Bachelor of Arts (BA) or Bachelor of Science (BS)

MATHEMATICS MAJOR (2016-2017)

Charles E. Schmidt College of Science
Bachelor of Arts or Bachelor of Science

FUNDATIONS OF WRITTEN COMMUNICATION
(6 credit hours required – Writing Across the Curriculum - WAC)
Grade of “C” or higher is required in each course
____ ENC 1101.....College Writing I (Required)
____ ENC 1102.....College Writing II *

THE FOLLOWING COURSES BELOW MAY BE SUBSTITUTED FOR ENC 1102:

English Department
____ ENC 1930+.....University Honors Seminar in Writing (Permit Only)
____ ENC 1939+.....Special Topic: College Writing
____ ENC 2452+.....Honors Composition for Science

Anthropology Department
____ ANT 1471+.....Cultural Difference in a Globalized Society

History Department
____ HIS 2050+.....Writing History

Nursing Department (Departmental Permission Required)
____ NSP 1195+ ..... Being Cared For: Reflections from Other Side of Bed

Students seeking BS degree must select either:
CHM 2045 & Lab or PHY 2048 & Lab

FUNDATIONS OF SCIENCE & THE NATURAL WORLD
(6 credit hours required - One of the courses must have a lab)
Student must take 2 of the following courses; 1 must be from group A.
The second course may be from group A or group B.

Group A

Biology Department
____ BSC 1005 & L
____ Life Science (3 cr. incl. Lab)
____ BSC 2085 & L
____ Anatomy & Physiology 1 (4 cr. incl. Lab) *

Chemistry Department
____ CHM 1020C
____ Contemporary Chemical Issues

Geosciences Department
____ ESC 2000 Blue Planet (online)
____ EVR 1001
____ Env. Science and Sustainability

Physics Department
____ AST 2002
____ Intro. to Astronomy (P/F)

------For Science Majors------

Biology Department
____ BSC 1010 & L & D
____ Biological Principles (4 cr. Incl. Lab & Dis)

Chemistry Department (see note)
____ CHM 2045 & L
____ General Chemistry 1 (4 cr. Incl. Lab) $

Physics Department (see note)
____ PHY 2048 & L
____ General Physics 1 (5 credits incl. Lab) **
____ PHY 2053

Group B

Anthropology Department
____ ANT 2511 & L
____ Intro to Biological Anthropology (4 cr. Incl. Lab)

Chemistry Department
____ CHM 2032 & L
____ Chem. for Health Sciences (4 credits including Lab)
____ CHM 2083
____ Chemistry in Modern Life (P/F)

Engineering Dean Department
____ ETG 2831
____ Nature: Inter. of Sci., Eng., & the Humanities

Geosciences Department
____ GY 2010C
____ Physical Geol. (4 cr. Incl. Lab)
____ GLY 2100
____ History of Earth and Life
____ MET 2010 & D
____ Weather and Climate

Physics Department
____ PSC 2121 ..... Physical Science

------For Science Majors------

Biology Department
____ BSC 1011 & L & D
____ Biodiversity (4 cr. incl Lab & Dis)

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------For Science Majors------

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____ Physical Geol. (4 cr. Incl. Lab)
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____ Weather and Climate

Physics Department
____ PSC 2121 ..... Physical Science

------For Science Majors------

Biology Department
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Foundations of Mathematics & Quantitative Reasoning
(6 credit hours required – Grade of “C” or higher is required)
Student must take 2 of the following courses; 1 must be from group A.
The second course may be from group A or group B.

PRETEST IS REQUIRED BEFORE TAKING YOUR FIRST MATH COURSE

Group A
____ MGF 1106...... Math for Liberal Arts 1 (not for this major)
____ MGF 1107...... Math for Liberal Arts 2 (not for this major)
____ MAC 1105...... College Algebra
____ STA 2023...... Introductory Statistics (not for this major)
____ MAC 2311...... Calc. w/Analytic Geometry 1 (4 cr) (Required)
or any mathematics course for which one of the above courses is the direct prerequisite

Group B
____ MAC 1140...... Precalculus Algebra
____ MAC 1114...... Trigonometry
____ MAC 1147...... Precalculus Algebra & Trigonometry (5 credits)
____ MAC 2233.... Methods of Calculus
____ MAC 2312...... Calc. w/Analytic Geometry 2 (4 cr) (Required)

Philosophy Department
____ PHI 2102........ Logic (not for this major)

Note: Students must take at least one course with the prefix MAC or MGF.

