MAJOR REQUIREMENTS (74 Units) Grades of “C” or better required. Courses may not need to be completed in order listed.

Required Courses (50 units)

- CPTG 121 Introduction to Computer Science (4) Prerequisite: MATH 121
- MATH 131 Calculus I (4) Prerequisite: MATH 122 or appropriate Math Placement Exam score
- MATH 132 Calculus II (4) Prerequisite: MATH 131
- MATH 133 Calculus III (4) Prerequisite: MATH 132
- MATH 231 Introduction to Linear Algebra & Discrete Mathematics (4) Prerequisite: MATH 132
- MATH 232 Differential Equations (4) Prerequisite: MATH 133 & 231
- MATH 233 Vector Calculus (4) Prerequisite: MATH 133
- MATH 324 Linear Algebra (4) Prerequisite: MATH 231
- MATH 415 Sets & Number Systems (4) Prerequisite: MATH 133 & 231
- MATH 421 Abstract Algebra I (4) Prerequisite: 324
- MATH 431 Analysis I (4) Prerequisite: MATH 415
- MATH 432 Analysis II (4) Prerequisite: MATH 431
- MATH 485 Seminar or CPTG 485 Seminar (0.5-2 units each; 2 units total required) Prerequisite: MATH 131

Additional upper division Computer Science or Mathematics (12 units)


Required Cognates (12 units)

- PHYS 231 General Physics I (4) and PHYS 231L Laboratory (1) *Physical Science
- AND 8 units from the following:
  - PHYS 232 General Physics II (4) and PHYS 232L Laboratory (1) Prerequisite: PHYS 231 and 231L *Physical Science
  - PHYS 233 General Physics III (4) and PHYS 233L Laboratory (1) Prerequisite: PHYS 232 and 232L *Physical Science
  - CHEM 351 Physical Chemistry: Thermodynamics (3) and CHEM 351L Laboratory (1) Prerequisite: CHEM 224, MATH 232, PHYS 233
  - CHEM 352 Physical Chemistry: Quantum Mechanics (3) and CHEM 352L Laboratory (1) Prerequisite: CHEM 351 & 351L
  - CHEM 353 Physical Chemistry: Quantum Mechanics (3) and CHEM 353L Laboratory (1) Prerequisite: CHEM 352 & 352L

Students pursuing teaching credentials are recommended to complete the following:

- MATH 345 College Geometry (4) Prerequisite: MATH 231. Concurrent enrollment accepted.
- MATH 415 Sets and Number Systems (4) Prerequisite: MATH 133 & MATH 231
- MATH 422 Abstract Algebra II (4) Prerequisite: MATH 421
- MATH 451 Introduction to Mathematical Statistics I (4) Prerequisite: MATH 133 & MATH 231

UNIVERSITY STUDIES FOUNDAIONAL STUDIES (20-37 UNITS) Grades of “C” or better required.

I FIRST-YEAR SEMINAR UNST 101A (1) and 101B (1) or UNST 100A (3) and 100B (3)

II RHETORICAL SKILLS

- A. ENGL 111 (3), 112 (3), 113 (3) College Writing or ENGL 124 Freshman Seminar (4)
- B. Upper Division Rhetoric: MATH 415, 431, and 432 (4)

III MATHEMATICS

One college-level Mathematics course in MATH 115, 121, 155 or CPTG 117 (4)

IV WORLD LANGUAGES

Level 3 proficiency (e.g. 153) in one non-English language (4-12)

V HEALTH AND FITNESS HLSC 120 Lifetime Fitness (2)

UNIVERSITY STUDIES GENERAL STUDIES (52 UNITS, 16 UPPER DIVISION) Grades of “D” or better required, unless courses are required by major.

THEME I. SOCIAL SCIENCES (SSCI) 8 units

- Globalization, Identity and Citizenship (4 units from SSCI 204/205/206/207/208) Prerequisite: ENGL 113/124
- Social Science Breadth Courses (4 units)

THEME II. ARTS AND HUMANITIES (HUMN) 12 units

- Exploring Culture (4 units from HUMN 104/105/106/107/108) Prerequisite: ENGL 111/124
- Arts and Humanities Breadth Courses (4 units)
- Arts and Humanities Breadth Courses (4 units)

THEME III RELIGIOUS BELIEFS AND PRACTICES (RLGN) 16 units

- RLGN 304 Adventism in Global Perspective or RLGN 305 Religion in Three Cultures (4) Prerequisite: ENGL 113/124, Junior Status
- A. Spiritual Experience and Expressions (0-4 units)
- B. Beliefs and Heritage (4 units)
- C. Scripture (4 units)
- D. Religion and Society (0-4 units)

THEME IV NATURAL SCIENCES (NSCI) 12 units

- Scientific Foundations (4 units from NSCI 404/405/406/407/408)
- Life Science (4 units) Either life science or physical science must include a laboratory
- Physical Science (4 units) Either life science or physical science must include a laboratory

THEME V SENIOR SEMINAR UNST 404G Religion, Values, and Social Responsibility (4)

UNIVERSITY STUDIES SERVICE-LEARNING (3 courses)

* A maximum of 4 units from the Major, and 8 units of Cognates required by the Major, may apply to University Studies General Studies requirements (2016-2017 Undergraduate Academic Bulletin).

NOTE: Should a student’s general education and major degree program not meet the minimum 190 units required for graduation, the student must complete elective units to make up the deficiency.
MATHEMATICS
Bachelor of Science

CAREER OPPORTUNITIES AND RELATED OCCUPATIONS: The department provides a curriculum in mathematics as a cultural study for all liberal arts students, as a basic tool for the scientist, and as a preparation for graduate study and teaching. Many mathematics majors may find jobs in teaching, statistics, actuarial work, computer science, applied mathematics, systems analysis, operations, research analysis, economics, engineering, physical science, finance, and genetics.

EDUCATIONAL QUALIFICATIONS: Statisticians typically need a master’s degree in statistics, mathematics, or survey methodology. However, a bachelor’s degree is sufficient for some entry-level jobs. Research and academic jobs generally require a Ph.D.

For jobs with the federal government, candidates need at least a bachelor’s degree in mathematics or significant coursework in mathematics. In private industry, mathematicians typically need an advanced degree, either a master’s degree or a doctorate.

JOB OUTLOOK: Employment of mathematicians is projected to grow 21 percent from 2014 to 2024, much faster than the average for all occupations. Employment of statisticians is projected to grow 34 percent from 2014 to 2024, much faster than the average for all occupations.

SALARY: The median annual wage for mathematicians was $111,110 in May 2015. The median annual wage for statisticians was $80,110 in May 2015.
