4 credits)
- STAT 220 Statistics (4 credits)
- STAT 310 Statistics (4 credits)

Plus 12 credits selected in consultation with their academic advisor and approved by the Biology Department Chair.

1. The courses must be cohesive and clearly related to each other as a block; however, they may be interdisciplinary and must be outside of Biology.
2. The block of courses must be clearly related to the Biology of Global Health major.
3. Students must submit a written proposal for these 12 credits that clearly describes how they are related to each other, and how they are related to the BOGH major, and how they fit into post-graduation plans. The department chair must approve the proposal. The student may register for no more than one third of the credits prior to receiving approval of the proposal.

Teacher Licensure

- Elementary Education with a Co-major in Science and Mathematics for Elementary Education
- Elementary Education with a Specialty in Science (5-8)
- Co-major in Science (5-8) - Life Science (9-12) and a Co-major in Secondary Education

See Education

CURRICULA

Minor Biology

- BIOL 207 Genetics, Ecology, and Evolution (4 credits)
- BIOL 208 Biological Communication and Energetics (4 credits)
- BIOL 209 Biology of Sustainability (4 credits)

Plus:

Eight additional credits in biology courses numbered 200 or above, selected in consultation with the department chair.

Note: CHEM 440 Biochemistry I cannot be counted towards the Biology minor.

MAJOR IN BIOCHEMISTRY B.S.

See Biochemistry

MAJOR IN ENVIRONMENTAL SCIENCE B.S.

See Environmental Science

MAJOR IN NEUROSCIENCE B.S.

See Neuroscience

BIOL 105 General Biology credits

Emphasizing biology as a creative, investigative process and its relevance in today's world, this course provides an overview of cell biology, genetics, physiology, and human impact on the environment. Two laboratory hours per week. This course fulfills the core-area in natural science in the Natural Science and Mathematical and Quantitative Reasoning requirement in the core curriculum. Not open to biology majors, pre-professional students, or students who have completed BIOL 105 or BIOL 106.

BIOL 106 Conservation Biology credits

An introduction to the basic concepts of conservation biology, including the history of conservation, the value of biological diversity, threats to biodiversity, conservation at the population, species, and community levels, and appli-

cations to human activities. Laboratories will emphasize data collection and analysis, and the practical application of conservation practices. This course is designed to meet the needs of the Environmental Studies major for a core course in environmental biology. Two laboratory hours per week. This course fulfills the core-area in natural science in the Natural Science and Mathematical and Quantitative Reasoning.

BIOL Human Biology credits

An introduction to cells, genetics, development and the human body, and the impact of humans on the environment. Laboratories will emphasize investigative scientific problem solving and creative thinking. Does not fulfill entrance requirements for some health professions programs. Pre-health professional students should consult the university's pre-health professions advising committee. This course is designed to meet the needs of social work and psychology majors. Two laboratory hours per week. This course fulfills the core-area in natural science in the Natural Science and Mathematical and Quantitative Reasoning requirement in the core curriculum. Not open to biology majors, or students who have completed BIOL 101 or BIOL 106.

BIOL Women in Medicine and Biology credits

This course addresses issues of biology from the perspective of women. The focus of the course will be to learn basic principles of biology in areas such as anatomy, physiology, genetics, cell biology, and microbiology in the context of issues relevant to women and women's health. Two laboratory hours per week. This course fulfills the core-area in natural science in the Natural Science and Mathematical and Quantitative Reasoning requirement in the core curriculum. Not open to biology majors or students who have completed BIOL 101 or BIOL 105.

BIOL Open Courses credits

BIOL Open Courses credits

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. This course fulfills the core-area in natural science in the Natural Science and Mathematical and Quantitative Reasoning requirement in the core curriculum. Not open to biology majors, pre-professional students, or students who have completed other BIOL course at the 100-level.

BIOL First Year Seminar in Biology credit

This seminar is intended to provide an introduction to the Biology Department for incoming students. Through various topics, students will explore what it means to be a biologist. How do scientists approach problems? How do students of biology understand and critically analyze science as it is portrayed in the media and discussed in other courses? How can students best take advantage of their four years as a biology student? Faculty teaching the seminar will serve as academic advisers to the students in the seminar. Students will have opportunities to discuss course and curricular questions. Seminar topics will vary depending on the instructor. One hour per week. Pass/Fail grading.

BIOL Genetics Ecology and Evolution credits

A consideration of the mechanisms of heredity, evolution, population genetics, and population ecology emphasizing hypothesis testing, case studies, and quantitative and experimental approaches to population biology. Topics include: Mendelian genetics, genetic mapping, population genetics, selection theory and the process of adaptation, speciation, macroevolution and phylogenetics, and the growth and regulation of populations. Laboratory work emphasizes techniques for data analysis, including computer simulation and modeling. Three laboratory hours per week. This course fulfills the core-area in natural science in the Natural Science and Mathematical and Quantitative Reasoning requirement in the core curriculum

Prerequisite: CHEM 111 or CHEM 115 (concurrent registration is acceptable)

BIOL Biotechnology Communication and Energetics credits

The purpose of this course is to introduce the structure and function of cells, and how structure and function drives organismal physiology and diversity. By the end of this course, through lecture and laboratory exercises, students should have an understanding of the basic components of cells, how cells and organisms transfer genetic information to future generations, how communication is integral to cellular and organismal function, and how cells and organisms generate and process energy to drive physiological functions. In addition, students will continue to improve skills for scientific inquiry through activities designed to increase familiarity with the scientific literature and science terminology, through skills to design and critically analyze experiments, foster ability to work within a scientific team, and provide opportunities to improve scientific writing. Any one topic covered in this course has enough material for a course of its own. However, this course will give a basic overview of a series of selected topics that are meant to introduce students

to the vast field of cellular and organismal biology and the use of biological science in life. Three laboratory hours per week.

Prerequisite: A minimum grade of C- in BIOL 207; and concurrent registration in CHEM 112 or CHEM 115

BIOL 208 Biology of Sustainability credits

Influences of humans on the global environment have reached unprecedented levels, increasing the need for society to strive to live in a sustainable manner. Many issues facing the environment have a biological basis. Thus, an understanding of basic biology is necessary to understand and address many environmental issues. This course will cover the fundamental biology involved with five environmental issues at the global scale: climate change, excessive nutrient loading into ecosystems, agricultural production, chemical contaminants, and loss of biodiversity. Specific biological principles to be covered include energy and nutrient mass balance by organisms and ecosystems, homeostasis and organismal physiology, and population dynamics and conservation biology. Three laboratory hours per week.

Prerequisites: CHEM 112 or CHEM 115 and one of the following: BIOL 208 (minimum grade of C-) or any 100-level GEOL

BIOL 209 Introduction to Laboratory Research credits

An introductory experience in the pursuit of laboratory based research problems in biology. Students work in teams to perform experiments designed to answer questions in a specified area of biology, maintain a journal of these experiments and their observations, and study and discuss pertinent literature. Emphasis on the application of the scientific method to biological problem solving, the role of research teams in science and the communication of findings to others as the end product of science. Area of investigation varies with the research interests of the instructor(s) for the course. Offered only in January term.

Prerequisite: Open to biology majors or prospective majors; BIOL 207. First-year or sophomore status or permission of instructor

CURRICULA

BIOL 210 Introduction to Field Research credits

This course is an introductory experience in field-based research problems in biology. Students will work individually or in small teams to define appropriate questions, design research methods, collect and analyze data, and present oral and written reports. Emphasis is on the application of the scientific method to biological problem solving and the communication of findings to others as the end product of science. Areas of investigation vary with the interests of the students and instructors and with the availability of research organisms. Generally offered in January term. Field trip of 2-3 weeks to a tropical site (Mexico, Belize, Ecuador, Jamaica, The Bahamas, or Costa Rica) and additional fees required.

Prerequisites: Open to biology majors or prospective majors. Preference given to students in their first or second year of study in the discipline.

BIOL 211 Individual Study or credits

These courses provide a means for obtaining credit on a tutorial basis for courses not otherwise available at UST or other institutions in the ACTC consortium, and are intended to satisfy unusual needs and circumstances. Students interested in Individual Study should discuss their plans with the faculty member most likely to be their tutor at least one semester before the course is to be taken. Individual Study proposal forms must be completed and approved by the faculty member, the department chair, and the Dean of the College prior to registration.

Prerequisite: Permission of the instructor and the department chair

BIOL 212 Research or credits

Original laboratory, field, library or other analytical investigation under the direction of a member of the biology faculty, culminating in either a written research paper or an oral presentation. Upper-class standing not required.

Prerequisite: Permission of the instructor and the department chair

BIOL 213 Biology of HIV and AIDS credits

The HIV/AIDS pandemic is now 30 years old. Remarkable progress has been made in learning about and combatting this virus, but HIV/AIDS has proved more difficult to treat successfully than many other viral infections.

deficiency of trace metals and minerals, inhalation of ambient and anthropogenic mineral dusts and volcanic emis-

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retical and experimental methods. Includes critical reading of papers from the primary literature and completion of a significant independent research project. Four laboratory hours per week.

Prerequisites: A minimum grade of C- in BIOL 330 or 333, or in any two 300-level biology courses; STAT 220 or MATH 303 strongly recommended

research and broad applications of global health, and will complete a capstone project focusing on a global health issue. This senior capstone course allows students majoring in Biology of Global Health to analyze specific issues and problems using the knowledge and understanding gained by completing the other required courses in the program. This course does not fulfill the Biology B.A. or Biology B.S. requirement for a 400-level course.
Prerequisite: Senior status as a declared Biology of Global Health major.

BIOL Experiential Learning credits

BIOL Experiential Learning credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

BIOL Senior credits

BIOL Senior credits

Investigation of selected problems in biology at an advanced level, involving student presentations based on the primary literature. The subject will vary and will be announced in the annual Class Schedule. These courses may, with approval of the department chair, be used to fulfill the 400-level requirement for the major.

Prerequisite: Upper-class standing and permission of the instructor

BIOL options credits

BIOL options credits

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

Courses in this category may be credited toward the requirements of the major depending on appropriateness of content, and with prior and explicit written approval of the instructor and the department chair. These courses may also, with approval of the department chair, be used to fulfill the 400-level requirement for the major.

Prerequisite: Permission of the instructor

BIOL Research or credits

Original laboratory, field, library, or other analytical investigation under the direction of a member of the faculty, culminating in the writing of a formal research paper in standard scientific format that incorporates a review of the appropriate literature. Oral or poster presentation of the work at a research symposium required. Students hoping to take a Research course for credit must make arrangements with the faculty supervisor at least one semester before the course is to be taken. Research proposal forms must be completed and approved by the faculty member, the department chair, and the dean of the College prior to registration. These courses may, with approval of the department chair, be used to fulfill the 400-level requirement for the major.

Prerequisite: Upper-class standing and permission of the instructor and the department chair

BIOL Individual Study or credits

These courses provide a means for obtaining credit on a tutorial basis for courses not otherwise available at UST or other institutions in the ACTC consortium, and are intended to satisfy unusual needs and circumstances. Students interested in Individual Study should discuss their plans with the faculty member most likely to be their tutor at least one semester before the course is to be taken. Individual Study proposal forms must be completed and approved by the faculty member, the department chair, and the dean of the College prior to registration. These courses may, with approval of the department chair, be used to fulfill the 400-level requirement for the major.

Prerequisite: Permission of the instructor and the department chair

BUSINESS ADMINISTRATION OPUS COLLEGE OF BUSINESS

Opus College of Business
McNeely Hall (MCH) 128, (651) 962-5544
Fisher, Assistant Dean, Undergraduate Programs

The programs in Business Administration provide a carefully designed curriculum that balances practice and theory. Students begin by building a foundation of knowledge and basic skills with courses in economics, statistics, mathematics, and communication. They then take a series of core courses that span the functional areas of business. These include accounting, finance, legal studies in business management, and marketing. An ongoing, in-depth study of business ethics and decision-making is woven into the curriculum, helping students not only align their values with their future business practices, but helping them understand the conflicts and challenges modern business leaders face. Students may build greater knowledge in several different concentrations (listed below). Students may also combine a general business concentration with a minor in another field, such as economics, music, foreign language, etc. A plan of study is available for students interested in both a B.A. in business administration and a B.S. in mechanical or electrical engineering. See the Department of Engineering section of this catalogue or contact the Opus College of Business for further information.

Students may choose to provide a practical element to their academic experience through consulting projects developed by the Small Business Development Center or through internships and other opportunities to work with businesses in the Twin Cities.

Opus College of Business faculty provide students with hands-on, interactive learning experiences such as presentations, group projects, case studies, simulations, guest speakers - as well as stimulating discussion and debate.

CURRICULA

It is expected that students majoring in business administration will take their business courses at St. Thomas. Students must have prior approval before registering for a business course at another school. All students who major in business administration must take a minimum of 28 credits in Opus College of Business courses at the University of St. Thomas; at least 16 of these 28 credits must be from courses in the department of the student's major concentration. Credits earned at ACTC colleges and through affiliated programs abroad do not count toward this residency requirement. All students majoring in the business communication concentration must take a minimum of 8 credits from the Department of Communication and Journalism at the University of St. Thomas. Students majoring in business administration must complete a minimum of 76 credits that are outside the Opus College of Business.

All Opus College of Business courses taken by business administration majors and minors must be taken for a letter grade. These courses may not be taken on a pass/fail basis.

Credits for Opus College of Business courses taken more than eight years ago (or more than five years ago for credits in a major concentration) will be accepted but may not fulfill current requirements.

Student Honor Pledge

It is the expectation that Opus College of Business students will become highly principled global business leaders, and students are expected to maintain the highest standards of integrity while enrolled in the business program. Honesty and integrity in the conduct of academic life is fundamental to the principle of independent learning and growth. The Honor Pledge (below) is signed by undergraduate business students at the time they declare their business major or minor, as an affirmation of their commitment to accept personal responsibility for their own behavior, and conduct themselves in an ethical manner with academic honesty and integrity.

As a student in the Undergraduate Program of the Opus College of Business, I will adhere to the University academic integrity policy, and I will act with honesty, integrity, respect, and accountability in all my actions.

Major in Business Administration B.A.

One of the business concentrations of:

- Accounting - *see description below under Department of Accounting*
- Business Communication - *see description below under Department of Management*
- Entrepreneurship - *see description below under Department of Entrepreneurship*



- Finance - *see description below under Department of Finance*
- Family Business -

CURRICULA



BUSN 202 MS Excel Business Applications (0 credits)
 OR CISC 200 Intro to Computer **Technology & Business Applications** (4 credits)

Plus:
Two courses (minimum of six credits) in transnational business courses taken abroad with pre-approval of the student's business faculty adviser. The course content must address transnational business issues in accounting, finance, management, marketing, or law. (Three of the following core courses must be completed before taking IBUS courses: ACCT 210, BLAW 303, OPMT 310, FINC 321, MGMT 305, MKTG 300.) These courses will transfer to St. Thomas as two of the following:

- IBUS 450 Transnational Business Issues in Management, Marketing, or Business Law (4 credits)
- IBUS 460 Transnational Business Issues in Finance or Accounting (4 credits)
- IBUS 470 Transnational Issues in International Business (4 credits)

Additional requirements

- COJO 370 Intercultural Communication (4 credits)
- ECON 251 Principles of Macroeconomics (4 credits)
- ECON 252 Principles of Microeconomics (4 credits)
- STAT 220 Statistics I (4 credits)

Note: STAT 220 should be completed by the end of the sophomore year. Transfer students who have not had an equivalent course must complete this course by the end of their first semester, junior year.

Plus four credits from the following:

- MATH 101 Finite Mathematics (4 credits)
- MATH 109 Calculus with Review II (4 credits)
- MATH 111 Calculus for Business and Social Science (4 credits)
- MATH 113 Calculus I (4 credits)

Note: The math requirement must be completed by the end of the sophomore year.

Plus eight credits from the following:

- ECON 346 Country and Area Studies in Economics (4 credits)
- GEOG 113 World Geography (4 credits)
- POLS 104 American Government in Comparative Perspective (4 credits)
- POLS 225 World Politics (4 credits)
- POLS 321 Comparative Foreign Policy (4 credits)
- Foreign language at the 212 level or above
- International or cross-cultural course(s) with prior approval of business faculty adviser

Accounting ACC

Opus College of Business
 Department of Accounting
 Sathe (chair), Asdemir, Blazovich, Chui, Davis, Desin, Gallagher, Gao, Grimm, Matson, Mortenson, Radermacher, J. Raffield, Shapiro, Stallings, Vician, White, Yu

The University of St. Thomas accounting program meets the current education requirements set by the Minnesota Board of Accountancy to take the Certified Public Accountant (CPA) Examination, and for CPA licensure, in Minnesota. CPA licensure in Minnesota requires the applicant to have completed 150 semester hours of college or university education, passed the CPA Examination, passed an ethics examination, and completed relevant work experience. (Most other states have similar requirements.) The University of St. Thomas offers alternatives by which students can meet the 150-hour requirement, including master's degrees (Master of Science in accountancy or Master of Business Administration) and baccalaureate coursework. Questions should be directed to the chair of the Department of Accounting or to a department faculty member.

Concentration in Accounting
Business Core Courses

- ACCT 210 Introduction to Financial Accounting (4 credits)
- ACCT 215 Managerial Accounting (4 credits)
- BETH 301 Business Ethics (4 credits)
- BLAW 302 Business Law for Accounting (4 credits)

BUSN 200 Business Learning Through Service (0 credit)
 OPMT 310 Operations Management (4 credits)
 FINC 321 Financial Management (4 credits)
 MGMT 305 Management and Organizational Behavior (4 credits)
 MKTG 300 Principles of Marketing (4 credits)

Concentration on Courses

ACCT 311 Intermediate Accounting I (4 credits)
 ACCT 312 Intermediate Accounting II (4 credits)
 ACCT 314 Tax Accounting (4 credits)
 ACCT 316 Auditing (4 credits)
 ACCT 317 Cost Accounting (4 credits)
 ACCT 410 Advanced Accounting (4 credits)

Additional Requirements

ECON 251 Principles of Macroeconomics (4 credits)
 ECON 252 Principles of Microeconomics (4 credits)
 CISC 200 Introduction to Computer Technology and Business Applications (4 credits)
 CISC 419 Accounting Information Systems (4 credits)
 STAT 220 Statistics I (4 credits)

Note: STAT 220 should be completed by the end of the sophomore year. Transfer students who have not had an equivalent course must complete this course by the end of their first semester, junior year.

Plus four credits from the following:

MATH 101 Finite Mathematics (4 credits)
 MATH 109 Calculus with Review II (4 credits)
 MATH 111 Calculus for Business and Social Science (4 credits)
 MATH 113 Calculus I (4 credits)

Note: The math requirement must be completed by the end of the sophomore year.

Entrepreneurship Concentration

Opus College of Business
 Department of Entrepreneurship
 Dunham (chair), Deeds, Ebben, Johnson, McVea, Sorenson, Spriggs

The study of entrepreneurship prepares students for a variety of career and life experiences. Being an entrepreneur may mean starting your own business, or it may mean working in an existing business. The key is you learn to think like an entrepreneur. You will learn to identify and analyze new opportunities, to think creatively, and to be action oriented in order to seize opportunities that create real value. These skills are important in all types of organizations, from small start-ups to large corporate settings.

Students completing a concentration in entrepreneurship will have the skills to start a business venture, to contribute to an existing company, and to be business leaders in their local communities.

Concentration in Entrepreneurship

Business Core Courses

ACCT 210 Introduction to Financial Accounting (4 credits)
 ACCT 215 Managerial Accounting (4 credits)
 BETH 301 Business Ethics (4 credits)
 BUSN 200 Business Learning Through Service (0 credit)
 OPMT 310 Operations Management (4 credits)
 FINC 321 Financial Management (4 credits)
MGMT 305 Management & Organizational Behavior (4 credits)
MKTG 300 Principles of Marketing (4 credits)

Plus four credits from the following:

BLAW 301 Legal Environment of Business (4 credits)
BLAW 302 Business Law for Accounting (4 credits)
BLAW 303 International Business Law (4 credits)
BLAW 304 Real Estate Law (4 credits)



OR

Two from the electives list above, plus one (4 credit) course from the approved courses below (students are responsible for completion of all prerequisite courses)

MUSC 363 Emerging Models in Music Industry

MUSC 480 Music Business Seminar

Any 300-level College of Business course, with approval from Entrepreneurship department chair.

Concentration in Family Business

Family business is the most common type of business organization in the world. The concentration in family business prepares

students to govern and manage family firms. The overlap of family, owner, and business systems provide unique challenges for families in business. Students learn to analyze those three systems and to work with family members in managing and governing the business. They are provided the business knowledge necessary to understand business performance and to make strategic decisions. Students are provided conceptual tools and approaches for family planning and organizing. Because the family business courses focus on applying knowledge in family firms, parents or other significant family members are encouraged to audit those classes or to actively participate by reading class materials and helping students with many course assignments. The courses are designed to help families begin to implement practices that they deem useful to their businesses.

Business Core Courses

Introduction to Accounting (4 credits)

Introduction to Business (4 credits)

Business Ethics (4 cr) 18.2021 (edies) 0]TJ[T'[(BUSN 200(BusinessLk)18.1875()36.00868(arping)23.9883(T)17.9971(p

ENTR 349 ofr 4 credits) 0]TJ[T'[(ENTR 49 ofr)48.3135 family B Business Innova

Investments (4 cr) 18.1883 (edies) 0]TJ[T' [REALT)460.867(200(Rr)12..854()36.06529 ia(rsta)9.99829(toPr)48.0029 rincmplsp (4 c

Business Strategy, Acquiring and R&D (4 cr) 18.0529 (edies) 300]TJ[T' [MGM(T)460.854(382sLk)18.3135()36.06529 idn

CURRICULA



MKTG 360 Retailing (4 credits)
 MKTG 390 Marketing Strategy (4 credits)

Additional requirements

ECON 251 Principles of Macroeconomics (4 credits)
 ECON 252 Principles of Microeconomics (4 credits)
 STAT 220 Statistics I (4 credits)

Note: STAT 220 should be completed by the end of the sophomore year. Transfer students who have not had an equivalent course must complete this course by the end of their first semester, junior year.

Plus four credits from the following:

MATH 101 Finite Mathematics (4 credits)
 MATH 109 Calculus with Review II (4 credits)
 MATH 111 Calculus for Business and Social Science (4 credits)
 MATH 113 Calculus I (4 credits)

Note: The math requirement must be completed by the end of the sophomore year.

Plus four credits from the following:

COJO 374 Family and Couple Communication (4 credits)
 PSYC 288 Psychology of Marriage and the Family (4 credits)
 SOCI 321 Marriage and the Family (4 credits)

Plus four credits not previously taken to meet concentration requirements from the following:

COJO 220 Interpersonal Communication (4 credits)
 COJO 274 Small Group Communication (4 credits)
 COJO 320 Organizational Communication (4 credits)
 COJO 374 Family and Couple Communication (4 credits)
 PSYC 288 Psychology of Marriage and the Family (4 credits)
 SOCI 321 Marriage and the Family (4 credits)

Ethics and Business Law BLA

Opus College of Business
 Department of Ethics and Business Law
 Pattit (chair), Buckeye, Elm, Garrison, R. Kennedy, Kunkel, Marsnik, Michaelson, Monge, Naughton, Swink, Thompson, Wendt

Ethics and law play an increasingly prominent role in the workplace and in the global marketplace. Legal rules and regulations have proliferated at all levels of the organization, and successful managers must understand how to integrate legal considerations into their business planning and operations. Business leaders also need to be able to recognize the ethical dimensions of decisions and choose well in difficult situations. Our ethics and business law courses acquaint students with the tools of ethical decision-making and with the foundations of the legal environment of business, both domestic and international to enhance ethical thinking and problem solving.

The Department of Ethics and Business Law offers a legal studies in business concentration for undergraduate business majors. Students in this concentration explore the legal system and the ways in which legal rules and processes affect business decisions. Students also engage in legal reasoning, advocacy and the legal analysis of commercial transactions.

The concentration is structured to ensure that students receive both a solid grounding needed for the B.A. in business administration and an additional focus on the legal environment for business.

Concentration in Legal Studies in Business
Business Core Courses

ACCT 210 Introduction to Financial Accounting (4 credits)
 ACCT 215 Managerial Accounting (4 credits)
 BETH 301 Business Ethics (4 credits)
 BUSN 200 Business Learning Through Service (0 credit)
 OPMT 310 Operations Management (4 credits)
 FINC 321 Financial Management (4 credits)
 MGMT 305 Management & Organizational Behavior (4 credits)
 MKTG 300 Principles of Marketing (4 credits)

consultant, loan officer, account specialist, treasury assistant, portfolio assistant, and financial manager, among others.

Concentration in Financial Management

Business Core Courses

- ACCT 210 Introduction to Financial Accounting (4 credits)
- ACCT 215 Managerial Accounting (4 credits)
- BETH 301 Business Ethics (4 credits)
- BUSN 200 Business Learning Through Service (0 credit)
- OPMT 310 Operations Management (4 credits)
- FINC 321 Financial Management (4 credits)
- MGMT 305 Management & Organizational Behavior (4 credits)**
- MKTG 300 Principles of Marketing (4 credits)**

Plus four credits from the following:

- BLAW 301 Legal Environment of Business (4 credits)**
- BLAW 302 Business Law for Accounting (4 credits)**
- BLAW 303 International Business Law (4 credits)**
- BLAW 304 Real Estate Law (4 credits)**

Concentration on Courses

- ACCT 311 Intermediate Accounting I (4 credits)
- FINC 324 Corporate Finance (4 credits)
- FINC 325 Investments (4 credits)

Plus twelve credits from the following:

- FINC 410 Derivatives (4 credits)
- FINC 430 Financial Intermediaries (4 credits)
- FINC 440 Security Analysis and Portfolio Management (4 credits)
- FINC 442 Fixed Income Securities (4 credits)
- FINC 450 International Financial Management (4 credits)
- FINC 480 Strategic Finance (4 credits)

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Additional Requirements

- MATH 109 Calculus with Review II (4 credits)
- MATH 111 Calculus for Business and Social Science (4 credits)
- MATH 113 Calculus I (4 credits)

Note:

Plus four credits from the following:

- MATH 109 Calculus with Review II (4 credits)
- MATH 111 Calculus for Business and Social Science (4 credits)
- MATH 113 Calculus I (4 credits)

Note: The math requirement must be completed by the end of the sophomore year.

Plus four credits from the following:

- ECON 311 Forecasting (4 credits)
- ECON 315 Introduction to Econometrics (4 credits)

Major in Real Estate Studies B.S.

The Bachelor of Science degree in the multidisciplinary field called real estate finds an ideal foundation in a liberal arts education. It provides a quality real estate program with a core in the general functional and operational areas of business. The program is designed to develop students as better citizens able to make responsible decisions benefiting society. Employers prefer to hire students who are knowledgeable of their discipline and operate within a moral and ethical framework of values. Graduates of the program can find employment as mortgage loan officers, appraisers,

commer

CURRICULA



Students completing a concentration in the Department of Management will develop a systems thinking perspec-

Plus four credits not previously taken from the following:

- COJO 100 Public Speaking (4 credits)
- COJO 105 Communication in the Workplace (4 credits)
- COJO 111 Intro to COJO I (4 credits)
- COJO 370 Intercultural Communication (4 credits)
- ENGL 211 or above (4 credits)

Concentration in Human Resource Management

It is often said that people are an organization's greatest resource. People who work in human resource management provide specialized methods, techniques and professional judgment geared toward fair and effective employee selection, rewards, training, placement, management and development. By making effective use of employees' skills, and helping employees find satisfaction in their jobs and working conditions, both the employees and employers benefit from enhanced productivity.

People who work in human resource management have a wide range of responsibilities within a company. These include forecasting the organization's employee needs such as hiring, developing appraisal, compensation and professional development systems; establishing and maintaining effective labor relations; analyzing and improving the working environment; and interpreting employment regulations. Typical job titles found in human resource departments include benefits analyst, training services coordinator, HR administrator, employment and placement manager, job analyst, labor relations specialist, affirmative action manager, recruiter, and personnel development specialist.

Business Core Courses

- ACCT 210 Introduction to Financial Accounting (4 credits)
- ACCT 215 Managerial Accounting (4 credits)
- BETH 301 Business Ethics (4 credits)
- BUSN 200 Business Learning Through Service (0 credit)
- OPMT 310 Operations Management (4 credits)
- FINC 321 Financial Management (4 credits)
- MGMT 305 Management & Organizational Behavior (4 credits)**
- MKTG 300 Principles of Marketing (4 credits)**

Plus four credits from the following:

- BLAW 301 Legal Environment of Business (4 credits)**
- BLAW 302 Business Law for Accounting (4 credits)**
- BLAW 303 International Business Law (4 credits)**

Concentration Courses

- MGMT 360 Organizational and Employee Development (4 credits)**
- MGMT 362 Attracting, Acquiring, and Rewarding Talent (4 credits)**
- MGMT 364 Employee and Labor Relations (4 credits)**
- MGMT 460 Human Resource Strategy (4 credits)**
- MGMT 480 Strategic Management (4 credits)**

- BUSN 202 MS Excel Business Applications (0 credits)
- or CISC 200 Intro to Computer Technology & Business Applications (4 credits)

Additional Requirements

- ECON 251 Principles of Macroeconomics (4 credits)
- ECON 252 Principles of Microeconomics (4 credits)
- STAT 220 Statistics I (4 credits)

Note: STAT 220 should be completed by the end of the sophomore year. Transfer students who have not had



Plus four credits from the following:

- COJO 100 Public Speaking (4 credits)
- COJO 105 Communication in the Workplace (4 credits)
- COJO 370 Intercultural Communication (4 credits)
- ENGL 211 or above (4 credits)

Concentration in Leadership and Management

The leadership and management curriculum provides a broad look at the science and art of “getting things done.” It will help the student develop philosophies and skills for leading people, processes, and projects across all aspects of an organization. It will provide the concepts and tools to establish long-term visions and goals for an organization and to effectively manage daily routines in a dynamic work environment – regardless of the type of organization or the particular area of a business.

The business world is changing quickly and current experience shows that university graduates can expect to change careers and employers many times before retiring. The leadership and management program will help the student initiate a course of action and take advantage of opportunities that arise within organizations. Leadership and management will prepare the student for positions throughout an organization. This concentration is designed for students majoring in business administration who are not interested in concentrating their studies in a particular discipline of business (e.g., accounting, finance, marketing), but want more focus than the general business concentration provides.

Business Core Courses

- ACCT 210 Introduction to Financial Accounting (4 credits)
- ACCT 215 Managerial Accounting (4 credits)
- BETH 301 Business Ethics (4 credits)
- BUSN 200 Business Learning Through Service (0 credit)
- OPMT 310 Operations Management (4 credits)
- FINC 321 Financial Management (4 credits)
- MGMT 305 Management & Organizational Behavior (4 credits)**
- MKTG 300 Principles of Marketing (4 credits)**

Plus four credits from the following:

- BLAW 301 Legal Environment of Business (4 credits)
- BLAW 302 Business Law for Accounting (4 credits)
- BLAW 303 International Business Law (4 credits)

Concentration Courses

- MGMT 382 Leadership Development (4 credits)
- MGMT 480 Strategic Management (4 credits)
- MGMT 482 Leading Organizational Systems (4 credits)

- BUSN 202 MS Excel Business Applications (0 credits)
- or CISC 200 Intro to Computer Technology & Business Applications (4 credits)

Plus eight credits from the following:

- MGMT 384 Project Management (4 credits)
- MGMT 388 Leading Diverse Teams (4 credits)

Advanced requirements

- ECON 251 Principles of Macroeconomics (4 credits)
- ECON 252 Principles of Microeconomics (4 credits)
- STAT 220 Statistics I (4 credits)

Note: STAT 220 should be completed by the end of the sophomore year. Transfer students who have not had an equivalent course must complete this course by the end of their first semester, junior year.

Plus four credits from the following:

- MATH 101 Finite Mathematics (4 credits)
- MATH 109 Calculus with Review II (4 credits)

MATH 111 Calculus for Business and Social Science (4 credits)
MATH 113 Calculus I (4 credits)

Note: The math requirement must be completed by the end of the sophomore year.

CURRICULA



MGMT 384 Project Management (4 credits)
 OPMT 360 Service Operations Management (4 credits)

Additional requirements

ECON 251 Principles of Macroeconomics (4 credits)
 ECON 252 Principles of Microeconomics (4 credits)
 STAT 220 Statistics I (4 credits)

Note: STAT 220 should be completed by the end of the sophomore year. Transfer students who have not had an equivalent course must complete this course by the end of their first semester, junior year.

Plus four credits from the following:

MATH 101 Finite Mathematics (4 credits)
 MATH 109 Calculus with Review II (4 credits)
 MATH 111 Calculus for Business and Social Science (4 credits)
 MATH 113 Calculus I (4 credits)

Note: The math requirement must be completed by the end of the sophomore year.

Plus four credits from the following:

COJO 100 Public Speaking (4 credits)
 COJO 105 Communication in the Workplace (4 credits)
 COJO 370 Intercultural Communication (4 credits)
 ENGL 211 or above (4 credits)

Accounting Courses ACC

ACC 101 Introduction to Financial Accounting credits

Financial accounting is an integral part of the planning, reporting and control functions of every business. Financial accounting data provide insights about the firm's financial condition, operating results, cash flows and capital structure to facilitate decision making. This course introduces the primary financial statements, fundamental financial accounting terminology and calculations, as well as the interpretation and analysis of financial statements. Ethical aspects of accounting are included.

Prerequisites: Sophomore standing

ACC 201 Managerial Accounting credits

This course is designed to give students an understanding of how accounting and business information is used in planning, budgeting, decision-making, and performance evaluation.

Prerequisite: ACCT 210, and sophomore standing*

*Pending final approval fall 2016

ACC 301 Intermediate Accounting I credits

The theory of accounting is studied as it relates to the external financial reporting requirements of profit-oriented businesses. Major subjects include review of the basic financial statements, valuation of most assets, and revenue recognition.

Prerequisite: A minimum grade of C- in ACCT 210, and sophomore standing*

*Pending final approval fall 2016

ACC 311 Intermediate Accounting II credits

A continuation of ACCT 311. A study is made of the remaining balance sheet accounts with special emphasis on the capital structure of corporations. In addition complex accounting matters such as tax allocation, pension applications, lease capitalization and current value accounting concepts are reviewed.

Prerequisites: A minimum grade of C- in ACCT 311; FINC 321 (may be taken concurrently); CISC 200 (applies to students under the 2012-14 catalog or later).

ACC 321 Tax Accounting credits

This course is a study of the principles of business taxation. The course primarily covers the federal tax laws as they apply to sole proprietorships, corporations, and partnerships. Other topics include the principles of individual taxes, such as dependents, filing status, tax administration, tax depreciation, property transactions and capital gains and losses. Tax research is required in the course. **Prerequisite:** A minimum grade of C- in ACCT 210 and junior standing.

ACC 331 Individual Income Tax credits

CURRICULA



A study of the fundamentals of federal income tax law as it applies to individuals. Topics include: filing status, dependents, gross income, itemized deductions, tax credits, cost recovery, property transactions, and the alternative minimum tax.

Prerequisite: Junior standing; concurrent or previous enrollment in ACCT 215 recommended

ACC Auditing credits

Studies the basis for the auditor's report. Emphasis is on risk analysis, internal control review, audit evidence and procedures, and sampling. Case analysis is used to develop analytic and judgment skills and to enhance communication skills.

Prerequisite: A minimum grade of C- in ACCT 312

ACC Cost Accounting credits

A rigorous study is made of the elements of product costs, including job, process, standard, and variable costing systems and procedures. A managerial emphasis is added through inclusion of cost-volume-profit relationships, budgeting techniques, and other selected topics.

Prerequisites: A minimum grade of C- in ACCT 215

ACC Advanced Accounting credits

Educator software platform. Students will submit Excel exercises to demonstrate their learning. Students enrolled in this course will pay a technology fee, and will then be granted lifetime access to the Excel Educator site. Students who feel they have mastered the content of this course may apply for a waiver of this course through an examination. Students can attempt a waiver through examination for this course only once, and there is a fee for the examination.

This course is graded pass/fail. Students must achieve at least a passing percentage on each exercise, and an overall passing percentage to complete this course.

B N **op cs** **cred ts**
B N **op cs** **cred ts**

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

B N **a Buñ ness Inst tute Pro ect** **cred ts**

A Small Business Institute project course not associated with any specific discipline, which will provide an opportunity for undergraduate students of any major to transfer their classroom knowledge to a "real world" situation through the use of a professional consulting activity as outlined by SBA rules and procedures.

Prerequisites: Senior standing

B N **Exper ent a Learn ng** **cred ts**
B N **Exper ent a Learn ng** **cred ts**

See the description of these courses at the beginning of the "Curricula" section of this catalog.

B N **e ñ nar** **cred ts**
B N **e ñ nar** **cred ts**

See the description of these courses at the beginning of the "Curricula" section of this catalog.

B N **op cs** **cred ts**
B N **op cs** **cred ts**

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

B N **Research** **or cred ts**

See the description of these courses at the beginning of the "Curricula" section of this catalog.

B N **Ind v dua tudy** **or cred ts**

See the description of these courses at the beginning of the "Curricula" section of this catalog.

include the law of contracts, the Uniform Commercial Code, the law of debtor-creditor relations, the legal structure



Entrepreneurship Courses EN R

EN R Foundations of Entrepreneurship credits

ENTR200 is a national award-winning course and is the first course in the Entrepreneurship Concentration sequence. Known across campus as the "Lemonade Stand" class, this course requires students to start a new business and reach revenue, and in this process begin the journey to becoming world-class problem solvers. This course is a combination of applied and theoretical dimensions of Entrepreneurship. In addition to starting a new business, students are exposed to theoretical concepts, including Opportunity Identification, Business Modeling, Industry Analysis, and New Venture Growth. This is a very dynamic course, mixing lecture, discussion, case study, guest speakers and introduction to the Hotwash Process. The course culminates in a competition with UST alumni judging the students' quality of work and accomplishments.

Prerequisite: sophomore standing, not open to seniors.

EN R Entrepreneurial Thinking credits

This course is designed as an introduction to the entrepreneurial mindset, and to the creative problem solving tools and critical thinking skills necessary to successfully pursue innovation and entrepreneurial success. The course is designed for non-business majors and, as such, will cover a broad range of topics. Students will explore the issues that surround opportunity recognition, opportunity evaluation, creative problem solving, cash flow, and growth management of an entrepreneurial venture. The course will be primarily case-based. This means that nearly all learning will take place through active participation in case analysis and class discussions. This style of learning has a number of advantages; it involves the study of dozens of real entrepreneurial ventures and problems, it emphasizes practical learning as well as theoretical concepts, it allows the student to develop their personal approach to the subject, and it



ENR Creativity and Change credits

This course will acquaint students with theories and strategies for exercising the creative process. Leadership and change will also be examined to help the student understand how to effectively introduce and implement new and creative ideas.

Prerequisites: ENTR 200 or ENTR 260, and Junior standing

ENR Entrepreneurial Financial Resource Management credits

As a required course in the Entrepreneurship Concentration, ENTR 370 is focused on financial analysis and strategy in new and growing firms. Course topics are introduced and reinforced through case study analysis, discussion, in-class activities, speakers, hot washes, and the development of a financial plan that students present to investors at the end of the semester. Students can expect to take away critical and highly-marketable skill sets around building and interpreting financial projections, valuing privately-held firms, structuring debt and equity deals, creating value through deal terms, and managing by the numbers.

Prerequisites: ENTR 200, ACCT 210 and junior standing.

ENR Silicon Valley and Entrepreneurial Learning credits

Students will travel to Silicon Valley, California to meet with entrepreneurs, venture capitalists and intrapreneurs in fast growing companies in order to better understand the technological developments, managerial approaches and market forces shaping technology entrepreneurship. Students will learn how to shape opportunities in the tech start up market space, build their skills in assessing the voice of the customer, gain greater understanding of the economics of tech start up business models, and directly experience how tech start ups raise funds. The course is designed to expand student thinking beyond local entrepreneurship and to address global perspectives by bringing students directly to the world wide hub of technology entrepreneurship.

ENR Entrepreneurship Internship credits

Students will integrate experiences from placements in entrepreneurial companies with required readings, class discussion, and class assignments related to their placement experience. Students will complete 100 hours of work in the placement. They will perform appropriate, significant and relevant tasks directly under the supervision of either the lead entrepreneur or a key member of the entrepreneurial team. In addition, students will meet regularly during the semester in a classroom setting to share their experiences and learn from classmates in other placements. Finally, the instructor will also hold regular one-on-one sessions with students to provide overall supervision for the placement experience and to assure that the student is integrating classroom learning with the placement experience.

Prerequisites: ENTR 200 or ENTR 260, and Junior standing

ENR Family Business Innovation and Entrepreneurship credits

Develop governance processes that establish innovation and entrepreneurship in the family business. Owners will participate in defining desired family outcomes that align with family mission and goals; identifying and assessing entrepreneurial opportunities to achieve those outcomes; reviewing entrepreneurial opportunities in light of business and family resources and capabilities, and desired social and economic impact; and developing decision processes to assess entrepreneurial opportunities. Family members involved in the business are expected to either audit this course or to actively participate in course projects.

Prerequisites: ACCT 210, FINC 300 or 321; BETH 301 and senior standing.

*Effective 2017 Fall students must also have completed BUSN 202 or CISC 200.

ENR Entrepreneurship Management and Strategy credits

This is the Entrepreneurship Concentration capstone course. As a capstone course, ENTR450 builds upon previous coursework, drawing together critical concepts including opportunity identification, business modeling, financial modeling, and market/industry research skills. Through lecture, case discussion, and extensive use of the Hotwash Process, students polish their critical thinking and creative problem solving skills. The primary deliverable is a Fundable Business Plan. The course culminates in a competition with UST alumni judging the students' quality of work.

Prerequisites: BETH 301, one ENTR elective, FINC 321, OPMT 310, and MKTG 300.

*Effective 2017 Fall students must also have completed BUSN 202 or CISC 200.

Finance Courses FINC

FINC Finance for Non Business Majors credits

Introduction to the concepts of finance in analyzing decisions. Topics include how to determine the economic value of a company's investment projects, the value of financial securities, the cost of funds used to purchase assets, and the overall management of the firm's assets and liabilities. This course may not be used to meet any requirement for a business major. Not open to business majors.

Prerequisite: Junior standing

FINC F n a n c e a n d M a n a g e m e n t c r e d i t s

An examination of the elements of the finance function of the organization as well as the financial analysis of decisions. Topics include working capital management, acquisition of capital, capital budgeting, cost of capital, theories of valuation, and present value.

Prerequisites: ACCT 210 (or ACSC 320 for actuarial majors), STAT 220 (or MATH 313 or STAT 314 for actuarial majors), ECON 251, 252, and Sophomore standing

FINC C o r p o r a t e F i n a n c e c r e d i t s

Scope and objectives of financial management in the corporate setting at an advanced level. The course will explore working capital management, risk, valuation, capital structure theory, capital budgeting and other current topics in finance. It will utilize computer-based financial modeling and forecasting.

Prerequisites: FINC 321, ACCT 215 (or ACSC 320 for actuarial majors*) and MATH 109 or 111 or 113 (may be taken concurrently), and CISC 200 (may be taken concurrently) (or CISC 130 for actuarial majors*)

*Pending final approval fall 2016

FINC I n v e s t m e n t s c r e d i t s

The focus of this course is to provide an overview of investment concepts and an exposure to a broad range of investment alternatives. The principle concern of the course is to develop skills necessary to make prudent investment decisions.

Prerequisites: FINC 321 and ACCT 215 (or ACSC 320 for actuarial majors*), and MATH 109 or 111 or 113 (may be taken concurrently), and CISC 200 (may be taken concurrently) (or CISC 130 for actuarial majors*)

*Pending final approval fall 2016

FINC D e r i v a t i v e s c r e d i t s

This is a mathematically-oriented course which gives an introduction to the theory of derivative contracts such as futures and options. Issues of valuation, arbitrage pricing, trading strategies, and hedging strategies will be covered. The course will include elements of stochastic calculus and other mathematical techniques needed for understanding the derivative pricing. Among the applications to be explored are uncertainty in commodity prices, stock prices, exchange rates and interest rates.

Prerequisites: FINC 324 or 325 and BETH 301

*Effective 2017 Fall students must also have completed BUSN 202 or CISC 200.

FINC F n a n c e a n d I n t e r m e d i a r i e s c r e d i t s

Concepts, practices and organization for financial management of various financial intermediaries. Asset-liabilities management, duration, swaps, hedges and other concepts will be covered. Banks will be the primary area for study, but the course also will look at other institutions including insurance, funds and thrifts. The course will be based on text, lectures, guest speakers, computer modeling, a bank simulation and examination.

Prerequisites: FINC 324 or 325 and BETH 301

*Effective 2017 Fall students must also have completed BUSN 202 or CISC 200.

FINC S e c u r i t y A n a l y s i s a n d P o r t f o l i o M a n a g e m e n t c r e d i t s

This course will cover knowledge and develop skills necessary to carry out prudent and in-depth analysis of investments and create investment portfolio. The major topics covered include portfolio theory, macroeconomic analysis, industry analysis, financial statement analysis, company analysis, valuation models, creating investment policy statement, asset allocation, professional money management and portfolio strategies, and portfolio performance evaluation. The course also includes discussions of most recent developments in the investments industry. Students will apply course concepts to the analysis of actual companies and present their analysis and recommendations to investment professionals.

Prerequisites: FINC 325, and BETH 301

*Effective 2017 Fall students must also have completed BUSN 202 or CISC 200.

FINC F i x e d I n c o m e S e c u r i t i e s c r e d i t s

This mathematically-oriented course provides extensive coverage of a wide range of fixed income securities, investment strategies and the interest rate environment. General determinants of value on standard instruments and analysis of the newer instruments including zeroes, mortgages derivatives, interest rate swaps, and structured notes will be covered. Necessary mathematical concepts covered in this course will include stochastic calculus and differential calculus.

Prerequisites: FINC 325, and BETH 301

*Effective 2017 Fall students must also have completed BUSN 202 or CISC 200.

FINC International Finance Management credits

The management of foreign and multinational financial operations. On the basis of international finance theory, students will learn foreign exchange risk management, foreign investment analysis, the financing of foreign operations, comparative accounting, international banking and international tax management.

Prerequisites: FINC 324, and BETH 301

*Effective 2017 Fall students must also have completed BUSN 202 or CISC 200.

FINC Strategic Finance credits

Building on the finance theory learned in prior courses, this course focuses on financial strategies for a broad range of finance issues faced by corporations including capital budgeting, capital raising, optimal capital structure, dividend policy, and corporate restructuring and mergers and acquisitions. This is an applied, case-based course the students will be engaged in extensive case analysis, discussion, and presentations to develop and refine analytical skills.