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(6 credit hours required – Grade of “C” or higher is required)
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Group A

History Department
____ AMH 2010 ..... United States History Since 1877 (P/F)

Anthropology Department
____ ANT 2000 & D. Introduction to Anthropology

Economics Department
____ ECO 2013 ..... Macroeconomic Principles §

Political Science Department
____ POS 2041....... Government of the United States

Psychology Department
____ PSY 1012......... Introduction to Psychology (strongly recommended)

Sociology Department
____ SYG 1000 ....... Sociological Perspectives (strongly recommended)

Group B

History Department
____ AMH 2020 ..... United States History to 1877 (P/F)

Economics Department
____ ECO 2023 ....... Microeconomic Principles §
____ ECP 2002 ....... Contemporary Economic Issues

Exceptional Student Education Department
____ EEX 2091....... Disability and Society

Geosciences Department
____ EVR 1001....... Environment and Society

Public Administration Department
____ PAD 2258....... Changing Environment of Soc., Bus., & Gov’t

Sociology Department
____ SYD 2790 .......... Race, Class, Gender, and Sexuality
____ SYG 2010 ....... Social Problems

Urban & Regional Planning Department
____ URP 2051 ......... Designing the City

Students must take at least one course with the prefix MAC or MGF.

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Philosophy Department
____ PHI 2102........ Logic (not for this major)

Note: Students must take at least one course with the prefix MAC or MGF.
STUDENTS ASSUME RESPONSIBILITY FOR MEETING ALL GRADUATION REQUIREMENTS

Course selections should be made in consultation with an academic advisor.

Legend

+ - ENC 1101 is a prerequisite.
++ - Two Foundations of Written Communications classes are required before taking this course.
§ - Sophomore standing (30 credits earned) is a requirement to take this course.
* - Nursing majors are required to take this course in their first semester.
** - MAC 2311 is a prerequisite for this course. If a lab is needed, then take General Physics 1 Lab (PHY 2048 Lab).
*** - MAC 1105 and MAC 1114 are prerequisites for this course. If a lab is needed, then take General Physics 1 Lab (PHY 2048 Lab).
† - Co-requisite of College Algebra (MAC 1105) or a prerequisite of Introductory Chemistry (CHM 1025).
WAC - (WAC) Writing across the curriculum course.

§ Writing Across the Curriculum (WAC)/Gordon Rule
Students must attain grades of “C” or higher. 12 credits of writing (WAC) and 6 credits of mathematics are required.

Please note:
Students must take four (4) WAC courses. Two (2) courses are to be taken from Foundations of Written Communication. We strongly recommend the two additional WAC courses come from these courses: PHI 2010, WOH 2012, LIT 2010, LIT 2030, LIT 2040 and LIT 2070. See advisor for additional details.

(D) = Discussion, (L) = Lab
Courses indicating a (D) or (L) are linked with a lecture, a lab, and/or a discussion. If you select one of these courses, you must register for the lecture, lab, and/or discussion. You must attend the lecture, lab, and/or discussion.

Elective Credits
The number of elective credits allowed varies by major. Please consult with an academic advisor to determine the number of elective credits required for your major. Certain majors do not allow any electives.

P/F
Certain designated undergraduate courses may be taken for a letter grade of pass (P) or fail (F). Students must indicate the grade option preferred when registering; otherwise, a letter grade will be given. The maximum credit available to any student on the P/F option is one course per term with a maximum of 12 credits during a student’s entire course of study. This option is not available for courses in the student’s major, for students on probation, or for Engineering majors.

http://myfau.fau.edu

Go to MyFAU to:
Check e-mail
See FAU Announcements
FAU Self-Service:
Course schedules
Registration (drop/add classes) and withdrawals
Student records and financial aid
Tuition payments
The University Course Catalog
FOREIGN LANGUAGE (4 - 8 credits, 1 or more courses in the same language) - REQUIRED FOR MAJOR
Students with more than one year of a foreign language in high school should enroll in the second half of the beginners foreign language class (ARA/CHI/FRE/GER/HBR/ITA/JPN/LAT/SPN 1121) or a higher level course. Proficiency for a first-level course can be earned by successfully completing a second-level course. For questions related to this requirement, consult an academic advisor. CLEP exam credits meet this requirement: see the catalog.

- **NOTE:** Native Speakers of a foreign language must consult the Languages, Linguistics, and Comparative Literature Department regarding this requirement.

- **NOTE:** Honors Seminars SHALL BE ACCEPTED AS MEETING THE WAC/GRW REQUIREMENT. See the University Advising Services Office for details.

- **HONORS NOTE:** Students can apply for the PSYCHOLOGY HONORS PROGRAM after completion of 60 credits, and before completion of 105 credits. Students must have a 3.2 overall & Psychology GPA to be admitted and retained in the Honors track.

