

College of Science
 Bachelor of Science: Mathematics Major
 Traditional Option
 For students graduating in calendar year 2009

I. University Core Curriculum (30-36 credits): All courses used for the core must be on the approved University Core Curriculum list. Each of Area 2 and Area 3 requires 6 hours. Area 4 requires a single eight-hour laboratory sequence in Biology, Chemistry, Geology, or Physics, but the two-hour lab portion of this requirement is currently waived by the Provost. Mathematics majors must take Math 1205-1206 or its equivalent to satisfy the Area 5 core requirement.

Writing and Discourse (Area 1: 6 credits) _____ 3 ()
 _____ 3 ()

Ideas, Cultural Traditions, and Values (Area 2: 6 credits) _____ 3 ()
 _____ 3 ()

Society and Human Behavior (Area 3: 6 credits) _____ 3 ()
 _____ 3 ()

Scientific Reasoning and Discovery (Area 4: 6 credits) _____ 3 ()
 _____ 3 ()

Quantitative and Symbolic Reasoning (Area 5: met by major)

Creativity and Aesthetic Experience (Area 6: 3 credits) _____ 3 ()

Critical Issues in a Global Context (Area 7: 3 credits) _____ 3 ()

For students entering prior to Fall 2005 (Writing Intensive courses: 6 credits) MATH 3034 3 ()
 _____ 3 ()

For students entering Fall 2005 or later, the ViEWS Requirement is met by required courses in the major.

Foreign Languages: The equivalent of three years of one foreign language in secondary school.* _____ 3 ()
 _____ 3 ()

II. Required Mathematics Courses (43 credits.)

A. Calculus and Vector Geometry

MATH 1205 3 ()
 MATH 1206 3 ()
 MATH 1224 2 ()
 MATH 2224 3 ()

B. Linear Algebra, ODE's:

MATH 1114 2 ()
 MATH 2214 3 ()

C. Intro Proofs/Algebra:

MATH 3034 (WI) 3 ()
 MATH 3124 3 ()
 MATH 3144 3 ()

D. Advanced Calculus:

MATH 3214 3 ()
 MATH 3224 3 ()

The following substitutions are allowed: MATH 4124 for MATH 3124, (MATH 4225-4226¹) for (MATH 3214 and MATH 3224).

E. 12 credit hours of 4000-Level Mathematics Courses (Subject to the following restrictions: i) MATH 4525, 4526¹, 4544, 4554, 4564, 4574, and 4584 may not be taken for credit by Mathematics majors; ii) At most one of MATH 4044, 4334, and 4344 is allowed; iii) A two-course sequence or cluster must be included from one of the following (each of these courses has three credits): [4175-4176¹], [4225-4226¹], [4245-4246¹], [4425-4426¹], [4445,4446], [4124, 4134], [4124, 4164¹], [4124, 5114¹], [4134, 4164¹], [4214, 4225], [4214; 4425], [4225, 4234], [4245, 4254], [4245, 4454], [4245, 4425], [4414, 4445], [4414, 4446], [5454, 5464].) A maximum of 60 math hours may be used for the degree.

_____ 3 () _____ 3 () _____ 3 () _____ 3 () _____ 3 ()

III. Mathematics-Related Courses (16 credits, with either eight credits in one area or six credits in each of two areas). Approved courses are as follows:

Aerospace and Ocean Engineering: All courses.

Biological Sciences: BIOL 2004¹, 2104¹, 2304¹, 2604¹, 2804¹, 3124¹, 3404¹, 3774¹, 4004¹, 4134¹, 4164¹ (CEE 4164¹, CSES 4164¹, ENSC 4164¹)

Biological and Systems Engineering: BSE 3305¹, 3306¹, 3414¹ (CEE 3414¹), 3504¹, 3514¹, 4144¹, 4424¹ (ME 4434¹), 4604¹

Chemical Engineering: All courses.