Prerequisites: FINC 324, and BETH 301

*Effective 2017 Fall students must also have completed BUSN 202 or CISC 200.

International Business Courses IB**IB International Business Issues in Management Marketing or Business Law credits**

This course is to be taken abroad. Final determination as to the specific course will be decided before the course is taken in consultation with the international business adviser.

Prerequisite: Approval of undergraduate business adviser

IB International Business Issues in Finance or Accounting credits

This course is to be taken in the country of choice. International accounting and finance practices are significantly different from those in the U.S. Therefore, the student should be extremely careful in choosing the course. Selection will be made only in consultation with the international business adviser.

Prerequisite: Approval of undergraduate business adviser

IB International Issues in International Business credits

This course is to be taken abroad and may include an internship. Students incorporating an internship experience in this course must have prior approval from the international business adviser. If the student is working for an American company, they must work in a section of the company where the student's second language is required.

Prerequisite: Approval of undergraduate business adviser

Management Courses MGM**MGM Management Organizational Behavior credits**

This course is designed to introduce students to the complexities of working within organizations, regardless of whether it is a for-profit, non-profit, or governmental organization. Certain complexities are common across organizations, irrespective of their goals or size. Understanding these complexities is critical to becoming an effective member of any organization, and this course will develop students' understanding and expertise in leading and managing themselves and others within organizations.

Prerequisite: Sophomore standing

MGM Organizational and Employee Development credits

This course focuses on the theories, concepts, research and practice of organization change and development, performance management, and employee training and development that impact organizational employee behavior. Topics include an overview of human resource management, organization entry and socialization, employee performance management, career choices, employee motivation, job design, organization structure, culture, group dynamics, teamwork, power and influence, organization restructuring, change management, and employee training and development.

Prerequisites: MGMT 305 and Junior standing. Offered Fall semester.

MGM Attracting Acquiring and Rewarding a talent credits

This course focuses on the theories, concepts, research and practice of staffing and compensation/reward programs that impact organizational employee behavior. Topics include, law, labor markets, human resource planning, including recruiting, hiring and layoffs, job analysis, staffing and selection, compensation strategy, policies and practices, and benefits programs. Offered fall semester

Prerequisite: MGMT 305 and junior standing

MGM Employee and Labor Relations credits

The course is designed to prepare students to be successful human resource generalists, general managers or entrepreneurs. These careers require both HR knowledge and interpersonal skills. Thus, this course focuses on the con-

cepts, research and practice of employee and labor relations and related organization processes that impact employee behavior. Topics include leadership, worker representation, conflict resolution and negotiation, employee counseling and discipline, global and workplace diversity, and health and safety.
Prerequisites: MGMT 305 and Junior standing. Offered Spring semester.

MGM Leadership Development credits

This course explores the concepts and skills involved in exercising effective leadership from both individual and organizational perspectives, with an emphasis on personal leadership development. The course covers important leadership theories and explores the concepts of leadership in diverse cultures, how organizational conditions affect competent leadership, and the actual work of leadership in organizations. Topics include self-awareness, managing stress, building relationships, gaining power and influence, and motivating others. This course examines the complexity of business leadership through understanding key theories and their application.
Prerequisites: MGMT 305 and Junior standing

MGM Project Management credits

This course presents the concepts, techniques, software tools, and behavioral skills needed for managing projects effectively. It introduces the students to a project's life cycle (from project definition and goals to completion of the project) and the behavioral dynamics that need to be managed to achieve success. The multiple roles of the project manager are explored. These include being a team leader responsible for timely execution, design and meeting specifications, budgeting, and managing people. The technical and human aspects of project management will receive approximately equal focus.
Prerequisites: MGMT 305 and OPMT 310; and Junior standing. Offered fall semester.

MGM Leading Diverse Teams credits

The purpose of this course is to understand theories and integrate experiences in leading diverse teams, including managing conflict and negotiating within and for the team. The course builds on the leadership and organizational behavior theories learned in prerequisite courses, leveraging and applying these concepts to teams. The design, management, and leadership of teams in organizational settings will be emphasized, along with conflict management and negotiation strategies. To develop student skills, applied experiences are integrated. The focus is on the interpersonal processes and structural characteristics that influence the effectiveness of teams, individual behavior in face-to-face interactions and the dynamics of interpersonal relationships. By the end of this course, students will have gained valuable skills, experience, and knowledge in effectively leading teams through challenges, collaborative negotiations, and conflict, while leveraging the diversity within. Prerequisites: MGMT 305 and MGMT 382.

MGM International Management credits

Managers operating in a global environment need to manage the differences in doing business with people from other cultures. This goes beyond knowing that people have different customs, goals, and thought patterns. Today's managers need to be able to understand the cross-cultural subtleties imbedded in any interpersonal working relationships, regardless of whether operating in a foreign location, interacting with foreign nationals from a distance, or working with a culturally diverse American workforce. A manager's ability to understand, accept, and embrace these differences is critical to his or her success. This course is designed to address the complexities of intercultural management and facilitate the student's ability to manage successfully in a cross-cultural environment. Topics include intercultural ethics, intercultural negotiations, and work values.
Prerequisites: OPMT 310, FINC 321, MKTG 300 or concurrent registration and prerequisite waived by instructor, MGMT 305, BETH 301. Offered spring semester.
*Effective 2017 Fall students must also have completed BUSN 202 or CISC 200.

MGM Human Resource Strategy credits

This course focuses on the theories, concepts, research, and practice of human capital management that impacts organizational employee behavior. Topics include systems theory, human capital strategy, human resource best practices, configurations or market and human capital practices, human resource metrics and ROI analysis, and the evolving role of the human resource function in contemporary organizations. Offered spring semester.
Prerequisites: MGMT 360 or 390, MGMT 362 or 420, BETH 301, and Senior standing
*Effective 2017 Fall students must also have completed BUSN 202 or CISC 200.

MGM Strategic Management credits

This course examines organizational issues from an integrative perspective. It draws on concepts from the entire business curriculum to view the organization as a whole. The focus of the course is to have you view the organization from the perspective of the president, rather than that of a manager of a particular function (e.g., VP of marketing). It examines the development of core competence and a sustainable competitive advantage as part of an organization's

ing, operations management promotion, service delivery, controls, non-store retailing, human resource issues, data-base management, and international retailing.

Prerequisite: MKTG 300.

MK G Consumer Behavior credits

In this course, students examine how consumers and organizations go about making purchase decisions. Major theoretical contributions and empirical research findings from marketing and the behavioral sciences are reviewed and attention is given to applying this information to practical business and marketing situations.

Prerequisite: MKTG 300

MK G Product Innovation and Marketing credits

This course takes a strategic perspective on managing the product element of the firm's marketing mix - the most integral element. Students will delve into segmenting markets based on needs and assessing innovation strategy, viability, new product design, product differentiation, product portfolio and lifecycle management, line and brand extension strategy amongst other product and service tactics.

Prerequisites: MKTG 300

MK G Interactive Marketing credits

Interactive marketing (i.e. website marketing, social media, email marketing, display advertising, search marketing and mobile marketing) applies the concepts and strategies introduced in Principles of Marketing to today's business environment. The goal of Interactive Marketing is to acquire and strengthen customer relationships by leveraging the on-line space. This allows businesses to uniquely engage with customers around the world in relevant "real time" dialog based on customer insights, while allowing customers to engage with businesses whenever, wherever and however they choose.

Prerequisites: MKTG 300 or COJO 234

MK G Marketing Strategy credits

This course provides the framework for developing and implementing strategies that are distinctive and sustainable. Topics include: market, industry and competitive analysis; market segmentation, targeting, positioning and branding; uses of secondary and marketing research information; analysis and development of market entry and strategy alternatives; and integration of marketing strategy with financial, operations and corporate culture on the firm. The course is designed for those who are involved in marketing strategies, doing marketing planning and managing markets.

Prerequisites: MKTG 300, MATH 101 or MATH 109 or 111 or 113; STAT 220

MK G Marketing Management credits

Small Business Institute clients present student teams with business problems that require solutions. Student teams diagnose the client's problem and craft and present a solution to the client. Time is divided between reviewing and integrating the students' marketing background, facilitating the student contact with the client, and providing consulting to the client.

Prerequisites: MKTG 340; one additional Marketing elective; BETH 301; and Senior standing.

*Effective 2017 Fall students must also have completed BUSN 202 or CISC 200.

Operations and Supply Chain Management

OPM Operations Management credits

Operations management focuses on planning, coordination and control of activities involved in the transformation of resources into goods and services. This course will examine the concepts and techniques utilized in the management of manufacturing and service operations. The course will focus on the strategic use of the tactical tools of operations management. Topics covered include the management of process, technology, production, six-sigma quality, inventory, supply chain, workforce, business process improvement and lean management in operating systems. After completing this course, students will have a great appreciation for the strategic power of the operations function and greater knowledge of how effective operations management can enable an organization to attain a sustainable competitive advantage.

Prerequisites: Junior standing; STAT 220; and MATH 101 or higher; concurrent or previous enrollment in MGMT 305 recommended

OPM Decision Analysis credits

This course is focused on developing the quantitative, analytical skills needed to gain insight into the resolution of practical business problems. Students will learn how to analyze and solve management problems using spreadsheet based methods. Specific methods for clarifying objectives, developing alternatives, addressing trade-offs, and conducting a defensible quantitative analysis will be presented. Topics include spreadsheet modeling, linear program-

ming, transportation modeling, decision analysis, project management, and simulation. Students will also be introduced to building decision support models using Visual Basic Applications (VBA).

Prerequisites: OPMT 310, STAT 220, MATH 101 or higher, CISC 200 (may be taken concurrently) and Junior standing

OPM Quality Management credits

This course provides an introduction to the principles and practices of quality management. The course focuses on the application of quality philosophies and quality tools in both manufacturing and service organizations. The course will provide practice in using the tools and techniques of quality such as Statistical Process Control (SPC) and Quality Function Deployment (QFD). Modern approaches to quality management such as the Baldrige criteria, ISO certification, and Six-Sigma programs will be included, as well as the philosophies of quality pioneers such as Deming and Juran.

Prerequisite: OPMT 310

OPM Process Analysis Improvement credits

This course is focused on learning and applying the theories and techniques of process analysis and improvement. Students will learn how to analyze and improve business processes in different contexts, using different process improvement tools. In addition to simple process mapping, more programmatic improvement tools including Business Process Reengineering (BPR), Just-In-Time (JIT), lean/flexible/agile processes, and Theory of Constraints (TOC) will be included in this course.

Prerequisite: OPMT 310

OPM Supply Chain Management credits

This course will develop a basic understanding of supply chain management both within and beyond organizational boundaries. It will provide the conceptual and analytical framework for the materials management function of business including purchasing, inventory management (MRP), capacity planning, scheduling, and manufacturing planning and control systems; as well as a broader supply chain view.

Prerequisite: OPMT 310

OPM Service Operations Management credits

The service sector is the fastest growing sector of the economy. This course is designed to explore the dimensions of service operations management and the process of ongoing improvement. Outstanding service organizations are managed differently than their manufacturing counterparts. The results show not only in terms of conventional operational measures of performance, but also in the enthusiasm of the employees and degree of customer satisfaction, where efficient and effective service is taken as a positive experience. This course aims at applying tools learned in Operations Management as well as integrating student learning from other areas such as strategy, marketing, technology and organizational issues in the service industry. Service sectors in this course include airlines, health care, hotels, restaurants, entertainment and recreation, and service consulting. Offered Spring semester.

Prerequisite: OPMT 310

OPM Operations Strategy with Integrative Project credits

Prerequisite: OPMT 310, STAT 220, MATH 101 or higher, CISC 200 (may be taken concurrently) and Junior standing

Prerequisites: REAL 200 and Junior standing

REAL Real Estate Market Analysis Credits

This course provides students with the skills and knowledge necessary to evaluate the productive attributes of parcels of real estate as they relate to the demand for a particular use and the supply of competitive properties within a specified market. Focus is placed on the role of market analysis in real estate decision making and valuation. Students will learn the process of evaluative property analysis through the study of property productivity; demand for and supply of property; comparative analysis; and forecasting. Topics include the urban growth process; market conditions; market analysis; data collection; financing; governmental and legal considerations; and environmental issues. Offered Spring semester.



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tive?" The course studies works of criticism representing a variety of Christian viewpoints and applies them to literary texts that are explicitly Christian in themes as well as those which invite, or are enriched by, a Christian perspective.

Prerequisites: ENGL 201, 202, 203, or 204

CA H Christian Faith and the Education Profession credits

This course explores education through its grounding in the Christian understanding of God and the human person. Theological topics relevant to education include: the nature of truth, the relationship between faith and reason, and freedom in moral and intellectual formation. We will also examine questions about faith-based education in a pluralistic context and the relevance of an interdisciplinary search for truth. In light of the growing trend toward academic specialization, this course aims to help students learn how various disciplines are integrated in the search for wisdom.

Prerequisites: THEO 101 and one 200-level or 300-level THEO course

CA H Sacred Music of the Catholic Heritage credits equivalent to HEO

Music both expresses and shapes religious experience. This course explores the practice and theory of music-making in Catholic worship and devotion. Special emphasis will be given to the study of Gregorian chant as foundational for

This course provides an investigation into the ways in which Catholicism is inherently social and ecclesial. Its specific focus is on the Christian engagement with the world. The course's framework will be taken from the analysis of society into three spheres of action (culture, politics, and economics) as described in *Centesimus annus*. We will examine the ways that Revelation, the sacramental life, and the teachings of the Church call Catholics to seek holiness and to witness to their faith in the world. Specific topics may include social and economic justice, politics and public policy, lay and religious apostolates, education, and marriage and family. Course material may include sources from philosophy, theology, history, economics, and political science.

This course will satisfy the third level of the Faith and Catholic Tradition core requirement.

Prerequisite: CATH 101 and Junior standing

CA H e n a r c r e d t s

CA H e n a r c r e d t s

See the description of these courses at the beginning of the "Curricula" section of this catalog.

CA H o p c s c r e d t s

CA H o p c s c r e d t s

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online,

<https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

CA H R e s e a r c h o r c r e d t s

See the description of these courses at the beginning of the "Curricula" section of this catalog.

CA H I n d i v i d u a l s t u d y o r c r e d t s

See the description of these courses at the beginning of the "Curricula" section of this catalog.

CHEMISTRY CHEM

College of Arts and Sciences, Department of Chemistry

O'Shaughnessy Science Hall (OSS) 402, (651) 962-5575

Mabbott (chair), Borgerding, Donato, Fink, Fort, Gengenbach, Gittins, Guino-o, Ippoliti, Layfield, Marsh, Ojala, Prevet, Uzcategui, Wammer

The Department of Chemistry offers two degree programs in the field of chemistry: a Bachelor of Science (B.S.) degree and a Bachelor of Arts (B.A.) degree. The department is accredited by the American Chemical Society (ACS) for the professional training of chemists, and the B.S. degree is certified by the American Chemical Society. The B.S. has either a chemistry or a biochemistry concentration option. This degree is recommended for students who plan to pursue graduate study in chemistry in preparation for college teaching or advanced research in academic, industrial or government laboratories. The B.S. degree is also an advantage to those students who choose to work as a professional chemist in industry immediately following graduation.

The B.A. degree requires fewer chemistry courses and offers the possibility of completing a double major if

CURRICULA

CHEM 440 Biochemistry I (4 credits)
CHEM 442 Biochemistry II (4 credits)
CHEM 487, 488 Topics (2 credits each)
CHEM 491 Research (2 credits each)

Note:

CURRICULA



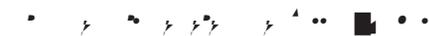
Work on a problem under the direction of the staff. Primarily literature work.
Prerequisite: Permission of the department chair

CHEM Research credit

Work on a problem under the direction of the staff. Primarily laboratory work.
Prerequisite: CHEM 391

CHEM Advanced Inorganic Chemistry credits

A study of the preparation, structure, bonding and reactions of inorganic compounds. Selected topics include group theory, periodicity, catalysis, bonding theories; main group, coordination, solid state and organometallic chemistry. Lecture plus four laboratory hours per week. Offered fall semester.
Prerequisites: CHEM 202 and 332 or permission of the instructor



throughout the seminar sequence. Required of all chemistry majors. CHEM 481 and 483 are offered fall semester. CHEM 482 and 484 are offered spring semester.

CHEM **op cs** **cred ts**
CHEM **op cs** **cred ts**

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

CHEM **Ind v dua** **Research** **or** **cred ts**

See the description of this course at the beginning of the "Curricula" section of this catalog.

CHEM **Ind v dua** **tudy** **or** **cred ts**

See the description of this course at the beginning of the "Curricula" section of this catalog.

CLASSICAL CIVILIZATION CLASS

College of Arts and Sciences, Interdisciplinary Program
 O'Shaughnessy Education Center (OEC) 328, (651) 962-5163
 Quartarone, director

The study of Classical civilization - the cultures of ancient Greece and Rome and their relationship to the societies of the Mediterranean and the Near East - is the origin and foundation of the modern university. To this day, it continues to be a model of an interdisciplinary approach to the study of culture, combining fields of literature and language, history, archaeology and art history, religious studies, and philosophy.

As a major or minor field of study at St. Thomas, Classical Civilization is an opportunity for students to include various disciplines under one rubric, thus allowing them to explore their talents and demonstrate their versatility. It also enhances students' understanding of the origins of modern western culture - including its relationship to the ancient Near East -- while training them to work as different disciplines require. As a major or minor this interdisciplinary program includes introductory foundations courses and a series of courses from a variety of supporting disciplines. For the major, there is also a capstone senior paper requirement.

CURRICULA

Major in Classical Civilization

The major in Classical Civilization is comprised of five components: 1) Foundations courses, 2) Language courses, 3) Art History courses, 4) History courses, and 5) Elective courses.

Foundations courses (16 credits -- all required)

CLAS 225 The Classical Hero, Epic and Film (4 credits)

CLAS 245 Classical Mythology (4 credits)

CLAS 480 Senior Paper (0 credits)

ENGL 220 The Classical Tradition (4 credits)

PHIL 200 Ancient Philosophy (4 credits)

Language Courses (complete a minimum of four credits)

GREK 212 Intermediate Greek II (4 credits) (prerequisites may be necessary)

LATN 212 Intermediate Latin II (4 credits) (prerequisites may be necessary)

GREK or LATN - Four credits numbered above 212

Art History Courses (complete a minimum of 12 credits)

Elective Courses (complete a minimum of eight credits, in two different areas)

CLAS 397 Topics (4 credits)

Any ARTH course listed above not already taken

See the description of these courses at the beginning of the "Curricula" section of this catalog.

CLA Senior Research Paper Credits

During the senior year or earlier majors are expected to write a major research paper with an abstract and to describe the results of their research in a short oral presentation to a panel of faculty. Normally this requirement is accomplished by rewriting and submitting a paper from one of the major field courses. The topic should be chosen in consultation with the program director and should be completed no later than 6 weeks prior to graduation. Papers will be presented to students and faculty at least annually at a symposium.

CLA Senior Credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

CLA Open Credits

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

CLA Research Credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

CLA Individual Study Credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

CURRICULA

COMMUNICATION AND JOURNALISM COJO

College of Arts and Sciences, Department of Communication and Journalism
O'Shaughnessy Education Center (OEC) 119, (651) 962-5250
O'Donnell (chair), Armada, Bruess, Bryan, Gavrilos, Gregg, Guan, Keston, Moorhouse, Neuzil, Petersen, Sauter, Vandegrift, Wyatt. Emeritus faculty: Connery, Craig, Scully.

Department Web Site: <http://www.stthomas.edu/cj/>

In the Department of **Communication & Journalism**, we focus on the theory and practice of communication in all its forms - interpersonal, organizational and intercultural, and mass-mediated through advertising, journalism and public relations. We create effective messages with words, images and sounds that are presented as speeches, news stories, documentaries, websites and advertising or public relations campaigns. We study the processes by which messages are sent and received so that we understand the effects and meanings of communication. We teach students to think critically, to communicate clearly and accurately and to consider their personal and professional obligations to serve the common good. We emphasize excellence in communication and journalistic practices that reflect the professional and ethical development of the whole person.

Our students begin their studies with a core of courses that provide basic competence in writing, speaking and production from informative and persuasive perspectives. COJO majors then choose one of five tracks, that allow them to specialize in a particular area of communication. All COJO students end their major with a capstone seminar in Communication Ethics, ensuring that they understand how ethical principles and practice apply to all forms of communication.

Ultimately, courses in communication and journalism prepare students for a variety of careers in advertising and public relations agencies; in news organizations that publish newspapers, magazines or web sites; in broadcast and digital media operations; in corporate, government, political, advocacy and nonprofit organizations; or for graduate or law school.

Students will find media opportunities at TommieMedia.com and KUST Radio. TommieMedia, St. Thomas' web-based news organization, provides experience in news and advertising presented to the larger university community. A digital television studio and Mac-equipped lab support student work in audio, video and graphic design. Student organizations include chapters of the American Advertising Federation, the Lambda Pi Eta honor society and the Public Relations Student Society of America. The department also hosts an annual conference for undergraduate communication

These electives can include individual study, experiential learning, study abroad or topics courses.

Journalism Track

All students in the Journalism Track must complete these courses:

- COJO 240 Digital Imagery & Sound
- COJO 251 Multimedia Reporting
- COJO 252 Editing
- COJO 342 Media, Culture & Society
- COJO 451 Advanced Multimedia Reporting

COJO Electives

Choose three (3) additional courses from the COJO curriculum with at least one (1) at the 300-level or above. These electives can include individual study, experiential learning, study abroad or topics courses.

Persuasion and Social Influence Track

All students in the Persuasion & Social Influence track must complete these courses:

- COJO 212 Rhetorical Criticism

COJO 328 Communication of Race, Class & Gender

- COJO 342 Media, Culture & Society

COJO 376 Argumentation & Advocacy

COJO Electives

Choose four (4) additional courses from the COJO curriculum with at least one (1) at the 300-level or above. These electives can include individual study, experiential learning, study abroad or topics courses.

Strategic Communication Track

All students in the Strategic Communication track must complete the following:

- COJO 211 Communication Inquiry
- COJO 212 Rhetorical Criticism
- COJO 234 Principles of Strategic Communication
- COJO 344 Writing for Strategic Communication
- COJO 470 Strategic Communication Campaigns

COJO Electives

Choose three (3) additional courses from the COJO curriculum with at least one (1) at the 300-level or above. These electives can include individual study, experiential learning, study abroad or topics courses.

Teacher Licensure

Elementary Education with a Specialty in Communication Arts and Literature (5-8)
Co-major in Communication Arts and Literature (5-12) and a Co-major in Secondary Education
See Education

Minor in Communication and Journalism

All Communication and Journalism minors must take five courses totaling 20 credits, as follows:

COJO Core

- COJO 111 Intro to COJO-I
- COJO 112 Intro to COJO-II

COJO Electives

Choose three (3) additional courses from the COJO curriculum. These courses can include individual study, experiential learning, study abroad or topics courses. At least one of these courses must be at the 200-level or above. At least one of these courses must be at the 300-level or above.

COJO Public Speaking credits

Preparation, presentation, and evaluation of original speeches by each student throughout the semester; special emphasis given to selecting and researching topics, organizing evidence, analyzing audiences, sharpening style and tone, communicating ethically and listening critically. This class is intended for non-Communication and Journalism majors. COJO major students may take this course with the permission of the department chair.

COJO Communication in the Workplace credits

Introduction to basic communication theories and skills as they pertain to the business setting. Text, lecture, class discussion and exercises, and individual and group presentations will better prepare students to become more effective communicators at work. The course will focus on presentational skills, dyadic communication and interviewing, and group communication. This class may be taken by Communication and Journalism majors only with the permission of the department chair.

COJO Communication and Citizenship credits

This is the first of a two-course sequence that introduces students to essential skills in the communication and journalism discipline. Students develop skills to communicate thoughtfully, professionally and ethically with a variety of public audiences. Essential writing and public speaking skills are paired so that students master a writing style and then convert that writing to an oral presentation, or vice versa. Students learn how to appropriately and effectively speak and write to academic, professional and citizen audiences and develop basic skills in digital production. Students are strongly encouraged to complete this course and COJO 112 before taking any 300- or 400-level COJO courses.

COJO Public Communication and Writing credits

This is the second of a two-course sequence that introduces students to essential skills in the communication and journalism discipline. In this course, students build upon the skills developed in COJO 111, applying more sophisticated theoretical and analytical concepts and producing more advanced writing, speaking and multimedia projects. Prerequisite: COJO 111 or permission of instructor. Students are strongly encouraged to complete COJO 111 and this course before taking any 300- or 400-level COJO courses.

COJO Communication Inquiry credits

Communication Inquiry provides an overview of the concepts, methods, and tools by which communication research is designed, conducted, interpreted, and critically evaluated. The primary goals of this course are to help you become a knowledgeable consumer and a limited producer of communication research as you develop skills in gathering, organizing, interpreting and presenting research information using competent and ethically defensible methods. Prerequisite: COJO 111 or permission of instructor

COJO Rhetoric Criticism credits

This course teaches students to become more critical consumers and producers of public messages. Students will examine a mix of historical and contemporary examples of persuasive communication in order to develop an awareness of the rhetorical power of messages in everyday life. Critical tools will be covered to help the student learn how to approach a communicative act systematically, identifying crucial interactions and suggesting ways of understanding how those interactions function. The emphasis on critical consumption also enables students to become more effective creators of public messages. Prerequisite: COJO 111 or permission of instructor

COJO Interpersonal Communication credits

Theory and practice of interpersonal communication, including how self-concept, language, nonverbal communication, and relationships effect and are affected by communication. Common problems in interpersonal communication, options for managing these problems, and ethical issues in interpersonal communication are examined. Students apply theory and concepts through class exercises, simulations and individual projects.

COJO Visual Communication credits

Introduction to the history, theory and principles of communicating visually through art, illustration, photography, design, typography, film, video and other visual forms.



COJO Principles of Strategic Communication Credits

An integrated approach to advertising and public relations, highlighting how these disciplines relate to marketing, business and media institutions. Incorporates a case study approach to understanding the principles and practices of the strategic communication process of research, planning, communication and evaluation.

Prerequisite: COJO 111 or permission of instructor

COJO Digital Agency and Sound Credits

This class provides a foundation for producing digital photographs, videos and sound recordings that will enable the

COJO Organizational Communication Credits

This course will examine organizational structures and the dynamics of the communication process. Major components of this class include the analysis of organizational communication including culture, socialization, roles, leadership, formal and informal communication structures, and issues of cultural diversity. Students will be involved in activities such

Political Communication is a survey of how politicians use various communication strategies, particularly during campaigns, in local, state and national elections to influence public and legislative audiences. Examination of oral presentations, electronic media, written materials, and web-based appeals will be central to the course. Students will apply theory to specific political situations and candidates, will conduct interviews, and will write papers and make presentations on their findings.

Prerequisite: COJO 212 or junior standing

COJO Television Credits

This course will provide students with the opportunity to understand television as a text situation in a cultural context. It will examine television from a critical perspective, review a wide variety of program genres and incorporate several theoretical orientations to the qualitative analysis of TV. Students, along with reading about and discussion of critical perspectives, watch programs such as comedies, dramas, news, advertisements, miniseries, etc., and write several critical analysis of the programs.

COJO Society, Culture and the Media Credits

Society, Culture and the Media examines the role media play in social and cultural formations. The course looks beyond the media as transmitters of information to their broadest social and cultural effects. Students study media as agents of enlightened social modernism, as political and economic institutions, as purveyors of popular culture, and as aspects of cultural and sub-cultural rituals. History, political economy, critical studies, cultural anthropology, semiotics and sociology are among the areas from which approaches for studying the media are considered in the course.

Prerequisite: COJO 211, 212 or permission of instructor

COJO Writing for Strategic Communication Credits

Writing for Strategic Communication provides practical experience in public relations and advertising writing including: strategic communication plans, news releases, position statements, brochures, query letters, feature stories, social media posts and ad copy. The course emphasizes weekly drafting and editing in class with the aim of giving students the fundamental skills that constitute excellent writing. Students leave the course with a portfolio of written work that can be utilized in multiple communication environments (agencies, corporations, non-profits, political, education, healthcare organizations, etc.). ***Students who have received credit for COJO 268 or 270 may not also receive credit for this course.**

Prerequisite: COJO 234

COJO Social Media and Strategic Communication Credits

This course examines the ways social media are affecting human interaction and communication practices, especially in the advertising and public relations professions. The course will ask such questions as how social media may foster discourse between communicators and audiences, and whether social media help create communities or isolate audiences into niches. Students will gain familiarity with social media tools and how to use them strategically. The course will combine in-class learning and online activities. Prerequisite: COJO 234 or permission of instructor

COJO Magazine Writing Credits

Explores the nature of writing for magazines as a staff writer or free-lance writer. Students will write service articles, profiles, human interest pieces and in-depth issue articles common to both commercial and trade magazines.

Prerequisite: COJO 112

COJO Media Structure and Power Credits

Examines recent changes in mass media structures. Readings focus on how changes in ownership, media regulation and new technology have affected media-organizations and their performance. Subjects and issues covered include: media ownership trends, including internationalization and their effect on content; media monopolies; the effects of new media technology; the effects of advertising on news; media choice in society; the media's role in the political system; and the increasing globalization of mass media.

Prerequisite: COJO 211, 212 or permission of instructor

COJO Videography Credits

This course will examine the aesthetic and technical components associated with producing video projects outside of the television studio. Students will examine current theory and practice of field production and will engage in the conceptualization, execution and analysis of field-produced video.

Prerequisite: COJO 240 or permission of instructor

COJO Persuasion Credits

Study of the various strategies used to influence choice in modern society, including sources, content (such as evi-

dence and argumentation) and audience factors (such as beliefs, attitudes, and values) that influence the persuasive process. Ethical consideration of persuasive tactics will be discussed. Students apply theory through analysis of, and practice in, written, mediated and oral forms of persuasion. A final project in applied persuasion is developed in the course.

Prerequisite: COJO 212 or sophomore standing

COJO Advertising Portfolio credits

This course develops strengths in the team concept of creative advertising, refines skills used in evaluating the effectiveness of messages and strategies used in various media, and develops greater awareness of production skills used in copywriting. Students will develop a major, multimedia campaign and have it evaluated by advertising professionals.

Prerequisites: COJO 234

COJO Intercultural Communication credits

Study of the influence of cultural values on social behavior; examination of theories of intercultural communication; emphasis on effective intercultural interaction. This course fulfills the Human Diversity requirement in the core curriculum.

Prerequisite: Junior Standing

COJO Environmental Communication credits

This course focuses on the communication of mediated information about the environment. Students will examine what makes (and what has made) the environmental stories we tell about ourselves, from writing about agriculture, nature and spirituality to green advertising, the rhetoric of the environmental movement, and environmental movies and music.

Prerequisite: COJO 111 or permission of instructor

COJO Family and Couple Communication credits

Examination of communication dynamics within the family system. Patterns of interaction, message exchange, developmental stages, and satisfaction and stability will be explored in light of today's ever-changing family structure. Focus will include traditional (nuclear) and non-traditional family types.

Prerequisite: Junior or senior standing, or permission of instructor

COJO Family Argumentation and Advocacy credits

This course provides an introduction to practical reasoning in public controversy. Students will apply argumentation theories and methods to the analysis of public controversy and the development of their own oral advocacy skills. Topics include: Tests of evidence, invention, reasoning, oral presentation or arguments. Activities may include: Lecture, discussion, examinations, analysis papers, speaking assignments, small group discussion and presentation.

Prerequisite: Junior Standing or permission of instructor

COJO Advanced Multimedia Reporting credits

This course concentrates on refining skills in interviewing, storytelling, use of documents, choice of media format, and creation of multi-part news stories. Students report news for a variety of media platforms, preparing text, audio and video versions of stories for the web, television, print and radio.

Prerequisite: COJO 251

COJO Graphic Design Studio credits

Graphic Design Studio is an advanced graphic design course. Students study the history of graphic design and typography, the elements of fine typography, and produce a portfolio of graphic designs.

Prerequisite: COJO 256

COJO Advanced Video Production credits

This course offers students familiar with basic video production a chance to further develop their skills and to acquire a greater understanding of the video communication process. Students will plan, script, produce and edit pieces of extended length that combine studio and field production techniques. This course is for majors who have sufficient interest and prior experience in video production.

Prerequisites: COJO 360

COJO Strategic Communication Campaigns credits

Students work as strategic communicators in advertising and public relations to develop an integrated communication campaign plan that will successfully influence key audiences' attitudes and behaviors for the ultimate goal of building and maintaining good relationships with audiences' key audiences.

Prerequisites: COJO 344

COJO Communication Ethics credits

This capstone seminar for graduating seniors explores ethical issues that confront communication professionals and audiences. Students explore theoretical perspectives on communication ethics, work from case studies to understand professional ethical standards, discuss current ethical issues in communication, work in teams to perfect oral and writ-

CURRICULA



CISC 130* Introduction to Programming and Problem Solving in the Sciences (4 credits) or CISC 131*

Introduction to Programming and Problem Solving (4 credits)

Note: CISC 131 is recommended for this major

CISC 210 Information Security (4 credits)

CISC 230* Object-Oriented Design and Programming (4 credits)





Note: CISC 131 is recommended for this minor

- STAT 220 Statistics I (4 credits)
- STAT 320 Statistics II (4 credits)
- IDTH 460 Senior Project/Practicum (4 credits)

Plus one elective IDTH course taken from this list:

- IDTH 400 Data Mining and Machine Learning (4 credits)
- IDTH 410 Operations Research I (4 credits)
- One approved IDTH Topics Course (IDTH 489 or 490)

Additional requirements

- MATH 113 Calculus I (4 credits)

Plus, depending on the IDTH Course choice, either:

- MATH 114 Calculus II (4 credits) or MATH 128 Introduction to Discrete Mathematics (4 credits)

Computer and Information Sciences CISC

CISC Introduction to Information Processing credits CISC or for every QMC

Introduction to basic concepts of hardware, software and information processing systems. Introduction to computer programming concepts. Use of microcomputer application packages, including spreadsheets and database packages. Introduction to the Internet and World Wide Web. Investigation of the impact of the computer and future trends.

NOTE: Students who receive credit for CISC 110 may not receive credit for CISC 200 or 216.

CISC Computers in Elementary Education credits for every QMC

This course is intended for elementary education majors. Topics include the role of the computer in elementary and middle-school education, computer applications in science and mathematics, data analysis, software packages for use in elementary and middle-school classrooms, Computer-Assisted-Instruction (CAI), multimedia, electronic portfolios,



CURRICULA

Introduction to database management systems design philosophy. Design considerations for satisfying both availability and integrity requirements. Data models used to structure the logical view of the database. Schema, subschemas, and database administration. Emphasis on general purpose relational database management systems using SQL. Prerequisite: A minimum grade of C- in CISC 230

CI C Database Design II credits

Advanced database analysis, design, and implementation including data warehousing, distributed databases, materialized views, grid computing, and replication. Storage and efficient retrieval of temporal data, objects, and non-textual information. Prerequisite: CISC 450 or 630

CI C Senior Project credits

Work on a software analysis, design, and implementation project or on a computer support project under the direction of a faculty member. Prerequisite: Senior standing and permission of the instructor

CI C Experiential Learning credits

CI C Experiential Learning credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

CI C Seminar credits

CI C Seminar credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

CI C Topics credits

CI C Topics credits

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

CI C Research or credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

CI C Individual Study or credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

CI C Technical Communications credits

Instructors present the fundamentals of technical communication as practiced in industry, emphasizing clarity and organizational skills. Students engage in exercises that focus on technical writing, editing, public speaking and graphic design, and apply their skills across a broad range of activities, including critique of presentations and writing of proposals, reports, memoranda, user manuals, instructional modules, and specifications. The course includes techniques that assist an understanding of the structure of the language, and an appreciation for format and content, to better prepare students for project documentation.

Note: This course can only be taken by students who have been admitted to the Fast Track to a Master's Degree within the Computer Science major (see Major in Computer Science)

CI C Software Engineering credits

This is a survey course covering software engineering concepts, techniques, and methodologies. Topics covered include software engineering; software process and its difficulties; software life-cycle models; project planning including cost estimation; design methodologies including structured design, data-structure oriented design, object-oriented design; and software testing. A brief review of data structures is included.

Prerequisite: CISC 231

Note: This course can only be taken by students who have been admitted to the Fast Track to a Master's Degree within the Computer Science major (see Major in Computer Science)

CI C Software Project Management credits

Students gain a management perspective and a development process for planning, estimating, and controlling software development. They learn to develop a well-defined plan before beginning any software development effort; how to handle changes during the execution of the plan; how to incorporate quality criteria in the development cycle; and how to use methods to keep the project on track. Included in the course is the use of project management software and simulation software in the development and control of the project plan.

Note: This course can only be taken by students who have been admitted to the Fast Track to a Master's Degree within the Computer Science major (see Major in Computer Science)

CI C Database Design credits

This course focuses on relational database design and system concepts. Database design includes database concepts, data models, conceptual (EER) and relational schema designs, query languages (SQL), physical data storage and access methods, and physical schema designs. Database systems includes query processing, transaction concepts and management such as concurrency control and recovery from failure, and database security and authorization. Students will complete a relational database design project.

Note: This course can only be taken by students who have been admitted to the Fast Track to a Master's Degree within the Computer Science major (see Major in Computer Science)

Information and Decision Theory ID H

ID H ee A Introductory statistics II

ID H ee A statistics I

ID H ops credits

ID H ops credits

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

ID H ee A statistics II

ID H Advanced statistical software credits

This course introduces students to an advanced statistical software package to effectively apply statistical methods, in general. Students create data sets from raw data files, create variables within a data set, append and/or modify data sets, create subsets, then apply a whole host of statistical procedures, create graphs and produce reports. The course will be based on several leading advanced statistical software packages, which will be chosen from semester to semester to match the needs of the community.

Prerequisites: MATH 113, STAT 220 Statistics I, or STAT 314 Math Statistics (MATH 314)

ID H Data Mining and Machine Learning credits

Introduction to statistical learning methods, from a statistical and computational perspective, to deal with massive and complex data. Topics include: Introduction; creating a project and diagram. Data preparation; defining and exploring data sources. Pattern discovery; cluster analysis, market basket analysis. Decision trees; cultivating and pruning decision trees, autonomous tree growth. Regression; transforming inputs, categorical inputs, polynomial regression. Neural Networks; input selection, stopped training. Model assessment; fit statistics, graphs, separate sampling. Model implementation; scored data sets, score code models. Applications. This course will give the basic ideas and intuition behind these methods, and special emphasis will be placed on their application through statistical software.

Prerequisites: MATH 113, and one of MATH 128 or MATH 240, and one of STAT 320 or STAT 333

ID H Operations Research I credits for every QMC

Introduction to computer and analytic techniques to support the decision-making process. Topics include: Introduction to linesrmingalegorthm, snisiivnitydualnity tranepor(a)10(tio0,)30.0059(sesig(men0,)30.0059(tar)12.0059(nsship(men0,)30.0059(smins).

ID H Experiential Learning credits

ID H Experiential Learning credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

ID H Seminar credits

ID H Seminar credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

ID H options credits

ID H options credits

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

ID H Research or credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

ID H Individual Study or credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

CRIMINAL JUSTICE

See Sociology and Criminal Justice

ECONOMIC ECONOMICS

College of Arts and Sciences, Department of Economics

O'Shaughnessy Education Center (OEC) 427, (651) 962-5675

Papagapitos (chair), Check, Hartmann, Hendrickson, Kim, Marcott, Rho, Riley, Saavedra, Schipper, Vincent, Walrath, Wilson, Wisniewski, Wu

The economics program develops a logical, consistent and rigorous method of thinking about the world and its problems. The economic way of thinking can be applied to a wide variety of topics including inflation, unemployment, financial markets, international trade, poverty, income inequality, currency depreciation, monopoly power, bank failures, sports, budget deficits and health-care costs.

The Department of Economics offers two majors and a minor in economics. All three programs are designed to provide excellent career-entry skills and those skills providing preparation for possible career shifts.

Whether a major or minor in economics is pursued, students are strongly encouraged to complement their studies with work in other fields. In recent years, for example, graduates have done complementary coursework in such fields as mathematics, foreign languages, business, environmental studies, computer science, international studies and English.

The choice of major and of a complementary field depends upon the path the student wishes to pursue. For example, students pursuing a liberal arts major, wishing to double major, or who are interested in continuing studies in professions other than economics would likely find the Bachelor of Arts (B.A.) best suited to their needs. Students wishing to engage the discipline at a deeper level would find the Bachelor of Science (B.S.) a better alternative.

Students graduating with a major in economics will be able to integrate the tools and concepts of the discipline in the analysis of an economic issue. The background provided by this major should equip the student with sound preparation for career advancement.

The core for each degree consists of five economics courses and two allied requirements. The B.A. requires three additional electives of the student's choosing. The B.S. has four possible paths. Each path requires three specified electives, two additional electives of the student's choosing, and additional allied requirements suitable to the different paths.

Students wishing to pursue graduate study in economics should consider the path in Mathematical Economics. Students interested in international affairs should consider the path in International Economics. Students seeking an economics degree supplemented with additional technical skills and an introduction to the business field or who are looking towards an eventual MBA degree should consider the Business Economics path. Finally, students wishing to pursue careers in the government sector or graduate study in public policy should consider the path in Public Policy Economics.

Majors must complete a minimum of twenty credits in economics at St. Thomas. Minors must complete a mini-

mum of twelve credits in economics at St. Thomas.

Economics Honor Society

Omicron Delta Epsilon, the international fraternity in economics, was organized at St. Thomas in 1967. Candidates must have completed at least sixteen credits in economics and have an average of 3.40 or better in both economics and their overall work.

Economics Honors Program

Candidates for honors in economics must complete a research paper and an additional four credits in economics chosen in consultation with the department chair. The research papers of honors candidates are to be read by a committee of three faculty, appointed by the department chair. Each will determine if the paper is suitable for the honors requirement, with a majority rule determining honors designation. Candidates must achieve a grade-point average of 3.50 or higher in the major and 3.25 or higher overall.

Major in Economics B.A.

ECON 251 Principles of Macroeconomics (4 credits)

ECON 252 Principles of Microeconomics (4 credits)

ECON 315 Introduction to Econometrics (4 credits)

ECON 351 Macroeconomic Theory (4 credits)

ECON 352 Microeconomic Theory (4 credits)

Plus:

Twelve credits in courses numbered 300 and above.

Business Economics

A path which emphasizes additional tools for analyzing business situations as well as incorporating a basic foundation in the field of business.

ECON 311 Forecasting (4 credits)

ECON 332 Industrial Organization (4 credits)

ECON 401 Managerial Decision Making (4 credits)

Plus:

Eight credits in elective economics courses numbered 300 or above

Plus:

ACCT 210 Introduction to Financial Accounting (4 credits)

Plus eight credits from the following:

ACCT 215 Managerial Accounting (4 credits)

FINC 300 Finance for Non-Business Majors (4 credits)

FINC 321 Financial Management (4 credits)

MGMT 305 Management and Organizational Behavior (4 credits)

International Economics

A path which prepares students for careers in which an understanding of the complexities of cultural differences and international economic relationships is crucial.

Twelve credits from the following:

ECON 345 Economics of Development and Growth (4 credits)

ECON 346 Country and Area Studies in Economics (4 credits)

ECON 341 Economics of International Finance (4 credits)

ECON 342 International Trade (4 credits)

Plus:

Eight credits in elective economics courses numbered 300 or above (ECON 346 can only be included one time in fulfillment of the path requirement, and not as one of the additional electives)

Plus:

A minor in a foreign language or significant study abroad experience approved by the department chair

Public Policy Economics

A path which prepares students for careers in the government or non-profit sectors, or for graduate study in public policy.

ECON 337 Economics of the Public Sector (4 credits)

Plus eight credits from the following:

ECON 324 Health Economics (4 credits)

ECON 333 Regional and Urban Economics (4 credits)

ECON 370 Environmental and Natural Resource Economics (4 credits)

Plus:

Eight credits in elective economics courses numbered 300 or above

Plus:

POLS 104 American Government in Comparative Perspective (4 credits)

POLS 205 Citizen Participation and Public Policy (4 credits)

Plus:

Four credits in elective political science courses numbered 300 through 319

Mathematica Economics

A path which prepares students for the core competencies necessary for graduate study in economics.

ECON 355 Game Theory (4 credits)

ECON 418 Mathematical Economics (4 credits)

Plus four credits from the following:

ECON 301 History of Economic Thought (4 credits)
ECON 337 Economics of the Public Sector (4 credits)
ECON 339 Labor Economics (4 credits)

Plus:

Eight credits in elective economics courses numbered 300 or above

Plus:

MATH 114 Calculus II (4 credits)
MATH 200 Multi-Variable Calculus (4 credits)
MATH 240 Linear Algebra (4 credits)

Note: STAT 333 Applied Statistical Methods may be substituted for ECON 315

Students applying to graduate school are advised to complete MATH 240 prior to submitting their application.

Teacher Education

Elementary Education with a Specialty in Social Studies (5-8)

Co-major in Social Studies (5-12) and a Co-major in Secondary Education

See Education

Minor Economics

ECON 251 Principles of Macroeconomics (4 credits)
ECON 252 Principles of Microeconomics (4 credits)

Plus four credits from the following:

ECON 351 Macroeconomic Theory (4 credits)
ECON 352 Microeconomic Theory (4 credits)

Plus:

Twelve credits in elective economics courses numbered 300 and above.

ECON Current Economic Issues credits

Poverty, health care, tax reform, international trade, crime, income inequality, 4 credits)

ECON History of Economic Thought credits

A survey of the content and method of economics and an analysis of the theories of the great economists from the ancient Greeks to the present; mercantilism, physiocracy, the classical school and its critics, particularly Marx; the marginalist school; Alfred Marshall and Keynes, recent developments in economic thought.

Prerequisites: ECON 251 and 252

ECON Forecasting credits

An introduction to techniques used in forecasting with emphasis on analyzing economic and business data. The emphasis is on time-series data, although cross-sectional analysis is also covered. Techniques presented include variants of moving averages, variants of exponential smoothing, regression and ARIMA processes.

Prerequisites: ECON 251, 252 and STAT 220

ECON Introduction to Econometrics credits

An introduction to the application of statistical models and methods to economic problems; simple and multiple linear regression models; generalized least-squares; model building and related topics. Emphasis is on use of econometric software to analyze data and to test hypotheses.

Prerequisites: Eight credits of Economics at the 300- or 400-level, STAT 220 or MATH 303

ECON Law and Economics credits

The relationship between legal and economic aspects of selected issues: property rights, liability laws, product-safety legislation, discrimination, crime control, and related topics.