<table>
<thead>
<tr>
<th>BA</th>
<th>BS</th>
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<tbody>
<tr>
<td>50 credits</td>
<td>53 credits</td>
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<tr>
<td>21 credits</td>
<td>27 credits</td>
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<tr>
<td>15 credits</td>
<td>18 credits</td>
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<tr>
<td>34 credits</td>
<td>22 – 24 credits</td>
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<tr>
<td><strong>120 CREDITS</strong></td>
<td><strong>120 CREDITS</strong></td>
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**NOTE:** See the catalog for specific requirements, course descriptions and additional information. The requirements for some Intellectual Foundations Program (IFP) courses & other courses may be satisfied by passing the appropriate AP or CLEP exam. Check with your advisor and college. The Department of Mathematical Sciences accepts passing scores for Calculus AB and Calculus BC.

The Department of Mathematical Sciences has the following requirements:

1. At least 15 credits of 3000 level or above (upper division) Mathematics core and elective requirements must be completed at FAU;
2. Any course work in the major field transferred from another institution must be approved by the math department;
3. No major course may be taken pass/fail;
4. The maximum amount of credit which may be earned through co-op is 10 credits; Mathematics Department does not allow these credits to count as major courses;
5. The Mathematics Department requires a minimum **2.2 GPA overall for (BA)** or **2.5 GPA overall for (BS)** in all Mathematics courses taken at FAU.
MAJOR COURSES, COLLEGE REQUIREMENTS and ELECTIVES

MATHEMATICS (33-42 credits beyond the Calculus sequence including the major core)

**Major Core** (21 credits, 7 courses) - **REQUIRED FOR BOTH BA and BS DEGREES**

- MAD 2104  Discrete Mathematics - **MAC 1105 or higher is a prerequisite**
- MAD 2502  Introduction to Computational Math - **MAC 2311 co-requisite**
- MAS 2103  Matrix Theory or Linear Algebra - **MAC 2311 is a prerequisite**
- MAS 4301  Modern Algebra - **MAD 2104 is a prerequisite**
- MAA 4200  Modern Analysis - **MAC 2313 & MAD 2104 are prerequisites**
- MAT 4937  Mathematical Problem Solving - **MAD 2104, MAT 2103, MAC 2312 & MAD 2502 are prerequisites**
- STA 4442  Probability and Statistics - **MAC 2313 is a prerequisite**

**BACHELOR OF ARTS (BA) DEGREE**
Thirty-six (36) credits beyond the Major Core and Major Electives

**Major Electives** (15 credits minimum)

**CHOOSE 6 COURSES, CONSULT WITH ADVISOR FOR APPROVAL IN SELECTION:**
Any 3000 level or higher Mathematics course, listed in the catalog, not previously taken, EXCEPT: STA 3163, 3949, 4032, 4821 & MAT 3949. Only one pair of (MAP 2302, MAP 3305) or (MAP 4303, MAP 4306) may be counted as part of the elective requirements for the major.

**BACHELOR OF SCIENCE (BS) DEGREE**
Forty-five (45) credits beyond the Major Core and Major Electives including the following:

- MAA 4402  Introductory Complex Analysis – **prerequisite MAC 2313**
- MAP 2302  Differential Equations I (3 credits) - **prerequisite MAC 2254 or MAC 2312**
- MAS 4107  Linear Algebra II - **MAS 2103 or Linear Algebra I is a prerequisite,**

**Major Electives** (15 credits minimum)

**CHOOSE 8 COURSES FROM THE FOLLOWING IN CONSULTATION WITH YOUR ADVISOR:**
Any 3000 level or higher Mathematics course, listed in the catalog, not previously taken, EXCEPT: STA 3163, 3949, 4032, 4821, MAP 3305, and MAT 3949. Only one pair of (MAP 2302, MAP 3305) or (MAP 4303, MAP 4306) may be counted as part of the elective requirements for the major.

**FREE ELECTIVES** (22 – 24 credits for the BS, 34 for the BA)
Free electives are courses in any college, any department, including Mathematics (22 – 34 credits minimum), needed to meet the 120 credits required for graduation. **Recommend COP 2220 – Programming in C.**

**SPECIALIZATIONS WITHIN MATHEMATICS**
CHECK WITH THE MATHEMATICS DEPARTMENT FOR SPECIALIZATION AREAS AND COURSES, INCLUDING:

- ACTUARIAL SCIENCE
- COMBINATORICS
- APPLIED MATHEMATICS
- PURE MATHEMATICS
- STATISTICS (MINOR)
- CRYPTOGRAPHY
- DYNAMICAL SYSTEMS