

# FLORIDA ATLANTIC UNIVERSITY

*All courses are three (3) credits unless otherwise indicated. Course selections should be made in consultation with an academic advisor.*

## MATHEMATICS MAJOR (2011 – 2012)

The Charles E. Schmidt College of Science  
Bachelor of Arts (BA) or Bachelor of Science (BS)

### FOUNDATIONS OF WRITTEN COMMUNICATION (Gordon Rule Writing (GRW), 6 credits required) (A grade of "C" or higher is required in each course)

- \_\_\_ ENC 1101 ..... College Writing I (**REQUIRED**)
- \_\_\_ ENC 1102+ ..... College Writing II
- THE FOLLOWING COURSES CAN BE SUBSTITUTED FOR ENC 1102:**
- \_\_\_ ANT 1471+ ..... Cultural Difference in a Globalized Society
- \_\_\_ ENC 1930+ ..... University Honors Seminar in Writing (**Permit Only**)
- \_\_\_ ENC 1939+ ..... Special Topic: College Writing II
- \_\_\_ ENC 2452+∅ ..... Advanced Composition for Science
- \_\_\_ NSP 1195+ ..... Being Cared For: Reflections from Other Side of Bed

**After completing this section, two additional (GRW) classes are required from two different departments. Choices are available in: Foundations in Global Citizenship and/or Foundations of Creative Expression.**

### FOUNDATIONS OF SOCIETY & HUMAN BEHAVIOR (6 credits required, select 2 courses from 2 different departments)

- Anthropology Department**
- \_\_\_ ANT 2000 & D ..... Introduction to Anthropology
- Economics Department**
- \_\_\_ ECO 2013# ..... Macroeconomic Principles
- \_\_\_ ECO 2023# ..... Microeconomic Principles
- \_\_\_ ECP 2002 ..... Contemporary Economic Issues
- Exceptional Student Education Department**
- \_\_\_ EEX 2091 ..... Disability and Society
- Political Science Department**
- \_\_\_ POS 2041 ..... Government of the United States
- Psychology Department**
- \_\_\_ PSY 1012 ..... General Psychology
- Public Administration Department**
- \_\_\_ PAD 2258 ..... Changing Env. of Soc., Bus., & Government
- Sociology Department**
- \_\_\_ SYG 1000 ..... Sociological Perspectives
- \_\_\_ SYG 2010 ..... Social Problems
- Geosciences Department**
- \_\_\_ EVR 2017 ..... Environment and Society
- Urban & Regional Planning Department**
- \_\_\_ URP 2051 ..... Designing the City

### FOUNDATIONS OF SCIENCE & THE NATURAL WORLD (6/9 credits req., select 2 courses from 2 different departments) (One (1) course must have a Lab)

- Anthropology Department**
- \_\_\_ ANT 2511 & L ..... Intro to Biological Anthropology (4 cr incl. Lab)
- Biology Department**
- \_\_\_ BSC 1005 & L ..... Life Science (3 credits incl. Lab)
- Chemistry Department**
- \_\_\_ CHM 1020C ..... Contemporary Chemical Issues
- \_\_\_ CHM 2083 (P/F) ..... Chemistry in Modern Life (**Online Course**)
- Engineering Dean Department**
- \_\_\_ ETG 2831 ..... Nature: Inter. of Sc., Eng. and the Humanities
- Geology Department**
- \_\_\_ ESC 2070 ..... Blue Planet (**Online Course**)
- \_\_\_ GLY 2010 & L ..... Physical Geology (4 credits incl. Lab)
- \_\_\_ GLY 2100 ..... History of Earth and Life
- \_\_\_ MET 2010 & D ..... Weather and Climate
- Physics Department**
- \_\_\_ AST 2002 (P/F) ..... Introduction to Astronomy
- \_\_\_ PSC 2121 ..... Physical Science
- **FOR B.S. Degree:** -----
- Chemistry Department**
- \_\_\_ CHM 2045 & L† ..... General Chemistry I (4 credits Incl. Lab)
- or**
- Physics Department**
- \_\_\_ PHY 2048 & L\*\* ..... General Physics I (5 credits incl. Lab)

### FOUNDATIONS OF MATHEMATICS & QUANTITATIVE REASONING (Grade of "C" or higher required. 12 credits required) **PRETEST IS REQUIRED BEFORE TAKING YOUR FIRST MATH CLASS** **NOTE: Students must take at least one course with the prefix MAC or MGF from the list below**

- \_\_\_ MAC 2311 ..... Calculus with Analytic Geometry I (4 cr)
  - \_\_\_ MAC 2312 ..... Calculus with Analytic Geometry II (4 cr)
  - \_\_\_ MAC 2313 ..... Calculus with Analytic Geometry III (4 cr)
- Calculus requires a solid background in Algebra and Trigonometry. If you are not ready to take Calculus the following courses will provide the necessary background:**
- \_\_\_ MAC 1105 ..... College Algebra
  - \_\_\_ MAC 1114 ..... Trigonometry
  - \_\_\_ MAC 1140 ..... Precalculus Algebra
  - \_\_\_ MAC 1147 ..... Precalculus Algebra & Trigonometry (5 cr)

### FOUNDATIONS IN GLOBAL CITIZENSHIP (Select 2 courses from 2 different departments) (6 credits required. At least 1 course from Global Perspectives)

- **WESTERN IDENTITIES:** -----
- Sociology Department**
  - \_\_\_ SYD 2790 ..... Race, Class, Gender, and Sexuality
  - Philosophy Department**
  - \_\_\_ PHI 2010++ ..... Introduction to Philosophy (**GRW**)
  - History Department**
  - \_\_\_ AMH 2010 (P/F) ..... United States History to 1877
  - \_\_\_ AMH 2020 (P/F) ..... United States History Since 1877
  - Languages, Linguistics, & Comparative Literature Department**
  - \_\_\_ LAS 2000 ..... Intro to Caribbean & Latin American Studies