Prerequisites: ECON 251 and 252 or permission of instructor

ECON Health Economics credits

This course provides an application of economic principles to the health care system and health policy topics with the focus on the critical economic issues in producing, delivering and financing health care. The course focuses on the U.S. health care sector but will also feature discussion of other developed and developing countries.

Prerequisite: ECON 252

ECON Industry Studies credits

This course provides an analysis of a particular industry or sector of the U.S. economy. Among the topics included in

ECON Economics of the Public Sector credits

This course examines the role of government in a modern economy. It develops a set of concepts that will allow students to evaluate policy alternatives. The following are among the particular topics likely to be addressed: externalities and environmental protection, education, the redistribution of income, health care, social insurance, taxation and tax reform, cost-benefit analysis, fiscal federalism, and state and local government finance. In each case, the focus is on whether intervention by government is appropriate, what the most effective form of any such intervention is, and how alternative policy interventions affect the private decisions made by citizens and business firms.

Prerequisite: ECON 252

ECON Labor Economics credits

Labor supply and demand; determinants of the wage structure; education and training decisions; the role of labor unions; mobility and migration, discrimination; public policies in labor markets.

Prerequisite: ECON 252

ECON International Macroeconomics credits

This course introduces students to a variety of tools and methods used to analyze international asset flows with a view toward better understanding issues and problems arising in the global financial world. Topics include: exchange rate determination; balance of payments; foreign exchange and derivatives markets; the international monetary system; optimum currency areas; and monetary policy in an open economy.

Prerequisites: ECON 251 and ECON 252

ECON International Trade credits

This course examines the economics of international trade and trade policy.

Topics include: theories of why countries trade and their implications for income distribution and gains from trade; implications of policies that affect trade; strategic trade policy; regional agreements (including multilateral trade agreements, free trade areas, customs unions, common markets and economic unions); international factor movements; trade issues related to developing countries, the environment and economic growth.

Prerequisite: ECON 251 and ECON 252

ECON Economics of Development and Growth credits

Nature and measures of economic growth and development; theories of growth; developed and less-developed nations; economic planning; selection and financing of projects for economic growth and human development; environment, resources, and limits to growth. This course fulfills the Human Diversity requirement in the core curriculum.

Prerequisites: ECON 251 and 252

ECON Country and Area Studies in Economics credits

An analysis of the economic system(s) of a particular country or region of the world. Among the topics included in the analysis will be: functioning of key sectors of the system; the role of government in the economy; the resource base; the income distribution; trade and financial relations with other countries; contemporary economic issues and policies; past and present economic performance. Course offerings are anticipated for Japan, Russia, European Union, Latin America, China, and Australia. Students may take this course more than once provided the specific country/region is not duplicated. Some offerings of this course fulfill the Human Diversity requirement in the core curriculum.

Prerequisites: ECON 251 and 252

ECON International Economics credits

Analysis of trade between nations and regions of the world; trade and trade policy; economic integration; foreign-exchange markets; global financial system and world payments; cross-border movement of resources; economic interdependency of nations and regions; the economic system in a global framework.

Prerequisites: ECON 251 and 252

ECON Comparative Economic Systems credits

Analysis of the tools used to evaluate alternative economic systems; study of the structure and performance of laissez faire, centralized planning, democratic socialism and market socialism; historical evolution of economic systems; consideration of efficiency, growth, and social welfare; case studies: United States., CIS, China, the new market economies of Central Europe, others.

Prerequisites: ECON 251 and 252

ECON Macroeconomic Theory credits

Theories of money, interest, income and expenditure, employment, and inflation; monetary and fiscal policies; introduction to the theory of growth.

Prerequisites: 251 and 252

ECON Microeconomic theory credits

Analysis of consumer behavior and demand theory; theory of production and costs; analysis of the firm and industry under various market structures; factor pricing; general equilibrium. Selected additional topics such as market failure, economics of information, welfare economics, income distribution.

Prerequisites: ECON 251, 252, and MATH 109 or 111 or 113 or equivalent.

ECON Game theory credits

Game theory seeks to explain how rational people make decisions when outcomes are mutually interdependent. This course introduces the methods of game theory from a historical perspective with primary emphasis on applications to economics. Applications to the other social sciences, business and biology are also considered. Topics covered include: normal and extensive forms of games, strict and weak dominance, sub-game perfections, pure and mixed strategies, Nash equilibrium, bargaining, oligopoly, New Keynesian and Classical Economics, trade policy, environmental economics and conflict resolution.

Prerequisites: ECON 251 and 252, plus completion of the core curriculum mathematics requirement.

ECON Experimental Economics credits

Experimental economics refers to the practice of testing economic hypotheses by conducting controlled experiments rather than relying on more traditional econometric testing. This course provides a survey of experiments conducted by economists in a variety of areas. Discussion will focus on the basics of the theory being tested, the methodology employed, and the results for each experiment. In addition, attempts will be made to replicate some results by conducting these same experiments in the classroom. Topics may include experiments conducted in the theory of competitive markets, oligopoly markets, auctions, decision-making under risk and uncertainty, public goods and search theory.

Prerequisites: ECON 251, 252, and one additional ECON course numbered 300 or higher

ECON Environmental and Natural Resource Economics credits

This course employs economic principles to analyze the problems of environmental pollution and natural-resource depletion. Economic systems, such as the private-market mechanism, are evaluated with respect to their effectiveness in the management of natural resources and the environment. Domestic and international environmental policies are examined and critiqued.

Prerequisite: ECON 252

ECON Managerial Decision Making credits

Microeconomic theory applied to business decision making. Emphasis on quantitative techniques applied to business decision making under uncertainty, demand and cost estimation, linear production models, pricing decisions, capital budgeting, inventory problems, and group decision making. Quantitative tools include linear regression, statistical decision analysis and linear programming.

Prerequisites: ECON 352, and STAT 220 or MATH 303 or permission of the instructor

ECON Mathematical Economics credits

Introduction to a mathematical treatment of models of economic behavior; economic content includes consumer theory, theory of the firm and selected topics in macroeconomics.

Prerequisites: ECON 352, and MATH 200 or MATH 114 with permission of instructor

ECON Research in Economics credits

The Research in Economics course deals with data collection and statistical analysis of economic hypotheses. It culminates in writing a research paper on a topic of the student's choosing.

Prerequisites: Senior standing and ECON 315, or permission of the instructor

ECON Experimental Learning credits

ECON Experimental Learning credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

ECON Senior credits

ECON Senior credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

ECON Options credits

ECON Options credits

CURRICULA

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

ECON

Research or credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

ECON

Individual study or credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

EDUCATION EDUCATION SCHOOL OF EDUCATION EDUCATION

School of Education

Minneapolis Opus Hall (MOH) 302, (651) 962-4420

Vandercook (chair), Nistler (Associate Chair), Busch, Cho, Frank, Monson, Neilson Gatti, Payne, Smith, Stansberry Bruns, Trout, Warring, Westberg

Note: The University of St. Thomas Teacher Education programs are in alignment with Minnesota state licensure regulations. Changes in state regulations could affect the programs described below. Please maintain contact with the Department of Teacher Education for the most current information.

The University of St. Thomas Department of Teacher Education offers a full range of undergraduate and graduate programs for persons who wish to teach in elementary, middle, and secondary school settings. Candidates who become educators through the Department are part of a proud tradition that goes back over three-quarters of a century, completing programs that embrace the liberal arts, emphasize ethical practice, and prepare creative, reflective educators dedicated to the success of all learners. Current programs are offered within the School of Education's mission:

Inspired by Catholic intellectual tradition, the University of St. Thomas School of Education educates practitioners to be morally responsible leaders who think critically, act wisely and work skillfully to advance the common good.

The School of Education is accredited by the Council for the Accreditation of Educator Preparation (CAEP). Programs are designed to meet or exceed Minnesota State Board of Teaching licensure requirements.

Because of the number of required courses and the options available, it is suggested that students considering an education degree contact a department adviser as early as possible in their college career. Ongoing state licensure rule changes make careful planning particularly important. Department and School of Education information outlines specific departmental programs and policies and are available on the Teacher Education Blackboard site for students and in the Teacher Education Department office in Minneapolis Opus Hall (MOH 302).

Admission to the Program

Students apply for admission to the Teacher Education program while enrolled in EDUC 210. Criteria for admission to the education program include:

- Cumulative GPA of at least 2.75 for all credits earned at UST
- Positive recommendations based on a department review of a personal essay

Retention in the Program

Students accepted into the program must:

- Maintain a 2.75 GPA
- Earn a grade of C or better in all education courses
- Earn a grade of C- or better for all content area and allied content courses required for licensure
- Demonstrate ability to consistently exhibit all professional dispositions
- Show evidence of satisfactory field experiences
- Complete (but not necessarily pass) all three components (reading, writing and mathematics) of the MTLE: Basic Skills or ACT/SAT approved substitutes. Candidates will need to pass all three components and all required MTLE II pedagogy and content exams by the time of program completion in order to apply for licensure in the state of Minnesota.

- Successfully complete program Assessments at Transition Points

The Department reserves the right to dismiss candidates from the licensure programs based on violations of the professional dispositions standards or unsatisfactory progress toward meeting state-mandated licensure standards.

Block 4 and Clinical Practice Student Learning

In order to take Block 4 courses and participate in Clinical Practice, a candidate needs the following: senior status; successful completion of Assessments at Transition Points; satisfactory completion of all education courses in Blocks 1, 2, and 3 and licensure-related content courses; and satisfactory demonstration of all Minnesota Standards of Effective Practice. World Languages candidates must arrange to pass the Oral Proficiency Interview (based on ACTFL Guidelines). For information regarding this, contact the Field and Clinical Placement Manager in the School of Education.

With Departmental approval, candidates may be able to complete half of their Clinical Practice in an international setting.

Program Completion

Following completion of all program requirements, a candidate may apply for Minnesota state licensure after passing all three sections of the MTLE: Basic Skills exam and passing all required MTLE pedagogy and content area exams, or other Minnesota BOT approved licensure exams. On the basis of our approved Minnesota licensure program and our accreditation from the Council for the Accreditation of Educator Preparation (CAEP), many other states offer reciprocal entry licenses for candidates completing our program requirements. Since all states' requirements are unique, any candidate planning to teach in another state is strongly advised to check with that state in advance in order to satisfy those requirements.

Minor in Education

Some students who cannot complete the entire Teacher Education licensure program in four years may decide to complete the coursework to meet the requirements of a content major and come back to complete their licensure requirements on the graduate level. Declaring a minor in Teacher Education would designate this on their transcript and also be beneficial for them as they seek employment. All courses must be a 2.75 GPA or higher. This minor is also available to any undergraduate student who completes the required courses with the approval of the Chair of Teacher Education. While the minor alone does not complete the requirements for teaching licensure, the remaining courses, field experience, and clinical practice may be completed at the graduate level through the Department of Teacher Education.

Students wishing to complete the Education Minor must complete the following courses (20 credits):

EDUC 210 Education's Place in Society and Field (4 credits)

EDUC 211 Field Experience I: Exploration (0 credits)

EDUC 329 Diverse Learners & 24 TL T-SS50.00239.99750.002]5(synagl(ed fams,)ents a)10(602]5(rse L)43 for te)6&U

EDUC 211 Field C 329 Diverse L T20 credits)

Plus:

Allied core curriculum math, science, and social studies courses to meet state competencies (must be completed

before Block 3):

MATH 121 Structures of Elementary Mathematics I (4 credits)

MATH 122 Structures of Elementary Mathematics II (4 credits)

MATH 223 Structures of Elementary Mathematics III (4 credits)

Four (4) credits from each of the following areas - biology, chemistry, geology, physics.

Chose only from courses that are approved to meet the Natural Science core requirement (16 credits total)

PSYC 111 General Psychology OR SOCI 100 Intro to Sociology (4 credits)

POLS 104 American Government (4 credits)

The above courses will also fulfill the Social Analysis Core Curriculum Requirement.

HIST 113 Early Amer. in Global Perspective OR HIST 114 The Modern US in Global Perspective (4 credits)

HIST 112, 115, 116, 118, or 119 (all non-US history courses) (4 credits)

The above courses will also fulfill the Historical Studies Core Curriculum Requirement.

GEOG 113 World Geography (4 credits)

The above course will also fulfill the Human Diversity Core Curriculum Requirement.

A concentration or minor is strongly recommended in one or more of the following areas:

STEM (Science, Technology, Engineering and Math for Elementary Education)

Engineering Education

ESL Minor

SPED Minor

20-24 additional credits or minor in a content area such as English, History, Spanish, etc.

Science Technology Engineering and Mathematics EM for Elementary Education

Rezac (MATH) (director), Hickson (GEOL), Gittins (CHEM), Besser (ENGR), Verhoeven (BIOL), Johnston (PHYS), Werness (CISC)

Co-major with Elementary Education (K-6).

Note: A Co-major cannot be a stand-alone major.

This co-major provides an integrated background in science, technology, engineering and mathematics appropriate for individuals who will teach in the elementary grades. The STEM for Elementary Education major is designed as a co-major to elementary education and should be considered by students planning to pursue a degree in elementary education who wish to enhance their skills in the STEM fields. Students who complete the STEM for Elementary Education can choose their STEM specialization sequence in one of several tracks. Two tracks: 5-8 Science and 5-8 Mathematics, will help students to pursue completion of the Minnesota Board of Teaching 5-8 Endorsement in Science or Mathematics. A third track, Engineering, will help students pursue further integration of their STEM skills and take advantage of the University's Center for Engineering Education. The Engineering Education minor with two additional classes. Lastly, for students who have specific interests in any one discipline: Biology, Chemistry, Computer and Information Science, Geology or Physics can complete a two-course specialization in one of those areas, with approval from the program director. Students should contact the program director, the Department of Teacher Education, or members of program faculty for further information on this co-major.

STEM for Elementary Education is only available as a co-major for those students also majoring in elementary education. Students must complete the requirements for Elementary Education plus the following STEM program.

STEM 181 Science Seminar (0 credit)

STEM 182 Science Seminar (0 credit)

STEM 359 Integrated Studies in Science and Mathematics (4 credits) or EDUC 327 Engineering in the P-12 classroom (4 credits)

Plus:

CISC 120 Computers in Elementary Education (4 credits)

Plus a specialization sequence of eight credits in one of four tracks:

Science track - students who choose this track will complete the Science content required for the MN BoT K-8 License endorsement.

PHYS 104

And one of PHYS 105, ENGR 130, ENGR 171

Math track

MATH 113

Math 128

Engineering track

ENGR 130

ENGR 171

Department specific track

Consisting of eight or more additional credits in one department, to be approved by the student's STEM adviser. These courses will build on the "core courses" above and develop specialized knowledge in one of the areas served by the Division of Science and Mathematics (Biology, Chemistry, Computer and Information Science, Geology or k 9specializs67u3690um24825.67u2919.6t24uTL2T[1875(eTghe Division of)-2(ar)18.00TTIM ad-3u0u

Majors must complete the following:

1) Core Secondary Education Requirements

Block 1

EDUC 210 Education's Place in Society and Field Experience (4 credits)
 EDUC 211 Field Experience I: Exploration (4 credits)
 MTLE: Basic Skills or other Minnesota BOT approved licensure exams

Block 2

EDUC 329 Diverse Learners and Families (4 credits)
 EDUC 330 Psychology for Teaching and Learning (4 credits)
EDUC 332 Field Experience II: Learning & Teaching (0 credit)

Block 3

EDUC 355 Reading for the 5-12 Teacher (4 credits)*
**Taken by all licensure areas except Music Education*

Methods Courses as noted in individual licensure area requirements and corresponding Field Experience III:

EDUC 336 Field Experience III: Communication Arts and Literature (0 credit)
 EDUC 339 Field Experience III: Health (0 credit)
 EDUC 341 Field Experience III: Mathematics (0 credit)
 EDUC 342 Field Experience III: Music (0 credit)
 EDUC 343 Field Experience III: Physical Education (0 credit)
 EDUC 344 Field Experience III: Science (0 credit)
 EDUC 346 Field Experience III: Social Studies (0 credit)
 EDUC 347 Field Experience III: World Languages (0 credit)

Block 4

EDUC 431 Use of Technologies for Instruction (2 credits)
 EDUC 460 Clinical Practice: Student Teaching and Seminar (10 credits)**
 or EDUC 463 Student Teaching and Seminar, Dual Licensure (12 credits)**
 ** As determined by your specific program(s)

Plus:

Demonstrated competence on all required state standards and MTLE II Pedagogy & Content Area Exams or other
 Minnesota BOT approved exams required for licensure

2) A Second Major or Co-Major and methods courses in the chosen area for licensure:

Chemistry

Co-major in Chemistry (9-12) and a Co-major in Middle/Secondary Education.

Note: A Co-major cannot be a stand-alone major.

Note: Students have the option of adding the General Science (5-8) licensure

Blocks 1, 2, 3 and 4 as listed at the beginning of this section

Plus Block 3 curriculum and instruction special methods course and field experience III:

EDUC 344 Field Experience III: Science (0 credit)

Plus four credits from the following:

- GEOL 111 Introductory Physical Geology (4 credits)
- GEOL 113 The Earth's Record of Climate (4 credits)
- GEOL 114 The Science of Natural Disasters (4 credits)
- GEOL 162 The Earth's Record of Climate (4 credits)

Plus:

- BIOL 207 Genetics, Ecology, and Evolution (4 credits)
- CHEM 111 General Chemistry I (4 credits)
- CHEM 112 General Chemistry II (4 credits)
- GEOL 211 Earth Materials (4 credits)
- GEOL 252 Earth Surface Processes and Geomorphology (4 credits)
- GEOL 260 Regional Geology and Geological Field Methods (4 credits)
- GEOL 320 Sedimentology and Stratigraphy (4 credits)
- GEOL 340 Fundamentals of the Lithosphere I (Petrology) (4 credits)
- GEOL 360 Fundamentals of the Lithosphere II (Structural Geology) (4 credits)
- GEOL 460 Advanced Field Geology (4 credits)
- GEOL 340 F4 credits)
- CHEM 112 General Chemistry II (4 credits)
- GEOL 211 Earth Materials (4 credits)

Mathematics

Major in Mathematics (5-12) and a Co-major in Middle/Secondary Education.

Note: A Co-major cannot be a stand-alone major.

Blocks 1, 2, 3 and 4 as listed at the beginning of this section

Plus Block 3 curriculum and instruction special methods course and field experience III:

EDUC 317 Curriculum and Instruction for Mathematics (5-12) (4 credits)

EDUC 341 Field Experience III: Mathematics (0 credit)

Plus:

CISC 130 Introduction to Programming and Problem Solving in the Sciences (4 credits)

MATH 113 Calculus I (or 108-109) (4 credits)

MATH 114 Calculus II (4 credits)

MATH 200 Multi-Variable Calculus (4 credits)

MATH 210 Introduction to Differential Equations and Systems (4 credits)

MATH 240 Linear Algebra (4 credits)

MATH 301 Abstract Algebra I (4 credits)

MATH 317 Real Analysis (4 credits)

MATH 325 Geometry (4 credits)

MATH 450 Advanced Mathematics: Exploration and Exposition (4 credits)

Plus either:

MATH 303 Statistics for the Applied Sciences (4 credits) and one additional MATH course numbered 300 or above (4 credits)

or

MATH 313 Probability (4 credits) and STAT 314 Mathematical Statistics (4 credits)

Instrumental Music Education (K-12) and K-12 Music Education

Co-major in Instrumental Music Education (K-12) and a Co-major in K-12 Music Education.

Note: A Co-major cannot be a stand-alone major.

Blocks 1, 2, 3 and 4 as listed at the beginning of this section

Plus Block 3 curriculum and instruction special methods courses and field experience III:

EDUC 207 Early Elementary Music Methods (Pre K-2) (3 credits)

EDUC 307 Intermediate Elementary Music Methods (Grades 3-5) (3 credits)

EDUC 314 Secondary Music Methods (Grades 6-12) (3 credits)

EDUC 342 Field Experience III: Music (0 credit)

EDUC 418 Choral/Instrumental Music Methods (2 credits)

Plus:

EDUC 110 Introduction to Music Education I (1 credit)

Plus the following Instrumental Concentrations:

EDUC 218 Teaching Techniques for the Brass Family (2 credits)

EDUC 220 Teaching Techniques for the Percussion Family (2 credits)

EDUC 221 Teaching Techniques for the Woodwind Family (2 credits)

EDUC 324 Teaching Techniques for the String Family (2 credits)

EDUC 362 Vocal Pedagogy for Singers (1 credit)

MUSC 354 Advanced Conducting and Materials: Instrumental Concentration (2 credits)

Plus:

MUSC 001 Student Convocation Hour (0 credits) (6 semesters)

MUSC 101 Piano Skills I (1 credit)

MUSC 102 Piano Skills II (1 credit)

MUSC 113 Music Theory and Aural Skills I (4 credits)

MUSC 114 Music Theory and Aural Skills II (4 credits)

CURRICULA

MUSC 102 Piano Skills II (1 credit)
 MUSC 113 Music Theory and Aural Skills I (4 credits)
 MUSC 114 Music Theory and Aural Skills II (4 credits)
 MUSC 133 Music of the United States: Aural and Written Traditions (2 credits)
 MUSC 140 Music Media (2 credits)
 MUSC 201 Piano Skills III (1 credit)
 MUSC 202 Piano Skills IV (1 credit)

Students for whom piano or organ is the primary instrument will take the following courses in lieu of MUSC 101, 102, 201, and 202:

MUSC 192 Technical Skills for Keyboard Majors (1 credit)
 MUSC 292 Functional Skills for Keyboard Majors I (1 credit)
 MUSC 293 Functional Skills Keyboard Majors II (1 credit)
 MUSC xxx Piano Elective (1 credit) to be chosen from the following: MUSP 121, 131 (organ majors only), 135 (piano majors only), 153, MUSN 171, 172, 182, or MUSW 501

MUSC 213 Music Theory and Aural Skills III (4 credits)
 MUSC 214 Music Theory and Aural Skills IV (4 credits)
 MUSC 231 Introduction to Conducting I (1 credit)
 MUSC 233 Music of the World: Aural and Written Traditions (4 credits)
 MUSC 263 Entrepreneurial Careers in Music, and Professional Practice (1 credit)
 MUSC 341 Theory Elective: Musicianship Pedagogy for Music Educators (2 credits)
 MUSC 411 History and Literature of Music I (4 credits)
 MUSC 412 History and Literature of Music II (4 credits)
MUSN 142 or 160 Ensemble (6 semesters) (0 credits each semester)*
MUSP 3xx Performance studies (6 semesters) (1 credits each semester)
MUSR 114 Aural-Skills Proficiency (0 credits)
MUSR 200 Piano Proficiency (0 credits)
MUSR 214 Aural-Skills Proficiency (0 credits)
MUSR 270 Level I Recital (0 credits)
MUSR 350 Level II Recital (0 credits)

**Guidelines for choosing an ensemble:*

Students must spend 6 semesters in a large choral ensemble.

Voice majors must spend at least 4 semesters in MUSN 142 or MUSN 160.

Allied Requirements:

PHYS 105 Musical Acoustics (4 credits)

Physical Education K

Blocks 1, 2, 3 and 4 as listed at the beginning of this section

Plus Block 3 curriculum and instruction special methods courses and field experience III:

PHED 302 Physical Education Methods for Elementary School (4 credits)

PHED 304 Physical Education Methods for Middle and Secondary Schools (4 credits)

EDUC 343 Field Experience III: Physical Education (0 credit)

Plus:

PHED 110 Technical Skills for Team Sports (2 credits)

PHED 111 Technical Skills for Lifetime/Individual Sports (2 credits)

HLTH 250 Personal Health and Wellness (4 credits)

PHED 202 Physical Education Curriculum, Instruction and Assessment (2 credits)

PHED 208 Human Anatomy and Physiology (4 credits)

PHED 300 Motor Development (2 credits)

EXSC 326 Kinesiology (4 credits) *formerly PHED 326*

EXSC 332 Exercise Physiology (4 credits) *formerly PHED 332*

PHED 351 Teaching of the Special Needs Student (2 credits)

PHED 430 Measurement and Evaluation (4 credits)

PHED 105 Water Safety and Lifeguard Training (0 credits)

Allied Courses:

CURRICULA

Plus:

CHEM 111 General Chemistry I (4 credits)
 CHEM 112 General Chemistry II (4 credits)
 CISC 130 Introduction to Programming and Problem Solving in the Sciences (4 credits)
 ENGR 350 Introduction to Electronics (4 credits)
 GEOL 111 Introductory Physical Geology or one of GEOL 110, 113, 114, 115 (4 credits each)
 MATH 113 Calculus I (4 credits)
 MATH 114 Calculus II (4 credits)
 MATH 200 Multivariable Calculus (4 credits)
 MATH 210 Introduction to Differential Equations and Systems (4 credits)
 PHYS 104 Astronomy (4 credits)
 PHYS 111 Introduction to Classical Physics I (4 credits)
 PHYS 112 Introduction to Classical Physics II (4 credits)
 PHYS 215 Foundations of Modern Physics: From the Atom to the Big Bang (4 credits)
 PHYS 225 Applications of Modern Physics: From the Atom to the Diode (4 credits)
 PHYS 323 Methods of Experimental Physics (4 credits)

Plus:

Four additional credits in PHYS courses other than 101

Plus either:

BIOL 101 General Biology (4 credits)
or the three-course sequence
 BIOL 207 Genetics, Ecology, and Evolution (4 credits)
 BIOL 208 Biological Communication and Energetics (4 credits)
 BIOL 209 Biology of Sustainability (4 credits)

Plus:

Demonstrated competence on all required state standards

To complete a major in Physics (B.A.), additional courses are required. See Physics section in the catalog.

of a student

Co-Major in Social Studies (5-12) (Economics, Geography, History, Political Science, Psychology, or Sociology) with a Co-Major in Middle/Secondary Education

Note: A Co-major cannot be a stand-alone major.

Blocks 1, 2, 3 and 4 as listed at the beginning of this section

Plus Block 3 curriculum and instruction special methods course and field experience III:

EDUC 319 Curriculum and Instruction for Social Studies (5-12) (4 credits)
 EDUC 346 Field Experience III: Social Studies (0 credit)

Plus:

ENVR 151 Environmental Sustainability (4 credits)
 POLS 104 American Government in Comparative Perspective (4 credits)
 PSYC 111 General Psychology (4 credits)
 SOCI 100 Introduction to Sociology (4 credits)
 SOCI 301 Cultural Anthropology (4 credits)

Plus four credits from the following:

ECON 211 Current Economic Issues (4 credits)
 ECON 251 Principles of Macroeconomics (4 credits)

Plus four credits from the following:

HIST 111 Origins of the Modern World to 1550 (4 credits)
 HIST 112 The Modern World Since 1550 (4 credits)

Plus four credits from the following:

HIST 113 Early America in Global Perspective (4 credits)
HIST 114 The Modern U.S. in Global Perspective (4 credits)

Plus four credits from the following:

HIST 118 The Middle East and North Africa in Global Perspective (4 credits)
HIST 119 East Asian Civilizations in Global Perspectives (4 credits)
HIST 240 Foundations of Chinese Civilization (4 credits)
HIST 241 The History of Modern China (4 credits)
HIST 244 Modern East Asia (4 credits)
HIST 253 Cities of the Middle East (4 credits)
HIST 348 Japan: History Through Literature (4 credits)
HIST 349 History of the Ottoman Empire (1300-1922) (4 credits)

Plus four credits from the following:

GEOG 111 Human Geography (4 credits)
GEOG 113 World Geography (4 credits)

Plus:

Twenty-four additional credits in courses in one of the social science disciplines (economics, geography, history, political science, psychology, or sociology). Choice of these courses is subject to the approval of the department involved.

To complete a major in one of the Social Science disciplines, contact the chair of the department.

World Language and Cultures Education K-12

Major in French (K-12), German (K-12), or Spanish (K-12) with a Co-Major in K-12 World Language and Cultures

Note: A Co-major cannot be a stand-alone major.

Note: Students wishing to be licensed to teach World Language and Cultures K-12 in the state of Minnesota must demonstrate advanced level speaking proficiency (as defined in the American Council on the Teaching of Foreign Languages [ACTFL] Proficiency Guideline) in both English and in the target language.

Blocks 1, 2, 3 and 4 as listed at the beginning of this section

Plus Block 3 curriculum and instruction special methods course and field experience III:

EDUC 380 Curriculum and Methods for World Language and Cultures (K-12) (4 credits)
EDUC 347 Field Experience III: World Language and Cultures (0 credit)

Plus:

World Languages candidates must arrange to pass the Oral Proficiency Interview (based on ACTFL Guidelines). For information regarding this, contact the Director of Field and Clinical practice in the Department of Teacher Education.

Plus a major in French, German, or Spanish:

French

28 credits numbered FREN 300 and above with a minimum of eight (8) credits in each of the following areas:

Oral and Written Language

FREN 300 Advanced Oral & Written French I

FREN 302 Questions de Langage

FREN 371 French Conversation

Culture/Civilization

FREN 311 French Civilization I

FREN 312 French Civilization II

Literature

FREN 301 French Poetry

FREN 402 The French Novel

German

A minimum of six (6) credits must be in Literature.
No more than 12 credits may be in the area of advanced language skills.

Students must complete the following courses:
GERM 311 Conversa

- Section 2: Keyboard
- Section 3: Guitar
- Section 4: Winds/Percussion/Brass
- All 4 sections will meet concurrently.

This class will survey methods and materials for performance studies. Discussions will include principles of technique, learning theories, musicianship, and performance based upon a wide and diverse body of literature. Students should sign up for section numbers that correspond with primary area of performance.

ED C Pedagogy and Literature for Music Performers II credits

Cross-listed with MUSC 309:

- Section 1: Voice
- Section 2: Keyboard
- Section 3: Guitar
- Section 4: Winds/Percussion/Brass
- All 4 sections will meet concurrently.

A continuation of Pedagogy and Literature for Music Performers I, this class will survey methods and materials for performance studies. Discussions will include principles of technique, learning theories, musicianship, and performance based upon a wide and diverse body of literature. Students should sign up for section numbers that correspond with primary area of performance.

Prerequisite: EDUC 308/MUSC 308

ED C Secondary Music Methods Grades 6-8 credits

Contemporary music pedagogy for children in Grades 6-8. Examination of goals, objectives, diverse music repertoire, spiral curriculum content and skill development, strategies, materials, and methods. Study of learning styles, developmental stages, and culturally sensitive materials. Designing lessons and classroom environments for effective music teaching and learning. Techniques for classroom management and discipline. National and state standards for music education relative to Grades 6-8 music curricula. Emphasis on artistic teaching. Instrument lab meets one hour per week: guitar, small ensembles, beginning arranging. Offered spring semester of even numbered years.

ED C Curriculum and Instruction for Community Music Studies of Community Music credits

ment strategies; data literacy and data-driven instructional decisions; connections to community resources; lesson and unit planning; and technology integration. Prerequisites: EDUC 330, 332; successful completion of Assessment II and admission to advanced candidacy; concurrent registration: EDUC 346 Field Experience III: 5-12 Social Studies. (Fall semester)

ED C each ng echn ques for the tr ng Fa ' y cred ts

This course will acquaint the prospective instrumental music teacher with the basic knowledge and skills of performance pedagogy of string instruments which include proper technique, tone production, intonation, articulation, posture, and patterns. Students will become familiar with the construction and operation of these instruments and be



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This course examines the roles culture and society play in the acquisition of an additional language. Aspects of sociolinguistics and anthropology will be addressed as will the impact of social class and gender on student experiences with schooling. A primary focus will be on field observations and interactions with linguistically and culturally diverse

candidacy; concurrent registration with EDUC 337, 370, 372, and 373 or permission of Chair.

EDUC 332 Science and Healthy Living Credits

This course is designed to prepare teachers who will effectively engage learners with science and help them have the skills for lifelong healthy, active living. Emphasis is on application of developmentally appropriate practice and differentiated instruction for a range of learners in grades K-6, including curriculum content and sources; national and state standards; performance-based assessment strategies; data literacy and data-driven instructional decisions; connections to community resources; lesson and unit planning; and technology integration. The course includes field-based experiences.

Prerequisites: EDUC 330, 332; successful completion of Assessment II and admission to advanced candidacy; concurrent registration with EDUC 337, 370, 371, and 373 or permission of Chair.

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ED C Inclusive School Communities credits

Provides an overview of students identified as gifted/talented, students with disabilities (learning disabilities, mental retardation, emotional/behavioral disabilities, and sensory and physical impairments), etiology, and appropriate interventions for exceptional students. Also, current issues and research in the field of exceptionality (legal rights, integration, best practices) are also discussed.

Prerequisite: MTLE; and concurrent registration in EDUC 460 or 463

ED C Clinical Practice Student Teaching and Seminar credits

As the culminating experience of the teacher licensure program, clinical practice (student teaching) provides the opportunity for candidates to apply their knowledge and skills of teaching and learning in a classroom setting. Accompanying seminars assist candidates to reflect upon the experience and to increase their repertoire of strategies for dealing with topical, relevant issues. Clinical practice, along with the accompanying seminars and the final components of EDUC 456, is a full-time, full-semester commitment under the supervision of university and school-based professionals.

EM Integrated Studies in Science and Mathematics credits

The capstone course in the STEM for Elementary Education interdisciplinary major. A number of currently important science and mathematics-related topics will be studied in depth, and will emphasize the integration of the natural sciences and mathematics. Consideration will be given to the relevance of the topics to modern society and their potential use in the elementary classroom. Prerequisites: BIOL 101, CHEM 100, CISC 120, GEOL 111 (or 110 or 113 or 114 or 115), MATH 121 and 122, PHYS 101 (in certain cases, permission of the STEM for Elementary Education Director may allow a substitution).

P G Basic Instruction in Mild/Moderate Handicaps credits PED

Research supported instructional interventions and progress monitoring strategies emphasizing practical knowledge, theoretical foundations and classroom skills for the instruction of students with mild/moderate handicaps in the basic skills: reading, written expression, spelling and mathematics.

Prerequisite: Permission of the chair

P G Collaboration Skills for Professionals credits PED

The purpose of this course is to develop an ethic of collaboration and the knowledge and skills needed to effectively collaborate with faculty, administrators, paraprofessionals, students, families, and community members. Students will

current trends at the local, state, and national levels for students with learning disabilities.

ENGINEERING ENGR SCHOOL OF ENGINEERING

School of Engineering
O'Shaughnessy Science Hall (OSS) 100, (651) 962-5750
www.stthomas.edu/engineering

Faculty

Weinkauff (dean), Abraham, Acton, Bach, Baxter, Bennett, Besser, Forliti, George, Greene, Hennessey, Jalkio, Min, Mowry, Nelson-Cheeseman, Nepal, Rajagopalan, Salamy, Shepard, Thomas, Wentz.

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systems.

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Degree in Mechanical Engineering B.S.M.E.

The Bachelor of Science in Mechanical Engineering (BSME) is an applied-engineering program, blending theory and research with practical engineering fundamentals. The program is academically rigorous, complemented with a full Liberal Arts experience of the University of St. Thomas Core Curriculum. The mechanical engineering curriculum provides a foundation in theoretical and applied mechanics, materials, electrical-electronic fundamentals, computer aided design, automation systems, thermodynamics, heat transfer, fluid flow, manufacturing processes and practical design. The B.S.M.E. program is accredited by the Engineering Accreditation Commission (EAC) of ABET. Program outcomes and objectives may be found at: www.stthomas.edu/engineering/mechanical/.

In addition to satisfying the University of St. Thomas Core Curriculum requirements (see page 20), students earning a BSME degree must also meet the Mechanical Engineering Major requirements and the Mechanical Engineering allied requirements listed below. A four year degree plan for the BSME is available in the School of Engineering main office or from any Engineering faculty advisor.

Mechanical Engineering Major Requirements

- ENGR 150 Introduction to Engineering (1 credit)
- ENGR 171 Engineering Graphics and Design (4 credits)
- ENGR 220 Statics (4 credits)
- ENGR 221 Mechanics of Materials (4 credits)
- ENGR 320 Machine Design and Synthesis (4 credits)
- ENGR 322 Dynamics (4 credits)
- ENGR 350 Introduction to Electronics (4 credits)
- ENGR 361 Engineering Materials (4 credits)
- ENGR 371 Manufacturing Processes (4 credits)
- ENGR 381 Thermodynamics (4 credits)
- ENGR 382 Heat Transfer (4 credits)
- ENGR 383 Fluid Mechanics (4 credits)
- ENGR 410 Control Systems and Automation (4 credits)
- ENGR 480 Engineering Design Clinic I (4 credits)
- ENGR 481 Engineering Design Clinic II (4 credits)

Plus four credits of engineering electives

Mechanical Engineering Allied Requirements

CHEM 1heshe pr

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Plus:

- ACCT 210 Introduction to Financial Accounting (4 credits)
- ACCT 215 Managerial Accounting (4 credits)
- BETH 301 Business Ethics (4 credits)
- BUSN 200 Business Learning Through Service (0 credit)
- OPMT 310 Operations Management (4 credits)
- FINC 321 Financial Management (4 credits)
- MGMT 305 Management and Organizational Behavior (4 credits)
- MGMT 480 Strategic Management (4 credits)
- MKTG 300 Principles of Marketing (4 credits)

Plus four credits from the following:

- BLAW 301 Legal Environment of Business (4 credits)
- BLAW 302 Business Law for Accounting (4 credits)
- BLAW 303 International Business Law (4 credits)

Plus additional allied Requirements:

- ECON 251 Principles of Macroeconomics (4 credits)
- ECON 252 Principles of Microeconomics (4 credits)
- STAT 220 Statistics (4 credits)
- COJO 105 Communications in the Workplace (4 credits)

Dual Degree in Electrical Engineering B.EE and Physics B.A.

The dual degree program in electrical engineering and physics is designed for students interested in combining lab skills and theory with engineering principles and practice. Students in this dual program will have skills to prepare them for a wide variety of opportunities in industry or advanced graduate education. The dual degree program may require an additional semester to complete. Upon completion, students receive a B.A. degree in physics and a B.S.E.E. degree accredited by EAC of ABET.

Students must complete the Electrical Engineering major requirements (see above), the allied requirements for a B.S. in Electrical Engineering plus one electrical engineering track of two courses.

Plus:

- PHYS 215 Foundations in Modern Physics (4 credits)
- And four credits of physics electives

Dual Degree in Electrical Engineering B.EE and Computer Science B.A.

The dual degree program in electrical engineering and computer & information science is designed for students interested in both hardware and software aspects of computing. Students in this dual program will have skills to prepare them for a wide variety of opportunities in industry or advanced graduate education. The dual degree program requires approximately five years to complete. Upon completion, students receive a B.A. degree in Computer Science and a B.S. degree in Electrical Engineering.

Students must complete the Electrical Engineering major requirements (see above) and the allied requirements for a B.S. in Electrical Engineering.

Plus:

- CISC 210 Security (4 credits)
- CISC 230 Object-Oriented Design and Programming (4 credits)
- CISC 231 Data Structures Using Object-Oriented Design (4 credits)
- CISC 310 Operating Systems (4 credits)
- CISC 370 Networking (4 credits)
- CISC 450 Database Design I (4 credits)
- Plus eight credits from the following:

PRE ENGINEERING LIBERAL ARTS ENGINEERING PROGRAM

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Minor in Electrical Engineering

The electrical engineering minor is designed for students with majors in the sciences, mathematics, mechanical engineering, quantitative methods, and business. This minor serves both those who plan to go on to graduate school in engineering and those entering business and industry. The engineering minor offers the opportunity to explore the field of engineering and provides an understanding of the technology of products and processes. It also strengthens pre-med and pre-law candidates who intend to pursue specialized areas such as biomechanics or patent law.

Students must complete sixteen credits from the following:

ENGR 230 Digital Design (4 credits)

ENGR 240 Circuit Analysis (4 credits)*

ENGR 330 Microprocessor Architectures (4 credits)

ENGR 331 Designing with Microprocessors (4 credits)

ENGR 340 Signals and Systems (4 credits)

ENGR 342 Electromagnetic Fields and Waves (4 credits)

ENGR 345 Electronics I (4 credits)

ENGR 350 Electronics II (4 credits)*

ENGR 410 Control Systems and Automation (4 credits)

ENGR 431 Design of Embedded Systems (4 credits)

ENGR 470 Fundamentals of Mechatronic Engineering I (4 credits)

****Note: credit will not be given for both ENGR 240 and ENGR 350***

Minor in Mechanical Engineering

The mechanical engineering minor is designed for students with majors in the sciences, mathematics, electrical engineering, quantitative methods, and business. This minor serves those who plan to go on to graduate school in engineering and those entering business and industry. The engineering minor offers the opportunity to explore the field of engineering and provides an understanding of the technology of products and processes. It also strengthens pre-med and pre-law candidates who intend to pursue specialized areas such as biomechanics or patent law.

Students must complete Sixteen credits from the following:

ENGR 171 Engineering Graphics and Design(4 credits)

ENGR 220 Statics (4 credits)

ENGR 221 Mechanics of Materials (4 credits)

ENGR 320 Machine Design and Synthesis (4 credits)

ENGR 322 Dynamics (4 credits)

ENGR 328 Fuel Cell Engineering (4 credits)

ENGR 361 Engineering Materials (4 credits)

ENGR 371 Manufacturing Processes (4 credits)

ENGR 381 Thermodynamics (4 credits)

ENGR 382 Heat Transfer (4 credits)

ENGR 383 Fluid Mechanics (4 credits)

ENGR 410 Control Systems and Automation (4 credits)

ENGR 420 Computer Aided Manufacturing (4 credits)

ENGR 430 Applications of Thermodynamics (4 credits)

ENGR 460 Engineering Economics and Project Management (4 credits)

ENGR 470 Fundamentals of Mechatronic Engineering I (4 credits)

Minor in Engineering Education

The Engineering Education minor is designed for students who are majoring in Education. The minor is intended to give pre-service teachers a solid background in basic engineering concepts that can be applied to a P-12 classroom. Special effort is made throughout the program to tie engineering concepts to the Minnesota academic standards in science.

Students must complete the following courses:

ENGR 130 Fundamentals of Engineering for Educators I (4 credit)

ENGR 171 Engineering Graphics and Design (4 credits)
EDUC 327 Engineering in the P-12 Classroom (4 credits)

Plus eight elective credits from the following list:

ENGR 123 Energy and the Environment (4 credits)
ENGR 220 Statics (4 credits)
ENGR 230 Digital Design (4 credits)
ENGR 350 Introduction to Electronics (4 credits)
ENGR 361 Engineering Materials (4 credits)
ENGR 371 Manufacturing Processes (4 credits)
ENGR 381 Thermodynamics (4 credits)

***Any other ENGR course may be substituted for elective credit with the permission of the minor advisor.**

Plus four credits from the following list may be used towards the eight elective credits:

PHYS 104 Astronomy (4 credits)
PHYS 105 Musical Acoustics (4 credits)
PHYS 109 General Physics I (4 credits)
PHYS 110 General Physics II (4 credits)
PHYS 111 Classical Physics I (4 credits)
PHYS 112 Classical Physics II (4 credits)

Engineering Courses

ENGR Energy and the Environment credits

The course examines the core concepts of energy and power technologies. A hands-on laboratory will examine how refrigerators, swamp coolers, generators, turbines, car engines, and solar panels work. The class covers how electricity from fossil fuels is generated and transported, and the status of the technology behind harnessing geothermal resources, solar power, fuel cells, wind power, and biomass energy. Students will be introduced to the 1st and 2nd laws of thermodynamics, trade-off charts and the design process. The cultural, social, and economic impacts of energy production are discussed as well as their effects on the environment. (This course is limited to non-majors or students with Freshman or Sophomore standing).

ENGR Fundamentals of Engineering for Educators credits

This is a one-semester survey of engineering topics. Topics will span machine design, manufacturing, thermodynamics, electronics, computer programming, and chemical engineering. The course will have weekly lab sessions which will allow students to apply what they are learning from lectures in a hands-on setting. Emphasis will be placed on how the material is used by practitioners. Numerous examples will be given of how this material can be presented in a way that meets Minnesota education standards. Each topics unit will include a component dedicated to the historic and current relevance of the concepts and skills presented. Whenever appropriate, and feasible, guest lectures and field trips will be arranged. The goal of this course is to provide teachers with a short, hands-on introduction to a variety of engineering.

ENGR Introduction to Engineering credit

This course focuses on design as the central activity of engineering. Students learn a disciplined approach to design through case studies and open ended design experiences.

ENGR Engineering Graphics and Design credits

Through a combination of lectures, hands-on computer lab time, and design projects, students will learn to read, and create engineering drawings and use computer-aided design (CAD) terminology and technology. Topics covered will include the engineering design process, rapid prototyping, principles of projection, and introductory methods of representation and constructive geometry.

ENGR Introduction to Electrical Engineering credits

A hands-on introduction to a variety of basic concepts in Electrical Engineering. The course includes lessons, labs, and projects that explore analog and digital electronics in both theory and practice. Students will develop proficiency in the basic tools and skills required for electrical engineering projects and coursework, and gain insight into EE as a potential major, minor, and/or career. The class will also take weekly field trips to local facilities that showcase applications of electrical engineering and introduce students to engineers in action.

ENGR Statics credits

Principles of statics including such topics as rigid bodies, equilibrium, equivalent systems of forces, 2D structures,

CURRICULA

distributed forces, centroids and centers of gravity





Topics include communication and bus protocols, A/D and D/A conversion, interrupts and common microcontroller peripherals.

Prerequisite: A minimum grade of C- in both ENGR 230 and CISC 130, and concurrent registration in either ENGR 350 or ENGR 240 or permission of instructor.

ENGR 340 Signals and Systems credits

To develop an understanding of the analysis of continuous and discrete systems using Fourier series, Fourier transform, and Z transforms, and an understanding of frequency domain characteristics, state space concepts, effects of sampling and modulation.

Prerequisites: A minimum grade of C- in ENGR 240 and MATH 210

ENGR 341 Electromagnetic Fields and Waves credits

A continuation of PHYS 341. An introduction to the practical consequences of Maxwell's equations including propagation, reflection and absorption of electromagnetic waves. Applications include antennas, waveguides, transmission lines, and shielding from electromagnetic interference.

Prerequisite: A minimum grade of C- in PHYS 341

ENGR 342 Electronics I credits

Analysis of electronic devices and circuits. Topics include linear and non-linear models of electronic devices, feedback and circuit design techniques. Applications include amplifiers, demodulation, oscillators, logic implementation.

Prerequisites: A minimum grade of C- in ENGR 240

ENGR 345 Electronics II credits

Continuation of ENGR 342. Several special topics will be covered including an introduction to switch mode power supplies and an introduction to electrical noise and noise sources.

