MATHEMATICS MAJOR (2016-2017)

Foundations 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
___ ANT 1471+.....Cultural Difference in a Globalized Society

Foundations 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**

- **For Non-Science Majors**
  - **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
    College Physics 1 (4 credits)

**Group B**

- **For Non-Science Majors**
  - **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**
    ___ ECE 2510
    Intro to Anthropology
  - **Geosciences Department**
    ___ GLY 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)

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

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.

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.

**Group A**

- **History Department**
  ___ AMH 2020 ...... 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 2010 ...... 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 2017 ......... Environment and Society

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

- **Sociology Department**
  ___ SYG 2790 ...... Race, Class, Gender, and Sexuality
  ___ SYG 2101 ....... Social Problems

- **Urban & Regional Planning Department**
  ___ URP 2051...... Designing the City
### Foundations of Global Citizenship

- **Antropology Department**
  - ANT 2410: Culture and Society

- **Curriculum, Culture & Education Department**
  - EDF 2854: Educated Citizen in Global Context

- **Geosciences Department**
  - GEA 2000: World Geography

- **Political Science Department**
  - INR 2002: Introduction to World Politics

- **Languages, Linguistics, & Comparative Literature Department**
  - LAS 2000: Intro to Caribbean & Latin American Studies
  - LIN 2607: Global Perspectives on Language (online course)

- **Sociology Department**
  - SYP 2450: Global Society

- **Social Work Department**
  - SOW 1005: Global Perspectives of Social Services

- **History Department**
  - WOH 2012: History of Civilization I (WAC) ++
  - WOH 2022: History of Civilization 2

**Students Assume Responsibility for Meeting All Graduation Requirements**

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

### Foundations of Humanities

- **Visual Art & Art History Department**
  - ARH 2000: Art Appreciation (P/F)

- **Music Department**
  - MUL 2010: Music Appreciation

- **Philosophy Department**
  - PHI 2010 & D: Introduction to Philosophy (WAC) ++

- **Theatre & Dance Department**
  - THE 2000: Theatre Appreciation

- **Architecture Department**
  - ARC 2208: Culture & Architecture

- **School of Communication & Multimedia Studies**
  - FIL 2000 & D: Film Appreciation

- **Languages, Linguistics, & Comparative Literature Department**
  - LIT 2100: Introduction to World Literature

- **English Department**
  - LIT 2010: Interpretation of Fiction (WAC) ++
  - LIT 2030: Interpretation of Poetry (WAC) ++
  - LIT 2040: Interpretation of Drama (WAC) ++
  - LIT 2070: Interpretation of Creative Nonfiction (WAC) ++

### 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).

### 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.

### 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.

**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

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**http://myfau.fau.edu**
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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<tr>
<td>50 credits</td>
<td>53 credits</td>
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<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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<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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intellectual Foundations Program and Foreign Language

Major Core (MAP 2302 & MAS 4107 incl. for BS Degree)

Major Electives (Upper Division)

Free Electives

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, MAS 2103, MAC 2312 & MAD 2502 are prereqs**
- 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