FLORIDA ATLANTIC UNIVERSITY – INTELLECTUAL FOUNDATION PROGRAM 2022 – 2023
All courses are three (3) credits unless otherwise indicated. Course selections should be made in consultation with an academic advisor.

MATHEMATICS MAJOR (2022-2023)

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

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
__ MAC 1105 .......... College Algebra
__ MAC 2311 .......... Calc. w/Analytic Geometry 1 (4 credits) (REQUIRED)
or any mathematics course for which one of the above courses is the direct prerequisite

Group B
__ COP 1034C .......... Computer Programming & Data Literacy for Everyone (For Non-College Engineering & Computer Science majors)
__ MAC 1147 .......... Precalculus Algebra & Trigonometry (4 credits)
__ MAC 2210 .......... Intro Calculus w/Applications (4 credits) (Permit Only)
__ MAC 2233 .......... Methods of Calculus
__ MAC 2241 .......... Life Science Calculus 1 (4 credits)
__ MAC 2312 .......... Calc. w/Analytic Geometry 2 (4 credits) (REQUIRED)

__ PHI 2102......... Logic

Foundations of Society & Human Behavior
(6 credit hours 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
__ AMH 2020 & D ......United States History Since 1877 ◊
__ ANT 2000 & D ......Introduction to Anthropology (WAC)
__ ECO 2013 ..........Macroeconomic Principles §
__ ECO 2041 ..........Government of the United States ◊
__ PSY 1012 ..........Introduction to Psychology
__ SYG 1000 ..........Sociological Perspectives

Group B
__ AMH 2010 & D ......United States History to 1877
__ CCI 2002 ..........Law, Crime & the Criminal Justice System ±
__ DGE 2202 ..........Digital Culture
__ ECO 2203 ..........Microeconomic Principles §
__ ECP 2002 ..........Contemporary Economic Issues
__ EEX 2091 ..........Disability and Society
__ EVR 1110 ..........Climate Change: The Human Dimensions
__ EVR 2017 ..........Environment and Society
__ LIN 2001 ..........Introduction to Language (online course)
__ PAD 2032 ..........Risk Resilience and Rising Seas ±
__ PAD 2258 ..........Changing Environment of Soc., Bus., & Gov’t
__ SYG 2010 ..........Social Problems
__ URP 2051 ..........Designing the City

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:

Students must take 4 Writing-Across-the-Curriculum (WAC) courses, two of which must be taken from Foundations of Written Communication.

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
__ AST 2002
Intro. to Astronomy
__ BSC 1005 & L
Life Science (3 cr. w/Lab)
__ CHM 1020C
Contemp. Chemical Issues
__ ESC 2000
The Blue Planet (online)
__ EVR 1001
Env. Sci. and Sustainability

For Science Majors
__ BSC 1010 & L & D
Biology Principles
(4 cr. w/Lab & Dis)
__ BSC 2085 & L
Anatomy & Physiology 1
(4 cr. w/Lab)
__ CHM 2045 & L (see note)
General Chemistry 1
(4 cr. w/Lab) §
__ PHY 2048 & L (see note)
General Physics 1
(5 credits w/Lab) *
__ PHY 2053 & L
College Physics 1
(5 credits w/Lab) **

For Science Majors
__ BSC 1011 & L & D
Biodiversity (4 cr. incl Lab & Dis)
__ ETG 2831
Nature: Inter. of Sci., Eng., & the Humanities
__ GLY 2010C
Physical Geol. (4 cr. w/Lab)
__ GLY2100
History of Earth and Life
__ IDS 2382
Human Mission to Mars
__ MET 2010
Weather, Climate & Climate Change
__ PSC 2121
Physical Science

Group B
For Non-Science Majors
__ ANT 2511 & L
Intro to Biological Anthropology (4 cr. w/ Lab)
__ ETG 2831
Nature: Inter. of Sci., Eng., & the Humanities
__ GLY 2010C
Physical Geol. (4 cr. w/Lab)
__ GLY2100
History of Earth and Life
__ IDS 2382
Human Mission to Mars
__ MET 2010
Weather, Climate & Climate Change
__ PSC 2121
Physical Science

Foundations of Mathematics & Quantitative Reasoning
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__ MAC 2312 .......... Calc. w/Analytic Geometry 2 (4 credits) (REQUIRED)

__ PHI 2102......... Logic

Foundations of Written Communication
(6 credit hours required – Writing Across the Curriculum - WAC)
Grade of “C” or higher is required in each course

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The Blue Planet (online)
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Env. Sci. and Sustainability

For Science Majors
__ BSC 1010 & L & D
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(4 cr. w/Lab & Dis)
__ BSC 2085 & L
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(4 cr. w/Lab)
__ CHM 2045 & L (see note)
General Chemistry 1
(4 cr. w/Lab) §
__ PHY 2048 & L (see note)
General Physics 1
(5 credits w/Lab) *
__ PHY 2053 & L
College Physics 1
(5 credits w/Lab) **

For Science Majors
__ BSC 1011 & L & D
Biodiversity (4 cr. incl Lab & Dis)
FOUNDATIONS IN GLOBAL CITIZENSHIP
(6 credit hours required)
Student must choose two (2) courses from among the following:
____ ANT 2410 .............. Culture and Society
____ EDF 2854 ............... Educated Citizen in Global Context
____ GEA 2000 .............. World Geography
____ INR 2002 ................ Introduction to World Politics
____ LAS 2000 ............... Intro to Caribbean & Latin American Studies
____ LIN 2607 .............. Global Perspectives on Language
____ POT 2000 ............... Global Political Theory ±
____ SYP 2450 ............... Global Society
____ SOW 1005 ............ Global Perspectives of Social Services
____ WOH 2012 & D ...... History of Civilization 1 (WAC) ++
____ WOH 2022 .......... History of Civilization 2
____ WST 2351 .......... Gender and Climate Change