Prerequisite: A minimum grade of C- in ENGR 342

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ENGR 346 Introduction to Electronics credits

This course provides scientists and engineers with a background in electrical circuits, electronics and electric machines. Topics include DC, AC and transient circuit analysis, AC 3-phase and power, frequency response and filters, operational amplifiers and active filter, and electric machines; magnetism, magnetic materials, magnetic circuits, DC and AC motors and generators. The course consists of lectures, demonstrations, discussions and an associated hands-on laboratory.

**Note: credit will not be given for both ENGR 240 and ENGR 350*

Prerequisite: A minimum grade of C- in PHYS 112

ENGR 347 Engineering Materials credits

An introduction to materials and their properties. This course introduces students to the fundamentals of materials theory, properties and applications. Topics include properties and applications of metals, polymers, ceramics and composite materials. The course emphasizes characteristics of materials in manufacturing operations and service, including open-ended design issues.

Prerequisites: CHEM 109 (preferred), or CHEM 111, or CHEM 115

ENGR 348 Manufacturing Processes and Statistical Control credits

This course covers such basic principles as metal forming, metal cutting, plastic molding, and continuous processes. Students will receive hands-on experience with modern production equipment. Students will learn statistical evaluation tools such as the meaning of population distributions, means, medians, regression analysis, and standard deviations. Statistical process control and acceptance testing in the context of modern manufacturing processes will be covered.

Prerequisite: A minimum grade of C- in MATH 114 and ENGR 221 (or concurrent registration)

ENGR 349 Thermodynamics credits

A study of thermal and mechanical energy and their applications to technology. First law of thermodynamics (energy conservation); second law of thermodynamics (restrictions on energy transformations). Major topics include the analysis of closed and opened (steady state and transient) systems, power cycles, thermophysical properties of substances, humidity, dew point and other characteristics of non-reacting mixtures.

Prerequisites: A minimum grade of C- in CHEM 115 or CHEM 109

ENGR 350 Heat Transfer credits

Introduction to the fundamentals of heat transfer in the context of engineering applications. The major topics to be covered include conduction, convection, and radiation. Students will solve steady and unsteady conduction heat trans-



fer problems in both one-dimensional and multi-dimensional coordinate systems. Internal and external convection will be covered as well as heat exchangers and natural convection.

Prerequisite: Grades of C- or higher in ENGR 381 and MATH 210

ENGR Fluid Mechanics credits

Introduction to the fundamentals of fluid mechanics in the context of engineering applications. Topics covered include hydrostatics and pressure variations in non-moving fluids, conservation laws of flowing fluids (mass, momentum, and energy), potential flow and viscous flow, boundary layer theory, internal flow, external flow, drag and lift. Also, the evaluation and design of turbomachinery and the use of pump/blower curves will be address. Use of advanced CFD software is integrated into the course.

Prerequisite: Grade of C- or higher in ENGR 382 and Math 210

ENGR Control systems and Automation credits

An introduction to the scope of control systems in manufacturing and their implementation. The course focuses on analog control loop theory, the use of transforms to describe and solve analog control systems. Emphasis is placed on the development and implementation of proportional, integral, derivative (PID) control algorithms. Simulation is emphasized as an important tool for plant design, layout and optimizing systems.

Prerequisites: A minimum grade of C- in ENGR 340 or 350, CISC 130, MATH 210

ENGR Advanced Computer Aided Manufacturing credits

Provides a basic understanding of computer-aided design and manufacturing (CAD/CAM) systems in modern manufacturing operations. Topics covered include solid modeling, computer simulation, and implementation of CAD/CAM systems.

Prerequisites: A minimum grade of C- in ENGR 171, ENGR 371 and junior standing

ENGR Applications of Aerodynamics credits

engineering solutions to practical, open-ended design projects conceived to demonstrate the value of prior basic science and engineering courses. Ethical, social, economic and safety issues in engineering practice will be considered as well.

Prerequisites: Either (ENGR 320, 350, 371 and 381) or (ENGR 331, 346, and 410) or (CISC 231, ENGR 345, and concurrent registration in-or prior completion of-ENGR 431)

ENGR Eng neer ng Deš gn C ñ c ll cred ts

A continuation of ENGR 480 the application of engineering principles to the solution of real problems in an actual industrial setting. Student design teams will work under the direction of faculty advisers and industry liaisons. Opportunity will be provided for objective formulation, analysis, synthesis/build and evaluation/test of alternative solutions.

Prerequisite: ENGR 480

ENGR e ò nar cred ts
ENGR e ò nar cred ts

See the description of these courses at the beginning of the "Curricula" section of this catalog.

ENGR op cs cred ts
ENGR op cs cred ts

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

ENGR Research or cred ts

See the description of these courses at the beginning of the "Curricula" section of this catalog.



St. Thomas requirements. See the chair of the department, a study abroad advisor in the International Education Center, or **Academic Information & Programs in the front section of this catalog for program options.**

English Honor Society

Sigma Tau Delta, the national English honor society, formed a chapter at St. Thomas in 1988. The honor society brings together students and faculty with a love of literature, language and writing; it sponsors a variety of scholarships, holds regional and national conventions, and provides a forum for both creative and critical writing. Students who have a grade point average of at least 3.0 in English courses, rank at least in the highest 35 percent of their class in general scholarship, and have completed at least three semesters of college are eligible to apply for membership.

Major in English

•ENGL 121: Critical Thinking: Literature and Writing

Plus one of:

•ENGL 201, 202, 203, or 204

Note: Students with qualifying ACT test scores may enroll in one of ENGL 201 through 204 plus one of the following 4-credit *literature* courses in English:

•211, 212, 214, 215, 217, 218, 220, 221, 222, 297, 324, 325, 334, 337, 341, 360, 361, 362, 364, 365, 366, 367, 370, 371, 372, 373, 390, and 395

- ENGL 280: Introduction to English Studies
- ENGL 481 or ENGL 482: Senior Capstone

In addition to the above courses, students must also select courses that fulfill the following ***Approaches and Methods*** and ***Area Literature requirements***. Some courses may count for both an ***Approaches and Methods*** and an ***Area Literature*** requirement.

Approaches and Methods Requirements:

Four credits of Historical Perspectives

- ENGL 211 British Authors I (4 credits)
- ENGL 212 British Authors II (4 credits)
- ENGL 214 American Authors I (4 credits)
- ENGL 215 American Authors II (4 credits)
- ENGL 217 Multicultural Literature (4 credits)
- ENGL 218 Women in Literature: Critical History (4 credits)
- ENGL 220 The Classical Tradition (4 credits)
- ENGL 221 The Modern Tradition (4 credits)
- ENGL 222 The Catholic Tradition in Literature (4 credits)

Four credits of Contexts and Convergences

- ENGL 325 Special Studies in Genre, Region, or Theme [some sections and topics only] (4 credits)
- ENGL 334 Literature from a Christian Perspective (4 credits)
- ENGL 337 The Literature of Human Diversity (4 credits)
- ENGL 341 Literature by Women: Critical Questions (4 credits)
- ENGL 360 Chaucer and the Medieval Period (4 credits)
- ENGL 361 Shakespeare and the Early Modern Period (4 credits)
- ENGL 362 Milton and Seventeenth-Century British Literature (4 credits)
- ENGL 364 Eighteenth-Century British Literature (4 credits)
- ENGL 365 The Romantic Age in Britain (4 credits)
- ENGL 366 The Victorian Age in Britain (4 credits)
- ENGL 367 Twentieth-Century British Literature (4 credits)
- ENGL 370 Colonial and Early-American Literature (4 credits)
- ENGL 371 Nineteenth-Century American Literature (4 credits)
- ENGL 372 Modern American Literature (4 credits)
- ENGL 373 Contemporary American Literature (4 credits)

Note: Students with qualifying ACT test scores may in enroll in one of ENGL 201 through 204 plus one of the following 4-credit literature courses in English:

All English with creative writing emphasis majors should complete 44 credits in English and maintain a GPA of 2.0 in English. A minimum of 16 credits in English at or above ENGL 211 must be taken at St. Thomas.

Major in English with a Teacher Education Emphasis

- ENGL 121

Plus one of:

- ENGL 201, 202, 203, or 204

Note: Students with qualifying ACT test scores may in enroll in one of ENGL 201 through 204 plus one of the following 4-credit literature courses in English:

- 211, 212, 214, 215, 217, 218, 220, 221, 222, 297, 324, 325, 334, 337, 341, 360, 361, 362, 364, 365, 366, 367, 370, 371, 372, 373, 390, and 395



A minimum of eight credits in English at or above ENGL 211 must be taken at the University of St. Thomas.

ENGL Intensive Writing credits

The course provides students with intensive practice in writing, enabling them to adapt to the demands of differing rhetorical contexts. Emphasis on understanding writing processes and learning to respond thoughtfully to writing at various stages. Critical reading will be practiced as an integral part of the writing process.

Prerequisite: participation in the Academic Development Program

ENGL Critical Reading Literature and Writing credits

Students will read and write about literary texts critically and closely. The course emphasizes recursive reading and writing processes that encourage students to discover, explain, question and clarify ideas. To this end, students will study a variety of genres as well as terms and concepts helpful to close analysis of those genres. They will practice

ENGL British Authors II credits

How has the category of "English literature" expanded as a result of global changes over the nineteenth and twentieth centuries? How have authors responded to fundamental upheavals in the individual, religion, the British Empire, the role of women, and the value of poetry and art? Such questions will be explored in a chronological framework through extensive readings in the British literary tradition from

Dante's vision of the afterlife, whether mythological or theological, the works to be studied engage us in the most fundamental questions about what it means to be human. Such questions will be explored in a chronological framework through extensive readings of representative texts of Western literature in translation from ancient Greece to the Renaissance, including some interactions of the European

in developing their academic literacy. Students will practice writing in a variety of forms such as academic writing, professional writing, experimental writing, and writing with particular attention to social justice. Required for secondary licensure in communication arts and literature students. This course fulfills the Theory and Practice requirement in the English major. Prerequisites: ENGL 201, 202, 203, or 204.

ENGL Ana yt ca and Persuas ve r t ng cred ts for er y

This course examines rhetorical strategies used in published writing, focusing in particular on the roles of analysis and persuasion in the writing process. Students will strengthen their writing through various projects and possible partnerships with community organizations with an eye toward the writing they will be doing upon graduation. This course fulfills the Theory and Practice requirement in the English major. Prerequisites: ENGL 201, 202, 203, or 204.

ENGL L ngu st cs Eng' sh Language cred ts

This course is an introduction to the systematic study of the English language, with an emphasis on connections between academic linguistics and relevant social and educational questions. Students will study the English sound system through phonetics and phonology, how words are formed through morphology, how words combine to create clauses and meaning through syntax and semantics. After learning the linguistic tools to describe the English language, students will examine the contexts of language production in real life through the study of U.S. dialects, historical and ongoing changes in English, and various social interactions in language. This course fulfiough the stfocusing in p(theory and P)48.sn

intellectual disciplines. Examples might include Shakespeare and the rise of the Renaissance theatre; Elizabethan writers and the Islamic world; Shakespeare and the idea of the human in the drama, sonnet, and personal essay; your brain on Shakespeare: cognitive literary studies. This course fulfills the Contexts and Convergences requirement in the English major. Prerequisites: ENGL 201, 202, 203, or 204.

ENGL 1701: Seventeenth Century British Literature Credits

This course provides an in-depth exploration of a select group of texts or authors from British literature of the seventeenth century, a time of English civil war and the upheaval of national identity, political satire, metaphysical poetry, and scientific inquiry. Alongside the work of John Milton, the selected texts or authors will be studied in terms of a particular historical, cultural, or other context, or in terms of a convergence with authors or texts from other literary traditions or intellectual disciplines. Examples might include Revolution to Restoration in British Literature, women and the stage in seventeenth-century Britain, Paradise Lost and its cultural history. This course fulfills the Contexts and Convergences requirement in the English major. Prerequisites: ENGL 201, 202, 203, or 204.

ENGL 1702: Eighteenth Century British Literature: The Age of Satire and the Novel Credits

This course provides an in-depth exploration of a select group of texts or authors from British literature of the eighteenth century, a time of exploration that launched industrialization, capitalism, the slave trade, imperialism, and the police force and prisons, as well as the vibrant new genres of the novel, biography, and the first comprehensive dictionary. Selected texts or authors (such as Behn, Defoe, Fielding, Pope, Haywood, and Austen) will be studied in terms of a particular historical, cultural, or other context, or in terms of a convergence with authors or texts from other literary traditions or intellectual disciplines. Examples might include bawdy dramas vs. elegant novels of manners, "secret histories" of disguise and mistaken identity, criminal biographies and moral philosophy, and how to choose a marriage partner. This course fulfills the Contexts and Convergences requirement in the English major. Prerequisites: ENGL 201, 202, 203, or 204.

CURRICULA

ENGL 1703: Romantic Literature Credits

This course provides an in-depth exploration of a select group of texts or authors from British literature of the Romantic period, 1789-1837, a time of scientific and industrial revolutions, national independence and reform movements, passions and interiority, suffering genius-artists, the first science fiction, Regency "romances," and Byronic heroes. Selected texts or authors (such as Wollstonecraft, Blake, or Swift, Scott, Byron, Austen, the Shelleys, and the Brontë sisters) will be studied in terms of a particular historical, cultural, or other context, or in terms of a convergence with authors or texts from other literary traditions or intellectual disciplines. Examples might include the Romantic sublime, the gothic, and the Byronic hero. This course fulfills the Contexts and Convergences requirement in the English major. Prerequisites: ENGL 201, 202, 203, or 204.

ENGL 1704: Victorian Literature Credits

This course provides an in-depth exploration of a select group of texts or authors from British literature and culture of the Victorian age, 1837-1901, a time of the expansion of the British Empire, religious doubt, Darwinism, the periodical press, and the New Woman. Selected texts or authors (such as Dickens, Christina Rossetti, Wilde, and George Eliot) will be studied in terms of a particular historical, cultural, or other context, or in terms of a convergence with authors or texts from other literary traditions or intellectual disciplines. Examples might include Victorian novels and the popular press, Victorian detectives, the Aesthetic Movement in literature and art. This course fulfills the Contexts and Convergences requirement in the English major. Prerequisite: ENGL 201, 202, 203, or 204.

ENGL 1705: Twentieth Century British Literature Credits

This course provides an in-depth exploration of a select group of texts or authors from British literature of the twentieth and early twenty-first century, an era of world wars, new technologies, changing literacies, women's suffrage, modernism and the avant-garde, globalization and post-colonialism, and postmodernism. Selected texts or authors (such as Yeats, Woolf, Derek Walcott, J. M. Coetzee, and Zadie Smith) will be studied in terms of a particular historical, cultural, or other context, or in terms of a convergence with authors or texts from other literary traditions or intellectual disciplines. Examples might include postcolonial British literature and film, modernism across the arts, writing war across the twentieth century, literature in the age of mechanical reproduction, the twentieth-century manifesto. This course fulfills the Contexts and Convergences requirement in the English major. Prerequisites: ENGL 201, 202, 203, or 204.

ENGL 201: Colonial and Early American Literature Credits

This course provides an in-depth exploration of a select group of texts or authors from American literature from the period of European discovery and colonization through the first decades following American independence. Selected texts or authors (such as Native American oral tales, Benjamin Franklin, Anne Bradstreet, Mary Rowlandson, Phillis Wheatley, and Jonathan Edwards) will be studied in terms of a particular historical, cultural, or other context, or in terms of a convergence with authors or texts from other literary traditions or intellectual disciplines. Examples might include native voices in early American literature; poetry, journals, and the religious experience in colonial New England; representations of and responses to the slave trade in Colonial America; captivity narratives as literature and ideology; the myth of the wilderness. This course fulfills the Contexts and Convergences requirement in the English major. Prerequisites: ENGL 201, 202, 203, or 204.

ENGL 202: Nineteenth Century American Literature Credits

This course provides an in-depth exploration of a select group of texts or authors from nineteenth century American literature, a time of national expansion, civil war and restoration. Selected texts and authors (such as Emerson, Hawthorne, Zitkala-Ša,



GEOL 115 Environmental Geology (4 credits)
GEOL 252 Geomorphology **or** GEOL 310 Environmental Geochemistry (4 credits each)

Chemistry courses (4-8 credits):

CHEM 111 and CHEM 112 General Chemistry I and II (8 credits total)
or CHEM 115 Accelerated General Chemistry (4 credits)

Physics courses (4 credits)

PHYS 111 Classical Physics I (4 credits)
***PHYS 109 General Physics I - an acceptable Physics choice for Biology and Geosciences track majors only (4 credits)**

Mathematics courses (4-8 credits):

MATH 108 and MATH 109 Calculus with Review I and II (8 credits total)
or
MATH 113 Calculus I (4 credits)

Students must also complete the courses from their chosen track as listed below.

Biology track

All Biology track students must complete the following four (4) courses:

BIOL 207 Genetics, Ecology, and Evolution
BIOL 208 Biological Communication and Energetics
ENGR 123 Energy and the Environment
STAT 220 Statistics I

Plus 12 credits from the following (at least 4 credits must be 400-level)

BIOL 211 Introduction to Field Research
BIOL 328 Environmental Toxicology and Health
BIOL 333 Ecology
BIOL 335 Conservation Biology
BIOL 361 Medical Geology
BIOL 435 Aquatic Biology
BIOL 486 Seminar
BIOL 491 Individual Research

Plus 8 elective credits from the following (all courses are 4 credits each)

CHEM 201 Organic Chemistry I

ECON 370 Environmental and Natural Resource Economics

ENVR 212 Society and Sustainability
or ENVR 301 Environmental Ethics*
or ENVR 351 Environmental Policy

GEOG 321 Geographic Info Systems

GEOL 211 Earth Materials
or GEOL 252 Geomorphology
or GEOL 260 Regional Geology and Geological Field Methods
or GEOL 310 Environmental Geochemistry
or GEOL 410 Hydrogeology
or GEOL 491 Individual Research

MATH 114 Calculus II

PHYS 112 Classical Physics II

or PHYS 110 General Physics II

PHIL 258 Environmental Ethics*

POLS 309 Environmental Policy

To help students meet specific academic goals, other classes may be taken for this requirement with prior approval from the ESCI director.

*Credit may only be granted once for PHIL 258 or ENVR 301 Environmental Ethics.

Chemistry track

All Chemistry track students must complete the following five (5) courses:

CHEM 201 Organic Chemistry I

CHEM 202 Organic Chemistry II

CHEM 300 Quantitative Analysis

MATH 114 Calculus II

PHYS 112 Classical Physics II

Plus 16 credits from the following 4-credit courses (4-credits of which must be CHEM)

CHEM 320 Instrumental Analysis

or CHEM 331 Chemical Thermodynamics and Reaction Dynamics

or CHEM 332 Quantum Chemistry and Molecular Spectroscopy

or CHEM 440 Biochemistry I

or CHEM 491 Research (4-credit option only)

BIOL 207 Genetics, Evolution and Ecology

or BIOL 208 Biological Communication & Energetics

or BIOL 211 Introduction to Field Research

ECON 370 Environmental and Natural Resource Economics

ENGR 123 Energy and the Environment

ENVR 212 Society and Sustainability

or ENVR 301 Environmental Ethics*

or ENVR 351 Environmental Policy

GEOG 321 Geographic Info Systems

GEOL 211 Earth Materials

or GEOL 252 Geomorphology

or GEOL 260 Regional Geology and Geological Field Methods

or GEOL 310 Environmental Geochemistry

or GEOL 410 Hydrogeology

or GEOL 491 Individual Research

PHIL 258 Environmental Ethics*

POLS 309 Environmental Policy

To help students meet specific academic goals, other classes may be taken for this requirement with prior approval from the ESCI director.

*Credit may only be granted once for PHIL 258 or ENVR 301 Environmental Ethics.

Geosciences track

All students in the Geosciences track must complete the following four (4) courses:

BIOL 207 Genetics, Evolution and Ecology



BIOL 333 Ecology or BIOL 335 Conservation Biology
ENGR 123 Energy and the Environment
STAT 220 Statistics I

Plus 12 credits from the following (all courses are 4-credits):

GEOL 162 Earth's Record of Climate
GEOL 211 Earth Materials
GEOL 220 Oceanography
GEOL 252 Earth Surface Processes and Geomorphology
GEOL 260 Regional Geology and Field Methods
GEOL 461/BIOL 361 Medical Geology
GEOL 410 Hydrogeology
GEOL 462 Advanced Earth's Record of Climate
GEOL 491 Research

Plus eight (8) elective credits from the following (all courses are 4-credits):

BIOL 208 Biological Communication & Energetics
or BIOL 211 Introduction to Field Research

CHEM 201 Organic Chemistry I

ECON 370 Environmental and Natural Resource Economics

plinary research projects. In the semester prior to the course offering, Environmental Science majors, in consultation with their faculty advisers and the course instructor, will develop a research project that they will complete as part of this course. Students may also choose to more fully develop a research project in which they have been participating or propose a service-learning or community-based project. Furthermore, groups of students could propose to perform an interdisciplinary project. The format of this research is intentionally open-ended because it is meant to provide flexibility and choice to the students and the course instructor. Student-led seminars on topics of the students' choosing will comprise most weekly meetings, along with updates on research progress and a final presentation to the St. Thomas community on the outcome of the student's research projects. This course should be completed in the final Spring semester prior to graduation.

Prerequisite: ESCI 310 or permission of instructor; at least one ENVR course.

ENVIRONMENTAL RESEARCH AND GEOGRAPHY

College of Arts and Sciences, Interdisciplinary Program

John Roach Center for the Liberal Arts (JRC) LL56, (651) 962-5046

Amel (PSYC), program director; Environmental Studies Committee: Anthony (THEO), Dahmus (ENVR), Emms (BIOL),

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- BIOL 102 Conservation Biology (4 credits)
- CHEM 101 Environmental Chemistry (4 credits)
- GEOL 115 Environmental Geology (4 credits each)

Plus four additional credits from BIOL, CHEM, GEOL or ENGR as determined in consultation with the program director.

Plus four credits from the following:

- MATH 303 Statistics for the Applied Sciences (4 credits)
- STAT 220 Statistics I (4 credits)

Plus:

Six courses in a Concentration area determined in consultation with the program director. ESCI 310 is highly recommended.

Major in Environmental Studies Concentration Area in the Natural Sciences

Given that students electing to major in Environmental Studies with a concentration in Natural Science often double major in either Biology, Chemistry or Geology, we recommend that you seek the advice of your advisor as soon as possible to maximize the synergy of requirements between the two majors.

Concentration in Biology

- ENVR 151 Environmental Challenges and Sustainable Solutions (4 credits)
- ENVR 212 Society and Sustainability (4 credits)
- ENVR 301 Environmental Ethics (4 credits)
- ENVR 351 Environmental Policy Formation (4 credits)
- ENVR 401 Field Seminar (4 credits)

Plus:

- BIOL 207 Genetics, Ecology and Evolution (4 credits)
- GEOL 115 Environmental Geology (4 credits)
- ESCI 310 Environmental Science (4 credits)
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- ESCI 330 Environmental Science (4 credits)

CURRICULA

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Plus one additional environmentally-related course from the following:

- BLAW 351 Environmental Law (4 credits)
 - COJO 372 Environmental Communication (4 credits)
 - ECON 370 Environmental and Natural Resource Economics (4 credits)
 - ENGR 123 Energy and the Environment (4 credits)
 - GEOG 331 Conservation Geography (4 credits)
 - PSYC 490 Eco-Psychology (4 credits)
 - PSYC 490 Conservation Psychology (4 credits)
 - THEO 419 **Theology & the Environment (4 credits)**
- Or other option with prior approval of the program director**

ENVR 151 Environmental Changes and Sustainable Solutions credits

A study of the interaction of humans and the environment over time and space; a broad introduction that integrates a variety of social-science perspectives into an understanding of the environment and the relations between humans and nature. Specific topics include ecology, population, economic development, resources and sustainable development.

ENVR 201 Society and Sustainability credits

An emphasis on the ways in which people have created, and attempted to solve, environmental problems in different cultural and historical contexts. Examines the roles of the entire spectrum of actors and human communities, including individuals, families, groups and formal organizations, neighborhoods, cities and nations. Students examine how individual dynamics (such as altruism and economic self-interest) and collective dynamics (such as competition, cohesion, social definitional processes and global interdependence) direct humans in their interactions with the environment.

ENVR 202 Topics credits

ENVR 203 Topics credits

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

ENVR 211 Environmental Ethics credits equivalent to PHIL

Consideration of the ethical issues arising from human interaction with the environment, including population pressure, pollution, conservation and preservation. Focus on the grounds of our obligation to resolve such issues; the question of what persons and things are worthy of moral consideration; and the respective roles of individuals, organizations and government in addressing environmental problems. Case studies will be used to trace the implications of various ethical and political theories.

Prerequisite: ENVR 151 and PHIL 214 or PHIL 215

ENVR 212 Environmental Policy Formation credits equivalent to POL

An examination of environmental policy outcomes generated by institutions and organizations, including legislation, court decisions and administrative decisions. Additional focus on decision-making processes commonly used to assess environment-related legislation, including those rooted in economics and policy analysis.

Prerequisite: ENVR 212

ENVR 301 Federal credits

A capstone course that combines field experience with classroom seminar. Student teams will conduct collaborative, broadly interdisciplinary analysis of selected environmental problems. Field-based projects are chosen by the students in consultation with course instructor. Classroom seminars are used for exchange of information between teams and for discussion of readings pertinent to individual research projects or, more broadly, to the interdisciplinary character of environmental problem-solving. Each team produces a major paper that examines the selected problems through humanities, natural-science and social-science lenses.

This class is cross-listed with, and is equivalent to, GEOG 402.

Prerequisite: ENVR 301 and 351 or permission of the instructor

ENVR 302 Experiential Learning credits

ENVR 303 Experiential Learning credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

ENVR 304 Seminar credits

ENVR 305 Seminar credits

CURRICULA

See the description of these courses at the beginning of the "Curricula" section of this catalog.

ENVR 487, 488 Topics (2 credits)

ENVR 489, 490 Topics (4 credits)

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

EN R Research or credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

EN R Individual study or credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

FAMILY STUDIES

College of Arts and Sciences, Interdisciplinary Program
O'Shaughnessy Education Center (OEC) 125C, (651) 962-5829
Bruess (COJO), director

Family studies is an interdisciplinary field of study in which the family is the primary unit of analysis. The purpose of this major and minor is to enable students to critically examine the family using a variety of theories and methods. Family studies scholars can develop understanding of business and communication dynamics, health and social concerns, and psychological and theological matters affecting families and their members. A major and minor in family studies are flexible and multidisciplinary, providing for both broad exposure and disciplinary integration. Both the major and minor provide preparation for advanced study in family studies and the allied fields, as well as professional work in organizations focusing on families.

Major in Family Studies

A student may take no more than three courses from a single discipline toward the major in Family Studies. The major in family studies does not provide a license for a student to do therapy or counseling; it does provide a foundation for employment in the human services field and/or for graduate studies in multiple areas where a license can be earned, if so desired. Students will select elective courses in careful consultation with the director of family studies and/or his or her advisor, choosing those that best support the student's future professional, graduate and/or personal goals and aspirations. The elective selections might also include strong recommendations for a double major in another discipline and/or courses in research methods taken in a constituent department - the latter especially recommended for students wishing to pursue graduate work in Family Social Science or Psychology, Social Work, or other related fields.

All students must take:

FAST 200 Foundations of Family Studies (4 credits)

FAST 400 Family Studies Capstone Seminar (4 credits)

All students must take 8 credits (2 courses) of the following:

COJO 374 Family and Couple Communication (4 credits)

PSYC 288 Psychology of Marriage and the Family (4 credits)

SOCI 321 Marriages and Families (4 credits)

And 24 credits (6 courses) from the following courses (not already used above), in consultation with student's advisor, considering future goals:

CATH 234/PHIL 234 Love, Sex and Friendship (4 credits)

CHDC 305 Chemical Dependency and the Family (4 credits)*

COJO 220 Interpersonal Communications (4 credits)

COJO 374 Family and Couple Communication (4 credits)

ENTR 349 Family Business Management (4 credits)

FAST 243, 393, or 495 Individual Study (2 or 4 credits)

FAST 498 Experiential Learning/Internship (2 or 4 credits)

HLTH 342 Health and Family Education: Curriculum, Assessment, and Administration (4 credits)

HLTH 462 Human Sexuality Education (4 credits)

IDSC 291 The Anatomy of Violence (4 credits)
 PSYC 200 Psychology of Infancy and Childhood (4 credits)
 PSYC 202 Lifespan Development (4 credits)
 PSYC 203 Psychology of Adolescence (4 credits)
 PSYC 204 Psychology of Adulthood and Aging (4 credits)
 PSYC 288 (Psychology of Marriage and the Family (4 credits)
 SOWK 2100C Relationships, Intimacy and Sexuality (4 credits)*
SOWK 340T Human Behavior and the Social Environment (4 credits)
SOWK 401T Generalist Practice I: Small Client Systems (4 credits) Available only to Social Work majors
SOWK 441T Family Resilience and Diversity (4 credits)
SOCI 304 Adolescence in Society (4 credits)
SOCI 321 Marriages and Families (4 credits)
SOCI 354 Sex in Society (4 credits)
THEO 423 Christian Marriage (4 credits)

TOTAL 40 Credits

Minor Family Studies

No more than eight credits may be taken from a single major field. Students interested in a minor in family studies should meet with the director.

All students must take:

FAST 200 Foundations of Family Studies (4 credits)

Plus four credits from the following:

COJO 374 Family and Couple Communication (4 credits)
 PSYC 288 Psychology of Marriage and the Family (4 credits)
 SOCI 321 Marriages and Families (4 credits)

Plus twelve credits from the following:

CATH 234 Love, Sex and Friendship
 CHDC 305 Chemical Dependency and the Family (4 credits)
 COJO 220 Interpersonal Communications (4 credits)
 COJO 374 Family and Couple Communication (4 credits)
 ENTR 349 Family Business Management (4 credits)
 FAST 243, 393, 495 Individual Study (2 or 4 credits each)
 FAST 476 (2 credits each) or 478 (4 credits each) Experiential Learning/Internship
 HLTH 342 Health and Family Education: Curriculum, Assessment, and Administration (4 credits)
 HLTH 462 Human Sexuality Education (4 credits)
 IDSC 291 Anatomy of Violence (4 credits)
 PSYC 200 Psychology of Infancy and Childhood (4 credits)
 PSYC 202 Lifespan Development (4 credits)
 PSYC 203 Psychology of Adolescence (4 credits)
 PSYC 204 Psychology of Adulthood and Aging (4 credits)
 PSYC 288 Psychology of Marriage and the Family (4 credits)
 SOWK 210T/2100C Relationship, Intimacy, and Sexuality (4 credits)
 SOWK 340T Human Behavior and the Social Environment (4 credits)
 SOWK 401T Generalist Practice with Individuals, Groups and Families (4 credits) Available only to Social Work majors
 SOWK 441T Family Resiliency and Diversity (4 credits)
 SOCI 304 Adolescence in Society (4 credits)
 SOCI 321 Marriages and Families (4 credits)
 SOCI 354 Sex in Society (4 credits)
 THEO 423 Christian Marriage (4 credits)
 FAST 400 Family Studies Seminar (4 credits) Available to minors only with permission of instructor

FA Foundations of Family Studies credits

As a foundation of the Family Studies major and minor, this course provides an interdisciplinary exploration of the discipline and profession of Family Studies. Students will be introduced to primary family theories and the practical nature of theorizing for understanding, explaining and strengthening all families; read original and translated/applied



See the description of these courses at the beginning of the "Curricula" section of this catalog.

FINANCE

See *Business Administration*

FRENCH FREN

See Modern and Classical Languages

GEOGRAPHY AND ENVIRONMENTAL GEOGRAPHY

College of Arts and Sciences, Department of Geography
John Roach Center for the Liberal Arts (JRC) 432, (651) 962-5569
Kelley (chair), Hansen, Lorah

*The departments of geography and environmental studies have been combined. Approval for curricular and course changes is in-progress and should be finalized in the fall of 2016.

The Department of Geography offers a major and minor in geography, as well as a geographic information systems (GIS) minor (for non-geography majors) and a concentration area in GIS for majors. The GIS minor is well-adapted to majors in the physical and social sciences and complements studies in education, marketing, real estate, and entrepreneurship.

The department emphasizes GIS laboratory work, internships, collaborative faculty-student research and service learning to give our students a solid foundation in geographic principles and techniques, as well as an appreciation for the diversity of people and places. It makes extensive use of computer skills to explore a wide range of topics, from regional studies to remote sensing.

With foundations in both the natural and social sciences, geography prepares students for a wide range of careers in government, the private sector, and education. Geographers create digital maps, perform location analysis for retail and service stores, analyze land use and urban planning, work with census data, teach, and hold a wide variety of other jobs. Graduates also pursue advanced degrees in geography, business, urban and regional planning, community development, GIS, and natural resource management.

Major in Geography

GEOG 111 Human Geography (4 credits)

GEOG 113 World Geography (4 credits)

GEOL 111 Introductory Physical Geology (4 credits) or GEOL 114 The Science of Natural Disaster (4 credits) or GEOL 115 Environmental Geology (4 credits)

GEOG 321 Geographic Information Systems (4 credits)

GEOG 402/ENVR 401 Field Seminar (4 credits)

Plus sixteen credits from the following courses:

GEOG 230 Weather and Climate (4 credits)

GEOG 322 Geographical Analysis (4 credits)

GEOG 330 Geography for Business and Planning (4 credits)

GEOG 331 Conservation Geography (4 credits)

GEOG 421 Applied Geographic Information Systems (4 credits)

GEOG 298 Special Topics in Geography [focus changes with each offering] (4 credits)

GEOG 478 Experiential Learning (4 credits) 4Bts

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GEOG 113 World Geography (4 credits)
 GEOL 111 Introductory Physical Geology (4 credits) **or** GEOL 114 The Science of Natural Disaster (4 credits) **or** GEOL 115 Environmental Geology (4 credits)
 GEOG 321 Geographic Information Systems (4 credits)
 GEOG 402/ENVR 401 Field Seminar (4 credits)
 GEOG 421 Applied Geographic Information Systems (4 credits)

Plus twelve credits from the following methods courses:

GEOG 322 Geographical Analysis (4 credits)
 GEOG 330 Geography for Business and Planning (4 credits)
 GEOG 331 Conservation Geography (4 credits)
 GEOG 478 Experiential Learning (4 credits) **or** GEOG 491 Research (4 credits)

Plus:

STAT 220 Statistics I (4 credits)

Minor in Geography

Twenty credits (5 courses) in Geography, no more than eight credits (2 courses) of which may be at the GEOG 100-level and at least four credits (1 course) of which must be numbered GEOG 300 or above.

Selection of the specific courses to fulfill the requirements should be done in consultation with a member of the department faculty.

Minor in Geographic Information Systems

This minor is only available to non-geography majors.

GEOG 321 Geographic Information Systems (4 credits)
 GEOG 421 Applied Geographic Information Systems (4 credits)

Plus twelve credits from the following courses:

GEOG 322 Geographical Analysis (4 credits)
 GEOG 330 Geography for Business and Planning (4 credits)
 GEOG 331 Conservation Geography (4 credits)
 GEOG 478 Experiential Learning (4 credits) **or** GEOG 491 Research (4 credits)

CURRICULA

Teacher Licensure

Elementary Education with a Specialty in Social Studies (5-8)
 Co-major in Social Studies (5-12) and a Co-major in Secondary Education
 See Education

GEOG Human Geography credits

This course explores the effects of social, economic, environmental, political, and demographic change from a geographic perspective. It introduces students to a broad range of topics, including the effects of population growth, human impact on the environment, globalization and how cultural landscapes are shaped by power and privilege. Offered every semester. This course fulfills the Social Analysis and Human Diversity requirements in the core curriculum.

GEOG World Geography credits

A country-by-country study of the world. The goal of this course is to emphasize whatever best explains the character of each country. This may be population, economics, resources, or any aspect of nature or humanity that gives an insightful understanding of each country. Offered every semester. This course fulfills the Social Analysis and Human Diversity requirements in the core curriculum.

GEOG Weather and Climate credits

This course explores the causes and consequences of weather and climate, from global-scale processes of climate dynamics, the greenhouse effect and El Niño to regional and local-scale processes of fronts, thunderstorms, hurricanes and tornadoes. Students are introduced to weather map analysis, forecasting, and observational techniques through data collection and hands-on exercises.

GEOG Global Migrations credits

A broad study of the history of human migrations from the earliest to modern times, and an examination of migration issues, such as why people migrate, where they come from and where they go. Part of the course will focus on the experiences of local immigrant groups: Somali, Hmong, Latino, and others.

GEOG Geography of Minnesota credits

Minnesota is a land rich with diversity. In this course, students will explore the state's people, landscapes, natural resources, rural issues, economic opportunities, and many other aspects of Minnesota. The course will examine regional and topical issues to develop an understanding of what makes Minnesota unique. This will be accomplished through class discussions, hands-on activities, and readings.

GEOG Latin America credits

A country-by-country tour of Latin America, this course addresses the physical geography and resources, as well as key features of history, ethnicity, government, economy, and modern issues of each country. Such issues may include land tenure, social conditions, environmental problems, indigenous movements, or any topic that is important to understand a particular country..

GEOG Africa credits

A broad tour of Africa, including geography, history, and political economy. The course addresses both the broad physical and human geography of Africa, and includes specific topics such as indigenous governance, colonialism, independence leaders, Cold War politics, modern governance, ethnic conflicts, and health and environmental problems.

GEOG op cs credits

GEOG op cs credits

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

GEOG Geographic Information Systems credits

The theme of this course is how to perform data analysis using Geographic Information Systems. Specific topics include spatial database operations, buffers, map overlay and address matching. The course illustrates the principles of Geographic Information Systems using a variety of real-world applications from demography to environmental studies. This course is a benefit for students who are preparing to spend a portion of their work life in an open entry.

GEOG Geographic Analysis credits

This project based course uses Geographic Information Systems (GIS) to explore, model and better understand the American landscape. It focuses on collecting, organizing, analyzing and presenting spatial data. Statistical methods are applied in a real-world context, providing insight into issues ranging from urban sprawl to economic development. Offered alternate years.

GEOG Geography for Business and Planning credits

Geographic techniques for business and planning applications include demographic analysis of customer characteristics, consumer's geographic behavior, trade areas, patterns of retailing, store location problems, site appraisals, optimal routing, and marketing.

GEOG Conservation Geography credits

This course uses basic Geographic Information Systems (GIS) to study a wide range of conservation issues. GIS is ideal platform for exploring the relationships between the economic, political and environmental processes shaping our landscapes. Typical class projects include locating the best lands in Minnesota for carbon sequestration projects and helping the Minnesota Nature Conservancy target valuable forest habitat for conservation purchases.

GEOG Geography of the U.S. and Canada credits

What does the notion of "America" mean? How is this different from other global regions? This course examines the historical creation and expansion of North America from European, African and Asian influences. It then explores the

GEOG 32116.0942 Global Health credits

This class introduces students to the concepts, theories and research techniques used by medical geographers. We study the underlying environmental, cultural and demographic processes that shape the distribution and spread of disease in an effort to achieve a deeper understanding of the factors influencing human health. Much of the semester is spent using Geographic Information Systems (GIS) to help community partners analyze and address health care challenges in the Twin Cities.

GEOG 32116.0942 Field Study in Geography credits

A geographic analysis through field experience. Includes study-abroad courses.
Prerequisite: consent of instructor

GEOG 32116.0942 Seminar credits

A capstone course that combines field experience with classroom seminar. Student teams will conduct collaborative, broadly interdisciplinary analyses of selected environmental problems. Field-based projects are chosen by the students in consultation with course instructor. Classroom seminars are used for exchange of information between teams and for discussion of readings pertinent to individual research projects or, more broadly, to the interdisciplinary character of environmental problem-solving. Each team produces a major paper that examines the selected problems through humanities, natural-science and social-science lenses.

This class is cross-listed with, and is equivalent to, ENVR 401.

Prerequisites: four geography courses or permission of the instructor

GEOG 32116.0942 Applied Geographic Information Systems credits

A sequel to GEOG 32116.0942 (aph Pis c059(ENVR 401.)2sfs98 couns aia97Onsfs86(ar)18.00ou(ano individu'[(stud7Q7/R46ug



College of Arts and Sciences, Department of Geology
Owens Science Hall (OWS) 153, (651) 962-5216
Theissen (chair), Clotts, Donatelle, Hickson, Lamb, McDermott, Navratil, Vislova

Geology is the field of study that tackles a wide range of issues facing society today: preparing for natural disasters, finding and extracting natural resources in responsible and sustainable ways, understanding and preparing for global environmental change, preventing, assessing and mitigating environmental pollution, and public health issues, to name a few. Many of us grew up thinking geologists simply study rocks. Although it is true rocks provide some of the fundamental clues to understanding these issues, geologists also study soil, sediments, lakes, groundwater, and the interior of the earth. Spatial analysis using ArcGIS, numerical computer modeling, and geochemical analysis using sophisticated instrumentation are common methods used by different geoscientists.

In the Geology Department, we strive to develop the whole student by emphasizing critical thinking and analytical, quantitative, public speaking and writing skills. Students have the opportunity to work collaboratively with geology faculty on research projects, in addition to learning the key field, lab and research skills of a professional geologist. These skills are transferable to many different fields and help prepare students for a range of career paths. The geology curriculum has been designed to provide students with a solid core, but with sufficient flexibility to allow students with particular interests to pursue a more customized Geology program. At the heart of this program are a number of hands-on learning opportunities, a fundamental and basic component of a St. Thomas geoscience degree. Department faculty emphasize the fact that geology must be learned by practicing skills and as a result offer analytical experiences in all courses that extend from a short afternoon trip to a multi-week field course on field methods and regional geology. Majors will visit many of the geologically significant localities throughout the upper Midwest as part of their program as well as use analytical instrumentation.

Major in Geology B.A.

Four credits from the following

GEOL 111 Introductory Physical Geology (4 credits)
GEOL 114 The Science of Natural Disasters (4 credits)
GEOL 115 Environmental Geology (4 credits)
GEOL 162 The Earth's Record of Climate (4 credits)

Plus:

GEOL 211 Earth Materials (4 credits) or GEOL 310 Environmental Geochemistry (4 credits)
GEOL 260 Regional Geology and Geological Field Methods (4 credits)
GEOL 320 Sedimentology and Stratigraphy (4 credits)
GEOL 340 Fundamentals of the Lithosphere I (Petrology) (4 credits)
GEOL 360 Fundamentals of the Lithosphere II (Structural Geology) (4 credits)

Plus sixteen credits from the following (and four credits of which must be at the 300 or 400-level):

GEOL 130 Earth History (4 credits)
GEOL 161 Medical Geology (4 credits)
GEOL 162 The Earth's Record of Climate (if not chosen above) (4 credits)
GEOL 211 Earth Materials (if not chosen above) (4 credits)
GEOL 220 Oceanography (4 credits)
GEOL 252 Earth Surface Processes and Geomorphology (4 credits)
GEOL 310 Environmental Geochemistry (4 credits) (if not chosen above)
GEOL 410 Hydrogeology (4 credits)
GEOL 460 Advanced Field Methods (4 credits)
GEOL 461 Medical Geology (unless receiving credit for 161) (4 credits)
GEOL 462 The Earth's Record of Climate (unless receiving credit for 162) (4 credits)
GEOL 491 Research (4 credits)

Note: GEOG 321 Geographic Information Systems and geology courses offered at Macalester College may fulfill one of these courses with permission of chair

Additional requirements

MATH 113 Calculus I (4 credits)

or

MATH 108 Calculus with Review I (4 credits) and MATH 109 Calculus with Review II (4 credits)

Plus one of the following sequences:

CHEM 111 General Chemistry I (4 credits) and CHEM 112 General Chemistry II (4 credits)

PHYS 111 Introduction to Classical Physics I (4 credits) and PHYS 112 Introduction to Classical Physics II (4 credits)
CHEM 111 General Chemistry I (4 credits) and PHYS 111 Introduction to Classical Physics I (4 credits)

For students wishing to pursue careers in paleontology, geobiology, or geomicrobiology:

BIOL 207 Genetics, Ecology, and Evolution (4 credits) and BIOL 208 Biological Communication and Energetics (4 credits)
Biology may be substituted for one of the CHEM/PHYS sequences with permission of chair

Strongly recommended for students considering graduate study:

additional courses in the allied sciences and mathematics

Major in Geology B.S.

Four credits from the following:

- GEOL 111 Introductory Physical Geology (4 credits)
- GEOL 114 The Science of Natural Disasters (4 credits)
- GEOL 115 Environmental Geology (4 credits)
- GEOL 162 The Earth's Record of Climate (4 credits)

Plus:

- GEOL 211 Earth Materials (4 credits) or GEOL 310 Environmental Geochemistry (4 credits)
- GEOL 260 Regional Geology and Geological Field Methods (4 credits)
- GEOL 320 Sedimentology and Stratigraphy (4 credits)
- GEOL 340 Fundamentals of the Lithosphere I (Petrology) (4 credits)
- GEOL 360 Fundamentals of the Lithosphere II (Structural Geology) (4 credits)
- One additional 300- or 400- level elective course in Geology (4 credits)

Plus sixteen credits from the following (four credits of which must be at the 400-level and four credits of which must be at the 300 or 400 level):

- GEOL 130 Earth History (4 credits)
- GEOL 161 Medical Geology (4 credits)
- GEOL 162 The Earth's Record of Climate (if not chosen above) (4 credits)
- GEOL 211 Earth Materials (if not chosen above) (4 credits)
- GEOL 220 Oceanography (4 credits)
- GEOL 252 Earth Surface Processes and Geomorphology (4 credits)
- GEOL 310 Environmental Geochemistry (4 credits) (if not chosen above)
- GEOL 410 Hydrogeology (4 credits)
- GEOL 460 Advanced Field Methods (4 credits)
- GEOL 461 Medical Geology (unless onmental GC461 MedGeochemistry (odenrGEOLJ212uTL2T'[(a)

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CURRICULA

Teacher Licensure

Elementary Education with a Co-major in Science and Mathematics for Elementary Education

Elementary Education with a Specialty in Science (5-8)

Co-major in Science (5-8) - Earth and Space Science (9-12) and a Co-major in Secondary Education

See Education.