----- **GLOBAL PERSPECTIVES (1 course required):** -----

    - Anthropology Department**
    - \_\_\_ ANT 2410 ..... Culture and Society
    - Geography Department**
    - \_\_\_ GEA 2000 & D ..... World Geography
    - History Department**
    - \_\_\_ WOH 2012 & D++ ..... History of Civilization I (**GRW**)
    - \_\_\_ WOH 2022 ..... History of Civilization II
    - Sociology Department**
    - \_\_\_ SYP 2450 ..... Global Society
    - Political Science Department**
    - \_\_\_ INR 2002 ..... Introduction to World Politics
    - Languages, Linguistics, & Comparative Literature Department**
    - \_\_\_ LIN 2607 ..... Global Perspectives on Language
    - Curriculum, Culture, & Educational Inquiry Department**
    - \_\_\_ EDF 2854 ..... Educated Citizen in Global Context
    - Social Work Department**
    - \_\_\_ SOW 1005 ..... Global Perspectives on Social Services

### FOUNDATIONS OF CREATIVE EXPRESSION (6 credits req., select 2 courses from 2 different departments)

- Architecture Department**
- \_\_\_ ARC 2208 ..... Culture & Architecture
- Visual Art & Art History Department**
- \_\_\_ ARH 2000 (P/F) ..... Art Appreciation
- School of Communication & Multimedia Studies**
- \_\_\_ FIL 2000 & D ..... Film Appreciation
- English Department**
- \_\_\_ LIT 2010++ ..... Interpretation of Fiction (**GRW**)
- \_\_\_ LIT 2030++ ..... Interpretation of Poetry (**GRW**)
- \_\_\_ LIT 2040++ ..... Interpretation of Drama (**GRW**)
- Languages, Linguistics, & Comparative Literature Department**
- \_\_\_ LIT 2100 & D ..... Global Great Books
- Music Department**
- \_\_\_ MUL 2010 ..... History & Appreciation of Music
- Theatre & Dance Department**
- \_\_\_ DAN 2100 ..... Appreciation of Dance
- \_\_\_ THE 2000 ..... Appreciation of Theatre

**STUDENTS ASSUME RESPONSIBILITY FOR MEETING ALL GRADUATION REQUIREMENTS**  
*Course selections should be made in consultation with an advisor*

**Legend**

- +** - ENC 1101 is a prerequisite.
- ++** - Two Foundations of Written Communications classes are required before taking this class.
- #** - Sophomore standing (30 credits earned) is required.
- \*\*** - MAC 2281 or MAC 2311 is a prerequisite for this class. If a lab is needed take General Physics 1 Lab (PHY 2048 Lab).
- \*\*\*** - MAC 1105 and MAC 1114 are prerequisites for this class. If a lab is needed take General Physics 1 Lab (PHY 2048 Lab).
- ‡** - A corequisite of College Algebra (MAC 1105) or a prerequisite of Introductory Chemistry (CHM 1025).
- ◇** - A "B" in CHM 2045 and a grade of "C" or better in ENC 1101 in addition to a co-requisite of CHM 2051C is needed.
- GRW** - (WAC) Writing across the curriculum class.
- D** - A discussion is linked to the lecture. Students must register for the discussion in addition to the lecture.
- L** - A lab is linked to the lecture. Students must register for the lab in addition to the lecture.
- P/F** - Course may be taken pass (P) or fail (F) or for a letter grade. Indicate your preferred grading option during registration.

**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 (FOL/FRE/GER/GRE/GRK/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.*

**CLAS:** College Level Academic Skills (CLAS) requirements need to be met prior to graduation. See the university catalog for additional information.

*∄ NOTE: Honors Seminars SHALL BE ACCEPTED AS MEETING THE GORDON RULE WRITING REQUIREMENT. See the Freshman Academic 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.*

<b>BA</b>	<b>BS</b>	
50 credits	53 credits	Intellectual Foundations Program and Foreign Language
21 credits	27 credits	Major Core (MAP 2302 & MAS 4107 incl. for BS Degree)
15 credits	18 Credits	Major Electives (Upper Division)
<u>34 credits</u>	<u>22 – 24 credits</u>	<u>Free Electives</u>
<b>120 CREDITS</b>	<b>120 CREDITS</b>	<b>TOTAL</b>

**NOTE:** See the catalog for specific requirements, course descriptions and additional information. The requirements for some Intellectual Foundations Program (I.F.P.) 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 - <b>MAC 1105 or higher is a prerequisite</b>
MAD 2502	Introduction to Computational Math - <b>MAC 2311 co-requisite</b>
MAS 2103	Matrix Theory or Linear Algebra - <b>MAC 2311 is a prerequisite</b>
MAS 4301	Modern Algebra - <b>MAD 2104 is a prerequisite</b>
MAA 4200	Modern Analysis - <b>MAC 2313 &amp; MAD 2104 are prerequisites</b>
MAT 4937	Mathematical Problem Solving - <b>MAD 2104, MAS 2103, MAC 2312 &amp; MAD 2502 are prereqs</b>
STA 4442	Probability and Statistics - <b>MAC 2313 is a prerequisite</b>

### 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:

MAP 2302	Differential Equations I (3 credits) - <b>prerequisite MAC 2254 or MAC 2312</b>
MAS 4107	Linear Algebra II - <b>MAS 2103 or Linear Algebra I is a prerequisite,</b>

**Major Electives** (18 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