ARTH 391 Native American Art (4 credits)
An examination of the art of the Native Americans from the prehistoric period to the present within the context of distinct geographical regions: Woodlands, Plains, Plateau, Northwest, and Arctic. This course fulfills the Fine Arts and Human Diversity requirements of the core curriculum.

ARTH 450 Modern Scandinavian Art History (4 credits)
The golden age of Scandinavian art history witnessed the establishment of national art academies and museums in the nineteenth century and the amassing of avant garde collections of European masters and non-Western art in the twentieth, along with the emergence of prize-winning Nordic designers in industrial settings. Although on the periphery of Europe, Scandinavian masters' art reflected contemporary styles but also displayed the austerity and fantasy of traditional folk designs which evolved out of the poverty and isolation of its largely rural population in the centuries before the modern era. The art of the five Nordic countries provides a model for examining the integration of ethnic folk art motifs with mainstream European styles as well as the acceptance of both fine and applied arts as equal in importance. In additional, indigenous art of the Sami and the Greenlandic Inuit enriched folk and international design motifs. The art of those artists who participated in the great emigration of Scandinavian peoples to North America in the late nineteenth into twentieth centuries will also be examined in relation to the influences of mother country and the American artistic mainstream.
Prerequisite: one ARTH course or permission of instructor

ARTH 475, 476 Experiential Learning (2 credits)
ARTH 477, 478 Experiential Learning (4 credits)
These courses allow students to gain credit for certain non-classroom experiences. (These do not include studio art courses.) Normally open to junior and senior students. Permission of the department chair is required. Credit for experience is normally sought prior to its occurrence. See the complete description of these courses at the beginning of the "Curricula" section of this catalog.
Prerequisite: previous course or courses in art history

ARTH 481 Senior Paper and Presentation (4 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 (or 151 and 152 from previous catalog) and 211

ARTH 483, 484 Seminar (2 credits)
ARTH 485, 486 Seminar (4 credits)
See the description of these courses at the beginning of the "Curricula" section of this catalog.

ARTH 487, 488 Topics (2 credits)
ARTH 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 at www.stthomas.edu/registrar/onlineschedule/.

ARTH 491, 492 Research (2 credits)
ARTH 493, 494 Research (4 credits)
See the description of these courses at the beginning of the "Curricula" section of this catalog.

ARTH 495, 496 Individual Study (2 credits)
ARTH 497, 498 Individual Study (4 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

College of Arts and Sciences
Interdisciplinary Program
Verhoeven (BIOL) committee chair; Advisory committee: Boyd (CHEM), Ditty (BIOL), Emms (BIOL), Glorivgen (CHEM), Marsh (CHEM)

Biochemistry is an interdisciplinary major that draws upon faculty and courses in the departments of Biology and Chemistry. The major is administered by a committee of representatives from both departments and is designed to meet the needs of students interested in gaining an understanding of the chemistry of life processes. Students who fulfill the requirements will receive a Bachelor of Science (B.S.) degree in Biochemistry. The program is appropriate for students pursuing graduate studies in biochemistry, medicine, or related fields. The major is also suitable for students interested in positions in biotechnology after graduation.

Biochemistry

Entering students interested in this major should inform Academic Counseling. Students are advised to begin their introductory biology, chemistry, and mathematics coursework in their freshman year. The biochemistry committee will coordinate advising. Students should talk with an adviser as soon as possible following their freshman year in order to select the elective courses that will be most appropriate to their interests. A research course in either biology or chemistry can be counted as one of the electives and is highly encouraged if the student will be seeking admission to a graduate program in biochemistry or molecular biology.

All graduating seniors are required to take achievement exams in both biology and chemistry for purposes of assessment of the major and College accreditation. Students choosing this major may not take a second major or a minor in either Biology or Chemistry.

Graduation with Honors in Biochemistry
Students graduating with a B.S. in Biochemistry may also qualify for honors. Students interested in this designation must consult with the chair of the Biochemistry Committee one year or more prior to graduation.
Requirements include:

- An overall minimum cumulative GPA of 3.25.
- A cumulative GPA of 3.50 in the courses in both biology and chemistry combined.
- Completion of four credits in research. This may consist of a 4-credit course or two 2-credit courses in either biology or chemistry.
- Preparation of a written thesis in the form of the primary literature.
- Successful defense of the thesis before an examining panel which includes the thesis director, a representative from each of the departments of biology and chemistry, a faculty member from outside the departments of chemistry and biology and a faculty member from another institution. The panel members should be selected in consultation with the thesis adviser.
- Presentation of the research at an off-campus meeting.

Note: All requirements should be completed by April 20 for a spring graduation, or by November 15 for a fall graduation.

Major in Biochemistry (B.S.)

BIOL 201 Diversity and Adaptation (4 credits)
BIOL 202 Genetics, Evolution, and Ecology (4 credits)
BIOL 204 Cellular and Molecular Biology (4 credits)

Plus:
CHEM 111 General Chemistry I (4 credits) *and* CHEM 112 General Chemistry II (4 credits)
or
CHEM 115 Accelerated General Chemistry (4 credits)

Plus:
CHEM 201 Organic Chemistry I (4 credits)
CHEM 202 Organic Chemistry II (4 credits)
CHEM 440 Biochemistry I (4 credits)
CHEM 442 Biochemistry II (4 credits)

Plus four credits from the following:
CHEM 331 Chemical Thermodynamics and Reaction Dynamics (4 credits)
CHEM 332 Quantum Chemistry and Molecular Spectroscopy (4 credits)

Plus:
Twelve additional credits numbered BIOL 295 or higher.
Note: Four credits must be at the BIOL 400-level, excluding Research. Four credits may be in Research at the BIOL 300-level.
Four additional credits in CHEM, selected in consultation with the adviser.
Note: CHEM 300 is strongly recommended for this elective.

Allied requirements
MATH 113 Calculus I (4 credits) (or equivalent)
MATH 114 Calculus II (4 credits)
PHYS 111 Introduction to Classical Physics I (4 credits)
PHYS 112 Introduction to Classical Physics II (4 credits)