Civil and Environmental Engineering: CEE 3104¹, 3304¹, 3314¹, 3404¹, 3414¹ (BSE 3414¹), 3424¹, 3514¹, 3604, 4104¹, 4144¹, 4164¹ (BIOL 4164¹), 4184¹, 4304¹, 4314¹, 4324¹, 4354¹, 4444¹ (AOE 4054¹, ESM 4444¹), 4504¹, 4534¹, 4544¹, 4594¹ (CSES 4594¹), 4674¹

Computer Science: All courses except CS 1004, 3604¹, and 4004¹.

Crop and Soil Environmental Sciences: CSES 3634¹ (ENSC 3634¹), 4114¹ (ENSC 4114¹), 4594¹ (CEE 4594¹), 4644

Economics: ECON 3104¹, 3204¹, 3224¹, 4424¹

Electrical and Computer Engineering: All courses.

Engineering Science and Mechanics: All courses except ESM 1054 and 1114.

Finance, Insurance, and Business Law: FIN 4164¹

Geosciences: GEOS 3104, 4124¹, 4154¹, 4164¹, 4174¹, 4804¹

Industrial and Systems Engineering: ISE 2404, 3014¹, 3214¹, 3414¹, 3424¹, 3614¹, 4005¹-4006¹, 4015, 4016, 4204¹, 4234¹, 4404¹, 4414¹

Mechanical Engineering: All courses except ME 4005¹-4006¹, 4015¹, 4134¹, 4734¹, 4744, and 4754¹.

Philosophy: PHIL 3505-3506¹, 4514¹

Physics: PHYS 2305¹-2306¹, and all 3000 and up.

Statistics: STAT 3005-3006¹, 3104, 4004¹, 4105-4106¹, 4204¹, 4214¹, 4604, 4705-4706¹, 4714

<u>Computer Science**</u>	<u>Statistics</u>	<u>Engineering</u>	<u>Physics</u>	<u>Other</u>
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**All students must take at least one of the following: CS 1044, CS 1054, or CS 1705

IV. Electives (25-31 credits):

_____ ()()	_____ ()()	_____ ()()
_____ ()()	_____ ()()	_____ ()()
_____ ()()	_____ ()()	_____ ()()
_____ ()()	_____ ()()	_____ ()()

V. Outcomes Assessment:

Each student is required to participate in the department's Outcomes Assessment procedures as determined by each year's Undergraduate Program Committee and approved by the Head.

VI. Satisfactory progress toward the B.S. in Mathematics:

Upon having attempted 36 semester credits, the student must have completed 12 credits of the University Core. Upon have attempted 72 credits, the student must have completed 24 credits of the University Core.

Satisfactory progress toward the B.S. in mathematics requires that:

1. Within the previous two semesters, the student must pass at least one mathematics course which is used in the in-major GPA calculation.
2. Upon having attempted 72 semester credits (including transfer, advanced placement, advanced standing, credit by examination, freshman rule), students must have completed:

MATH 1205-1206, 1224, 2224: Calculus	11
MATH 1114, 2214: Linear Algebra and ODE's	5
MATH 3034: Proofs and Algebraic Systems	3
Total Credits	(19)

3. Upon having attempted 96 semester credits, students must have an in-major grade-point average of 2.0 or above.

VII. Minimum Hours Required. 120 semester credits.

VIII. Minimum GPA Required. For graduation, students are required to have a 2.0 GPA and a 2.0 in-major GPA. All Mathematics courses count toward the in-major GPA for this option except Math 1015, 1016, 2015, 2016, and any undergraduate Mathematics course with second

digit a 5 or a 6.

*Students who completed two years of a single foreign language in high school are strongly urged to complete the second semester (1106) of that foreign language very early in their program of study. Students who will be taking first and second semesters (1105-1106) of a foreign language are encouraged to schedule it in their freshman or sophomore years. NOTE: Students who completed fewer than two years of a single foreign language in high school must complete six semester hours of one foreign language at the college level and these six credits do not count toward the 120 hours required to graduate in the College of Science.

¹This course has a prerequisite or a corequisite that is not one of the courses in II A-D.