FOUNDATIONS OF HUMANITIES
(6 credit hours 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
____ ARH 2000 .......... Art Appreciation
____ MUL 2100 .......... Music Appreciation
____ PHI 2010 & D ...... Introduction to Philosophy (WAC) ++
____ THE 2000 .......... Theatre Appreciation

Group B
____ ARC 2208 .......... Culture & Architecture
____ DAN 2100 .......... Appreciation of Dance
____ FIL 2000 & D ....... Film Appreciation
____ HUM 2470 .......... Racism and Anti-Racism ±
____ 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) ++
____ LIT 2100 .......... Introduction to World Literature
____ SPC 2608 .......... Public Speaking ±

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.
* - MAC 2311 is a prerequisite for this course.
** - MAC 2233 is a prerequisite 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).
± - Starting Spring 2022 and onwards.
◊ - See information box below regarding Civic Literacy Requirement
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.

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

https://myfau.fau.edu

Civic Literacy Requirement
https://www.fau.edu/ugstudies/civic-literacy-requirement/

Beginning in Fall 2018, students entering a Florida public institution as a degree-seeking student for the first time needs to demonstrate civic literacy through either taking a certain course (AMH 2020 or POS 2041) or passing an assessment exam. Beginning in Summer 2021, Florida Legislature amended the statute and now requires students to complete both a civic literacy course (AMH 2020 or POS 2041) and an assessment exam.
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.

<table>
<thead>
<tr>
<th>BA</th>
<th>BS</th>
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<tbody>
<tr>
<td>34 - 38 cr.</td>
<td>35 - 40 cr.</td>
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<tr>
<td>36 cr.</td>
<td>44 - 47 cr.</td>
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<tr>
<td>12 cr.</td>
<td>12 cr.</td>
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<tr>
<td>18 cr.</td>
<td>12 cr.</td>
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<tr>
<td>22 - 26 cr.</td>
<td>9 - 17 cr.</td>
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<tr>
<td>120 Credits</td>
<td>120 Credits</td>
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Intellectual Foundations Program w/Foreign Lang (math not included)
Major Core
Math Electives
Upper Division Restricted Free Electives
Free Electives
TOTAL

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 FAU3
2. Any course work in the major field transferred from another institution must be approved by the math department.
3. 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.
4. 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

#### BACHELOR OF ARTS (BA) DEGREE

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MAC 2311</td>
<td>Calculus w/ Analytic Geometry 1 (4 credits)</td>
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<tr>
<td>MAC 2312</td>
<td>Calculus w/ Analytic Geometry 2 (4 credits)</td>
<td></td>
</tr>
<tr>
<td>MAC 2313</td>
<td>Calculus w/ Analytic Geometry 3 (4 credits)</td>
<td></td>
</tr>
<tr>
<td>MAD 2104</td>
<td>Discrete Mathematics (3 credits)</td>
<td></td>
</tr>
<tr>
<td>MAD 2502</td>
<td>Intro to Computational Math (3 credits)</td>
<td></td>
</tr>
<tr>
<td>MAS 2103</td>
<td>Matrix Theory or Linear Algebra (3 credits)</td>
<td></td>
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<tr>
<td>MHF 3202</td>
<td>Introduction to Advanced Mathematics (3 credits)</td>
<td></td>
</tr>
<tr>
<td>MAT 4937</td>
<td>Mathematical Problem Solving (3 credits)</td>
<td></td>
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<tr>
<td>MAA 4200</td>
<td>Modern Analysis (3 credits)</td>
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<tr>
<td>MAS 4301</td>
<td>Modern Algebra (3 credits)</td>
<td></td>
</tr>
<tr>
<td>STA 4442</td>
<td>Probability and Statistics 1 (3 credits)</td>
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</tbody>
</table>

Upper Division Math Electives (12cr.)

Upper-division mathematics electives: These electives must be chosen from courses offered by the Department of Mathematical Sciences and numbered 3000 or higher. The following courses **may not be used** as upper-division mathematics electives:

- STA 3163, STA 3173, STA 3949, MAT 3949, MAP 4945, or STA 4821

#### BACHELOR OF SCIENCE (BS) DEGREE

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CHM 2045 &amp; Lab or PHY 2048 &amp; Lab</td>
<td>General Chemistry 1 &amp; Lab (4 credits)</td>
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<tr>
<td></td>
<td>General Physics 1 &amp; Lab (5 credits)</td>
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<td>MAC 2311</td>
<td>Calculus w/ Analytic Geometry 1 (4 credits)</td>
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<td>Discrete Mathematics (3 credits)</td>
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</tr>
<tr>
<td>MAD 2502</td>
<td>Intro. to Computational Math (3 credits)</td>
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<tr>
<td>MAP 2302</td>
<td>Differential Equations 1 (3 credits)</td>
<td></td>
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<tr>
<td>MAS 2103</td>
<td>Matrix Theory or Linear Algebra (3 credits)</td>
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<td>Mathematical Problem Solving (3 credits)</td>
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<td>MAS 4107</td>
<td>Linear Algebra 2 (3 credits)</td>
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<td>MAA 4200</td>
<td>Modern Analysis (3 credits)</td>
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<td>MAS 4301</td>
<td>Modern Algebra (3 credits)</td>
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<tr>
<td>MAA 4402</td>
<td>Introductory Complex Analysis (3 credits)</td>
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<tr>
<td>STA 4442</td>
<td>Probability and Statistics 1 (3 credits)</td>
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### 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