Minor in Geology

Four credits from the following:

GEOL 111 Introductory Physical Geology (4 credits)

GEOL 114 Natural Disasters (4 credits)

GEOL 115 Environmental Geology (4 credits)

GEOL 130 Earth History (4 credits)

GEOL 161 Medical Geology (4 credits)

GEOL 162 The Earth's Record of Climate (4 credits)

Plus four credits from the following:

GEOL 211 Earth Materials (4 credits)

GEOL 310 Environmental Geochemistry (4 credits)

GEOL 320 Sedimentology and Stratigraphy (4 credits)

Plus:

GEOL 340 Fundamentals of the Lithosphere I (Petrology) (4 credits)

Plus eight credits from the following (only four of which may be at the 100-level):

GEOL 130 Earth History (4 credits)

GEOL 161 Medical Geology (4 credits)

GEOL 162 The Earth's Record of Climate (if not chosen above)(4 credits)

GEOL 211 Earth Materials (4 credits) (if not chosen above)

GEOL 220 Oceanography (4 credits)

GEOL 252 Earth Surface Processes and Geomorphology (4 credits)

GEOL 260 Regional Geology and Geological Field Methods (4 credits)

GEOL 310 Environmental Geochemistry (4 credits) (if not chosen above)

GEOL 320 Sedimentology and Stratigraphy (4 credits) (if not chosen above)

GEOL 360 Fundamentals of the Lithosphere II (Structural Geology) (4 credits)

GEOL 410 Hydrogeology (4 credits)

GEOL 460 Advanced Field Methods (4 credits)

GEOL 461 Medical Geology (unless receiving credit for 161) (4 credits)

GEOL 462 The Earth's Record of Climate (unless receiving credit for 162) (4 credits)

GEOL 101 Origins and Methods credits GEOL

A study of the basic concepts of geology that were first developed by James Hutton in the late 18th century and their application today. This is an introductory science course specifically designed to reduce the mystique that often is associated with the scientific method. Following Hutton's example, the student will focus on the materials which make up the Earth and on the geologic processes that operate on these materials. This course fulfills the core-area in natural science in the Natural r15u05a6nd Math81(154(Quad wtn Science aiveOL)24.01445.416uT58e-asonF)47cor

nature and origin of the Earth's surface and interior. Emphasis will be placed upon a changing Earth, and the geologic processes operating at the surface and in the interior. Lecture and two laboratory hours per week. This course fulfills the core-area in natural science in the Natural Science and Mathematical and Quantitative Reasoning requirement in the core curriculum.

NOTE: Students who receive credit for GEOL 111 may not receive credit for GEOL 102, 110, 114, or 115.

GEOL The Science of Natural Disasters credits GEOL

This introductory geology course focuses on how and why natural disasters occur, as well as on their effects and how scientists study them. The course will examine internal and external Earth processes and in particular how these relate to

Prerequisite: one of GEOL 102, 110, 111, 114, 115, 130, 161 or 162

GEOL Oceanography credits

The Earth's surface is dominated by vast oceans known for the beauty of their wildlife and waters. The oceans are also increasingly recognized for their critical importance to the functioning of the Earth's climate system and for their endangered natural resources. For example, the ocean-atmospheric climate phenomenon known as the El Niño Southern Oscillation has gained household name recognition for its global impact on the weather, economy, and public health. In this course we will explore the physical, chemical, and biological processes that characterize the oceans. Students will develop research and analytical skills by making observations and interpretations of oceanographic processes using data, demonstrations, and field experiences. This course fulfills the core-area in natural science in the Natural Science and Mathematical and Quantitative Reasoning requirement in the core curriculum.

Prerequisite: one of GEOL 110, 111, 114, 115, 130, 161, 162, or permission of the instructor

GEOL Earth Surface Processes and Geomorphology credits

This course emphasizes the physical processes that are responsible for shaping the Earth's surface. The qualitative description of landforms is pursued, in light of student's newly-gained analytical and quantitative understanding of processes. The labs focus on techniques used by geomorphologists to characterize landforms, soils, and the processes that shape, including: air photo interpretation, analysis of digital topographic data, experimental simulation of landforms evolution, and field techniques in geomorphology. This course fulfills the core-area in natural science in the Natural Science and Mathematical and Quantitative Reasoning.

Prerequisite: one of GEOL 102, 110, 111, 114, 115, 130, 161 or 162

GEOL Regional Geology and Geologic Field Methods credits

The field is geology's laboratory. This course is an introduction to the major concepts of geology, as well as the methods of field geology. Students will learn how to collect, synthesize, and analyze geological data in the field. Techniques will be taught in the context of the regional geology of an area so students will gain a critical appreciation of a geological terrain outside of their usual experience. Students will spend 2-3 weeks in the field examining geological structures, modern-day faults, modern processes that shape the Earth's surface, and examining the ancient record of past climate and environments preserved in the rock record. Student teams will learn basic techniques and instruments of geological mapping and rock description, how to recognize geological structures like faults and folds, ways to interpret the evolution of the Earth from sedimentary, igneous, and metamorphic rocks, and to link surface processes with the rock record. This course fulfills the core-area in natural science in the Natural Science and Mathematical and Quantitative Reasoning requirement in the core curriculum. Offered in January-term.

Prerequisite: one of GEOL 102, 110, 111, 114, 115, 130, 161, 162, and permission of instructor

GEOL Topics credits

GEOL Topics credits

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online,

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CURRICULA

will gain hands-on experience collecting, analyzing, and interpreting climate data in several laboratory projects and in course exercises designed with an emphasis on scientific inquiry and problem solving. This course fulfills the core area in natural science in the Natural Science and Mathematical and Quantitative Reasoning requirement in the core curriculum.

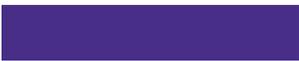
Prerequisites: GEOL 211, 220, 252 or 260 or permission of the instructor

NOTE: Students who receive credit for GEOL 162 may not receive credit for GEOL 462

GEOL **Experiential Learning** **credits**

GEOL **Experiential Learning** **credits**

See the description of these courses at the beginning of the "Curricula" section of this catalog.



programs - in exercise science or other related fields. A student graduating with a major in exercise science will be trained on highly sophisticated assessment equipment and will have gained real-world experience in a variety of settings outside the classroom.

6. A minor in public health studies provides students with basic public health concepts and skills that complement the student's major.

7. A minor in exercise science is intended for students looking to enhance their career objectives and goals who may be considering work in the allied health, wellness or fitness world. A minor increases a student's knowledge base, enhances qualifications, provides for a greater competitive edge in the job market and builds individual credibility. This minor is a good complement to a number of other disciplines such as business, marketing, communications and psychology.

Major in Public Health Studies B.A.

HLTH 250 Personal Health and Wellness (4 credits)

HLTH 285 Alcohol, Tobacco, and Other Drugs (2 credits)

HLTH 310 Global Health (4 credits)

HLTH 342 Health and Family Education: Curriculum and Assessments (4 credits)

HLTH 345 Nutrition for Health and Fitness (4 credits)

HLTH 352 Community Health Education: Methods and Instruction (4 credits)

HLTH 353 Consumer, Community and Environmental Health (4 credits)

HLTH 400 Epidemiology (4 credits)

HLTH 462 Human Sexuality Education (4 credits)

HLTH 464 Critical Issues in Health Education (4 credits)

HLTH 465 Health Research Methods (4 credits)

HLTH 470 Health Internship 100 hours (2 credits)

Advised requirements

PHED 208 Anatomy and Physiology (4 credits)

PSYC 111 General Psychology (4 credits)

Four credits from the following:

PHED 430 Measurements and Evaluations (4 credits)

STAT 220 Statistics (4 credits)

Four credits from the following:

SOCI 100 Introduction to Sociology (4 credits)

SOCI 110 Social Problems (4 credits)

Four credits from the following:

BIOL 101 General Biology (4 credits)

BIOL 105 Human Biology (4 credits)

BIOL 106 Women, Medicine and Biology (4 credits)

Four credits from the following:

COJO 105 Communication in the Workplace (4 credits)

COJO 111 Intro to COJO I (4 credits)

Four credits from the following:

ENVR 151 Environmental Sustainability (4 credits)

ENVR 212 Society and Sustainability (4 credits)

GEOL 161 Medical Geology (4 credits)

Major in Health Promotion B.S.

HLTH 120 Foundations of Health Promotion (2 credits)

HLTH 250 Personal Health and Wellness (4 credits)

HLTH 275 Lifelong Stress Management (2 credits)

HLTH 285 Alcohol, Tobacco and Other Drugs (2 credits)

HLTH 345 Nutrition for Health and Fitness (4 credits)

HLTH 465 Health Research Methods (4 credits)

EXSC 213 Human Anatomy (4 credits) (*formerly PHED 213*)

EXSC 214 Physiology (4 credits) *(formerly PHED 214)*
 EXSC 326 Kinesiology (4 credits) *(formerly PHED 326)*
 EXSC 332 Exercise Physiology (4 credits) *(formerly PHED 332)*
 EXSC 426 Biomechanics (4 credits) *(formerly PHED 426)*
 PHED 430 Measurement and Evaluation (4 credits)
 EXSC 432 Advanced Exercise Physiology (4 credits) *(formerly PHED 432)*
 EXSC 450 Health Promotion/Exercise Science Internship (2 credits) *(formerly PHED 432)*
 First Aid/CPR/AED Certification recommended (Must provide proof of certification)

Additional requirements

MKTG 300 Principles of Marketing (4 credits)

Plus four credits from the following:

MGMT 305 Management and Organizational Behavior (4 credits)
 MKTG 320 Integrated Marketing Communication (4 credits)

Plus four credits from the following:

BIOL 101 General Biology (4 credits)
 BIOL 105 Human Biology (4 credits)

Plus four credits from the following:

CHEM 100 Chemistry in our World (4 credits)
 CHEM 101 Environmental Chemistry (4 credits)
 CHEM 111 General Chemistry (4 credits)

Plus four credits from the following:

COJO 105 Communication in the Workplace (4 credits)
 COJO 112 Public Communication (4 credits)

Note: Eighty-four credits are required outside the areas of EXSC, PHED, and HLTH.

MAJOR IN PHYSICAL EDUCATION
See Education

MAJOR IN HEALTH EDUCATION
See Education

Major in Exercise Science B.S.

This program is designed for students interested in applying to a doctor of physical therapy (DPT) program or other clinical graduate programs, such as physician assistant, chiropractic school or medical school or graduate school in Biomechanics or Exercise Physiology. Additional coursework may be required for some professional fields. (Consult Advisor)

HLTH 250 Personal Health and Wellness (4 credits)

BIOL 207 Genetics, Ecology, and Evolution (4 credits)
 BIOL 208 Biological Communication and Energetics (4 credits)
 CHEM 111 General Chemistry I (4 credits)
 CHEM 112 General Chemistry II (4 credits)
 PHYS 109 General Physics I (4 credits)
 PHYS 110 General Physics II (4 credits)
 PSYC 111 General Psychology (4 credits)
 PSYC 301 Psychopathology (4 credits)
 STAT 220 Statistics (4 credits)

Plus one of the following:

MATH 113 Calculus I (4 credits)
 MATH 108 Calculus with Review I (4 credits) and MATH 109 Calculus with Review II (4 credits)

Note: Eighty four credits are required outside the areas of EXSC, PHED, and HLTH.

Minor in Public Health Studies

HLTH 250 Personal Health and Wellness (4 credits)
 HLTH 310 Global Health (4 credits)
 HLTH 400 Epidemiology (4 credits)

Elective Courses (8 credits): Given that Public Health is a very broad discipline, students are allowed to choose from a wide variety of supporting courses, focusing on the issues which interest them most. Students must select four credits from each of the following groups.

Group 1

Four credits from the following:
 PSYC 151 Cross Cultural Psychology (4 credits)
 BIOL 105 Human Biology (lab) (4 credits)
 BIOL 106 Women, Medicine, and Biology (lab) (4 credits)
 SOCI 110 Social Problems (4 credits)
 ENVR 151 Humans and Environment (4 credits)
 GEOL 161 Medical Geology (lab) (4 credits)
 HLTH 275 Lifelong Stress Management (2 credits)
 HLTH 285 Alcohol, Tobacco, and Other Drugs (2 credits)
 PSYC 207 Drugs, and Behavior (4 credits)
 PHED 208 Human Anatomy and Physiology (4 credits)
 ENVR 212 Social Dynamics / Environment (4 credits)
 WMST 205 Foundations in Women's Studies (4 credits)
 ESCI 310 Environmental Problem Solving (4 credits)

Group 2

Four credits from the following:
 HLTH 345 Nutrition for Health and Fitness (4 credits)
 HLTH 353 Consumer, Community, and Environmental Health (4 credits)
 HLTH 462 Human Sexuality Education (4 credits)
 HLTH 464 Critical Issues in Health Education (4 credits)

Minor in Exercise Science

EXSC 213 Human Anatomy (4 credits) *(formerly PHED 213)*
 EXSC 214 Human Physiology (4 credits) *(formerly PHED 214)*
 EXSC 326 Kinesiology (4 credits) *(formerly PHED 326)*
 EXSC 332 Exercise Physiology (4 credits) *(formerly PHED 332)*

Plus four credits from the following:

EXSC 426 Biomechanics (4 credits) *(formerly PHED 426)*
 EXSC 432 Advanced Exercise Physiology (4 credits) *(formerly PHED 432)*

Students majoring in Health Promotion are not eligible to declare this minor.

Exercise Science Courses EX C

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EX C Foundations of Exercise Science credits for every PHED

This is the introductory course in the Exercise Science major and provides an overview of the field of applied exercise science. The student will gain exposure to various career options and possible settings for professional practice of exercise science, and will be introduced to the foundations of Biomechanics, Exercise Physiology, Exercise Psychology and Sociology.

EX C Human Anatomy credits for every PHED

This course is a study of the anatomical structure of the human body, from microscopic to gross structure across the organ systems. Of particular importance is 1) the complementarity of human anatomy structure and function, 2) the interrelationships between organ systems, and 3) the application of anatomical knowledge to common diseases and clinical conditions. Technology is utilized in both the laboratory and lecture components of the course to facilitate achievement of course learning goals. The co-requisite laboratory component of this course parallels and reinforces concepts and material covered in lectures. Two laboratory hours per week.

EX C Physiology credits for every PHED

This course is designed to provide students with an understanding of the regulation and function of the human body and physiological integration for the maintenance of homeostasis. Areas of study include muscular, neural, cardiovascular, respiratory, renal, endocrine and reproductive systems. This course is a three-hour lecture course with a two hour lab section. Two laboratory hours per week.

EX C Medical Terminology credits for every PHED

This course is intended to introduce students to technical terminology used in the health profession. Emphasis will be placed on nomenclature, medical vocabulary, pronunciation, spelling, and accurate definition. The Greek and Latin root words that form the basis of the technical terminology used in the health profession will be studied, thus providing students with an understanding of the fundamental building blocks of this terminology.

EX C Elective options credits for every PHED

EX C Elective options credits for every PHED

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

EX C Kinesiology credits for every PHED

Structure and function of the human skeletal and muscular systems with respect to movement will be examined. Neuromuscular aspects of movement, forces, torque, balance and stability are studied with applications to sport, physical activity and activities of daily living. Observing and analyzing skill performance are experienced. Laboratory experiences will be done within the scheduled class time.

Prerequisites: PHED 208 or EXSC 213

EX C Exercise Physiology credits for every PHED

This course is designed to provide an introduction to physiological responses experienced when training for, and participating in, sport and physical activity. Basic exercise physiology topics will be covered including the principles of exercise as well as adaptations to exercise for the purposes of cardiovascular fitness, muscular strength and/or endurance. Training for sport, detraining and ergogenic aids, cardiovascular disease, and obesity will also be studied. Laboratory experiences will be done within the scheduled class time.

Prerequisites: PHED 208 or EXSC 214

EX C Biomechanics credits for every PHED

This course is designed to build on the basic understanding of the skeletal and muscular systems as they relate to human movement, data collection and analyzing sport performance and movement will be emphasized. Research techniques will be introduced and students will participate in designing and conducting a Biomechanics research project. Two hour laboratory per week.

Prerequisite: EXSC 326

EX C Advanced Exercise Physiology credits for every PHED

Prerequisites: PHED 208 and PHED 304 for physical education majors only; EXSC 332 for Exercise Science and Health Promotion majors

EX C Research Methods in Exercise Science credits for every PHED

This course is designed to teach research methodology specific to the field of Exercise Science. Students are required to engage in hands-on research focused on an area of interest in the field of Exercise Science. Students will learn research skills through locating primary literature sources, formulating a research question, conducting original research and presenting it in several formats.

Prerequisite: EXSC 426 and EXSC 432

EX C Health Promotion Exercise Science Internship credits for every PHED

This course meets the internship requirement for majors in the Exercise Science program. The required 100 observational hours fulfills a requirement for application to graduate clinical programs (e.g., physical therapy, chiropractic school, physician assistant school) for the Exercise Science majors. S-R grading option only.

Prerequisite: Permission of instructor, First Aid/CPR/AED Certification required (must provide proof of certification)

EX C Experiential Learning credits

EX C Experiential Learning credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

EX C Seminar credits

EX C Seminar credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

EX C options credits for every PHED

EX C options credits for every PHED

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

EX C Research or credits for every PHED

See the description of these courses at the beginning of the "Curricula" section of this catalog.

EX C Individual Study or credits for every PHED

See the description of these courses at the beginning of the "Curricula" section of this catalog.

Physical Education Courses PHED

PHED Physical Fitness credit

A physical activity course that will cover planned, structured and repetitive instruction to improve or maintain one or more components of physical fitness. These activity courses are also designed to improve proficiency in a selected physical activity. Students will learn basic skills, strategy and rules of the activity. Students will also learn how physical fitness can contribute to personal lifelong health and wellness through assessment, monitoring and discipline. There will be a written test(s) along with proficiency test(s) depending on the type of physical activity. Credits may be earned

studied.

PHED Motor Development credits

This course provides an in-depth study of the principles of human growth and life span motor development and motor learning. Topics of study will include physical growth and aging, development of motor skills across the life span, perceptual motor development and the interaction of exercise and structural constraints.

PHED Physical Education Methods for Elementary Level credits

Orientation to the physical education profession: the nature of the profession, professional opportunities, certification requirements, including current trends and research in elementary physical education. Skills include accelerated units of elementary physical activities and the different methods of presenting lessons. Students learn to perform and teach activities at each of the three developmental levels of elementary school children. Students will learn how to use the AAHPERD Fitnessgram Computer Programs. Successful completion of a clinical site teaching experience at the elementary level is required.

Prerequisite: PHED 202

PHED Physical Education Methods for Middle and Secondary Level credits

Orientation to the physical education profession pertaining to current trends and research in middle and secondary level schools physical education. Factors affecting adolescent and multicultural students in physical education will be discussed and analyzed. Appropriate and effective teaching methods utilizing the Tactical Approach to Teaching Games and the Sports Education Model will be introduced and practiced through peer and clinical site teaching experience. Successful completion of a clinical site teaching experience at the middle and secondary school level is required. Concurrent registration with EDUC 343 required.

Prerequisite: PHED 202

PHED Teaching of the Special Needs student credits

Knowledge and applications of physical education methods for teaching students with disabilities and diverse learning needs.

Prerequisite: PHED 202

PHED Measurement and Evaluation credits

This course is designed to provide a statistical background for students planning to work in the health promotion field. The purpose of measurement, testing and evaluation as they relate to human performance will be examined. Areas of study will include descriptive statistics, normal distribution, correlation and prediction, norm-referenced reliability and

Health promotion programs, selecting healthy lifestyle programs, and preparing for the financial aspects of Health Promotion program delivery. They will also learn how to launch worksite health programs and evaluate them. Shadowing Health Promotion professionals in the field is a required component of this course.

HL H Persona Health and Wellness Credits

This course will examine the components of a healthful lifestyle. The interrelationship of physical, intellectual, spiritual and emotional health will be emphasized. Specific areas such as mental health, stress and coping, human sexuality, resiliency enhancement, disease prevention, aging, grief and loss will be addressed.

HL H Life Stress Management Credits

The focus of the course is on exploration of effective, healthful strategies of stress management. This course is an opportunity to expand one's understanding of how to redirect stress responses into positive sources of energy. For those going into health education either in the field or for licensure, there will be ample items that you could adopt into your own teaching and classroom. This course is open to students from all fields.

HL H Exploring Medicine Credits

Exploring Medicine: A physician or faculty-physician taught 2-credit course that applies basic science to clinical cases. This course involves job shadowing.

Prerequisites, other than an interest in medicine, include sophomore standing and completion of or concurrent registration in BIO 207 or EXSC 213 (formerly PHED 213)

HL H Alcohol, Tobacco and Other Drugs Credits

This course will introduce students to the current drug abuse issues. An overview of the various drugs of abuse, public policies concerning those drugs, and the related consequences and concerns will be discussed. The primary goals of the course are to provide students with current information regarding drugs of abuse and to increase their awareness of the issues and consequences surrounding drug use, abuse, and addiction. Trends in drug abuse, legal issues, determinants of use, pharmacology, and other issues will all be covered in this course.

HL H Global Health Credits

Interacting among the Twin Cities' many global health organizations and communities, students will research, wrestle with, and uncover solutions to global health issues from a community health framework. This foundational perspective will allow students to apply their learning on an international scale.

explore and assess various educational resources from medical, insurance, health agency, business and private organizations that effectively could be used with 5-12 learners. This will include development of a professional telecommunications network. Learners will learn strategies for effectively using and evaluating telecommunications and interactive multimedia for 5-12 health education. Learners will also investigate and design active partnerships with parents/guardians and communities.

HL H Community Health Education Methods and Instruction credits

Learners will identify, practice, and demonstrate effective methods for facilitating community health education. Off-campus observations and presentations of health issues in community settings are required. Learners will explore and assess various resources from medical, insurance, health agency, business and private organizations that could effectively be used in community health settings. Strategies for effectively using and evaluating telecommunications and interactive multimedia in community health programs will be discussed. In addition, learners will investigate and design active partnerships with clients, representatives of the medical field, health insurance agencies and business communities.

HL H Consumer Community and Environmental Health credits

This course uses popular and academic texts and video and online technology as well as external educators and events to bring to life the reality of community health. In the course, you will examine the theories and principles of health promotion, disease prevention and health behavior change within the context of consumer, environmental and community health. Community health is emphasized because it encompasses consumer and environmental health. In addition, many examples used are from adolescent health. This course provides a foundation for future health professionals, allied health professionals, teachers, journalists, clergy and others with the ability to provide population centered, interdisciplinary, prevention oriented health care through an understanding of what creates health in individuals and more so in communities. Models are examined for effectiveness within various social, psychological, cultural, political and economic contexts.

HL H Epidemiology credits

Epidemiology provides an overview of the approaches used in epidemiological studies to measure the disease or health state in a population and to identify possible causes of a disease or health state. Included will be an examination

a community health educational program in a medical clinic, community or public health center or agency setting. Students are required to complete 100 hours at a site that is directly involved in some aspect of the community health education field. Students will be under the direct guidance of an on-site community health supervisor. S-R grading option only.

Prerequisite: Permission of instructor

HL H Experience Learning credits
HL H Experience Learning credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

HL H Seminar credits
HL H Seminar credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

HL H Topics credits
HL H Topics credits

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

HL H Research or credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

HL H Individual study or credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

CURRICULA

HISTORY

College of Arts and Sciences, Department of History
 John Roach Center for the Liberal Arts (JRC) 413, (651) 962-5730
 Cory (chair), Blaakman, Cavert, Klejment, Nagy, Schrunk, Woytanowitz, Williard, Zimmerman

The Department of History offers a wide variety of courses dealing with the principal periods and topics of American, European, and World history, as well as selected non-European/non-U.S. fields such as East Asia, Latin America, the Atlantic World, and the Middle East. All history courses are designed to increase students' knowledge about how human agency and contingency, patterns of continuity and change, and the interactions of cultures affect our understanding of history. Thus, students not only learn historical content, but they also develop the habits of mind needed for the critical investigation and appreciation of history.

Among our regular offerings are 100-level courses that fulfill the Historical Studies component of the core curriculum. The learning objectives for these courses are:

1. To teach basic methods of historical inquiry and analysis of sources;
2. To increase knowledge of the history of the modern world and its origins;
3. To raise awareness of the continuity of human history.

• • •

Europe since 1450:

HIST 222 Early Modern Europe, 1450-1750 (4 credits)

HIST 223 Survey of Irish History: Celtic Ireland to 1972 (4 credits)

HIST 225 The Making of Modern Europe, 1750 to 1914 (4 credits)

HIST 226 Modern Europe since 1914 (4 credits)

HIST 322 Tudor and Stuart Britain, 1485-1714 (4 credits)

HIST 324 Britain Since 1815 (4 credits)

HIST 328 The French Revolution and Napoleonic Era (4 credits)

HIST 333 East-Central Europe: From Monarchy to the European Union (4 credits)

HI Origins of the Modern World to credits

This course examines significant political, social, economic, religious and cultural developments of ancient Near East, ancient India, Greco-Roman civilizations, ancient and medieval China, ancient Japan, Islamic civilization, ancient African and American societies, and Medieval and Renaissance Europe. As beliefs and social-political concepts and practices of various civilizations formulated and developed during this period still heavily influence our modern world, this course provides a foundation to our understanding of the highly interdependent and interrelated contemporary world. This course fulfills the Historical Studies requirement in the core curriculum.

HI The History of the Modern World Since 1550 credits

The Modern World Since 1550 surveys the sixteenth century European foundation and expansion throughout the world down to the end of the twentieth century. The course examines the resulting breakthroughs in communication and cultural exchanges between Western civilization and the Middle East, Asia, Africa, and Latin America. Emphasis is placed on the emergence of an interdependent global civilization. This course fulfills the Historical Studies requirement in the core curriculum.

HI Early American Global Perspective credits

Social, political, cultural, and economic history of the peoples of North America from the European-American encounter through the aftermath of the U.S. Civil War. Special emphasis is given to the relation of minority groups (American Indians, African Americans, Hispanic peoples, European immigrants, etc.) to the dominant culture. Major themes include: colonization, slavery, revolution, nation building, territorial expansion, industrialization, reform movements, nativism, sectionalism, and the Civil War. This course fulfills the Historical Studies requirement in the core curriculum.

HI The Modern United States Global Perspective credits

Social, political, cultural, and economic history of the peoples of the United States from the Reconstruction period following the Civil War to the present. Special emphasis is given to the relation of racial minorities, ethnic groups, and immigrants to the dominant culture, and to the changing role of the U.S. within its larger global context. Major themes include: Reconstruction, domestic and overseas expansion, industrialization, racism and nativism, world wars, cold war, movements of liberation and reform, and selected contemporary issues. This course fulfills the Historical Studies requirement in the core curriculum.

HI The World Since 1900 credits

This course is an introduction to the history of the world since 1900. Student ID: 10.0078(n)10.019002(m)10.078(e)10.018(h)18.049.01

the origins of this culture, and including its inter-regional connections and its encounters with the West. In this way, this course addresses the preconception that East Asia existed unchanged until the arrival of Europeans. The theme of this course is "Contact and Change," which will afford an opportunity to examine two of the principal challenges facing historians: accounting for change and understanding people and societies separated from us by space and time. This course fulfills the Historical Studies requirement in the core curriculum. Fall semester focuses on Japan; spring semester focuses on China.

HI Ancient Egypt and the Near East credits

A historical, comparative survey of the origins and diversity of human societies in northeastern Africa (Egypt, Nubia)

Church. Recovery of Byzantine Empire; Islamic World under Umayyad and Abbasid Caliphates.
Prerequisite: One 100-level history course.

HI The Dawn of a New Era Europe from the 10th to the 15th centuries

Rebirth of Europe in the high and late Middle Ages: the Feudal Revolution; the world of knights and chivalry; the emergence of Western Monarchies; the Crusades; the Renaissance of the 12th Century; the rise of Medieval Christendom in the 13th century: papacy; mendicant orders; universities; heresy; Inquisition. Political and economic crises of the 14th century. Ecclesiastical crises of the later middle ages. Recovery and renaissance in the 15th century.
Prerequisite: One 100-level history course.

HI Tudor and Stuart Britain 1500-1700

England from the accession of the Tudor dynasty down to the Glorious Revolution. Modernization of English society and government. The English Reformation. Anglicanism. The Elizabethan period. Puritanism. Crown and Parliament in Tudor and Early Stuart times. Civil War, Revolution and Restoration. The Revolution of 1688.
Prerequisite: One 100-level history course.

HI British Nineteenth Century

An examination of the British economy, society, politics and culture since 1815. The course examines the rise of modern Britain through a study of industrialization, democratic government, the empire, the two world wars and post 1945 issues such as the Cold War and the European Union.
Prerequisite: One 100-level history course.

HI Eighteenth Century Ireland and England

The course offers an examination of the predominant themes which run through 18th century Irish and English history: 17th century backgrounds (The Restoration, the Glorious Revolution and the Jacobite War); Queen Anne and The Ascendancy; Hanoverian England and Ireland; Jonathan Swift and the 18th century Enlightenment; colonialism and the American Revolution; The Industrial Revolution; England and Ireland in the French Revolutionary Era; and Wolfe Tone's Rising of 1798.
Prerequisite: One 100-level history course.

HI The French Revolution and Napoleonic Era

A background in the ancient regime and the Enlightenment. An examination of the origins and outbreak of the Revolution of 1789 and the collapse of the absolute monarchy. An emphasis on the Second French Revolution, the Terror in theory and practice, and the Thermidorian Reaction with a survey of the Directory and Napoleonic France and Europe.
Prerequisite: One 100-level history course.

HI East-Central Europe From Monarchy to the European Union

This course is an examination of the history of East-Central Europe from 1848 to 2010. The subject of our study is one

as well as the growing research on the foermerly underrepresented groups such as women, minorities, etc.
Prerequisite: One 100-level history course.

HI H story of the A er can Revo ut on cred ts

A study of the American Revolutionary Period from the end of the Seven Years' War through the Constitutional Con-

History seminars involve students (primarily, though not exclusively, majors and minors) with the methodological and historiographical dimensions of research in the seminar's topic. Students in the seminar will complete and present to other members of the class a significant research project.

Prerequisites: at least three History courses numbered 200 or above, including at least one of the following: HIST 222, 223, 225, 226, 310, 311, 322, 324, 328, 333.

HI Capstone Seminar in Non Western History credits

History seminars involve students (primarily, though not exclusively, majors and minors) with the methodological and historiographical dimensions of research in the seminar's topic. Students in the seminar will complete and present to other members of the class a significant research project.

Prerequisites: at least three History courses numbered 200 or above, including at least one of the following: HIST 240, 241, 244, 253, 348, 349.

HI Capstone Seminar in History of the Americas credits

History seminars involve students (primarily, though not exclusively, majors and minors) with the methodological and historiographical dimensions of research in the seminar's topic. Students in the seminar will complete and present to other members of the class a significant research project.

Prerequisites: at least three History courses numbered 200 or above, including at least one of the following: HIST 210, 262, 266, 268, 353, 355, 358, 366, 371, 372.

HI Experiential Learning credits

HI Experiential Learning credits



ID C English as a Second Language II credits

Continuation of IDSC 180. Offered in spring semester.

Prerequisite: IDSC 180 or permission of instructor

ID C Environment and Agriculture Sustainability Food Systems HEC A credits summer

Explore sustainability first-hand through the lens of the U.S. food system. This interdisciplinary, field-based program analyzes the environment, economic, political, social, and cultural issues that define modern farming. A three-day farm stay is included in the program. Students will use critical frameworks to examine a variety of farms, farming communities, and research and food production facilities, and to understand the complex connections between the environment and agriculture. An optional 2-credit internship (a minimum of eighty hours) is available for students who want to contribute more deeply to sustainable agriculture, either directly on a farm or in an urban organization.

ID C Civil Rights Movement History and Consequences HEC A credits summer

Critically examine the events of the Civil Rights Movement by visiting important sites and interviewing leaders of the movement. After several days in the Twin Cities, students embark on a two-week field study tour through the South. A final week of integration seminars in the Twin Cities help students bring their experiences back to bear on their own lives. An optional 2-credit volunteer experience/internship is available at a Twin Cities-based organization addressing current issues of civil and human rights; eighty hours or structured volunteer work takes place within an eight-week period in July and August.

ID C American Culture credits

An interdisciplinary approach to a particular period in American life (the 1920s, the 1950s, etc.). Course will seek to isolate the basic themes that characterized the cultural life of the period and examine their manifestations in the art, music, literature and popular culture of the era. Particular emphasis will be given to the interdisciplinary perspective in approaching the topic.

ID C Introduction to Teaching Religion credits

The course includes a six-hour seminar including at least three basic skills related to the act of teaching as well as a year of teaching in a local parish religious education program once a week. The teaching placement is done through consultation with each student and cooperating teachers who have a sound understanding of the life and ministry of teacher education in the church. Specific seminar content will enable students to do the following: define the term "concept" and explain how key concepts are developed by learners; explain the relationship of objectives to overall goals of religious education; define the term "strategy" and develop workable plans for teaching within a typical church/school setting.

Prerequisite: Acceptance InTJ2T'[(623(ting.))TJ2T'[(P)48.0022(r)18.0059()23.031u046976(oo)250.002]TJ2T'[(isola)10.0313(te

ID C **op cs** **cred ts**
ID C **op cs** **cred ts**

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

ID C **ash ngton e ester** **cred ts**

The University of St. Thomas is affiliated with the American University's Washington Semester Program, Washington, D.C. Students selected to participate in the program have the option of studying one of the following: American Politics; Economic Policy; Education Policy and Special Education; Foreign Policy; International Business and Trade; International Environment and Development; Journalism; Justice; Peace and Conflict Resolution; Public Law; Transforming Communities; Visual and Performing Arts. The Washington Semester involves seminars, research and internships drawing on governmental and private organization resources in the Washington, D.C. area. Nominations to participate are made by the university, with final acceptance decided by American University.

ID C **A ' s on of Co un ty Act on and Change' n Guate a a** **cred ts**

The majority of this course will occur among the Mayan people of the Guatemalan highlands. Students will study the politics, history, cultures and economy of Guatemala as a case study on some of the major issues facing many Third World countries at the beginning of the 21st century. Particular attention will be given to topics such as Guatemala's struggles over ethnic and national identity, its place in the global economy, its peace process, and the role of the church. Speakers, readings, and field trips will allow students to compare alternative models of social change and human development in the region. Complementing academic engagement with these issues, students will engage in practical service-learning activities that relate to the goals of the course. The class will also follow the VISION Program's six-point philosophy.

Prerequisite: Permission of the instructor

CURRICULA

ID C **e ' nar' n the Hu an ' de of Med c ne Pat ent and Phys c an** **cred ts**

This course will concentrate on learning about how patients, their families, and professionals who care for them experience illness; how stories patients tell become the basis for diagnosis and therapeutic action; what it's like to be a physician; and the therapeutic relationship. Didactic presentations, interactive discussion using stories from patients', students' and the instructor's experience, and related literature will provide the content of the course. Others, including faculty members, professional colleagues, and patients will help provide material for the course work and participate in the discussions.

Prerequisite: Sophomore, junior or senior student interested in a career in medicine or related health profession

ID C **Renà ssance Progra Internsh p** **cred t**

Participants in the Renaissance Program complete one internship in a career-related field. Students are encouraged to be creative and to search for inventive ways of implementing a plan of practical work experience. A variety of options and opportunities is available through the Career Center.

ID C **Renà ssance Progra tud es** **cred ts**

In accord with the Renaissance Program's commitment to foster the integration of theoretical and practical learning, the design of this course is to promote the investigation of some theme or problem having a particularly interdisciplinary focus. This course will rely upon concepts and models stemming from both theoretical and practical sources in an attempt to further integrate aspects of these distinct branches of higher learning. Among the types of issues or topics that could fall within the scope of this course are: the meaning and value of work; the nature and place of technology; the relationship of individual to community; views of self - as worker and theoretician; models and parameters of authority.

ID C **Matèr a s c ence and Eng nee ng Pract cu** **cred ts**

Participants in the Interdisciplinary Minor in Materials Science and Engineering complete a Materials-based practicum.0586(ar tm(ind/R17u1-a1875(tic/R17and 6er in medie and Eable Cluthuda1875LRT[(P)60and 6e0781(75(tict0)TJ2/Rtec3

ID C City Arts Arts Praxis of a Justice Theory and Practice in the Field HEC A credits

In the field seminar, students “test” theoretical perspectives by meeting with artists, policy makers, and community activists, as well as attending and participating in art and cultural activities. Students observe how art and popular culture maintain or change social structures.

ID C City Arts Internship HEC A credits

Each student works in a half-time internship, with a wide variety of placements available, including arts organizations, artistic groups, and community organizations using the arts in programs and service.

ID C City Arts Internship Seminar HEC A credits

Students reflect on their internship experience with other students in the program and connect their real-life experience with the learning taking place in the reading and field seminars.

ID C Metro Urban Studies Seminar Contested Issues of Poverty Inequality and of a Change HEC A credits

MUST focuses on issues of poverty and inequality and ways to address these critical issues. Students explore key institutions that impact urban poverty and inequality, namely the economy, education and welfare. The role of urban sprawl, segregation and racial, class and gender discrimination are also analyzed. Students examine an array of strategies to rebuild the city more equitably.

ID C Metro Urban Studies Seminar of a Policy and Anti Poverty

See the description of these courses at the beginning of the "Curricula" section of this catalog.

ID C **Ind v̇ dua tudy or cred ts**

See the description of these courses at the beginning of the "Curricula" section of this catalog.

INTERNATIONAL STUDIES

College of Arts and Sciences, Interdisciplinary Program
John Roach Center (JRC) 408, 651-962-5722
Buhr (POLS), director

This major seeks to give the student an understanding of the contemporary international system. It combines study in economics, history and political science with a concentration in one of these fields, along with the study of world geography and a foreign language beyond the College's general education requirement. The program takes an explicitly interdisciplinary approach, which is intended to instill in students the core knowledge shared by international studies scholars and professionals.

Students graduating with a major in international studies will be capable of critical thought and writing in the professional style of the discipline. Majors will also develop skills such as research fundamentals, analysis, and collection and interpretation of empirical data. These skills enable graduates to relate their international interests to a broad range of careers including government, international business, international law, nonprofit organizations and teaching. Graduates will also be well-prepared to undertake graduate studies in related disciplines such as international relations, public policy, law and business.

Major in International Studies

- ECON 251 Principles of Macroeconomics (4 credits)
- GEOG 113 World Geography (4 credits)
- HIST 112 The Modern World Since 1550 (4 credits)
or HIST 115 The World Since 1900 (4 credits)
- IDSC 481 Seminar in International Studies (4 credits)
- POLS 104 American Government in Comparative Perspective (4 credits)

Plus:

contemporary societies and effective agents for positive social transformation. The program offers a general major or minor, along with three optional tracks for major concentrations:

- The Conflict Transformation concentration prepares students to analyze the dynamics and identify transformative opportunities in conflicts at multiple levels, from interpersonal to international, while developing practical skills in mediation and conflict resolution through partnerships with local practitioners and organizations that exemplify best practices in the field.

- The Public Policy Analysis and Advocacy concentration develops social analysis skills for public policy formation, evidence-based research and argumentation, as well as communication and networking skills for effective advocacy around issues such as environmental sustainability and climate change, foreign policy and peacebuilding, and economic justice and social welfare.

- The Leadership for Social Justice concentration helps students anticipate and begin preparing for the full arc of a career in which successful community organizing requires them to institutionalize the changes they seek, through social entrepreneurship and nonprofit management.

Core courses for the major and minor, and the pattern of the program in general, make use of the four stages of the Circle of Praxis:

1. Experience (actual and vicarious) of poverty, injustice, social conflict, or marginalization.
2. Descriptive analysis: Empirical study of the economic, political, social, and cultural realities of society, and the historical events that produce them.
3. Normative analysis: Moral judgment on existing societies; study of alternative possibilities; and analysis of the moral values at stake.
4. Action possibilities: Strategies and skills for transforming society from its present condition to a better condition.

The justice and peace studies program is strongly interdisciplinary and interfaith. It promotes understanding and appreciation of widely diverse ideologies, cultures, and world views. Special attention is given to the rich tradition of Roman Catholic social thought in the context of pluralistic world societies.

Students graduating with a major in justice and peace studies will understand how the circle of praxis works, as

CURRICULA

JPST 280 Active Nonviolence (4 credits)
 JPST 355 Public Policy (4 credits)
 JPST 365 Leadership for Social Justice (4 credits)
 JPST 375 Conflict Analysis and Transformation (4 credits)
 JPST 473 Vocational Internship Seminar (0 credits, in conjunction with internship)
 THEO 421 Theologies of Justice and Peace (4 credits) – Based on student career interests, other THEO 400 classes may substitute for this course, with permission of the program director.

Significant experience engaging student directly with situation of poverty, injustice, violence, and/or marginalization (0 credits – see section below for more information)

Internship during junior or senior year (0-4 credits – see section below for more information)

Recommendations:

- As students fulfill their social analysis requirement in the core curriculum, they should anticipate which of the disciplines below they will focus upon, in order to meet prerequisites for classes in this concentration.
- As students fulfill their lab science requirements in the core curriculum, they are encouraged to take one of the following courses:
 BIOL 102 Conservation Biology
 CHEM 101 Environmental Chemistry
 GEOL 113 Earth's Record
- As students fulfill their third math and science requirement in the core curriculum, they are encouraged to take the following course:
 STAT 220–Statistics 1

Plus at least 3 courses in one discipline from the following clusters, plus 1 course each in 2 other disciplines

POLS 301 Political Identity and Participation (4 credits)
 POLS 302 Women and Politics (4 credits)
 POLS 314 Constitutional Rights and Liberties (4 credits)
 POLS 326 International Law and Organizations (4 credits)
 POLS 350 Comparative Politics of the New Europe (4 credits)
 POLS 352 Third World Politics and Government (4 credits)
 PSYC 121 Social Psychology (4 credits)
 PSYC 151 Cross-Cultural Psychology (4 credits)
 SOCI 110 Social Problems (4 credits)
 SOCI 200 Introduction to Criminal and Juvenile Justice (4 credits)
 SOCI 251 Race and Ethnicity (4 credits)
 SOCI 301 General Anthropology (4 credits)
 SOCI 350 Social Inequality: **Privilege & Power (4 credits)**
SOCI 353 Global Perspectives on Gender (4 credits)

FL 101 First-Year Seminar (4 credits)
 H 101 History Seminar (4 credits)
 L 101 Language Seminar (4 credits)
 W 101 Writing Seminar (4 credits)

Plus four additional credits in normative analysis

Appropriate courses include:

HP 101 History of Philosophy (4 credits)
 EF 101 Ethics (4 credits)
 HP 102 History of Philosophy (4 credits)
 EF 102 Ethics (4 credits)
 HP 103 History of Philosophy (4 credits)
 EF 103 Ethics (4 credits)

CATH 401 Church and Culture: Social Dimensions of Catholicism (4 credits)

COJO 376 Argumentation and Advocacy (4 credits)
 ENGL 217 Multicultural Literature (4 credits)
 ENGL 218 Literature by Women: Critical History (4 credits)
 ENGL 337 The Literature of Human Diversity (4 credits)
 ENGL 341 Literature by Women: Critical Questions (4 credits)
 ENVR 301 Environmental Ethics (4 credits)
 IDSC 291 The Anatomy of Violence (4 credits)

- ENVR 351 Environmental Policy Formation (4 credits)
- JPST 385 Globalization and Social Movements (4 credits)
- SOWK 391 Social Policy for Social Change (4 credits)

Students majoring **only** in Justice and Peace Studies are strongly encouraged to take a “methods” course from a department that uses approaches relevant to the way they are choosing to complete the JPST major. The purpose of this recommendation is to strengthen abilities in data interpretation, manipulation and generation.

Possibilities include:

- GEOG 221 Computer Skills in Geography (4 credits)
- POLS 205 Citizen Participation and Public Policy (4 credits)
- SOCI 210 Research Methods in Sociology (4 credits)
- SOCI 220 Sociological Analysis (4 credits)

Minor in Justice and Peace Studies

- JPST 250 Introduction to Justice and Peace Studies (4 credits)
- JPST 280 Active Nonviolence (4 credits)
- THEO 421 Theologies of Justice and Peace (4 credits)

Plus one of the following:

- JPST 355 Public Policy (4 credits)
- JPST 365 Leadership for Social Justice (4 credits)
- JPST 375 Conflict Analysis and Transformation (4 credits)

Plus:

Eight additional credits to be selected with the approval of the program director. At least four of these credits must be outside the student’s major department. Any of the courses listed for the major may be applied to the minor.

Note: A focused version of the JPST minor is available to Engineering students. See the sub-section on “Peace Engineering” in the Engineering (ENGR) section of the catalog.

Appropriate experience of poverty, injustice, social conflict, or marginalization. May be done for credit through 475-478 Experiential Learning.

It may also be done on a non-credit basis (e.g., in the context of another course or through volunteer activities). Possibilities include a trip taken as part of JPST 385, Campus Ministry programs, and off-campus study through programs that expose students to poverty and oppression.

Examples of appropriate off-campus study programs include those run by: HECUA (e.g., conflict resolution in Northern Ireland, poverty in the Twin Cities; development in Ecuador; environment in Guatemala; immigration in Norway); Augsburg’s Center for Global Education (e.g., in Cuernavaca Mexico); American University’s Washington Semester (e.g., on homelessness); and UMAIE. Campus Ministry programs include VISION trips during January term, spring break or summer sessions (to Guatemala, Appalachia, the border of Mexico, a Native American reservation, etc.), and VIA programs located in the Twin Cities (e.g., working at a shelter, tutoring immigrant students, etc.).

JP Concentration Internship Seminar credit

Students are required to take this seminar during the semester they are doing an internship. At the core of this mini course is a reflective process designed to lead students to: a deeper understanding of the practical means of working for social change; an evaluation of their internship experience (both in terms of gaining a deeper understanding of their own vocation and a better understanding of the type of institutions they are working with); and applying these insights to future course work and career planning. Five 2-hour seminars through the course of the semester provide opportunities for those engaged in individual placements to get peer support for their discernment process.

The internships themselves involve at least 7-10 hours a week of justice and peace work. Students doing internships for credit by enrolling for JPST 475-478 Experiential Learning are usually required to do a total of 100 hours of work for 2 credit hours, or 200 hours of work for 4 credit hours.

Students doing a concentration in Conflict Transformation, Public Policy Analysis and Advocacy, or Leadership for Social Justice must choose an internship that allows them to develop skills in their area. In general, acceptable placements include work with a nonprofit or governmental group doing direct service; education for peace and justice; political action for peace and justice; and leadership positions in UST’s Students for Justice and Peace (SJP). There

is no objection to using an appropriate internship from another major (such as social work) to fulfill this requirement as long as the student is enrolled in JPST 473 during the semester of the internship.

Alternatively, the internship and seminar requirement may sometimes be fulfilled by participating in appropri-

arenas/situations in which mediation is and is not appropriate or indicated, to cultural implications of mediation and to some of the ethical dilemmas mediators face. For Justice and Peace Studies majors doing a concentration in Conflict Transformation, the course will complement JPST 375 Conflict Analysis and Transformation, but there are no prerequisites and the course is open to students in other majors.

JP Conflict Analysis and Transformation credits

An introduction to issues surrounding conflict and the resolution of conflict in today's world focusing primarily on its contextual manifestation at the international, regional and intrastate levels. The course will explore important structural, social and psychological explanations of conflict. Attention will be given to ethnic and nationalist themes surrounding conflicts and their resolution at the intrastate and international levels. The course will examine environmental issues that will be studied. Atspsaat chics fi272()-21.9961(ial ltask)30. the course will c25

JP Globalization credits

Our class will analyze global movements throughout the event that can be categorized by international, regional and intrastate levels. The course will explore important structural, social and psychological explanations of conflict. Attention will be given to ethnic and nationalist themes surrounding conflicts and their resolution at the intrastate and international levels. The course will examine environmental issues that will be studied. Atspsaat chics fi272()-21.9961(ial ltask)30.0052()globnized Txpmineng ahe iedthodscuse to e nghe n tveilgsciaety cfiglobniamovment stheoughtimmerson, tsrnvce -lacrng pri18.0029(opjet s)30.0052()ges tack17.9971(hers)30.0052()tuden Tosolvng co majnagng cdispues aill be gsudiesdAtspsaat chics fi272()-21.9961(ial ltask)30.0052()he course will coritc ial y osudiy00rdintictuions osuh ms mpow-shrilg a rr12.0938(Jangment s)30.0938(rfede)12.0116(anistm)30.0916(aand the r)u ing c clstang abais aocxce fu come iion e if chi rsaates mtoa concict ticcnflict Ts omamnoaneng aan unjsti ituaaten it.e.,39.91896 xce Swithout jstice .JTJ/R17u10uTf24uTLT'(JPS)13.0155(T)23.993(u3472 Aics seinearmbt ttudents ihav lev6.00879(xcrne toh)18.0052(eunghot theri) jstice and psv6.00879(xcc gsudiess)30.0059()at vei iirnaship and tsrnvce lrapjet ifatedwoithchi rs ofe snrtohornghaailacrng ponteant. tlnac rryng aot thet treojet ti12.0059(a enio Audents arenenquiesdwo ihck17.9976(techics seinearmdu)ng ahe ismes ernae yare noing a ninternashipif c7-10 hrs/wk The cs iearmmee sthe eechies s(ind ped tt chi rseis ern) rt pr



PHIL 398 Advanced Critical Thinking (4 credits)
POLS 312 Judicial Process and Politics (4 credits)
POLS 313 Constitutional Powers of Government (4 credits)
POLS 314 Constitutional Rights and Liberties (4 crPOLS 314 CPOPOPOPOPOstn2.0nrdt499(ganiza)333v84389
onst2.0nional Pedits)tn2.0aaitm@sawthe Lts)t40T'[gP33v4 credits)



CURRICULA



ENGR 221 Mechanics of Materials (4 credits)**
 ENGR 371 Manufacturing Processes (4 credits)**
 ENGR 381 Thermodynamics (4 credits)**
 ETLS 699 Technology of Thin Films (3 credits)
 ETLS 775 Polymers in Design (3 credits)
 GEOL 211 Earth Materials (4 credits)
 GEOL 340 Fundamentals of Lithosphere I (Petrology) (4 credits)
 GEOL 360 Fundamentals of Lithosphere II (Structural Geology) (4 credits)
 PHYS 225 Applications of Modern Physics (4 credits)
 PHYS 347 Optics (4 credits)
 PHYS 410 Statistical Mechanics and Thermodynamics (4 credits)
 Other courses as approved by the program director

Total credits: 24

* Chemistry majors may only have one elective count towards both the CHEM major and the MSE minor.

** These courses may not be used as an elective for Mechanical Engineering majors.

Between ENGR 361 and the eight (8) elective credits, four (4) credits must be outside the student's major field. Only four (4) elective credits may be from courses <300 level.

MA HEMA IC MA H

College of Arts and Sciences, Department of Mathematics
 O'Shaughnessy Science Hall (OSS) 201, (651) 962-5520

Van Fleet (chair), Axtell, DeCelles, Dokken, Höft, Kroschel, Loe(associate chair), Lopukhova, Moening, Rawdon, Rezac, Shakiban, Shemyakin, Shvartsman, Stolarksa, Yang, Youn

CURRICULA

The Department of Mathematics offers major tracks that can satisfy a variety of student interests and careers. Majors in mathematics can prepare themselves for graduate study in mathematics or related areas, for the teaching of mathematics at the secondary school level, for professional school in law or health science, or for the application of mathematics and statistics in science, business, industry and government.

Students majoring in mathematics are encouraged to use elective courses to broaden their background in mathematics or in a related area of special interest. Coursework in biology, chemistry, economics, engineering, finance, geology, physics, psychology and computer and information sciences combines well with a major in mathematics.

Students graduating with a major in mathematics will be able to demonstrate an understanding of the fundamental notions of mathematics, including rigorous proof. They will be able to model and solve real-world problems arising in business and industry. They will be able to effectively communicate, both orally and in writing, mathematical concepts to their peers and to an audience of non-majors. They will be able to learn and apply mathematics on their own through independent study, research and participation in non-class-related lectures.

In all of the department's major tracks, a student must successfully complete at least 16 credits in mathematics courses numbered 300 and above at the University of St. Thomas.

A minor in mathematics is available to support majors in many other departments. A strong mathematical background is of great benefit to students majoring in engineering, actuarial science and the physical sciences.

- MATH 114 Calculus II (4 credits)
- MATH 200 Multi-Variable Calculus (4 credits)
- MATH 210 Introduction to Differential Equations and Systems (4 credits)
- MATH 240 Linear Algebra (4 credits)
- MATH 301 Abstract Algebra I (4 credits)
- MATH 317 Real Analysis (4 credits)

Advanced requirement

CISC 130 Introduction to Programming and Problem Solving in the Sciences (4 credits) or CISC 131 Introduction to Programming and Problem Solving (4 credits)

Note: CISC 130 is recommended for this major

Plus one of the mathematics tracks below:

Pure Mathematics track

Eight credits from the following:

- MATH 302 Abstract Algebra II (4 credits)
- MATH 419 Complex Variables (4 credits)
- MATH 420 Topology (4 credits)

Plus:

Eight credits of courses MATH 300 or higher not already taken

Applied Mathematics track

- MATH 315 Applied Mathematics and Modeling I (4 credits)
- MATH 316 Applied Mathematics and Modeling II (4 credits)

Plus eight credits from the following:

- MATH 300 Advanced Differential Equations (4 credits)
- MATH 302 Abstract Algebra II (4 credits)
- MATH 303 Statistics for the Applied Sciences (4 credits)

MATH 114 Calculus II (4 credits)
 Plus at least four credits from the following:
 MATH 200 Multi-Variable Calculus (4 credits)
 MATH 210 Introduction to Differential Equations and Systems (4 credits)

Plus:
 A minimum of twelve additional credits in courses numbered above 200 (or approved by the department chair)
 A student minoring in mathematics must successfully complete a minimum of 8 credits in mathematics numbered 200 and above at St. Thomas.

MAJOR IN ACTUARIAL SCIENCE

See Actuarial Science

MAJOR IN ANALYTICAL

See Statistics

Teacher Licensure

Elementary Education with a Co-major in Science and Mathematics for Elementary Education
 Major in Mathematics with a Co-major in Secondary Education (5-12)
See Education

Required Mathematics

Entry-level mathematics courses require students to have an appropriate Math Placement Level. This placement level is determined by the student's ACT Math score or performance on the Math Placement Exam. Students that do not have the placement level required for their desired course can now take MATH 005 and/or MATH 006. These are 0-credit courses, offered every summer and J-term. MATH 005 has no placement requirement, and successful completion would allow a student to take MATH 006, MATH 100 or MATH 101. MATH 006 requires a Math Placement Level of 101 or of MATH 005 and successful completion allows a student to take MATH 103 or MATH 108. Both MATH 005 and MATH 006 have affordable registration fees instead of regularly priced tuition, as they are 0-credit courses.

CURRICULA

MATH 005 Basic Mathematics 1 credit

The objective of this course is to provide background knowledge necessary for students to place into MATH 006, MATH 100 or MATH 101. This course serves as a prerequisite for MATH 006, MATH 100, or MATH 101. Topics covered include the real numbers, operations with real numbers, first degree equations and inequalities, Cartesian coordinate system and lines, linear functions, and problem solving. This non-credit course is typically offered two weeks during J-term and two weeks during July/August. This course does not satisfy the core requirement in Natural Science and Mathematical and Quantitative Reasoning. Offered during July/August and J-Term.

course serves as a prerequisite for MATH 006, MATH 100, or MATH 101. Topics covered include the real numbers, operations with real numbers, first degree equations and inequalities, Cartesian coordinate system and lines, linear functions, and problem solving. This non-credit course is typically offered two weeks during J-term and two weeks during July/August. This course does not satisfy the core requirement in Natural Science and Mathematical and Quantitative Reasoning. Offered during July/August and J-Term.

MATH 105 Finite Mathematics credits

Elementary set theory, linear equations and matrices, linear programming, finite probability, applications primarily in business and the social sciences. This course fulfills the core-area in mathematics in the Natural Science and Mathematical and Quantitative Reasoning requirement in the core curriculum. Offered every semester.
Prerequisite: A satisfactory score on the mathematics placement examination, or MATH 005

MATH 106 College Algebra credits

The purpose of this course is to provide knowledge of pre-calculus topics necessary for MATH 111. This course serves as a prerequisite for MATH 111 and can also serve as a prerequisite for MATH 104. This 2-credit course does not satisfy a student's core curriculum requirement in mathematics. Topics covered include solving equations, inequalities, and systems of equations; graphing functions; inverse functions; polynomials; complex numbers; rational functions; exponential functions; properties of logarithms and logarithmic functions; applications. Offered as a directed study every semester. Note: students who receive credit for this course may not receive credit for MATH 105, MATH 108, or MATH 109
Prerequisite: Math placement at 108 or above or MATH 006

MATH 107 Non-Finite Mathematics Laboratory credits

Elementary set theory, linear equations and matrices, linear programming, finite probability, applications primarily in business and the social sciences. This course fulfills the core-area in mathematics in the Natural Science and Mathematical and Quantitative Reasoning requirement in the core curriculum. Offered every semester.
Prerequisite: A satisfactory score on the mathematics placement examination, or MATH 005

MA H he Ca cu us of i go no etri c Funct ons cred ts

This course is designed for students who have taken MATH 111 but need to have credit for MATH 113; it covers the material in MATH 113 that is not covered in MATH 111. This course serves as a prerequisite for MATH 114. This 2-credit course does not satisfy a student's core curriculum requirement in mathematics. Topics covered include trigonometric functions, inverse trig functions, trigonometric identities, solving trigonometric equations, limits of trigonometric functions, derivatives of trigonometric functions, and integrals of trigonometric functions, and applications. To successfully complete this course, a student must also pass the MATH 114 placement exam, which will cover calculus topics from MATH 111 as well as the calculus of trigonometric functions learned in this course. Successfully completing this course is equivalent to successfully completing MATH 113. Offered every semester as a directed study.

Prerequisite: MATH 111

MA H Ca cu us I cred ts MA H

An introductory course in calculus: limits; derivatives and integrals of algebraic, exponential, logarithmic and trigonometric functions of one real variable; applications of the derivative in engineering and the natural sciences. This course fulfills the core-area in mathematics in the Natural Science and Mathematical and Quantitative Reasoning. Offered every semester.

Prerequisite: a grade of C- or above in MATH 104 or MATH 105 or a satisfactory score on the mathematics placement examination. (Four years of high school mathematics, including college algebra and trigonometry, also are recommended as background for this course.)

NOTE: Students who receive credit for MATH 113 may not receive credit for MATH 108, 109, or 111.

MA H Ca cu us II cred ts

Techniques of integration; applications of integration; infinite series; parametric/polarequations. This course fulfills the core-area in mathematics or the third course in the Natural Science and Mathematical and Quantitative Reasoning requirement in the core curriculum. Offered every semester.

Prerequisite: a grade of C- or above in MATH 109 or MATH 113, or MATH 111 and 112

MA H tructures of E e entary Mathe at cs cred ts

An examination of the mathematical underpinnings of the K-8 school curriculum with an emphasis on the conceptual understanding of mathematics. Topics include foundations of integer and rational arithmetic, notions of place-value and base, number sense and estimation, ratio and proportion, and mathematical problem-solving. This course is recommended as the first course in a three-course sequence in mathematics for prospective elementary teachers, and fulfills the core area requirement in mathematics in Natural Science and Mathematical and Quantitative Reasoning in the core curriculum. Offered fall and spring semesters.

Prerequisites: MATH placement at or above 100 (information can be found at <http://www.stthomas.edu/marc/place-ment/>) and one EDUC course.

CURRICULA

An introduction to ordinary differential equations (ODEs), with an emphasis on linear differential equations and linear systems, including applications. Topics covered include first-order equations, ODE models in the physical and biologi-

MA H Probability credits MA H

Probability theory in discrete and continuous sample spaces; random variables and distribution functions; moments; the moment-generating function; functions of random variables; law of large numbers; central limit theorem. Offered spring semester.

Prerequisites: A grade of C- or above in MATH 200 (may be taken concurrently with consent of instructor)

NOTE: Students who receive credit for MATH 313 may not receive credit for MATH 303.

MA H Applied Mathematics and Modeling I credits

This is a topics course in applied mathematics. Course content will be drawn from topics that coincide with expertise of department members. Recent topics include finite element methods, techniques in scientific computing, wavelets and applications, mathematical biology, and weather modeling. Offered fall semester.

Prerequisites: A grade of C- or above in MATH 210 and MATH 240, or permission of instructor.

MA H Applied Mathematics and Modeling II credits

This is a second topics course in applied mathematics. It does not require MATH 315 as a prerequisite. Course content will be drawn from the topics listed under MATH 315. Students will work in teams on projects of current interest in applied mathematics. Offered spring semester.

Prerequisites: A grade of C- or above in MATH 200 and 210, or permission of instructor

MA H Real Analysis credits

Topology of the real numbers. Functions of one real variable. Rigorous development of continuity and uniform continuity; differentiability; uniform convergence. Sequences and series. Offered fall semester.

Prerequisites: A grade of C- or above in MATH 240

MA H Geometry credits

Axioms for geometries; geometrical transformations and their invariants; non-Euclidean geometries; additional topics. Offered spring semester of even-numbered years.

Prerequisites: A grade of C- or above in MATH 114; MATH 128 or MATH 240 recommended

MA H Mathematical Methods of Numerical Analysis credits

Rigorous mathematical treatment of standard topics in numerical analysis including solutions to linear and nonlinear systems, interpolation, numerical integration and differentiation, differential equations, and iterative techniques in matrix algebra. This course provides a theoretical foundation for the numerical solution of mathematical problems. Offered fall semester of even-numbered years

Prerequisites: A grade of C- or above in MATH 210 and 240, or permission of instructor

MA H Dynamical Systems and Chaos credits

An introduction to discrete and continuous dynamical systems and applications with topics including: iterated mappings in one and two dimensions, phase-plane theory, nonlinear differential equations, and chaos. Additional topics will be chosen from among bifurcations, stability, attractors, Lyapunov functions, Julia sets and Mandelbrot sets. Offered spring semester of even-numbered years.

Prerequisite: A grade of C- or above in MATH 210 or MATH 240, or permission of instructor

MA H Complex Variables credits

Analytic functions; theorems of Cauchy; Laurent series; residue calculus; entire and meromorphic functions; conformal mapping. Offered fall semester of odd-numbered years.

Prerequisite: A grade of C- or above in MATH 210 or MATH 240, or permission of instructor

MA H Topology credits

Properties of Euclidean spaces; general spaces; mappings; separation properties; connectedness; compactness; metrizable spaces. Offered spring semester of even-numbered years.

Prerequisite: A grade of C- or above in MATH 240, or permission of instructor

MA H Advanced Mathematics Exploration and Exposition credits

A capstone mathematics course for students seeking to teach secondary mathematics. Students make substantial oral and written presentations. Topics are included from discrete and continuous mathematics. Students use publications, e.g., The American Mathematical Monthly, Mathematics Magazine, Mathematical Intelligence and Scientific American, as well as standard texts, as sources for their work. Offered fall semester.

Prerequisite: one of MATH 301 or 317 with concurrent registration in the other or permission of instructor

MA H **Experiential Learning** **credits**
MA H **Experiential Learning** **credits**

See the description of these courses at the beginning of the "Curricula" section of this catalog.

MA H **Electives** **credits**
MA H **Electives** **credits**

See the description of these courses at the beginning of the "Curricula" section of this catalog.

MA H **Options** **credits**
MA H **Options** **credits**

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

MA H **Research** **or credits**

See the description of these courses at the beginning of the "Curricula" section of this catalog.

MA H **Individualized Study** **or credits**

See the description of these courses at the beginning of the "Curricula" section of this catalog.

MODERN AND CLASSICAL LANGUAGE

College of Arts and Sciences, Department of Modern and Classical Languages
O'Shaughnessy Education Center (OEC) 320, (651) 962-5150

Pinto, D (chair); Arabic - Khalek; Chinese (Mandarin) - He; Classics (coordinator) - Quartarone; French - Dziekowicz (coordinator), Lohse, Shams; German - Wagner (coordinator); Irish Gaelic - Jeffers; Italian - Faggioli; Japanese - Matsu-moto; Spanish - Ehrmantraut, Kroll, Miller, Nieto, Pinto, Rey-Montejo, Scham, Tar, Tight, Vigil

The Department of Modern and Classical Languages offers major and minor concentrations in Classical Languages, French, German, Latin and Spanish, with additional minors in Greek and Japanese. Other language majors, minors and courses are available through the Associated Colleges of the Twin Cities and through Individualized Majors/Minors at UST (contact department chair for details). Language classes are also available in Arabic, Chinese, Irish Gaelic, and Italian. In cooperation with the ACTC, courses in other languages not offered at UST are also available.

The department also offers additional majors in International Business - language intensive (French, German and Spanish) and Literary Studies (foreign language and English literature).

Students graduating with a major in Classical Languages will have acquired a working vocabulary and knowledge of the structures of Classical Greek and/or Latin adequate to read the works of Greek and/or Latin authors. They

CURRICULA

In depth study of selected works of fiction primarily from the 19th and 20th centuries.
Prerequisite: FREN 300 or equivalent

FREN **Experiential Learning** **credits**
FREN **Experiential Learning** **credits**

See the description of these courses at the beginning of the "Curricula" section of this catalog.

FREN **Electives** **credits**
FREN **Electives** **credits**

See the description of these courses at the beginning of the "Curricula" section of this catalog.

FREN **Options** **credits**
FREN **Options** **credits**

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

FREN **Research** **credits**

See the description of these courses at the beginning of the "Curricula" section of this catalog.

FREN **Individual Study** **credits**

See the description of these courses at the beginning of the "Curricula" section of this catalog.

German

The department strives to offer a diversified program capable of accommodating a variety of student interests and professional goals connected with German studies. The aims of the department are:

1. To give a command of the German language for use in professional and academic life
2. To acquaint students with the history, literature and culture of the German-speaking countries
3. To familiarize students with the role these countries and their culture play in the world today.

Lectures, reports, and discussion in courses numbered above 300 will be conducted in German.

Major in German

Completion of GERM 212 or its equivalent
GERM 300 Introduction to German Studies (4 credits)

Plus:

Twenty-four additional credits numbered above GERM 300
At least six of these 28 credits must be literature courses.
At least twelve of these 28 credits must be completed at the University of St. Thomas.
No more than twelve credits may be in the area of advanced language skills development.
Elective courses for the major in German should be selected in consultation with a member of the German faculty.

Plus:

Four credits in European history
For administrative purposes, students will complete assessment measures at the beginning of their major (in their 300 class) and during their final semester.

Recommended

Courses in a second foreign language.
The department strongly urges all students planning to major in German to spend some time, usually one semester, studying in a German-speaking country. See a member of the German faculty for information on study-abroad opportunities for St. Thomas students in Germany or Austria.

Minor in German

Completion of GERM 212 or its equivalent
GERM 300 Introduction to German Studies (4 credits)

Plus:
Twelve additional credits numbered above GERM 300
At least three of these credits must be a literature course.
Elective courses for the minor in German should be selected in consultation with a member of the German faculty.

GERM E e entary Ger an I cred ts

Continuation of 341 with emphasis on literary developments in the 20th century. The course will focus on the period preceding World War I, on literary developments during the Weimar Republic, and on the attempts by postwar German authors to deal with the legacy of the World War II. The course also will discuss more recent literature.
Prerequisite: GERM 300

GERM 342 Austria in the Golden Age credits

The course will examine historical and cultural developments in Austria from 1815 to 1918 with special emphasis on the literature and culture of turn-of-the-century Vienna. Students will read works by important Austrian writers such as Stifter, Nestoy, Schnitzler, Hofmannsthal, Freud and Stefan Zweig; listen to music by composers such as Schubert, Mahler and Lehar; and discuss relevant topics such as the Habsburg Empire, Biedermeier culture, art nouveau and operetta.
Prerequisite: GERM 300

GERM 343 Genres of German Literature credits

This course will focus on genres of literature in German. The particular genres to be studied will vary with each offering. They will include German Drama, the German Novel of the 20th century, German Novellas, German Film, and German Poetry.
Prerequisite: GERM 300

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Major in Greek

Sixteen credits in Greek language

Plus:

Eight additional credits in Greek, Latin, ancient history, ancient philosophy, classical art, mytholog

Students seeking a good mastery of a language (French, German, Spanish) and training in one or more business areas may enroll in this major which is administered by the Department of Modern and Classical languages.

A program of study abroad is strongly recommended.

For administrative purposes, students will complete assessment measures at the beginning of their major (in their first 300 level class) and during their final semester.

International Business, French Intensive

FREN 300 Advanced Oral and Written French (4 credits)

One course in French on contemporary France

Plus:

Twenty additional credits in French courses numbered above FREN 300, including literature and civilization, selected in consultation with the French section coordinator

International Business, German Intensive

GERM 300 Introduction to German Studies (4 credits)

GERM 440 Introduction to Business German and German Business (4 credits)

Plus:

Twenty additional credits in German courses numbered above GERM 300

International Business, Spanish Intensive

SPAN 300 Advanced Spanish Grammar (4 credits)

SPAN 301 Advanced Written Spanish and Culture (4 credits)

SPAN 305 Spanish Oral Expression (4 credits)

SPAN 320 Business Spanish (4 credits)

Plus:

Twelve additional credits in Spanish courses numbered above SPAN 300

Additional Requirements for Languages

Twenty credits in business administration

Plus

CISC 200 Introduction to Computer Technology and Business Applications (4 credits)

ECON 251 Principles of Macroeconomics (4 credits)

ECON 252 Principles of Microeconomics (4 credits)

ECON 348 International Economics (4 credits)

Plus four credits from the following:

MATH 101 Finite Mathematics (4 credits)

MATH 111 Calculus for Business or Social Science (4 credits)

MATH 113 Calculus I (4 credits)

Other recommended courses:

ECON 345 Economics of Development and Growth (4 credits)

ECON 349 Comparative Economic Systems (4 credits)

IDSC 481 Seminar in International Studies (4 credits)

JPST 250 Introduction to Justice and Peace Studies (4 credits)

POLS 104 American Government in Comparative Perspective (4 credits)

POLS 326 International Law and Organizations (4 credits)

POLS 350 Comparative Politics of the New Europe (4 credits)

THEO 325 The Catholic Social Traditions (4 credits)

Irish Gaelic

IRGA Irish Gaelic I credits

Introduction to the pronunciation, structure, and culture of Irish Gaelic by developing basic skills in conversation, writing, and reading. Progress is evaluated through classroom interaction (dialogue, role-playing, oral drills, etc.), written assignments, song-learning, and an interview in Irish with the instructor.

IRGA Irish Gaelic II credits

Continuation of IRGA 111 with further development of the same skills in conversation, writing, and reading and an expanded awareness of the culture of Irish Gaelic. Progress is evaluated through classroom interaction (dialogue, role-playing, oral drills, etc.), written assignments, and a brief presentation in Irish before the class at the end of the semester.

Prerequisite: IRGA 111 or equivalent completed with a C- or better

IRGA Irish Gaelic III credits

Continuation of IRGA 112 with an emphasis on increasing comprehension of, and fluency in, Irish Gaelic. The course will take place in a Gaelic-speaking community in Co. Galway, Ireland at a campus of the National University of Ireland. Students will learn and practice their Gaelic in the classroom and in the community with native speakers. Students will engage the Gaelic culture, history, and traditions at seminars in the late afternoon and evening and on four field trips to locations of literary and cultural importance. Students will be evaluated on the basis of three interviews with their instructor and a third party.

Prerequisite: IRGA 112 or equivalent with instructor's approval

Ita'an

ITAL Elementary Ita'an I credits

Pronunciation, essentials of grammatical structures, aural-oral practice, writing, reading of simple Italian prose, introduction to the cultures of the Italian-speaking world.

ITAL Elementary Ita'an II credits

Continuation of ITAL 111. Emphasis on grammatical structures, aural-oral practice, writing, reading. Continuation of Italian culture.

Prerequisite: ITAL 111 or its equivalent with C- or better.

ITAL Intermediate Ita'an I credits

Designed to increase listening, speaking, reading, and writing skills in Italian. Reinforcement and expansion of grammatical structures of Elementary Italian I and II. Continued exposure to Italian culture.

Prerequisite: ITAL 112 or its equivalent completed with a C- or better.

ITAL Intermediate Ita'an II credits

Continuation of ITAL 211. Focus on intermediate grammatical structures. Emphasis on Italian culture, conversation, writing, and expansion of vocabulary based on thematic discussions and cultural readings.

Prerequisite: ITAL 211 or its equivalent completed with a C- or better.

Japanese

Courses in Japanese are offered with the assumption that many of the students will be visiting Japan in the near future. Thus, the Japanese program strives to:

1. lay a solid foundation in the areas of speaking, listening, reading and writing. All three writing systems (hiragana, katakana and kanji) are covered.
2. give students basic language skills sufficient to manage day-to-day life in Japan
3. promote interest in Japan, Japanese people, and their culture
4. help students fulfill professional and personal endeavors at an international level
5. eliminate fear of speaking Japanese in front of people.
6. To provide the foundation for earning a major or minor in the language.

Students wishing to major or minor in Japanese may do so by special arrangement with Macalester College and approval of the St. Thomas Department of Modern and Classical Languages.

Minor in Japanese

Completion of JAPN 212 or equivalent

Plus:

Eight additional credits selected in consultation with the department adviser

JAPN Elementary Japanese I credits

Mastering 46 hiragana alphabets. Introduction to basic sentence structures, particles, polite forms of verbs, and simple kanjis (Chinese characters). Students are encouraged to converse in given situations utilizing whatever has been learned in the class.

JAPN Elementary Japanese II credits

Continuation of JAPN 111. Mastering 46 katakana alphabets. Further study of kanjis. Conjugation of adjectives, plain forms, te-forms. Noun modification. Action-in-progress as well as resultant-state forms of verbs. Main and subordinate clause construction. Daily free speaking in Japanese at simple level.
Prerequisite: JAPN 111 or equivalent completed with a C- or better

JAPN Intermediate Japanese I credits

Continuation of JAPN 112. Some of the volitional forms, hypothetical forms, and desirative forms are introduced. Continued study of kanjis. Daily free speaking. Introduction to the use of Japanese word processor.
Prerequisite: JAPN 112 or equivalent completed with a C- or better

JAPN Intermediate Japanese II credits

Continuation of JAPN 211. Potential forms, transitive-intransitive verbs, respectful-humble forms, giving-receiving verbs, and some more hypothetical forms are introduced. Practice in situational and functional Japanese. Daily free conversation and further study of kanjis are continued.
Prerequisite: JAPN 211 or equivalent completed with a C- or better

JAPN Advanced Japanese I credits

In-depth study of sentence patterns. Additional kanji characters will be presented to increase reading skills. Prerequisite: 212 or equivalent
Prerequisite: JAPN 212 or equivalent

JAPN Advanced Japanese II credits

Latin

The courses in Latin are offered with the following objectives:

1. To give students the necessary grasp of the language to read the works of Latin authors, and to read them with some degree of appreciation
2. To acquaint students with the unique character of Roman culture and its contribution to succeeding ages
3. To improve students' understanding of the structures of language.

These objectives are pursued with a view to the needs of students who are preparing to do graduate work in the field of Latin, who are preparing to teach Latin in secondary schools, or who are seeking a background for the study of theology, philosophy, history, law, science, English or the Romance languages.

The major engages students in the study of the language, literature and culture of ancient Rome. It prepares students to read Latin, introduces significant works of essential authors, and provides analytical tools for examining the relationship between language and the unique identity of different cultures.

For administrative purposes, students will complete assessment measures at the beginning of their major (in their 300 class) and during their final semester.

Major in Latin

Thirty-two credits in Latin (28 for double or triple majors) numbered 211 or higher.

Plus:

Eight additional credits in ancient history, ancient philosophy, classical art, mythology or classical literature in translation.

Minor in Latin

Completion of twelve credits above LATN 211

Plus:

Eight additional credits in ancient history, ancient philosophy, classical art, mythology or classical literature in translation.

LA N Elementary Latin I credits

A beginning course, with emphasis on reading Latin prose in passages of increasing complexity. Introduction to essential forms, syntax and vocabulary. Practice in reading Latin aloud and composing simple sentences. Exploration of the social and cultural context of the Latin language.

LA N Elementary Latin II credits

Continuation of LATN 111. More graded readings, further mastery of forms, syntax and vocabulary.
Prerequisite: LATN 111 or equivalent completed with a C- or better

LA N Intermediate Latin I credits

Readings of narrative prose. Review and further study of grammar.
Prerequisite: LATN 112 or equivalent completed with a C- or better

LA N Intermediate Latin II credits

This course focuses on solidifying the basic skills of language mastery through reading, writing, speaking and listening. Reading selections will be taken from various authors, both prose and poetry; stories will be drawn from the early history of Rome. Prerequisite: LATN 211 or equivalent completed with a C- or better

LA N Latin Readings in the Old and New Testament credits

Readings from St. Jerome's Latin translation of the Old and New Testament.
Prerequisite: LATN 211 or equivalent

LA N op cs credits

LA N op cs credits

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

LA N Introduction to Medieval Latin credits

This course will focus on developing mastery of Latin through the four essential skills of reading, writing, speaking, and listening. **We will read, discuss and write about (Latine!) selections drawn from various Medieval Latin authors, both Christian and secular, and further develop our literary exploration of various genres of writing. Readings will include texts drawn from the early Christian biographies and the history of the development of Christianity in Rome, as well as texts from the later medieval period.**
Prerequisite: LATN 212 or instructor permission.

LA N Latin Composition credits

A thorough review of Latin grammar. Practice in the writing of continuous Latin prose.
Prerequisite: LATN 212 or 255 or equivalent

LA N Readings in St. Augustine credits

Selected readings from the texts of St. Augustine. Focal points will include pertinent background on the author, his times, philosophical influences, and the grammatical features of Medieval Latin.

LA N Catullus and Horace credits

Selections from the lyric poetry of Catullus and Horace. Poetic sources, influence, the principal lyric meters.
Prerequisite: LATN 212 or 255 or equivalent

LA N op cs in Philosophical and Scientific Latin and Ancient Latin credits

Topics in Philosophical and Scientific Latin. Work in this course explores Latin literature in the field of "natural history," from its origins in Greek philosophy through the medieval period to the flowering of modern science, and will intro-

duce students to "classic" texts in the history of Science, in their original language. Students will develop their Latin skills and increase their mastery of the language through the basic tools of reading, writing, speaking, and listening. Readings will include elements of post-classical Latin that may be called "medieval," and to show the wide range of styles that "medieval" Latin attained, especially in technical or didactic writings. Prerequisite: LATN 212 or instructor permission

LA N ergō cred ts

Reading of extensive selections from the Aeneid in Latin and of the entire poem in English translation. Discussion of the sources, themes and techniques of the epic.
Prerequisite: LATN 212 or 255 or equivalent

LA N Caesar and Cero cred ts

Extensive reading of the Gallic War and of the Orations of Cicero. A study of the character and career of each author.
Prerequisite: LATN 212 or 255 or equivalent

LA N Experimenta Learning cred ts

LA N Experimenta Learning cred ts

See the description of these courses at the beginning of the "Curricula" section of this catalog.

LA N e' nar cred ts

LA N e' nar cred ts

See the description of these courses at the beginning of the "Curricula" section of this catalog.

LA N op cs cred ts

LA N op cs cred ts

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

LA N Research or cred ts

See the description of these courses at the beginning of the "Curricula" section of this catalog.

LA N Individuality or cred ts

See the description of these courses at the beginning of the "Curricula" section of this catalog.

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For the remaining 20 credits, students must choose an area of concentration and take a minimum of 12 credits in that area. Up to 8 of the 20 remaining credits may be taken from the other concentration.

Cultural and Literary Studies

Required for concentration (8 credits):

SPAN 335 Introduction to Spanish Literature (4 credits)

Plus
SPAN 331 Spanish Culture and Civilization (4 credits) *OR* SPAN 332 Latin American Culture and Civilization (4 credits)

For the remaining 12 credits, students may choose from the following electives. Up to eight (8) credits may be taken from the Linguistics and Applied Language Studies area. For the concentration in Cultural and Literary Studies, students must take a minimum of four (4) credits in courses numbered SPAN 340 or higher:

SPAN 340 Themes in Spanish Literature (4 credits)

SPAN 380 Themes in Latin American Literature (4 credits)

SPAN 405 Spanish Genre Studies (4 credits)

SPAN 410 Women and Discourse of the Spanish-speaking World (4 credits)

SPAN 411 Ethnicity and Multiculturalism of the Spanish-speaking World (4 credits)

SPAN 412 Chicano and U.S. Latino Culture(s) and Literature(s) (4 credits)

SPAN 415 Hispanic Cinema Studies (4 credits)

Linguistics and Applied Language Studies

Required for concentration:

SPAN 315 Introduction to Hispanic Linguistics (4 credits)

For the remaining 16 credits, students may choose from the following electives. Up to eight (8) credits may be taken from the Cultural and Literary Studies area:

SPAN 316 Studies in Spanish Linguistics (4 credits)

SPAN 317 Spanish Phonetics and Pronunciation (4 credits)

SPAN 320 Business Spanish (4 credits)

SPAN 434 Spanish Applied Linguistics (4 credits)

Students in teacher licensure programs must include a course in linguistics (recommended SPAN 315).

Students majoring in Spanish must take a minimum of twelve (12) credits in Spanish at the 300-level or above at St. Thomas or in a St. Thomas-approved study abroad program.

Students must complete the introductory and intermediate language program (SPAN 111, 112, 211, 212), or its equivalent, with a C- or above in all coursework before moving on to SPAN 300. Spanish majors/minors must complete SPAN 300, 301, and 305 with a C- or above in each course before proceeding on to further courses in the Spanish major.

For administrative purposes, students will complete assessment measures at the beginning of their major (in their 300 class) and during their final semester.

Note: The rare student who majors in Spanish, but begins her/his language training at St. Thomas with SPAN 111 may need to complete 136 units to graduate rather than the normal 132.

Minor in Spanish

In consultation with their minor field adviser, students must complete twenty (20) credits in courses numbered 300 and above. After completing the core courses (SPAN 300, 301, 305), students may select two additional courses from any of the remaining upper-division Spanish courses (numbered above 305). Students must complete the introductory and intermediate language program (SPAN 111, 112, 211, 212), or its equivalent. Spanish minors must complete SPAN 300, 301 and 305 with a C- or above in each course before proceeding on to further courses in Spanish.

Students minoring in Spanish must take a minimum of eight (8) credits in Spanish at the 300-level or above at St.



PAN op cs cred ts

PAN op cs cred ts

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

PAN Research or cred ts

See the description of these courses at the beginning of the "Curricula" section of this catalog.

PAN Individual study or cred ts

See the description of these courses at the beginning of the "Curricula" section of this catalog.

M I C M C

College of Arts and Sciences, Department of Music

Brady Education Center (BEC) 05, (651) 962-5850

George (chair), Broeker, Bryan, Cole, Cornett-Murtada, Gleason, Howard, Johnson, Kachian, Orzolek, Schmalenberger; Allen, Arons, Auerbach, Berget, Broeker, Brown, Capener, Carmack, Casey, Douglas, Eschedor, Garvin, Gerth, Griffith, Hauser, Itkin, Jenkins, Jensen, Jorstad, Kemperman, Kreitzer, Mitchell, Olson-Moser, Ostrander, Parker, Reed, Rinear, Schons, Schroepfer, Schulz, Schwalbach, Skaar, Volpe, Zimmerman, Zocchi

The Mission of the University of St. Thomas Department of Music is to provide outstanding music instruction through

Major in Music Performance B.M.

C



Major in Music B.A.

MUSC 001 Student Convocation Hour (0 credit)



- MUSC 192 Technical Skills for Keyboard Majors (1 credit)
- MUSC 292 Functional Skills for Keyboard Majors I (1 credit)
- MUSC 293 Functional Skills for Keyboard Majors II (1 credit)
- MUSX xxx Piano Elective (1 credit)



- MUSC 340 Theory Elective: Topics (2 credits)
- MUSC 354 Advanced Conducting and Materials: Instrumental Concentration (2 credits)
- MUSC 355 Advanced Conducting and Materials: Vocal Concentration (2 credits)

Additional requirements

- PHYS 105 Musical Acoustics (4 credits)
- Four credits in Art History or Theater

Major in Music, Liturgical Music B.A.

Note: This concentration is available only to students whose principal instrument is voice, keyboard, guitar, or by special permission of the chair.

MUSC 001 Student Convocation

and 202:

- MUSC 192 Technical Skills for Keyboard Majors (1 credit)
- MUSC 292 Functional Skills for Keyboard Majors I (1 credit)
- MUSC 293 Functional Skills for Keyboard Majors II (1 credit)
- MUSX xxx Piano Elective (1 credit) to be chosen from the following: MUSP 121, 131 (organ majors only), 135 (piano majors only), 153, MUSN 171, 172, 182, or MUSW 501.

- MUSC 202 Piano Skills IV (1 credit)
- MUSC 213 Music Theory and Aural Skills III (4 credits)
- MUSC 214 Music Theory and Aural Skills IV (4 credits)
- MUSC 231 Introduction to Conducting (1 credit)
- MUSC 263 Entrepreneurial Careers in Music, & Professional Practice (1 credit)
- MUSC 302 Introduction to Liturgical Music (2 credits)
- MUSC 355 Advanced Conducting and Materials: Vocal Concentration (2 credits)
- MUSC 411 History and Literature of Music I (4 credits)
- MUSC 412 History and Literature of Music II (4 credits)
- MUSN 1xx Eight semesters of Ensemble participation (0 credits)

Guidelines for choosing an ensemble:

If principal instrument is:

- Piano - one semester in MUSN 171; one semester in MUSN 172; six semesters in MUSN 143.
- Voice - a minimum of six semesters in MUSN 143. The remaining two semesters may be in MUSN 140, 142, 143, or 160.
- Guitar - Six semesters in MUSN 143 and two semesters in MUSN 173
- Other - a minimum of six semesters in ensemble chosen by consultation with the chair.

- MUSP 2xx Performance Studies (8 semesters) (1 credit each semester)
- MUSR 114 Aural-Skills Proficiency (0 credits)
- MUSR 200 Piano Proficiency (0 credits)
- MUSR 214 Aural-Skills Proficiency (0 credits)
- MUSR 270 Level I Recital (0 credits)
- MUSR 350 Level II Recital (0 credits)
- MUSR 450 Level III Recital (0 credits)

Plus four semesters (if principal instrument is not voice) (1 credit each semester)
 MUSP 133 Voice: Elective

Additional requirements

- THEO 101 Christian Theological Tradition (4 credits)

Plus four credits from the following:

- THEO 205 Old Testament (4 credits)
- THEO 210 New Testament (4 credits)

Plus four credits from the following:

THEO 310 Christian Worship (4 credits)

THEO 313 Christian Sacramentality (4 credits)

Plus four credits from the following:

THEO 430 Music and the Bible (4 credits)

THEO 357 Sacred Music of the Catholic Heritage (4 credits)

Plus:

IDSC 478 Experiential Learning (4 credits)

PHYS 105 Musical Acoustics (4 credits)

Plus four credits from the following:

ARTH 280 Sacred Architecture and Space (4 credits)

ARTH 335 Cathedrals, Monasteries, and Caliphates (4 credits)

ARTH 340 Southern Renaissance Art and Society (4 credits)

ARTH 342 Renaissance and Reformation in Northern Europe (4 credits)

Major in Music Business B.A.

MUSC 001 Student Convocation (0 credits)



MUSC 101 and 102:

MUSC 192 Technical Skills for Keyboard Majors (1 credit)

MUSC 292 Functional Skills for Keyboard Majors I (1 credit)

MUSC 113 Music Theory and Aural Skills I (4 credits)

MUSC 114 Music Theory and Aural Skills II (4 credits)

MUSC 133 Music of the United States: Aural and Written Traditions (2 credits)

MUSC 140 Music Media (2 credits)

MUSC 140 World: Aural and Written Traditions (4 credits)

MUSC 140 World: Aural and Written Traditions (4 credits)

MUSC 140 World: Aural and Written Traditions (4 credits)

MUSC 140 World: Aural and Written Traditions (4 credits)

MUSC 480 Music Business Seminar (4 credits)

MUSN 1xx Six semesters of Ensemble participation (0 credits)

Guidelines for Choosing an Ensemble:

If principal instrument is:

Piano - at least two semesters in MUSN 171; at least two semesters in one of: MUSN 140, 142, 143, 160, 181, 185, 186, 190; two semesters may be in MUSN 161, 182, 183.

Voice - a minimum of six semesters in MUSN 140, 142, 143, or 160.

Woodwind, Brass or Percussion - at least six semesters in MUSN 185 or 186.

Orchestral String - at least six semesters in MUSN 181.

Guitar - at least four semesters in MUSN 173; at least two semesters in MUSN 174.

Other Instruments - at least six semesters in ensemble chosen in consultation with the chair.

MUSP 2xx Six semesters of performance studies in the same performance medium (1 credit per semester)

MUSR 114 Aural-Skills Proficiency (0 credits)

MUSR 200 Piano Proficiency (0 credits)

MUSR 214 Aural-Skills Proficiency (0 credits)

MUSR 270 Level I Recital (0 credits)

MUSR 350 Level II Recital (0 credits)

Additional Requirements

ECON 252 Principles of Microeconomics (4 credits) (Social Analysis Core)

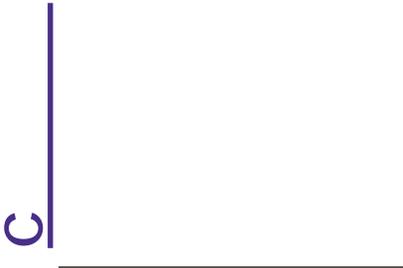
MUSC 218 Black American Music: A Historical Survey (4 credits)
MUSC 219 Music in the United States (4 credits)
MUSC 223 Arranging (2 credits)

Plus four semesters in one or a combination of the following:

MUSN 173 Guitar Ensemble (1 credit per semester)
MUSN 175 Popular Music Ensemble (1 credit per semester)
MUSN 182 Instrumental Jazz Ensemble (1 credit per semester)
MUSN 183 Jazz Singers (1 credit per semester)

Minor Music Composition

MUSC 113 Music Theory and Aural Skills I (4 credits)
MUSC 114 Music Theory and Aural Skills II (4 credits)
MUSC 140 Music Media (2 credits)
MUSC 231 Intro to Conducting I (1 credit)





A survey of music from the sixteenth century to the present as found in the Western hemisphere. Primarily concerned with the European influence brought by the various colonizing nations, some time is spent with the folk music of Canada, the United States and Latin America. Music of non-Western cultures are discussed as they relate to the native American and African-American influences in the New World. Designed for the non-major. This course fulfills the Fine Arts and Human Diversity requirements in the core curriculum.

M C Black American Music History Survey Credits

An exploration of the components of Black American musical traditions from its West African and European roots to



ferred in spring semester.
Prerequisite: MUSC 220

M C Fundamentals of Music in Popular Music credits

This course is designed to give the student a working knowledge of the skills required for popular music improvisation and performance. Study will include practical application of the rhythm, melody, and harmony of all styles of popular music. Genres that will be examined include: rock, blues, jazz, hip-hop, country and pop. This course is open to all instrumentalists and singers.

M C Elements of Popular Music II credits

This course will explore both modal and diatonic melodic content, upper structure harmony, and chord voicing. Further analysis of compositional techniques including form and style as employed by rock, blues, jazz, country, hip-hop, and pop will also be discussed. Additionally, this course will contain ear training exercises designed for use in improvisation with the intent of providing the student with tools for musical composition.

M C Introduction to Accompanying credits

This course focuses on topics related to the accompanying of singers and solo instrumentalists.

M C Functional Skills for Keyboard Majors I credits

This course teaches the functional keyboard skills required for music majors whose principal instrument is piano or organ. It includes practical training in sight reading, harmonization, improvisation, playing by ear, transposing, score reading, and other applications of basic musicianship.

M C Functional Skills for Keyboard Majors II credits

This course teaches the advanced functional keyboard skills required for music majors whose principal instrument is piano or organ. It includes practical training in sight reading, harmonization, improvisation, playing by ear, transposing, score reading, and other applications of basic musicianship.

M C Topics credits

M C Topics credits

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

M C Introduction to Liturgical Music credits

Introduction to Liturgical Music is a study of instructions and guidelines for music in divine worship, and a survey of repertoire appropriate for use in liturgical celebrations.

M C Music Notation on Computer credits

Develop skills in using music publishing software. Intended for composers, music educators, choral and instrumental conductors and anyone interested in producing print-quality music using the Macintosh or IBM.

M C The Art of Mixing credits

This course will be an in depth exploration of mixing music in a studio environment. Students will begin to master digital plug-ins such as equalization, reverb, delay, compression, and other advanced mixing techniques currently used in commercial music.

Prerequisite: MUSC 205

M C Pedagogy and Literature for Music Performers I credits

Cross-listed with EDUC 308:

Section 1: Voice

Section 2: Keyboard

Section 3: Guitar

Section 4: Winds/Percussion/Brass

This class will survey methods and materials for performance studies. Discussions will include principles of technique, learning theories, musicianship, and performance based upon a wide and diverse body of literature. Students should sign up for the section number that corresponds with their primary area of performance.

M C Pedagogy and Literature for Music Performers II credits

Cross-listed with EDUC 309:

Section 1: Voice

Section 2: Keyboard

Section 3: Guitar

Section 4: Winds/Percussion/Brass

All 4 sections will meet concurrently.

A continuation of Pedagogy and Literature for Music Performers I, this class will survey methods and materials for performance studies. Discussions will include principles of technique, learning theories, musicianship, and performance based upon a wide and diverse body of literature. Students should sign up for the section number that corresponds with their primary area of performance.

Prerequisite: EDUC 308/MUSC 308

M C **Opera or Musical Theatre** **3 credits**

Each time this course is offered, it presents an in-depth survey of the music of a particular culture, exploring the music of a diverse array of cultures.

M C **Elective Opera** **3 credits**

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online,

<https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

Offered once per year - consult the Schedule of classes

M C **Elective Music Pedagogy for Music Educator** **3 credits**

Study and practical application of historical pedagogic systems for teaching melody, rhythm, form, and harmony, using

movements of music. An ABA form is used.

M C **Advanced Conducting and Materials Instrumental Concentration** **3 credits**

Advanced conducting and materials instrumental concentration. This course focuses on the advanced study of conducting and materials instrumental concentration.

M C **Advanced Conducting and Materials Vocal Concentration** **3 credits**

Advanced conducting and materials vocal concentration. This course focuses on the advanced study of conducting and materials vocal concentration.

M C **History of Music Industry and Music Careers** **3 credits**

History of music industry and music careers. This course explores the history of the music industry and various music careers.

M C **History and Literature of Music I** **3 credits**

A survey of Western European music to 1750: the medieval, Renaissance, and Baroque eras. Historical development, social context, forms, styles and issues of expression are explored. Writing assignments are designed for teaching to the "Writing in the Discipline" objectives for the Writing Across the Curriculum initiative. This is a core course for students seeking a major degree in music. Students must be at junior-level standing and have passed at least Theory II before enrolling in this course. Offered in fall semester.

M C **History and Literature of Music II** **3 credits**

A survey of Western European music from 1750 to the present: the Classical and Romantic eras and the twentieth century. Emphasis of study is on social context and issues of meaning and expression. Continuation of MUSC 411. Writing assignments are designed for teaching to "Writing in the Discipline" objectives for the Writing Across the Curriculum initiative. This is a core course for students seeking a major degree in music. Students must be at junior-level standing and have passed at least Theory II before enrolling in this course. Offered in spring semester.

M C Orchestration credits

Ranges, timbres, and performance characteristics of string, winds and percussion instruments in the western tradition. Scoring for small and large ensembles of such instruments.

Prerequisite: 114

M C Senior or Research Paper credits

This course allows music students to demonstrate research and writing skills by utilizing standard music resources (Music Index, RILM, Grove, Baker's, etc.). The paper may contain theoretical analysis, and/or it may be connected to the student's performance area or degree focus

Prerequisite: MUSC 412.

M C Experiential Learning credits

M C Experiential Learning credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

M C Music Business Seminar credits

A course involving individual research that is shared among the participants. Guest speakers from various areas of music business, the electronic media industries and arts management make presentations to the seminar, which is under the direction of a faculty coordinator. A major research project is required.

Prerequisite: At least Junior standing

M C Seminar credits

M C Seminar credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

M C options credits

M C options credits

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, [https://banner.stthomas.edu/pls/banner/prod/bwckschd.0037\(s performance ar\)18.0059\(e\)6. e at jecrw32m30ucs1us](https://banner.stthomas.edu/pls/banner/prod/bwckschd.0037(s performance ar)18.0059(e)6. e at jecrw32m30ucs1us)



M P French horn e ect ve cred t

M P ro bone e ect ve cred t

M P Euphoñ u e ect ve cred t

M P uba e ect ve cred t

M P Percussõ on e ect ve cred t

M P Jazz Pop oca e ect ve cred t

Covers techniques for communicative lyric singing, including repertoire from different eras of the American music spectrum. Considers stage presence, microphone technique, vocal inflection and communication with an accompanist or rhythm section. Improvisation may also be explored.

M P Jazz P ano e ect ve cred t

Individual studies with a jazz pianist, developing jazz style and working on improvisation.



Performance Level

Performance studies at the performance level are required of music majors on their principal instrument. Students pursuing major in music, music business, or liturgical music should register for 2xx level lessons. Students pursuing a major in music education or performance should register for 3xx level lessons. An audition before the music faculty is required for performance-level studies. Qualified non-majors also may audition. Twelve 50-minute lessons are scheduled each semester. A minimum of 12 hours a week practice is required. These lessons provide an in-depth study of representative literature for the instrument. Juries and recitals are required of all students taking performance-level studies. See the current Handbook for Music Students.

- M P Harp's chord performance credit
 - M P Piano performance credit
 - M P Voice performance credit
 - M P Organ performance credit
 - M P Flute performance credit
 - M P Oboe performance credit
 - M P Clarinet performance credit
 - M P Bassoon performance credit
 - M P Saxophone performance credit
 - M P Trumpet performance credit
 - M P French horn performance credit
 - M P Trombone performance credit
 - M P Percussion performance credit
 - M P Music Theory credit
- audition before the music faculty for the instrument.



- M P Oboe performance credits
- M P Clarinet performance credits
- M P Bassoon performance credits
- M P Saxophone performance credits
- M P Trumpet performance credits
- M P French horn performance credits
- M P Trombone performance credits
- M P Euphonium performance credits
- M P Tuba performance credits
- M P Percussion performance credits
- M P Drums performance credits
- M P Piano performance credits
- M P Electric Bass performance credits
- M P Guitar performance credits

Music Proficiencies and Recitals M R

Piano proficiency is required in all of the major emphases.

Recitals are required in all major emphases and in some minor emphases.

Recitals and proficiencies carry no course credit. All MUSR courses are graded on an S-R basis.

M R Aural Skills Proficiency credit

Required of all students completing MUSC 114 (Music Theory and Aural Skills II). A combined grade for the final ear-training and sight-singing quizzes in Theory II Aural Skills Lab or C- or above will result in a grade of Satisfactory for this proficiency designation. See the Handbook for Music Majors and Minors for specific details. Taken concurrently with MUSC 114.

Prerequisite: MUSC 113 or successful placement test

M R Piano Proficiency credit

Required of all majors, piano proficiency should be completed by the end of the last semester of Piano Skills study. See the Handbook for Music Students for specific details of the proficiency examination.

M R Aural Skills Proficiency credit

Required of all students completing MUSC 114 (Music Theory and Aural Skills IV). A combined grade for the final ear-training and sight-singing quizzes in Theory IV Aural Skills Lab of C- or above will result in a grade of Satisfactory for this proficiency designation. See the Handbook for Music Majors and Minors for specific details. Taken concurrently with MUSC 214.

A Level II recital can be given in any semester. It requires a minimum of 25 minutes of music. Students performing at this level usually will be presented with one or two other students in the recital.

Prerequisite: MUSR 270

M R Festival Orchestra Honors Concert credit

This concert is presented in the spring semester. Professional musicians from the Twin Cities area are hired to form the orchestra, and students are auditioned in December to perform vocal or instrumental music that originally was intended to be presented with orchestra. Festival Orchestra auditions are open to all full-time St. Thomas undergraduate students and graduate students currently enrolled in performance studies. See the Handbook for Music Students for details.

M R Level III Recital credit

A Level III recital usually is given in the last semester of the student's work. This is a solo recital and requires a minimum



Plus Electives (4 courses, 16 credits)

Sixteen additional elective credits should be chosen from the following categories that reflect the student's academic or professional goals. Courses completed to fulfill the Advanced Neuroscience Core requirements do not double-count as electives. Students may complete up-to four (4) credits of NSCI 389 for elective credit. Students must com-



Menssen (chair), Atkinson, Clemenson, Coulter, Deavel, Degnan, Distelzweig, Feeney, Frost, Giebel, Grant, Heaney, Kemp, Kronen, Laumakis, Lemmons, Lu, Pawl, Rota, Spencer, Stoltz, Stuchlik, Toner, van Ingen, Winter

Philosophy engages questions such as:

- Is the human mind just a very complicated machine?
- Can we have free will if the mind is a machine?
- Must we have free will in order for life to be meaningful?

- What makes an act moral or immoral?
- When, if ever, can a government mandate moral acts or outlaw immoral acts?
- Is it ever permissible to start a war with a preemptive strike?

- Is the design in the world evidence that there is a God?
- Do the world's evils show that a good God cannot exist?
- What is the role of philosophy in dealing with questions about God?

- What is knowledge?
- Can we know anything with certainty?
- Are warrants for knowledge relative to particular cultures?

Philosophy considers these questions, and countless others, from the standpoint of human reason and experience. It emphasizes precise and careful argument, and sharpens your thinking skills.

The philosophy program at St. Thomas will introduce you to distinguished philosophical work over the centuries and into our own time. While attending carefully to philosophers whose works are foundational to the Catholic intellectual tradition, particularly Aristotle and Aquinas, the program is committed to broad integration of our understanding of reality. As you work to construct a philosophical worldview you will engage a variety of traditions, including non-Western, and confront questions prompted by the study of such subjects as the natural and social sciences, mathematics, medicine, business, law, theology, the fine arts, and literature.

Major in Philosophy

PHIL 115 Philosophy of the Human Person (4 credits)

PHIL 214 Introductory Ethics (4 credits) *or* PHIL 215 Introductory Ethics: East and West (4 credits)

PHIL 220 Logic (4 credits)

Plus eight credits in the history of philosophy

Four credits in classical Western philosophy

PHIL 200 Ancient Philosophy (4 credits)

PHIL 202 Medieval Philosophy (4 credits)

U

A study of philosophical problems connected with human law and legal institutions. Possible topics include the nature and kinds of law, the relation of law and morality, analysis of legal concepts, the nature and justification of punishment, and the principles of legal interpretation and reasoning. Attention will be given to both classical and contemporary authors.

Prerequisite: PHIL 214 or 215

PHIL Philosophy of Religion credits

Western and non-Western philosophical arguments concerning the nature and justifying bases of religious belief, with special attention to the philosophical implications of religious pluralism.

Prerequisites: PHIL 115 and one other PHIL course

PHIL Natural Philosophy and Metaphysics credits

This course examines central topics in the philosophy of nature and in metaphysics. Possible topics include substance and accident, change and the conditions of substantial generation, matter and form, causality, necessity and possibility, time and persistence through time, universals and particulars, essence and existence, and the transcendentals (unity, truth, goodness, beauty). Attention will be paid both to classical and to contemporary authors.

Prerequisite: PHIL 220 and one other PHIL course

PHIL Epistemology credits

This course considers various accounts of the nature, origin, and limits of human knowledge. Attention will be paid to the main figures in the Western tradition as well as to contemporary authors.

Prerequisite: PHIL 220

PHIL Philosophy of Science credits

This course examines central topics in the philosophy of science. Possible topics include scientific explanation, realism and the nature of scientific theories, reductionism in science, and the nature of scientific change.

Prerequisite: PHIL 115; and PHIL 220 or consent of instructor. The prerequisite of PHIL 220 may be waived for science or math majors or minors.

PHIL Topics credits

The subject matter of the courses taught under PHIL 398 will vary from year to year, but will not duplicate existing courses. Descriptions of the courses are available from the philosophy department, and in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

Prerequisite: at least twam eH TLg55 and one other t le.985fuourse eunity,

PHIL

Research or credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

PHIL

Individual study or credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

PHYSICAL EDUCATION

See Health and Human Performance

PHYSICS

College of Arts and Sciences, Department of Physics

Owens Science Hall (OWS) 153, (651) 962-5224

Johnston (chair), Green, Jalkio, Lopez del Puerto, Ohman, Ruch, Wood; Blilie, Delain, Neller-moe, Schuler, Thomas

Physics majors learn the fundamental laws that govern the physical universe, from the smallest subatomic particle to the largest galaxies to the very structure of space and time. Emphasis is placed on general understanding, problem solving, and the communication skills essential for success in a career grounded in science. In the laboratory, students use state-of-the-art instrumentation in applying physics to a wide variety of systems. Opportunities are available for students to participate in research projects during the school year and over the summer.

There are three educational options from which to choose: a Bachelor of Science (B.S.) degree; a Bachelor of Arts (B.A.) degree; or a minor in physics. The B.S. degree provides the necessary background for students interested in graduate school, engineering or industrial work; the Bachelor of Arts degree gives a solid background in physics with the flexibility to meet other needs, including preparation for professional programs such as medicine or patent law, or for students double majoring in areas such as mathematics or electrical engineering.

For students interested in teacher licensure, see the various combinations of science education in the School of Education Department of Teacher Education in this catalog.

Transfer students can transfer a maximum of 16 credits in physics towards the physics degree. Physics courses taken at other colleges by students already matriculated at St. Thomas may be credited toward the requirements of the major only with prior and explicit written approval of the department chair.

The department offers courses for non-majors to fulfill the laboratory science component of the core curriculum.

Graduation with Honors in Physics

Students graduating with a B.A. or B.S. degree in physics may also qualify for departmental honors. Students interested in this designation must consult with the department chair one year or more before graduation. All requirements must be met one month before graduation.

1. Complete four credits in 400-level physics research or the equivalent research experience
2. Prepare a written thesis in the format of primary literature
3. Defend the thesis before a panel composed of:
 - thesis director (chair of committee)
 - two additional UST physics faculty
 - one UST faculty member outside of physics
4. Achieve a final cumulative grade point average in physics department courses of 3.50 and 3.50 overall
5. Present their research at a scientific meeting beyond the St. Thomas community

Major in Physics B.S.

PHYS 111 Introduction to Classical Physics I (4 credits)

PHYS 112 Introduction to Classical Physics II (4 credits)

PHYS 215 Foundations of Modern Physics: From the Atom to the Big Bang (4 credits)

PHYS 225 Applications of Modern Physics: From the Atom to the Diode (4 credits)

PHYS 323 Methods of Experimental Physics (4 credits)

PHYS 331 Theoretical Mechanics (4 credits)

PHYS 341 Electricity and Magnetism (4 credits)

PHYS 347 Optics (4 credits)

PHYS 410 Statistical Mechanics and Thermodynamics (4 credits)

PHYS 431 Quantum Mechanics (4 credits)

PHY Classical Physics II credits PHY

Continuation of PHYS 111. Topics include waves and sound; electricity and magnetism; geometric and physical optics. The course meets three times a week for two consecutive periods consisting of integrated lecture, discussion and laboratory. This course fulfills the core-area in natural science in the Natural Science and Mathematical and Quantitative Reasoning. Offered fall and spring semester.

Prerequisites: A minimum grade of C- in both PHYS 111 and MATH 114

NOTE: Students who receive credit for PHYS 112 may not receive credit for PHYS 110.

PHY Foundations of Modern Physics From the Atom to the Big Bang credits

This course connects the subatomic world of particle and nuclear physics to the evolution of the universe after the Big Bang through the study of relativity and the four fundamental forces of nature. The course consists of lecture, discussion and laboratory. Offered fall semester

Prerequisite: A minimum grade of C- in either PHYS 110 or 112 and in MATH 114.

PHY Applications of Modern Physics From the Atom to the Double Slit credits

This course investigates the quantum theory of light, wave-particle duality, quantum mechanics in one-dimension, statistical physics, lasers, and solid state physics. The course consists of lecture, discussion and laboratory.

Prerequisites: A minimum grade of C- in PHYS 112 and in either MATH 200 or MATH 210.

Offered spring semester

PHY Optics credits

PHY Optics credits

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

PHY Methods of Experimental Physics credits

Standard tools and techniques used in experimental physics are introduced while conducting an in-depth investigation of a non-linear system. Technical topics include: identifying and characterizing chaotic systems, data acquisition and instrument control using LabVIEW, signal conditioning, data and error analysis, and experimental design. This course consists of lecture, discussion and laboratory. Offered spring semester of odd-numbered years

Prerequisite: A minimum grade of C- in PHYS 112 and MATH 200

PHY Theoretical Mechanics credits

Newtonian dynamics of particles and systems of particles; conservation laws; moving coordinate systems; central-force motion; collisions and scattering; plane and general motion of rigid bodies; free, forced and coupled oscillations; Lagrangian dynamics. This course consists of lecture and discussion. Offered fall semester of even-numbered years.

Prerequisites: A minimum grade of C- in either PHYS 215 or 225 and in MATH 200 and MATH 210

PHY Electricity and Magnetism credits

Electrostatic and magnetostatic fields in vacuum and material media; energy and force relations; methods for the solution of static problems; fields and currents in conducting media; Maxwell's equations and time-dependent fields. This course consists of lecture and discussion. Offered fall semester.

Prerequisites: A minimum grade of C- in either PHYS 215 or 225 and in MATH 200 and MATH 210

PHY Electromagnetic Waves credits equivalent to ENGR

A continuation of PHYS 341. An introduction to the practical applications of Maxwell's equations including propagation, reflection and absorption of electromagnetic waves. Applications include antennas, waveguides, transmission lines, and shielding from electromagnetic interference. This course consists of lecture and discussion. Offered spring semester.

Prerequisite: A minimum grade of C- in PHYS 341

PHY Optics credits

Foundations of geometric optics: Fermat's Principle of Stationary Time. Nature of electromagnetic waves: dipole radiation, energy, momentum, polarization, coherence, interference, diffraction, Fourier optics. Interactions between light and matter: scattering

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PHY Statistical Mechanics and Thermodynamics credits

Concepts and laws of thermodynamics and of statistical mechanics. Applications of these to various systems, including gases, liquids, solids and chemical systems. This course consists of lecture and discussion. Offered spring semester of even-numbered years.

Prerequisite: A minimum grade of C- in PHYS 215, 225, and both MATH 200 and MATH 210

PHY Quantum Mechanics credits

The foundation of Quantum Mechanics will be explored with mathematical rigor. Specific topics include the time-independent Schrödinger equation, the hydrogen atom, and angular momentum including spin. Discussion of identical particles will lead to an introduction of quantum statistical mechanics. This course consists of lecture and discussion. Offered spring semester of odd-numbered years.

Prerequisite: A minimum grade of C- in PHYS 215, 225, MATH 200, 210, and 240

PHY Electives credits

PHY Electives credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

PHY Open Courses credits

PHY Open Courses credits

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

PHY Research credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

PHY Individual Study credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

POLITICAL SCIENCE POL

College of Arts and Sciences, Department of Political Science
John Roach Center for the Liberal Arts (JRC) 432, (651) 962-5720
High-Pippert (chair), Buhr, Mazumdar, Winters

The program of courses offered by the Political Science Department is designed to enable students to acquire an understanding of political processes, governmental institutions, and theories of politics.

As one of the liberal arts, political science enables students to develop skills in communication and analytic problem solving that are useful in a wide variety of careers, including business. More specifically, the major in political science prepares students for the study of law, graduate programs in political science or public administration or for careers in government, politics, the non-profit sector, or teaching.

Students graduating with a major in political science will have a broad overview of the discipline, as well as substantive familiarity with at least two of the five political science sub-fields: American politics, comparative politics, international politics, law and judicial politics, and political thought. At various points in their study of political science, majors will develop a wide variety of skills, including skills related to the carrying out of research projects, the interpretation of empirical data, and the presentation of their work to a wider audience.

Students majoring in political science must take a minimum of twenty-eight credits in political science at St. Thomas. No more than eight of the credits taken outside the department shall be numbered 300 or above. Students minoring in political science must take a minimum of sixteen credits in political science at St. Thomas. The department also offers courses for non-majors to fulfill the Social Analysis component of the core curriculum.

Political Science Honor Society

Pi Sigma Alpha, the national political science honor society, established the Chi Theta chapter at St. Thomas in 1999. The purpose of Pi Sigma Alpha is to acknowledge superior performance in the study of political science, to forge closer links between faculty and political science majors and minors, and to stimulate political interest in the St. Thomas community.

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Pi Sigma Alpha is open to juniors and seniors who meet the following qualifications for membership. Students must





Prerequisite: POLS 104 or permission of the instructor.

POL **Const tutiona Powers of Govern ent** **cred ts**



ratization, human rights, gender, population, poverty, environment, political leadership, economic development and relations between developed and developing countries.

Prerequisites: POLS 225 or permission of the instructor.

POL Politics of Post-Soviet States credits

This course provides an in-depth understanding of the dynamics of political change in general and of the history of the Soviet Union and the fifteen post-Soviet states. General topics include revolution, totalitarian and authoritarian regimes, and problems of democratic transition experienced by many states both in and outside of the post-Soviet space. These topics are illustrated with case studies from the former Soviet Union, including Russia, East European and Central Asian states.

Prerequisite: POLS 225 or permission of the instructor.

POL Politics of India, Pakistan and South Asia credits

An examination of the politics, economy, and society of India, Pakistan, and other countries of South Asia, namely Afghanistan, Bangladesh, Nepal, and Sri Lanka. Involves comparison between these countries utilizing themes such as political culture, political institutions, government structures and processes, political economy, and political development and transitions.

Prerequisite: POLS 225 or permission of the instructor.

POL Seminar in American Politics credits

Seminars in political science provide an opportunity for students to synthesize and further develop knowledge gained in previous courses and enhance their critical and analytical skills. Students will engage in reading and discussion and undertake a major research project pertinent to the seminar's topic. Specific topics or themes of each seminar will vary. Seminars are offered in each of the sub-fields of the discipline.

Prerequisite: Juniors and seniors may enroll in a seminar once they have completed a 300-level course within that sub-field, or with permission of the instructor.

POL Seminar in Judicial Politics credits

Seminars in political science provide an opportunity for students to synthesize and further develop knowledge gained in previous courses and enhance their critical and analytical skills. Students will engage in reading and discussion and undertake a major research project pertinent to the seminar's topic. Specific topics or themes of each seminar will vary. Seminars are offered in each of the sub-fields of the discipline.

Prerequisite: Juniors and seniors may enroll in a seminar once they have completed at 300-level course within that sub-field, or with permission of the instructor.

POL Seminar in International Relations credits

Seminars in political science provide an opportunity for students to synthesize and further develop knowledge gained in previous courses and enhance their critical and analytical skills. Students will engage in reading and discussion and undertake a major research project pertinent to the seminar's topic. Specific topics or themes of each seminar will vary. Seminars are offered in each of the sub-fields of the discipline.

Prerequisite: Juniors and seniors may enroll in a seminar once they have completed at 300-level course within that sub-field, or with permission of the instructor.

POL Seminar in Comparative Politics credits

Seminars in political science provide an opportunity for students to synthesize and further develop knowledge gained in previous courses and enhance their critical and analytical skills. Students will engage in reading and discussion and undertake a major research project pertinent to the seminar's topic. Specific topics or themes of each seminar will vary. Seminars are offered in each of the sub-fields of the discipline.

Prerequisite: Juniors and seniors may enroll in a seminar once they have completed at 300-level course within that sub-field, or with permission of the instructor.

POL Experiential Learning credits

POL Experiential Learning credits

See the description of these courses at the beginning of the "Curricula" section of this catalog. Specific possibilities in political science include:

Administrative internship

Fifteen hours per week of supervised practical government experience in an administrative agency plus a term paper and regular conferences with the supervising instructor.

Prerequisites: POLS 205

Legislative internship

Fifteen hours per week of supervised work assisting a legislator or legislative committee plus a term paper and regular conferences with the supervising instructor.

Prerequisites: POLS 205 plus previous or concurrent enrollment in 305

Field work in practical politics

Fifteen hours per week of supervised work in a political campaign or with a political party or interest group plus a term paper and regular conferences with the supervising instructor.

Prerequisites: POLS 205 plus previous or concurrent enrollment in 301

Legal Internship

Fifteen hours per week of supervised work experience in an agency or office engaged in the legal process plus assigned readings, a term paper and regular conferences with the supervising instructor.

Prerequisites: POLS 205 plus previous or concurrent enrollment in 312.

POL Research e ' nar cred ts

Empirical research in political science, building upon and furthering skills developed in POLS 104 and 205. Students will undertake an independent research project. Recommended for students planning to enter a graduate program in political science.

Prerequisites: POLS 104, 205, and permission of instructor

POL e ' nar cred ts

POL e ' nar cred ts

See the description of these courses at the beginning of the "Curricula" section of this catalog.

POL op cs cred ts

POL op cs cred ts

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

POL Research or cred ts

See the description of these courses at the beginning of the "Curricula" section of this catalog.

POL Ind v dua tudy or cred ts

See the description of these courses at the beginning of the "Curricula" section of this catalog.

PRE PROFESSIONAL PROGRAM

A carefully-crafted baccalaureate degree can prepare a student for entrance to a professional school. The following information will guide students toward the major field programs and supplementary courses that will prepare them for the various professional schools.

Preparation for the Catholic Priesthood

Cross-College Program

Preparation for entering a postgraduate seminary takes place best in a college-level seminary. St. John Vianney College Seminary, located on the University of St. Thomas campus, provides an integrated program of spiritual and apostolic formation, along with the academic coursework available through the university.

All seminarians major in Philosophy, with the possibility to double major in a variety of fields. In addition, seminarians must complete prerequisites of theology and languages, according to the direction of their diocese, as well as the graduation requirements of the University of St. Thomas. All of these together provide in large measure the balance needed for the future study of theology at the major theologate. However, they must complete certain prerequisites in philosophy, theology and languages according to the direction of their diocese. St. John Vianney students will be expected to complete the following academic requirements in compliance with the Program of Priestly Formation:

Forty credits of philosophy

Twelve credits of theology

Language requirements: Latin or Spanish if determined by the student's diocese.

Interested students should contact the rector, Rev. Michael Becker, at St. John Vianney Seminary: beck8065@stthomas.

Pre Engineering Liberal Arts Engineering Dual Degree Program EN

Cross-College Program

Jalkio (PHYS) Pre-Engineering advisor

The School of Engineering at the University of St. Thomas is home to several engineering programs. These degrees offer students career paths into most fields of engineering and opportunities to specialize in graduate school. For those students wishing to specialize in other fields of engineering at the undergraduate level, the University of St. Thomas offers a Liberal Arts-Engineering (dual degree) program.

The Liberal Arts-Engineering (dual degree) program is offered formally in cooperation with the University of Notre Dame and the University of Minnesota. Students typically spend three years at St. Thomas and then apply for transfer to one of the partner engineering schools. After being accepted by the partner institution, they complete their engineering curriculum at the partner school. Upon satisfying the requirements for graduation of both institutions, the student will receive a bachelor of arts (B.A.) degree from the University of St. Thomas and a bachelor of science degree in the selected field of engineering from the engineering school.

All pre-engineering students take mathematics, physics, and chemistry courses, along with a seminar introducing them to the various fields of engineering and to the work of engineers. Specific courses needed vary by engineering discipline so it is important to meet early with the Pre-Engineering advisor.

Contact the Pre-Engineering advisor in the Department of Physics for program specifics.

Liberal Arts, Engineering Dual Degree Program Pre Engineering

CHEM 109 General Chemistry for Engineers (4 credits)
or CHEM 111 General Chemistry I (4 credits)

CISC 130 Intro to Programming and Problem Solving in the Sciences (4 credits)

ENGR 150 Introduction to Engineering (1 credit)

MATH 113 Calculus I (4 credits)

MATH 114 Calculus II (4 credits)

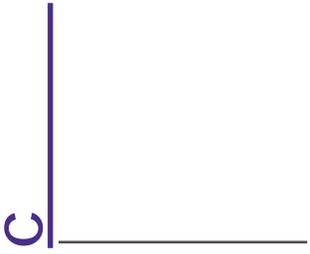
MATH 200 Multi-Variable Calculus (4 credits)

MATH 210 Introduction to Differential Equations and Systems (4 credits)

PHYS 111 Introduction to Classical Physics I (4 credits)

PHYS 112 Introduction to Classical Physics II (4 credits)

Most schools of dentistry require a minimum of three years of college coursework prior to admission to their programs.



two semesters of English

Four courses from history and social sciences, arts and humanities are also typically required. No more than two of these courses should be from one single department.

Pre Physical Therapy

Required courses vary from one school to another, and students are encouraged to research various programs early in their undergraduate program. Typical requirements include:

- two semesters of biology
- two semesters of general chemistry
- two semesters of physics
- two semesters of psychology
- one semester of statistics
- two semesters of college mathematics or one semester of calculus

Other specific coursework and experiential learning are required by many programs

Other Pre Health Professions

Many courses are offered at St. Thomas to prepare students for admission to the following health professional schools: chiropractic, occupational therapy, optometry, osteopathic medicine, physical therapy, physician assistant, podiatric medicine, and public health.

Students are encouraged to research the programs at each professional school and to seek the guidance of a representative from the Office of Academic Counseling.

Pre Law

Cross-College Program



Plus eight additional courses:

- **At least one from each perspective**
- **Four of the eight must be 300/400 level**
- **Two must be lab courses (lab courses are italicized below; 212 is a prerequisite for all lab courses)**

Perspective-Based Courses

BIOLOGICAL

- PSYC 207 *Drugs, and Behavior* (4 credits)
- PSYC 322 Sensation and Perception (4 credits)
- PSYC 401 Physiological Psychology (4 credits)

COGNITIVE

- PSYC 315 Cognition (4 credits)
- PSYC 323 Psychology of Learning and Memory (4 credits)
- PSYC 400 Seminar in Cognition (4 credits)
- PSYC 415 Research Issues in Cognition (4 credits)

SOCIAL

- PSYC 121 Social Psychology (4 credits)
- PSYC 151 Cross-Cultural Psychology (4 credits)
- PSYC 321 Research Issues in Social Psychology (4 credits)

DEVELOPMENTAL

- PSYC 200 Infancy and Childhood (4 credits)
- PSYC 202 Lifespan Development (4 credits)
- PSYC 203 Psychology of Adolescence (4 credits)
- PSYC 204 Adulthood and Aging (4 credits)
- PSYC 402 Developmental Psychology Research (4 credits)

CLINICAL

- PSYC 301 Psychopathology (4 credits)
- PSYC 302 Personality Theories (4 credits)
- PSYC 313 Psychological Testing (4 credits)
- PSYC 428 Counseling and Psychotherapy (4 credits)

ELECTIVE COURSES

- PSYC 205 Psychology of Women (4 credits)
- PSYC 250 Positive Psychology (4 credits)
- PSYC 288 Psychology of Marriage and Family (4 credits)
- PSYC 308 Motivation and Emotion (4 credits)
- PSYC 342 Industrial/Organizational Psychology (4 credits)
- PSYC 365 Health Psychology (4 credits)

Additional requirements

All of the following or an adequate substitute approved by the chair:

BIOL 101 General Biology (4 credits) or BIOL 105 Human Biology (4 credits) or BIOL 106 Women, Medicine and Biology (4 credits) or BIOL 207 Genetics, Ecology, and Evolution (4 credits)

Plus:

MATH 101 Finite Mathematics (4 credits)

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functioning, and variation within as well as between cultures. A range of substantive areas within psychology will be examined, including social, developmental, organizational, cognitive, health psychology, and psychology of emotion. Examples will be drawn from a range of non-Western cultures (e.g., Japan, India, Liberia) as well as various cultures within the United States (e.g., African-American, Hispanic, American Indian). Emphasis will be placed on how Western and non-Western cultures differ from each other, on how non-Western cultures differ from each other, and on how intra-cultural variation also plays important roles in psychological functioning. This course fulfills the Human Diversity requirement in the core curriculum.

Prerequisite: PSYC 111

P YC Psychology of Infancy and Childhood credits P YC

An introduction to issues and theories of development dealing with infancy, toddlerhood, and early and middle childhood. The course reviews the principles, theories, research and application of cognitive, emotional, personality, social and physical development. Also examined is how children develop the knowledge, skills, and personality characteristics that allow them to become successful adults as well as how differences among children come about.

Prerequisite: PSYC 111

NOTE: Students who receive credit for PSYC 200 may not receive credit for PSYC 202.

P YC Lifespan Development credits P YC

An introduction to developmental principles and theories throughout the lifespan. The course also includes research, application and the interplay among the physical, emotional, social and intellectual variables in the process of growth and development. Also examined is how individuals develop the knowledge, skills, and personality characteristics that



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PSYC 213 Current Research Issues in Social Psychology 3 credits

This laboratory course provides hands-on experience in the design, implementation, and presentation of a social psychology experiment. Class readings and discussion introduce social psychological research, link classic social psychological research to current social issues, and teach students to do what social psychology researchers do.

Prerequisites: PSYC 212

PSYC 214 Sensation and Perception 3 credits

This laboratory course includes discussion of the structure and function of sensory systems, the information that these systems provide the brain, and the subsequent interpretation of sensory information that we call perception. The course focuses on visual perception (e.g., brightness, color, form, depth, movement, constancy, illusions) and auditory perception (e.g., detection, discrimination, loudness, pitch) and incorporates art and music.

Prerequisite: PSYC 212

PSYC 215 Learning and Memory 3 credits

In this laboratory course basic concepts involved in simple associative learning are presented, along with theoretical and applied concerns. The analysis and modification of animal and human behavior by means of classical and instrumental conditioning are discussed. The course also will trace the history of the study of learning from Aristotle to modern times. In this laboratory course, students will learn about the history of the study of learning from Aristotle to modern times. In this laboratory course, students will learn about the history of the study of learning from Aristotle to modern times.



P YC Research Issues in Cognition credits

This laboratory course explores research issues in cognitive psychology, with special emphasis on cognitive psychology methodology, current research issues, hands-on research, and discussion/analysis of primary research sources. Specific topics covered each semester may vary slightly. Examples of topics include: subliminal perception; automatic processing; implicit memory; eyewitness testimony; memory reconstruction; expertise and problem solving; the use of heuristics in decision making; person memory.

Prerequisites: PSYC 212

P YC History of Psychology in a Context credits



• structure and interrelationships involved in human behavior.

Major requirements

Either:

HIST 111 Origins of the Modern World to 1550 (4 credits) and HIST 112 The Modern World Since 1550 (4 credits)

or

HIST 113 Early America in Global Perspective (4 credits) and HIST 114 The Modern U.S. in Global Perspective (4 credits)

Plus:

ECON 251 Principles of Macroeconomics (4 credits)

ECON 252 Principles of Microeconomics (4 credits)

ECON - One additional course in economics numbered above 300

HIST - One history course numbered above 300

POLS 104 American Government in Comparative Perspective (4 credits)

POLS - Two additional political science courses

SOCL 100 Introduction to Sociology (4 credits)

ECIS 100 (We 1 economics number cr) 18.0059 00 Intr 300

SOCL 210 (4 credits)

Courses in the social work major will prepare students for generalist social work practice and for graduate study. The program is accredited by the Council on Social Work Education at the baccalaureate level and qualifies graduates to take the examination for licensure at the licensed social worker (LSW) level.

Majors will expand their knowledge of social work beyond the boundaries of the classroom by completing two fi

The School of Social Work includes 30 St. Kate's and St. Thomas faculty who are recognized for their teaching excellence and scholarship and are eager to lend their expertise concerning academic and professional issues. Our faculty members hold leadership positions in local, regional and national professional organizations and have expertise in areas such as medical social work, school social work, social policy, child welfare, AIDS and international social work. Our professors will enthusiastically challenge students and encourage them to reach their full potential.

The School of Social Work is recognized as a national leader for its strong commitment to social justice. Social Work for Social Justice: Ten Principles, developed by the program and used in the baccalaureate and graduate programs, have been adopted by programs across the country. The social work program also has an active Social Work Club and Honor Society, Phi Alpha.

The social work program requires students to be formally admitted to the major. This process takes place in February of the junior year. Prospective majors must have a grade point average of 2.25 and must be interviewed by the School of Social Work faculty.

There are three social work minors available to all majors: Social Welfare, Chemical Dependency Counseling: Addiction and Recovery, and Social Services Management. These minors are not accredited by the Council on Social Work Education and do not qualify graduates to sit for the Minnesota Board of Social Work examination for State of Minnesota licensure at the licensed social worker level.

The program described below is accredited by the Council on Social Work Education at the baccalaureate level and qualifies graduates to take the Minnesota Board of Social Work examination for State of Minnesota licensure at the licensed social worker level.

o c a or Honor o c e t y

Beta Epsilon, the campus chapter of *Phi Alpha* National Social Work Honor Society, was established at the University of St. Thomas and St. Catherine University in 2002. The purpose of this organization is to advance excellence in social work practice and to encourage, stimulate and maintain scholarship of the individual members.

As a social work major, you are eligible for membership after achieving a junior or senior standing, earning a minimum of six semester hours or equivalent in social work, achieving an overall grade point average of 3.25 or above, and a social work grade point average of 3.50 or above.

Internat ona tudy

As a social work student you will have an opportunity to study in Mexico in the spring semester of your junior year. This semester-long program will enable you to take all required social work courses as well as study Spanish.

Ma or n o c a or

SOWK 281 Introduction to Social Work (4 credits)

SOWK 340 Human Behavior and the Social Environment (4 credits)

SOWK 355 Communication and Interviewing Skills (4 credits)

SOWK 375 and 376 (2 credits each) or 378* Junior Field Placement and Integrative Seminar (*378 only for students studying abroad fall or spring semester)

SOWK 380 Social Work Research (4 credits)

SOWK 385 Group Work Skills (4 credits)

SOWK 391 Social Policy for Social Change (4 credits)

SOWK 401 Generalist Practice I: Small Client Systems (4 credits)

SOWK 402 Generalist Practice II: Large Client Systems (4 credits)

SOWK 405 and 406 Senior Field Placement and Integrative Seminar (4 credits each)

SOCI 251 Race and Ethnicity (4 credits)

SOWK 380 Social Research: Designs and Statistical Application (4 credits)

Minor in Social Services Management

The ability to administer programs, raise funds, and write grants is increasingly important in social service and non-profit work. The purpose of this minor is to prepare students for administrative, management, or fundraising roles with nonprofits and social service agencies. Students will be introduced to social work and social services, gain an understanding of the impact of social policies on the provision and scope of social services in the United States as well as gain tangible skills, such as fundraising, grant writing, management, program evaluation, and accounting or marketing, for work in social services management. Students will learn critical leadership skills necessary for effective management. Upon completion of the minor, students will have enhanced skills that will help to position them to be successful advocates, administrators, and managers within social service and nonprofit agencies.

Minor Objectives

- Gain a broad understanding of social work and social services in the United States
- Understand the impact of social policies and government programs on the scope of and provision of social services in the United States
- Develop marketable skills in fundraising, grant writing, leadership, evaluation, and development for nonprofit agencies and programs
- Build a strong core of business skills, knowledge, and management ethics that will enhance students' work in social service and nonprofit agencies

Required Courses:

ACCT 210 Intro to Financial Accounting (4 credits)

BUSN 200 Business Learning Through Service (0 credit)

MGMT 305 Management and Organizational Behavior (4 credits)

MKTG 300 Principles of Marketing (4 credits)

SOWK 281 Introduction to Social Work (4 credits)

SOWK 391 Social Policy for Social Change (4 credits)

SOWK 430 Development and Fundraising for Social Service Agencies

(The C designation following a course number indicates the course is offered at St. Catherine University; the T designation indicates that the course is offered at the University of St. Thomas.)

Minor in Chemical Dependency Addition and Recovery

This minor provides students preparing for work in a variety of settings (social work, health care, criminal justice, etc.) with a foundational understanding of addiction and recovery and their impact on multiple areas of life, how to identify abuse and addiction, beginning steps in assisting, advocating for, and referring people who have chemical health concerns. This minor is a part of the preparation for Minnesota's Alcohol and Drug Counselor Licensure.

Minor Objectives

- Understand addiction and recovery and their impact on multiple areas of life.
- Understand the interdisciplinary approach to addiction and recovery counseling.
- Pharmacology of substance abuse disorders and the dynamics of addiction including co-occurring disorders.

Concurrent registration in SOWK 402/4020 is required.

OK Child Welfare Policy credits GR

This course is designed to give students an overview of important topics in child welfare practice and policy. Students will be asked to examine their own values about orientations toward child welfare, children's rights and responsibilities, the nature of maltreatment, and other issues facing the field today, as they affect diverse families. Additionally, students will be given tools to advocate for children, and an opportunity to exercise new advocacy skills.

OK Practice with Older Adults and Families credits GR

This course provides an introduction to, and overview of social work knowledge, skills, and values for working with older adults and their families. Content includes an examination of theories such as: "activity theory", "substitution theory", "continuity theory", "labeling theory", "transpersonal theories", and the "transition model" as well as the "strengths perspective and empowerment principles" as they apply to an elderly population. Students are expected to examine their own and societal attitudes about aging, risk factors of aging, the nature and limitations of gerontological social work, forces shaping the delivery system, major bio-psychological and spiritual dimensions in practice, and differential models of intervention.

OK Development and Fundraising for Social Service Agencies credits

The purpose of this class is to provide students with an overview of key elements of supporting and expanding social service programs in nonprofit and public agencies. Topics covered include nonprofit governance and administrative structures, fundraising, program design and development, philanthropy, supervision of paid staff and volunteers, and grant-writing and program evaluation. An emphasis will be placed on linking agency work and agency mission. The course will emphasize application and synthesis of course concepts through community-based projects.

Prerequisite: Junior or Senior standing

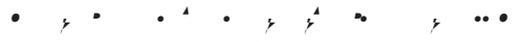
OK Practice with Military Service Members, Veterans and their Families credits

This course provides an introduction to and overview of military social work knowledge, skills, and values for working with service members, veterans, and their families at the foundation level. Content includes an examination of topics relevant to a foundation in military social work practice such as military culture, at-risk populations, as well as risk and resilience among deployed service members and their families. Students are expected to examine their own and societal attitudes about social work with military-impacted populations. Students will demonstrate competency through integrative, multi-level applications grounded in literature, current initiatives and resources for military-impacted populations, and current research and policy.

OK Family Resilience and Diversity Involving Refugee credits GR

This course presents the family resilience framework as a foundational context for working with diverse populations, focusing on strengths and adaptive capacity. Specifically, this course explores critical issues, theory and skills related social work practice with immigrants and refugees. Consideration is given to the macro context of immigration including related policy responses. Key factors in resettlement and transition, such as migration trauma, the social work deliv-

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The program emphasizes the interrelationships among the various components of the criminal justice system (e.g., law enforcement, courts and corrections) and examines how they deal with adult offenders and juvenile delinquents.

The major reflects the interdisciplinary nature of criminal justice. It provides a concentration of courses which prepares students for careers in such areas as policing, private security, probation, parole and corrections. It also prepares students for advanced study in criminology, criminal justice and law.

The criminal justice program at St. Thomas, in conjunction with Alexandria Technical College, is accredited by the Minnesota Board of Peace Officer Standards and Training (POST). This program prepares students for the peace officer licensing examination. Students who intend to take this examination must also complete SOCI 251 and PSYC 111. Please contact the department's Law Enforcement Education Coordinator for more information.

- SOCI 100 Introduction to Sociology (4 credits)
- SOCI 200 Introduction to Criminal and Juvenile Justice (4 credits)
- SOCI 210 Research Methods in Sociology (4 credits)
- SOCI 220 Sociological Analysis (4 credits)
- SOCI 312 Crime and Delinquency (4 credits)
- SOCI 344 Police and Society (4 credits)
- SOCI 480 Seminar in Criminal Justice (4 credits)
- CJUS 342 Criminal Law and Criminal Procedure (4 credits)

Plus four credits from the following:

- CJUS 345 Police Operations (4 credits)
- CJUS 347 Correctional Practice and Administration (4 credits)
- POLS 312 Judicial Process and Politics (4 credits)
- POLS 314 Constitutional Rights and Liberties (4 credits)

Plus four credits from the following (if not taken above):

- SOCI 130 Homicide (4 credits)
- SOCI 251 Race and Ethnicity (4 credits)
- SOCI 405 Internship in Criminal Justice (4 credits)
- SOCI 498 Individualized Study (4 credits) (for in-career students only)
- IDSC 291 Anatomy of Violence (4 credits)



SOCI 210 Research Methods in Sociology (4 credits)
SOCI 350 Social Inequality: Privilege and Power (4 credits)

SOCI 370 Sociological Theory (4 credits)

Plus twelve additional credits from the list above or below:

SOCI 110 Social Problems (4 credits)
SOCI 130 Homicide (4 credits)
SOCI 220 Sociological Analysis (4 credits)
SOCI 251 Race and Ethnicity (4 credits)
SOCI 304 Adolescence in Society (4 credits)
SOCI 312 Crime and Delinquency (4 credits)
SOCI 321 Marriages and Families (4 credits)
SOCI 330 Religion and Society (4 credits)
SOCI 332 Urban Sociology (4 credits)
SOCI 341 Work, Organizations, and Society (4 credits)
SOCI 344 Police and Society (4 credits)
SOCI 353 Global Perspectives on Gender (4 credits)
SOCI 354 Sex in Society (4 credits)
SOCI 380 Cross-Cultural Perspectives on Religion in Society (4 credits)
SOCI 498 Individual Study (4 credits)
SOCI 474 Seminar in Sociology (4 credits)

Minor in Criminal Justice

SOCI 100 Introduction to Sociology (4 credits)
SOCI 200 Introduction to Criminal and Juvenile Justice (4 credits)
SOCI 312 Crime and Delinquency (4 credits)

Plus eight credits from the following, at least four of which must be in sociology:

CJUS 342 Criminal Law and Criminal Procedure (4 credits)
CJUS 345 Police Operations (4 credits)
CJUS 347 Correctional Practice and Administration (4 credits)
POLS 312 Judicial Process and Politics (4 credits)
POLS 314 Constitutional Rights and Liberties (4 credits)
SOCI 130 Homicide (4 credits)
SOCI 344 Police and Society (4 credits)
SOCI 353 Global Perspectives on Gender (4 credits)

Note: Students wishing to combine a major in either Sociology or Criminal Justice with a minor in the other field may do so. However, the major and minor may not have more than eight credits or two courses in common. Non-majors can also earn a minor in Sociology and minor in Criminal Justice. However, the two minors may not have more than eight credits in common.

SOCI 100 Introduction to Sociology (4 credits)

Introduction to the concepts, theories, methods and applications of the scientific study of society and social concerns. Enables students to understand the connections between the individual and larger social and cultural forces. Heightens awareness of the diversity of American and other societies. This course fulfills the Social Analysis and Human Diversity requirements in the core curriculum.

SOCI 110 Social Problems (4 credits)

Contemporary society is confronted with a number of serious problems that are often global in their impact. This course explores the causes, effects, and proposed solutions to some of these major social issues. Special attention is given to issues of inequality (such as racism, sexism, and poverty) and problems in core institutions (such as family violence, unequal educational opportunities, and unemployment). This course meets a requirement in the Justice and

and men through documentary and interview sources. We also consider international and transnational social policies and actions aimed at improving the quality of life, expanding opportunities, and building human rights for women and men, girls and boys. This course meets a requirement in Justice and Peace Studies; Women's Studies; and fulfills the Human Diversity requirement in the core curriculum.

Prerequisite: SOCI 100 or SOCI 110 or permission of the instructor

OCI Sexuality Credits

Sexuality as a social construction is explored with a specific focus on cultural and institutional influences including the family, government, religion, and the media. Current research findings are discussed within the context of historical change in American sexual behavior, attitudes and research methodologies. This course meets a requirement in Family Studies.

Prerequisite: SOCI 100 or 110

OCI Social Psychology Credits

This course provides a general survey of major social psychological theories and research. Topics include selfhood, socialization, conformity/deviance, attitudes, gender roles, and intergroup/intragroup dynamics. Through exposure to real life settings and simulations, students will explore key questions such as "What attracts us to each other?", "How do we respond to deviant behavior?" and, "Why do we conform?". This course meets a requirement in the Justice and Peace Studies program.

Prerequisite: SOCI 100 or SOCI 110

OCI Environment Credits

In what ways does the world around us shape who we are as individuals? This course exposes learners to the ways in which various social forces such as family, social class, mass media, and school shape our lives. It includes the influence of "micro" elements of social structure (such as socialization processes and small groups), "macro" elements of social structure (organizations, communities and society), and important sociological concepts (inequality, power, conflict, social control, etc.).

Prerequisite: SOCI 100

OCI Sociological Theory Previous OCI Credits

Study of the place of sociological theory in understanding interaction and society. Examination of both classical and contemporary theories, including conflict, functionalism, and interactionism. Application of theories to contemporary social concerns.

Prerequisite: SOCI 100 and 8 additional credit-hours in sociology

OCI Cross Cultural Perspectives on Religion Credits

This course considers the relationship between religion and society on a world-wide basis. It examines why people are religious and how the beliefs and practices of various religious traditions have influenced family life, education, morality, politics, and other social dimensions of life. The course includes discussion of all the major religious traditions, such as Christianity, Judaism, Hinduism, Buddhism, and Islam.

Prerequisite: SOCI 100 or SOCI 110

OCI Internship Criminal Justice Credits

This course is designed to provide the student with an opportunity to apply academic training in a criminal justice setting. Students will spend a minimum of 10 hours per week in an agency or organization directly involved in some aspect of criminal justice. Students will be supervised by an on-site supervisor. They also will participate in a weekly meeting with other interns and a St. Thomas faculty member.

Prerequisites: SOCI 200, 210, and permission of the instructor

OCI Senior Capstone Credits

The senior capstone experience offers graduating students an opportunity to actively reflect upon theory, methodology, and substantive sociological knowledge and to integrate these components to assess the role of sociology in understanding sociological problems. These issues will be explored in the context of a specific topic, chosen by the instructor. Careers, location, and preparation for graduate school will also be addressed.

Prerequisite: SOCI 210 and SOCI 370 (previously SOCI 470) and SOCI 220 or concurrent registration

OCI Experiential Learning Credits

OCI Experiential Learning Credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

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Statistics is an interdisciplinary major that draws upon faculty and courses in the departments of Computer and Information Sciences and Mathematics. The major is administered by a committee of representatives from both departments. This joint major allows students to pursue an interest in mathematical statistics, applied statistics, and related areas including biostatistics, operations research, and data mining.

Major in Statistics B.S.

MATH 113 Calculus I (4 credits)

MATH 114 Calculus II (4 credits)

Plus four credits from the following:

MATH 128 Introduction to Discrete Mathematics (4 credits)

or

MATH 240 Linear Algebra (4 credits)

Plus:

CISC 130 Programming and Problem Solving (4 credits)

Concentration in Mathematical Statistics

Plus eight credits from the list of electives below.

Concentration in Applied Statistics

Plus sixteen credits from the list of electives below.

Electives

MATH 385 Mathematical Methods of Numerical Analysis (4 credits)

STAT 310 Bio-Statistics (4 credits)

STAT 370 Bayesian Statistical Models and Credibility Theory (4 credits)

Additional Requirements

COJO 100 Public Speaking(4 credits) or COJO 105 Communication in the Workplace (4 credits)

Joint Minor in Statistics from MAH and CISC Departments

This joint minor allows students to pursue an interest in mathematical statistics, applied statistics, and related areas including biostatistics, operations research, and data mining.

Required courses (each of two tracks includes 6 courses with MATH, STAT, or IDTH designation numbered in the brackets):

MATH 113 Calculus I (1)

MATH 128 Introduction to Discrete Mathematics

or

MATH 240 Linear Algebra (2)

Plus:

For Mathematical Statistics track:

MATH 114 Calculus II (3)
MATH 200 Multivariable Calculus (4)
MATH 313 Probability (5)

For Applied Statistics track:

Plus four credits from the following electives (6):

A Introductory statistics II credits A for every ID H

Review of inferential statistics; sampling distribution of the sample mean and sample proportion, central limit theorem, confidence intervals and hypothesis tests for one and two means and one and two proportions. Introduction to basic applications: tests of independence, analysis of variance and linear regression. A statistical package must be used as tool.

Prerequisite: STAT 206 or at least .35 semester, but less than one semester, of statistics

NOTE: Students who receive credit for STAT 201 may not receive credit for STAT 220

A statistics I credits A for every ID H

Introductory applied statistics. Work environment; population, sampling frame, random sample, type of variables and studies. Descriptive statistics: collecting, displaying, summarizing, and interpreting data to extract information. Probability; relative frequency definition of probability, conditional probability, independence, discrete and continuous random variables, probability distribution and probability density, binomial, normal, standard normal, t, chi-square, and F distributions. Inferential statistics; sampling distribution of the sample mean and sample proportion, central limit theorem, confidence intervals and hypothesis tests for one and two means and one and two proportions. Basic applications: tests of independence, analysis of variance and linear regression. A statistical package must be used as tool.

This course fulfills the third course in the Natural Science and Mathematical and Quantitative Reasoning.

Prerequisites: Math placement at level of MATH 111 or above; or MATH 100, or 101, or 105, or 108, or 109, or 111, or 113

NOTE: Students who receive credit for STAT 220 may not receive credit for STAT 201.

A Biostatistics credits

This course provides students with the knowledge and skills needed to effectively apply basic statistical methods in health related fields, such as Biology, Medicine, and Public Health. Students learn inferential statistical techniques involving topics in estimation, hypothesis testing, nonparametric methods, clinical trials, contingency tables, review of analysis of variance and linear regression, and a brief introduction to experimental design.

Prerequisite: STAT 220 or STAT 314

A Mathematical statistics credits for every MA H

Populations and random sampling; sampling distributions. Theory of statistical estimation; criteria and methods of point and interval estimation. Theory of testing statistical hypotheses; non-parametric methods. Offered fall semester.

Prerequisite: MATH 240 and 313

NOTE: Students who receive credit for STAT 314 may not receive credit for MATH 303.

A statistics II credits for every ID H

Applied linear regression models. Simple linear regression: introduction, inferences, diagnostics, remedial measures, simultaneous inferences. Matrix approach in linear regression. Multiple regression; inferences, remedial measures, extra sums of squares, partial determinations, standardized models, use of indicator and mixed variables, polynomial regression, model selection and validation, diagnostics, remedial measures, multicollinearity and effects, autocorrelation. Single and multi-factor analysis of variance: analysis of factor level means, interactions, inferences, diagnostics, and remedial measures. A statistical package must be used as tool. Optional topics may include logistic regression, design of experiments, and forecasting.

Prerequisite: STAT 201 or STAT 220 or STAT 333

The history and analysis of theater forms, Western and non-Western, from ancient rituals to the 18th century with attention to the relationships between the plays and the audience, performers, and production methods of various periods. This course fulfills the Fine Arts requirement in the core curriculum.

HR Modern and Contemporary World Theater History of Theater II credits

Examination of 18th, 19th and 20th century world theater with special attention to both the contemporary and historic perspectives. Deals with major movements and styles of modern theater. This course fulfills the Fine Arts requirement in the core curriculum.

HR American Theater History of Theater III credits

Development of theater in the United States from its 17th century roots to the present, with special attention to contemporary American drama. Emphasis on the connections between theater and culture. This course fulfills the Fine Arts requirement and the Human Diversity requirement in the core curriculum.

HR Film I Introduction to the Art of Film credits

Analysis of the structure and social impact of film as an art form; extensive use of films in class; concentration on the fiction, documentary and animated film. This course fulfills the Fine Arts requirement in the core curriculum.

HR History of Film Silent Era credits

Examines the growth of popular film from the 16th century Italian camera obscura to the rise of Hollywood and the first talkies. Selected films will be studied in class and independently. This course fulfills the Fine Arts requirement in the core curriculum.

HR History of Film Sound Era to Present credits

Studies the ways in which such innovations as sound, color, wide-screen and present day computer technology continue to change world cinema. The impact of war and peace, economic conditions, nuclear age politics and the emergence of third world and feminist cinema will be examined as well. Selected films will be studied in class and independently. This course fulfills the Fine Arts requirement in the core curriculum.

HR Film Topics credits

HR Film Topics credits

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online or the English Department website. Topics listed under 297 fulfill the Fine Arts requirement in the core curriculum.

HR Film II Film Theory and Criticism credits

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Plus four credits from the following:

THEO 417 Internship for Ministry (4 credits)

THEO 445 Theology and Education (4 credits)

Minor in Theology

THEO 101 The Christian Theological Tradition (4 credits)

Plus:

THEO 215 Christian Morality (4 credits)

Plus:

Four credits in Sacred Scripture

Eight additional credits in theology

Four credits in systematic theology or Four credits in historical theology

Note: At least eight of the credits used to fulfill the minor must be at the 300-level or above. The department recommends either THEO 301 or 393 be chosen as one of the two electives for the minor.

Courses in areas of theological study

Sacred Scripture

THEO 205 Old Testament (4 credits) (OT)

THEO 210 New Testament (4 credits) (NT)

THEO 330 Wisdom Writings in the Biblical Tradition (4 credits) (OT)

THEO 335 Letters of St. Paul (4 credits) (NT)

THEO 340 The Gospel of John (4 credits) (NT)

THEO 343 Apocalyptic Literature (4 credits) (OT & NT)

THEO 345 Gospels of Matthew, Mark and Luke (4 credits) (NT)

THEO 350 Historical Literature of the Old Testament (4 credits) (OT)

Systematic theology

- THEO 200 Christian Belief: Ancient and Contemporary (4 credits)
- THEO 251 Global Christianity (4 credits)
- THEO 301 Theological Methods and Resources (4 credits)
- THEO 302 The Second Vatican Council (4 credits)
- THEO 314 Christian Spirituality (4 credits)
- THEO 323 Church and Sacramentality (4 credits)
- THEO 373 The Person and Mission of Jesus Christ (4 credits)
- THEO 380 Grace, Hope and Eschatology (4 credits)
- THEO 381 Topics in Systematic Theology-Half Course (2 credits)
- THEO 386 Topics in Systematic Theology (4 credits)
- THEO 394 Death and the Afterlife (4 credits)
- THEO 411 Theologies of Justice and Peace (4 credits)
- THEO 421 Theologies of Justice and Peace (4 credits)
- THEO 422 Christian Faith and the Management Professions (4 credits)
- THEO 423 Christian Marriage (4 credits)
- THEO 424 Christianity and World Religions (4 credits)
- THEO 425 Judaism (4 credits)
- THEO 427 Evil and Suffering (4 credits)
- THEO 434 Science and Christian Theology (4 credits)
- THEO 435 Atheists and Apologists (4 credits)
- THEO 438 Theology of Crime, Punishment and Forgiveness (4 credits)
- THEO 440 Hinduism and Buddhism (4 credits)
- THEO 445 Theology and Education (4 credits)
- THEO 448 Theology and Literature (4 credits)
- THEO 449 Theology and the Engineering Profession (4 credits)
- THEO 450 Theology and Mass Media (4 credits)
- THEO 452 Theology and Beauty (4 credits)
- THEO 453 Theology and Art (4 credits)
- THEO 455 The Church in Latin America (4 credits)
- THEO 457 Theology and Public Discourse (4 credits)
- THEO 467 Muslim Christian Dialogue (4 credits)
- THEO 472 Theology and Public Health (4 credits)

Moral theology

- THEO 215 Christian Morality (4 credits)
- THEO 325 Catholic Social Tradition (4 credits)
- THEO 384 Topics in Moral Theology-Half Course (2 credits)
- THEO 389 Issues in Christian Morality (4 credits)
- THEO 420 Theology and the Biomedical Revolution (4 credits)
- THEO 437 Christian Faith and the Health Care Professions (4 credits)
- THEO 447 Faith, Social Transformation and Social Work (4 credits)
- THEO 454 The Morality of War (4 credits)
- THEO 459 Theology and the Environment (4 credits)

Certificate in Lay Ministry

On occasion, substitute other courses if the person's previous experience warrants it. Otherwise, courses will be chosen from the following list:

THEO 101 Christian Theological Tradition (4 credits)
THEO 205 Introduction to the Old Testament (4 credits) (or a 300-level course in Old Testament)
THEO 210 Introduction to the New Testament (4 credits) (or a 300-level course in New Testament)
THEO 215 Christian Morality (4 credits)
THEO 323 Church and Sacramentality (4 credits)

Plus four credits from the following:

THEO 200 Christian Belief: Ancient and Contemporary (4 credits)
THEO 220 Early Christian Theology (4 credits)
THEO 240 Theology of the Protestant and Catholic Reformation (4 credits)
THEO 302 Second Vatican Council (4 credits)
THEO 310 Christian Worship (4 credits)
THEO 325 Catholic Social Tradition (4 credits)
THEO 373 Person and Mission of Jesus (4 credits)

All of the courses in the Certificate program are part of the standard offerings of the Theology department, as de-



This course involves the student in an intensive historical, literary and theological reading of major portions of the New Testament in the Jewish and Greco-Roman contexts and from the perspective of modern methods of biblical interpretation. In addition, the course explores the New Testament as a foundational document for modern Christian traditions in the development of doctrine, in the expressions of worship and in the articulation of moral principles.

Prerequisite: THEO 101

HEO Christian Morality credits

This course is an introduction to the principles, methods and topics of Christian theological ethics. The following themes will be addressed: the relation of Christian faith to moral reflection and decision making (both individual and social); the contribution of the Christian tradition to the understanding of the human person (including freedom, sin, conscience, character and grace); the role of the believing community in its relation to culture; and the connection of worship and spirituality to the Christian moral life. Some application will be made to selected issues in personal, professional and social ethics.

Prerequisite: THEO 101

HEO Early Christianity credits

A theological and historical introduction to the origins and development of the Christian church from the first to the fifth centuries. Special attention will be given to the historical emergence of Christian doctrines, creeds and canon; the formation of Christian understandings of the human person; the development of liturgical and sacramental traditions; and the interaction of Christianity with other ancient cultures. Contemporary approaches to the study of Christian origins will be emphasized.

Prerequisite: THEO 101

HEO Medieval History credits

A study of the development of Christian theology from the fall of the Roman Empire until the Renaissance. Special attention will be given to the main themes of the classical Christian views of Thomas Aquinas and St. Bonaventure. Other themes that may be treated: the role of monasticism and mendicant life, medieval saints such as St. Francis of Assisi and Catherine of Siena, women's spirituality, mysticism, liturgical developments, religious art and architecture, and the interaction of Christians with Jews and Muslims

Prerequisite: THEO 101

HEO American Catholics credits

This course emphasizes the impact of cultures on one another in the growth of the Catholic community in today's United States. These world and theological views and their practical application in the piety, politics and everyday life of Catholics will be the primary focus. By summarizing significant events and characters in the history of the Catholic experience, the student will develop an understanding both of the different ethnic experiences and the theological concerns which created a pluralism among American Catholics that makes the Church of the United States truly Catholic.

Prerequisite: THEO 101

HEO History of the Protestant and Catholic Reformation credits

An investigation of the origins of the Protestant tradition through the writings of Martin Luther, John Calvin, Ulrich Zwingli, and the Radical reformers, among others. This course also examines the Roman Catholic response, especially as articulated by Ignatius of Loyola, Teresa of Avila, and the Council of Trent. Attention will be given to the theological issues which emerged, as well as views on marriage and family life, religious and political authority, and the status of women.

Prerequisite: THEO 101

HEO Individual Study credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

Prerequisite: THEO 101

HEO Global Christianity credits *formerly THEO 471

The history of Christianity is a history of inculturation in diverse geographical and cultural settings. This course examines both the history and implications of this inculturation in various contexts, and investigates the resources that Christian theology and tradition offer for guiding how Christians live out their faith across cultures. Specific topics may include: the worldwide growth of Pentecostal/Charismatic Christianity; implications for the ecclesiology of the Roman Catholic and other historic churches; how Christians in different cultures read the Bible; the development of non-Western Christianities until the present day; and the Christian duty of global solidarity and its potential to reshape national,

ethnic and class loyalties.

Prerequisite: THEO 101

HEO Research credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

Prerequisite: THEO 101

HEO he o g ca Methods and Resources credits

This course explores the role of scripture, history, tradition and common human experience in the understanding of religious mystery and the systematic expression of that mystery in the Christian tradition. It examines both ancient and contemporary formulations of theological knowledge, requirements for theological scholarship, and consideration of certain key theological questions.

Prerequisite: THEO 101

HEO he econd at can Council credits

This course examines the roots of Vatican II in the unfinished work of the First Vatican Council, together with the movements and events in the period between the councils. In addition, it analyzes major documents of the Second Vatican Council with special attention to the dogmatic and pastoral constitutions of the Church.

Prerequisite: THEO 101

HEO Ch r st an orsh p credits

A study of Christian communal worship from historical, social science, and theological perspectives. This course examines worship as the sanctification of time, space, and life. It also includes a comparison and contrast of Eastern (Orthodox) and Western (Lutheran, Anglican, Reformed, Baptist, Methodist, Quaker, Frontier, Pentecostal) worship practices with those of Roman Catholics.

Prerequisite: THEO 101

HEO Ch r st an p r tua' ty credits

This course explores the diverse expressions of Christian spirituality. Students will discuss the definitions given to the term "spirituality" and consider methodological issues in the academic study of spirituality whether these are historical, anthropological or theological in approach. Emphasis is placed on a wide reading in the Christian tradition of both primary and secondary literature in order to assist the student in grasping the integral link between the lived faith of Christians and the theological articulation of that faith. Spiritualities will be seen in the context of their historical emergence, the unique contributions each makes to Christianity, and the link they demonstrate between spiritual life and theological insight.

Prerequisite: THEO 101

HEO Read ngs fro t. ho as Aqu nas credits

An introduction to the theology of St. Thomas Aquinas, his influence and his contemporary significance.

Prerequisite: THEO 101

HEO Church and sacra menta' ty credits

A study of past and present models of the Church, and of sacramentality as a central expression of Christian communities. Sacramentality recognizes God's transformation of human beings through effective signs, such as Baptism and Eucharist. This course examines the implications of various models of Church and sacramentality for the status and functions of laity, forms of ministry and authority, and the relationship between the churches.

Prerequisite: THEO 101

HEO Catho' c o c a rad t on credits

This course examines Catholic reflection on social structures and patterns of moral behavior as they are expressed in economic, social and political contexts. Focus topics might include: social virtues, the role of religion in the public realm, understanding of the person in relation to society and the state, the defense of the dignity of the person, the promotion of the common good, the use of force and the meaning of justice within and between communities. Possible sources for this course might include selections from classic biblical, patristic and medieval texts; papal, conciliar and episcopal documents; writings of modern and contemporary Catholic social theorists; and social movements inspired by the tradition.

Prerequisite: THEO 101

HEO ' sdo i t ngs' n the B b' ca rad t on credits

This course introduces students to the structure and contents of some of the major wisdom writings of the Bible, such

as Proverbs, Job, Ecclesiastes, Sirach (Ecclesiasticus), and Wisdom of Solomon. Special emphasis is given to the intellectual climate and essential controversies of ancient Israel which produced the wisdom movement and its literature. One of the aims of the course is for students to experience the unique relevance of this ancient quest for wisdom in today's climate of secularity and skepticism.

Prerequisite: THEO 101

HEO Letters of t. Paul cred ts

Through a careful reading of the authentic letters of Paul, as well as some of the letters attributed to him, this course explores the religious and cultural world of Paul and the Christian communities with whom he interacted. It will also investigate some of the major theological themes of his letters and inquire into Paul's understanding of the ethical life of first-century Christian communities. Finally, the course will examine the impact of Paul's theological and ethical teaching for modern Christian life.

Prerequisite: THEO 101

HEO he Gospe of John cred ts

This course focuses on the gospel of John and the New Testament letters attributed to John. Employing a variety of historical and literary critical methods, the course investigates Johannine literature's unique portrait of Jesus, the theological themes of the gospel, and the worldview and social situation of the community of Christians from which this literature emerged. It also explores some of the ways the gospel of John has been interpreted over the centuries, with special attention to the question of the gospel's attitude toward Judaism and the historical impact of that stance.

Prerequisite: THEO 101

HEO Apoca ypt c L terature cred ts

This course examines some of the apocalyptic literature of the Bible, specifically the books of Daniel and Revelation, as well as non-biblical Jewish and Christian apocalyptic literature of the same periods. It explores a variety of ways of interpreting apocalyptic literature with special attention given to the meaning and significance of its mythical imagery and symbolism. It also examines the nature and function of apocalypticism as a worldview and as a theological response to universal and compelling questions such as the justice of God and the problem of evil.

Prerequisite: THEO 101

HEO Gospe s of Matthew Mar' and Lu' e cred ts

This course introduces students to the major methods of modern biblical criticism (for example, source criticism, form criticism, historical criticism, redaction criticism, literary criticism, and sociological analysis) and develops expertise in the application of each of these methods to the synoptic gospels (Matthew, Mark and Luke-Acts). Students will learn the major theological teachings, social and historical contexts, and literary features of each of the synoptic gospels.

Prerequisite: THEO 101

HEO H stor ca L terature of the O d esta ent cred ts

Many books of the Old Testament, such as Joshua, Judges, 1 & 2 Samuel and 1 & 2 Kings, contain ancient Israel's own understanding of its history. This course examines books such as these in order to examine their historical content, and to develop an appreciation for the way history was told in the ancient world. Students will learn to apply certain methods of biblical study to the texts. In addition, several major themes in the biblical histories will be explored, such as prophecy, monarchy and developments in Israelite worship. One aim of the course is to examine the relationship between the memorable story telling in these texts and the theological message for both the ancient and modern audience.

Prerequisite: THEO 101

HEO he Pentateuch cred ts

Critical and in-depth investigations of various Pentateuchal traditions: Primeval Stories; Patriarchs; Exodus; Sinai Covenant; Laws; Entry into Canaan. Particular emphasis will be focused on their origin, transmission, mutual relationships and final theological unity.

Prerequisite: THEO 101

HEO acred Mus c of the Catho' c Heir tage cred ts equ va ent to CA H

Music both expresses and shapes religious experience. This course explores the practice and theory of music-making in Catholic worship and devotion. Special emphasis will be given to the study of Gregorian chant as foundational for Roman Rite worship music, the historical development of other forms of Catholic church music, and contemporary issues of music, culture and spirituality.

Prerequisite: THEO 101

HEO Contemporary Catholic theologians credits

This course concentrates on the study of two to four influential Catholic systematic theologians of the 20th and 21st centuries within their historical, cultural, and philosophical contexts. The course will alternate between the study of the prominent themes and concerns of the modern and post-modern world, and the theologians' varied responses to these issues through substantial primary text reading and discussion. The Second Vatican Council's impact upon systematic work will be measured as well.

Prerequisite: THEO 101

HEO Prophetic Literature of the Old Testament credits

This course examines biblical prophetic activity and prophetic texts within their ancient Near Eastern context. Biblical texts will include both narratives about the prophets, and collections of oracles in the prophetic books. The course includes an examination of the nature and function of prophetic activity from a cross-cultural perspective, the historical background of the prophets, as well as the literary forms and Israelite traditions utilized in the oracles. It will be seen that this background is essential to any discussion of the theology of the prophets.

Prerequisite: THEO 101

HEO Salvation and Damnation theology of Luther and Calvin credits

How are humans saved? Do we have a free will? Does God choose some to be saved and others to be damned? This course examines the answers offered to these questions by two influential Protestant reformers: Martin Luther and John Calvin. It also explores their views on marriage and family life, work, religious and political authority, and the status of women.

Prerequisite: THEO 101

HEO The Person and Mission of Jesus Christ credits

This course explores New Testament understandings of some of the titles of Jesus, such as Christ, Lord, and Savior, and investigates the development of Christological doctrine in the early centuries of Christianity. Consideration will also be given to some modern Christological questions.

Prerequisite: THEO 101

HEO Grace Hope and Eschatology credits

This course explores the connections among the life of grace, Christian hope and the traditional "last things" - death, resurrection, and judgment. Consideration will be given to some modern Christological questions.

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Revival.

Prerequisite: THEO 101

HEO Opus in Scripture Credits

The subject matter of this course, announced in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>, will vary from year to year, but will not duplicate existing courses in scripture. The course introduces students to major methods of biblical criticism and helps students develop expertise in the application of appropriate methods to a given scriptural book or topic. The topic could consist of a focus on a particular text, such as Psalms or the Catholic Epistles, or on a theme related to scriptures, such as Biblical Ethics or History of Biblical Interpretation. The course may be taken more than once.

Prerequisite: THEO 101

HEO Opus in Historical Theology Credits

The subject matter of this course, announced in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>, will vary from year to year, but will not duplicate existing courses in historical theology. The course will consider particular historical thinkers, texts, themes or movements and help students to develop expertise in the theological consideration and analysis of them. This course may be taken more than once.

Prerequisite: THEO 101

HEO Issues in Christian Morality Credits

This course focuses on the historical development and contemporary discussion of a specific moral issue to be announced in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>-addressed within the Christian theological tradition. Examples of such issues include, but are not limited to: war and peace, sex and the body, wealth and poverty, family and society. Emphasis will be on the foundations (biblical, traditional) and development of a distinctively Christian approach to the issue. Substantial attention will be devoted to modern challenges. This course may be taken more than once.

Prerequisite: THEO 101

HEO Seminar for Theology Majors and Minors Credits

A capstone experience for theology majors and minors. The subject matter of this course, announced in the annual class schedule, will vary from year to year, but will not duplicate already existing theology courses. Students explore, in seminar format, a particular theological theme or issue from the perspective of at least three of the four sub-disciplines of theology (biblical, systematic, historical, moral). Under the guidance of the instructor, students will complete a major research project.

Prerequisite: a minimum of sixteen credits in theology, including THEO 101

HEO Opus in Scripture Theology Half Course Credits

This course will consider selected topics, themes, or texts in the Christian scriptures, and will introduce students to the major methods of biblical criticism. Topics covered in this course will vary from section to section, but will not duplicate existing courses. Because topics vary, the course may be taken more than once. Intended primarily for January term. This course fulfills HALF (2 credits) of the second-level requirement for Faith and the Catholic Tradition.

Prerequisite: THEO 101

HEO Research Thesis for Majors Credits

An independent research thesis for majors to be completed under the direction of a theology faculty member. The results of this thesis, at the student's option, may be presented at the annual Senior Forum, in which theology majors present their research work before theology students and faculty members. The research thesis is best suited to students who intend to pursue an academic career in theology. See the department chair for further information.

Prerequisite: permission of chair

HEO Death and the Afterlife Credits

This course explores Christian and non-Christian conceptions of death and afterlife. It focuses on Christian theological views, but also considers Jewish, Muslim, Hindu, and Buddhist conceptions. Specific topics addressed will be ideas of judgment, heaven, purgatory, hell, reincarnation, and accounts of near-death experiences.

Prerequisite: THEO 101

HEO Peccata Seminar Credits

HEO Peccata Seminar Credits

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online,

<https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

Prerequisite: THEO 101

HEO Bioogy and Genetics credits

Our knowledge of the fundamental properties of organic life has grown exponentially in the last several decades, as has our ability to manipulate those properties for the relief of suffering and the improvement of human life. The ap-



minimum of 10 hours per week at the selected agency or church is required, as well as a weekly seminar session led by a UST Theology faculty member.

Prerequisite: Completion of 24 credits in theology, including THEO 101 and 215

HEO Bioethics and the Bioethical Revolution credits

This course examines the contributions of Christian faith to reflecting upon, understanding, and resolving issues and ethical questions raised by revolutionary developments in the life sciences, e.g. innovative birth technologies, genetic manipulation and control, human experimentation, the prolonging of life and allocation of scarce medical resources.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Religions of Justice and Peace credits

An examination of the views of various religions and ideologies on issues of justice and peace, with special attention to the Catholic and other Christian teachings on such issues as war and peace, violence, economic justice, the environment, criminal justice, and social justice. Special attention is given to how fundamental presuppositions and principles of each group studied affect their views on justice and peace, and contribute to or hinder dialogue and peaceful interaction with other groups. In addition to Christianity, students will study (at least) one Far Eastern worldview (e.g. Buddhism, Hinduism, Jainism), one tribal religion (Native American, African tribal), Islam, and one secular worldview (e.g. Marxism, capitalism, secular humanism). Students are required to investigate one worldview in depth through a semester-long research project. This course fulfills the Human Diversity requirement in the core curriculum.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Christian Faith and the Management Professions credits equivalent to CAH

What is a good manager and how does he or she contribute to the common good? This course pursues these questions within the Christian social tradition broadly understood through an exploration of the theological relationship between work as a vocation and leisure as contemplation. Within this theological context, the course examines the financial, organizational, technological, and cultural forces that managers and organizations encounter daily.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Christian Marriage credits

This course is designed to acquaint students with the theology of Christian marriage, understood as covenant relationship and as sacrament, that is, an effective sign of God's love in our world. Primary though not exclusive emphasis will be on the Roman Catholic tradition. Students will also examine contemporary cultural attitudes toward sexuality, marriage, and the family in the light of Christian theology.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Christianity and World Religions credits

This course is a comparison of the teachings and practices of Christianity with the teachings and practices of selected non-Christian religions, for example, American Indian (Lakota), Judaism, Islam, Hinduism and Buddhism. The aim of the course will be to clarify similarities and differences between Christianity and other religions, to reflect on the problem posed by religious pluralism in modern culture, and to develop a Christian theology of world religions. This course fulfills the Human Diversity requirement in the core curriculum.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Judaism credits

An examination of Judaism, its history, literature, religious concepts, practices and personalities. This course fulfills the Human Diversity requirement in the core curriculum.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Islam credits

This course is designed to familiarize students with the basic beliefs and practices of Islam in its diverse cultural expressions worldwide, including worship, family life and intellectual and artistic traditions. Through a close reading of Qur'anic and biblical texts, students will consider how Islam is both similar to and different from the other two major monotheistic faiths, Judaism and Christianity. Finally, the course will examine how both Islam and Christianity are meeting the challenges of modern culture. This course fulfills the Human Diversity requirement in the core curriculum.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Evil and Suffering credits

This course analyzes some of the most profound evils of the modern era, and attempts to relate them to traditional and contemporary discussions of divine and human responsibility. It is especially concerned with the unique features of modern evils, including their presence in certain social structures, political systems and scientific technologies. Specific

subjects for study, which will vary from year to year, may include: the Holocaust; slave trade; genocidal colonization in Africa, Asia, and the Americas; the threat of nuclear annihilation. The course investigates how religious faith might be re-interpreted in light of these evils, and whether the notion of a suffering deity is theologically appropriate for Christian faith.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Women and the Old Testament credits

This course explores the topic of women and the Old Testament from several different vantage points. In the first place, it will try to reconstruct the status and roles of women during the biblical periods at various points in their ancient Near Eastern context. This reconstruction will involve an examination of the legal and narrative material of the Old Testament and cross-cultural studies on women and family life in non-industrial countries. Secondly, the course investigates the conceptions of gender in the Old Testament, including key texts such as the creation stories, the stories about the ancestors, the stories about family honor, the female characters of the historical books of the Bible, the books named after women (Ruth, Esther, Judith), the texts symbolizing woman as evil (e.g., the foreign woman, the adulterous wife, the whore of Babylon). Finally, the course studies the interpretive work of biblical scholars and how they utilize various historical and literary-critical methodologies in order to bring issues of gender, race, and class to bear upon the biblical text. This course fulfills the Human Diversity requirement in the core curriculum.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Women and the Christian Tradition credits

This course explores the ways in which the Judeo-Christian religious tradition has profoundly influenced our society's definition of women. It will focus on what some of the major works of this tradition assert about the nature and place of women in their particular historical communities. Students will also read religious literature by women in order to acquire a sense of women's religious experience both throughout history and in the present day. This course fulfills the Human Diversity requirement in the core curriculum.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Music and the Bible credits

This course explores the social, cultural and religious contexts for music-making among biblical peoples and the primitive Christian communities. Students will learn to do detailed analysis of psalm and canticle texts in the Old Testament and acclamations, infancy canticles, God-hymns, Christ-hymns and psalmody in the New Testament. Implications for present-day worship and spirituality will also be addressed.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Women in the Early Church credits

The literature of early Christianity is filled with ambiguity concerning women's role in the churches and in the story of salvation. Women's subordination was justified on the basis of Eve's role in bringing evil and sin into the world. At the same time, women were presented as heroines and models of the ideal Christian life. They held roles of leadership within early church communities, even while early church writers argued against their right to do so. This course will examine a wide range of primary texts by and about women in the early Christian churches in order to explore the relationship between faith and culture as the context for understanding women's role and status in the early church. It will also look at ways in which these texts might be relevant for the modern context. This course fulfills the Human Diversity requirement in the core curriculum.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Black Religious Experience credits

This course explores Black theological development as a cultural, functional and cognitive dimension of traditional Afro-American society, including belief, worship, expression, symbol, spirituality and God. Attention will be given to the meaning and roots of the notions of culture, nationalism and racism as they appear as questions in Black theological thought, including African religions, Islam and The Nation of Islam, along with Afro-American Christian theologies. African as well as Afro-American religious experience combined with the affirmation of the Christian creed are identified in order to evaluate the questions of Black Catholic theology in America today. This course fulfills the Human Diversity requirement in the core curriculum.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Theology and Politics credits

A theological investigation of changing relationships between Christianity and the political order, principally in religious terms as understood by Christians themselves, but also from the vantage point of government. Emphasis in the first half of the course is on the foundational events of the New Testament and the early Christian era, and in the second

HEO Hindu s and Buddh s cred ts

This course investigates Hinduism and Buddhism, the two great Asian religions that have had worldwide impact. We will examine the historical and theological foundations of each religion as well as the plurality of expressions within each. Considerable attention will be paid to classical Hindu and Buddhist texts. This course will also attend to issues of



This course studies both Catholic and Protestant Christianity in Germany from the First World War to the end of the Second World War. The basic theme is Christianity's relationship with its host culture, and the ways in which the churches, both theologians and lay people, understood that relationship especially in its political dimension, amidst the crises that convulsed Germany in the twenties, thirties, and forties. Attention is given both to cases that demonstrate the conflict between Christianity and culture, and to cases in which the conflict was not acknowledged, whether through defects of character, theological blind spots, or political miscalculations.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Theology and Beauty credits

Is beauty "in the eye of the beholder"? Are "beauty" and "prettiness" synonymous? Are "beauty" and "ugliness" opposites? Might beauty still be considered a transcendental aspect of being, along with the true and the good? Is it possible that Beauty is a name for God, or a means by which God reveals God's self in the created order? This course examines a variety of theological approaches to these questions, both ancient and modern. It also explores the implications of varying answers to these questions for the arts, and for lives of faith.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Theology and Art credits

Through the ages, the relationship between theology and the arts has been mutually enriching, resulting in some of the world's masterpieces of visual art, architecture, music, and literature. The relationship, too, has been strained by iconoclastic movements that express fear that the arts tempt people with idolatry. In this course, students will consider the theological dimensions of the complex relationship between theology and the arts. Emphasis on historical periods, themes, doctrines, intersections, and types of art will vary according to the expertise of the instructor.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and one Art History course and PHIL 115

HEO The Morality of War credits

Against the background of historical debates within the Christian tradition, this course examines circumstances in which military forces may be justified and the moral constraints that apply to its conduct. Major attention to concrete case studies will familiarize students with standard just war criteria and develop their capacity to apply them in difficult situations. Students explore emerging debates over questions such as: Who decides whether a war is just? What place does war have in the evolving international system? What prospects has Gandhian nonviolence opened up for transarmament? Is there an obligation for humanitarian intervention even in the absence of national self-interest?

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO The Church in Latin America credits

In this course we will study Christian theology and practice in context of great suffering and struggle. We will analyze the various forms that Christianity has taken in Latin America from the period of the Spanish Conquest to the present. We will study the history of the Church in Latin America, but more importantly we will examine the theological issues raised in each era to see how Christians have lived their faith under different circumstances. As we examine the complex interplay of Church, poverty, and power in Latin American history, we will examine theologies and spiritualities of evangelization, liberation, martyrdom, poverty, and the Church. We will also study and critique specifically Latin American methods and approaches to the theological task itself. Finally, we will examine the coming of the Latin American Church to the United States through immigration. This course fulfills the Human Diversity requirement in the core curriculum.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Christianity and Consumer Culture credits

Consumerism can be defined as the tendency to reduce both the material and the spiritual to commodities. This course is an extended investigation of the dynamics of consumerism in American culture from the perspective of the Christian intellectual tradition. Sources drawn upon will include materials from theology, political theory, philosophy, and economic theory. Attention will be given to the history of consumerism, the theology implicit in consumerism, and different Christian reactions to the phenomenon of consumerism.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Theology and Public Discourse credits

This course addresses students as citizen believers, mapping out what role they can play in public life. It first examines the Christian tradition and its teachings on responsible citizenship. It then examines the questions using legal and political theory from before our founding as a nation through the debates about the nature of our democracy today. The rest of the course is focused on preparing students as citizen believers to enter the public square with their own theological argument on contemporary political topic of interest to them, which they will make public through varied written formats and class debate.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO The Bible from a Multicultural Perspective credits

This course examines the interaction between biblical interpretation and diverse contemporary cultures. The course defines multiculturalism broadly to include race/ethnicity, gender, sexual orientation, class and/or religion. The course has three goals: a reconstruction of the cultural context of the ancient world; an examination of challenges posed by cultural theories; and the impact diverse readings have for contemporary theologies based on the Bible.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Theology and the Environment credits

This course examines Christian theological and moral reflection on the relation between human activity and the natural environment. It will address environmental issues that are of mutual concern to theologians and the natural or social sciences; thus it will study scientific analysis along with theological perspectives. The course will also review contemporary practices and/or policies that address environmental problems.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Christian Ethics and Immigration credits

This course will bring the tools and the methods of Christian ethics to bear on the issue of economic immigration in the contemporary, U.S. context. The first part of the course examines the economic, political, historical, social and cultural dimension of transnational migration in the U.S. context. The second part of the course will bring the resources of Christian ethics to the ethical issues of immigration raised in the first part of the course. This second part of the course will examine the centrality of alterity (otherness) in the Bible and the Christian tradition. The course will conclude with the discussion of how Christian ethics can inform the national discourse on the issues and conversely, how the issues of migration must shape Christian ethics.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Theology and Literature of C.S. Lewis credits

This course will focus primarily on C.S. Lewis' literary works, especially, but not exclusively, on his fiction. The course will also include some critical works, both Lewis' as well as others' work about Lewis. In addition, numerous biblical passages will be examined, including the parables of Jesus, which, as a parallel to Lewis' work, can demonstrate the theological possibility of narrative. Class lectures and readings in and about Lewis will explore Christian theology and its interdisciplinary relations to literature, especially myth. Through the lens of Lewis' literature, historical, philosophical, moral, educational, and global issues will be considered.

HEO The Bible and American Politics credits

This course examines the use and misuse of the Bible and its political teachings in American political history. Readings and discussions will address the political message of the Bible, the questions of whether the Bible played any substantial role in the creation of the American polity, and the way in which particular biblical passages, themes, and schools of interpretation have functioned in American political discourse and have influenced the development of American history.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Jesus Christ and Interreligious Dialogue credits

This course will explore the identity and role of Jesus in Christianity in relation to Judaism, Islam, Hinduism, and Buddhism. It will show the similarities and differences in the various approaches to Jesus in the context of each of these respective religions and of interfaith dialogue.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Justice and the Bible credits

This course will investigate ways that the Bible has been and can be used to address issues of social justice and peace in today's world, both within Christian faith communities and in public debate. Topics of investigation may include war, poverty, oppression, human rights, world hunger, immigration, ecology, globalization, capital punishment, genocide, euthanasia, and racial, gender, and economic inequities. Attention will be given to contemporary approaches to the study of the Bible that lend themselves to exploring these issues. The instructor may opt to focus on the Old Testament or the New Testament of the Christian scriptures.

Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO The Quran and the Bible credits

This course will examine the Bible and the Qur'an and compare them. Points of comparison might include: competing claims of divine inspiration; creation, Adam and Eve; Joseph; the law; Mary and Jesus; Mohammed and Jesus. This course has three goals. First, to gain an understanding of each broad tradition (Islamic from the Qur'an, and Jewish and

Christian from the Bible); second, to develop a method by which to approach sacred texts, a way to see their relevance and power and third, to appreciate both the differences and the similarities in these two sacred texts, both in their literary features, and in their effect upon society. This course fulfills the Human Diversity requirement in the core curriculum. Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Muslim Dialogue credits

This course will explore what Christianity and Islam have in common, where they differ, and what are the most fruitful points of dialogue between the two religions. We will examine both Muslim and Christian perspectives on a range of topics, including God, Jesus, and the Holy Spirit. Prerequisite: THEO 101 and one 200-level or 300-level THEO course and PHIL 115

HEO Theology and Public Health credits

This course will explore the relationship between theology and the public health professions. "Public health" is a term that refers to the art and science of a society's efforts to prevent disease and to promote health and human thriving. Topics will include biblical, theological, ethical, sociological, and epidemiological approaches to gender and economic-based disparities in health care. Special attention will be given to the religious dimension of global responses to crises in public health. Focus of sections will vary depending on the expertise of the faculty. Prerequisites: Theo 101, a 200 or 300 level THEO course, and PHIL 115

HEO Experiential Learning credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

HEO Internship credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

HEO Options credits

The subject matter of these courses will vary from year to year, but will not duplicate existing courses. Descriptions of these courses are available in the Searchable Class Schedule on Murphy Online, <https://banner.stthomas.edu/pls/banner/prod/bwckschd>.

HEO Research credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

HEO Individual Study credits

See the description of these courses at the beginning of the "Curricula" section of this catalog.

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College of Arts and Sciences, Interdisciplinary Program
 John Roach Center for the Liberal Arts (JRC) 123, (651) 962-5321
 Myers (THEO), director

The Associated Colleges of the Twin Cities (ACTC) offer a cooperative major in women's studies. Women's studies is an interdisciplinary program which takes gender as its critical term of inquiry, exploring it as a social construct and analyzing its impact on traditional disciplines. As an interdisciplinary major and minor, women's studies spans the curriculum, incorporating many disciplines in a diverse and stimulating package of courses. Courses consider historical and contemporary contexts from multicultural and multiracial perspectives, and focus on the intersections of race, class, gender, ethnicity, sexuality, religion, and culture.

Students in the program learn how to analyze social forces and assumptions that have shaped women's lives on individual, national, and global levels. This flexible program of study combines theoretical, practical and research components and provides preparation for both advanced study and professional work, for example, in organizations focusing on women, in human relations departments of corporations, and in health or legal professions.

Women's studies majors and minors are encouraged to study abroad. Specific courses taken abroad may substitute for St. Thomas requirements. See the director of women's studies, a study abroad advisor in the International Education Center, or Academic Information & Programs in the front section of this catalog for program options.

Major in Women's Studies

WMS



- HIST 298 Topics: Women and Family in the Americas
- MUSC 297 "Women's Work" in Music
- THEO 428 Women and the Old Testament
- THEO 429 Women and the Christian Tradition
- THEO 431 Women in the Early Church
- THEO 490 Topics: Comparative Theologies of Sex, Gender, and the Body

Social Science and Natural Science

- BIOL 106 Women, Medicine, and Biology
- BLAW 352 Gender Issues and the Law (J-Term)
- POLS 302 Women and Politics
- PSYC 205 Psychology of Women
- SOCI 304 Adolescence in Society
- SOCI 321 Marriages and Families
- SOCI 353 Global Perspectives on Gender
- SOCI 354 Sex in Society

Multicultural or Ethnic Studies

- ARTH 285 Arts of Africa
- COJO 370 Intercultural Communication
- HIST 116 African American History in Global Perspective



ORGANIZATION AND PERSONNEL

The legal body that governs the university is the board of trustees. It is the final authority on setting our important policies, on the definition of major goals, and on the preservation of the academic mission. The financial health of the university is one of its chief responsibilities.

The board selects members who have demonstrated their understanding of the purpose of this institution, the commitment it has to higher education, and the unique contribution St. Thomas can make as a Catholic liberal arts university.

The chief executive officer of the university is the president. She is responsible to the board of trustees for the functioning of the university and the administration of its policies. She presides at the meetings of the university faculty, university faculty senate, and the academic council.

Under the direction of the governing board, the president of the university must make sure that adequate means exist for communication, decision-making, and governance.

The president delegates appropriate authority and responsibilities to the faculty, as described in the faculty organization plan, and to various members of the university administration, among them: the executive vice president/provost who is responsible for all academic units and academic support services; and for the day-to-day administrative operations of the university including fundraising, student affairs, information resources and technologies, and university and government relations; the vice president for mission; the vice president/rector, responsible for the administration of the Saint Paul Seminary School of Divinity; the vice president for finance and administration.

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Dougherty

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Associate Dean

Lisa Waldner, Ph. D.
Associate Dean

Heather M. Shirey, Ph.D. [TE 0.0G5d olleg044(n!5073(!47.9DEaTL T)(H!30420.0G5dTJ 12 TL Td0.0044(e!44(e!30.00

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Directors, Literary Studies Program

Kurt Illig, Ph.D.
Director, Neuroscience Program

Arkady Shemyakin, Ph.D.
Director, Statistics Program

Susan E. Myers, Ph.D.
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Assistant Dean, Undergraduate Programs

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Chair, Department of Entrepreneurship

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Jamal Al-Khatib, Ph.D.
Director, Small Business Institute

t. Paulenary School of Divinity

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Advancement Development

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Senior Director of Alumni Relations

Kristine M. Aasheim
Executive Director, Institutional Advancement

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Vice President for Student Affairs

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Director, Finance and Planning

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Director, Counseling and Psychology Services

David J. Lemon
Director, Anderson Student Center

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Assistant Dean of Students/Judicial Affairs

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Patricia Conde-Brooks
Executive Director for Campus Inclusion and Diversity

Rebecca Swiler
Director, Child Development Center

Josh A. Hengemuhle
Assistant Dean for Orientation and Retention

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Vice President for Business Affairs/Chief Financial Officer

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Associate Vice President for Facilities Management

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Associate Vice President of Auxiliary Services

Gary L. Thyen
**Associate Vice President Business Affairs and CfJosh&s(&Langer)3
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Associate Vice President for Information Security & Risk Assessment

Brett A. Coup
Associate Vice President for Academic Technology

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Vice President for University and Government Relations

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Pau Berget

Member of Adjunct Faculty in Music - Studio Instructor in Lute
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Charlotte Berres

Director of Lay Formation, School of Divinity
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Gwen Berry

Associate Professor of Education
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