

MATHEMATICS MAJOR (2008 - 2009)
INTELLECTUAL FOUNDATIONS PROGRAM (I.F.P.) and FOREIGN LANGUAGE REQUIREMENTS

ENGLISH COMPOSITION (6 credits, two courses, **must get a C or better**)

- ENC 1101 College Writing 1 (Gordon Rule Writing) (3 credits)
- ENC 1102 College Writing 2 (Gordon Rule Writing) (3 credits)

MATHEMATICS (12 credits of Calculus) Calculus requires a solid background in algebra and trigonometry. This background, if not attained in high school, can be attained at FAU by taking College Algebra (MAC 1105), Trigonometry (MAC 1114)*, Pre-calculus Algebra (MAC 1140)* and Pre-calculus Algebra & Trigonometry (MAC 1147)*. Gordon Rule requires a grade of C or better in at least six credits of courses meeting this requirement.

MUST TAKE A PLACEMENT TEST BEFORE REGISTERING FOR MATH COURSES

- MAC 2311 Calculus with Analytic Geometry 1 (4 credits) - Required for MAJOR**
- MAC 2312 Calculus with Analytic Geometry 2 (4 credits) - Required for MAJOR**
- MAC 2313 Calculus with Analytic Geometry 3 (4 credits) - Required for MAJOR**

SOCIAL SCIENCES (9 credits, 3 courses, from 3 departments) ♦

- ANT 2000 (D) Introduction to Anthropology (3 credits)
- ANT 2410 Culture and Society (3 credits)
- GEA 2000 (D) World Geography (3 credits)
- ECO 2023* Microeconomic Principles (3 credits)
- ECO 2013* Macroeconomic Principles (3 credits)
- ECP 2002 Contemporary Economic Issues (3 credits) – *Recommended for non-business majors*
- PAD 2258 Changing Environment of Society, Business & Government (3 credits)
- POS 1041 The Government of the United States (3 credits)
- INR 2002 Introduction to World Politics (3 credits)
- PSY 1012 General Psychology (3 credits)
- SYG 1000 Introductory Sociology (3 credits)
- SYG 2010 Social Problems (3 credits)

* *Sophomore standing is a prerequisite*

HUMANITIES (9 credits, three courses) choose **two** courses from two different departments ♦

- LIT 2010 Interpretation of Fiction (Gordon Rule, C or better) (3 credits)
- LIT 2030 Interpretation of Poetry (Gordon Rule, C or better) (3 credits)
- LIT 2040 Interpretation of Drama (Gordon Rule, C or better) (3 credits)
- WOH 2012 (D) History of Civilization (Gordon Rule Writing, C or better) (3 credits)
- PHI 2010 (D) Introduction to Philosophy (Gordon Rule Writing, C or better) (3 credits)

and Choose **one** from the following five courses.

- ARC 2208 Culture and Architecture: Master Builder (3 credits)
- ARH 2000 (P/F) Art Appreciation (3 credits)
- MUL 2010 History and Appreciation of Music (3 credits)
- THE 2000 Appreciation of Theater (3 credits)
- FIL 2000 Film Appreciation (3 credits)
- DAN 2100 Appreciation of Dance (3 credits)

SCIENCE (6 credits from 2 departments, from below or a higher level science course from these departments, at least two courses with labs) **BS Degree REQUIRES - CHM 2045 with lab or PHY 2048 with lab.**

- ANT 2512 & L Introduction to Biological Anthropology with lab (4 credits, Anthropology) for non-science majors
- AST 2002 (P/F) Introduction to Astronomy (3 credits, Physics) for non-science majors
- BSC 1005 & L Life Science with lab (3 credits, Biology) for non-science majors
- BSC 1011 & L Biodiversity with lab (4 credits, Biology)
- CHM 1020C Contemporary Chemical Issues (3 credits, Chemistry) for non-science majors
- CHM 2083 (P/F) Chemistry in Modern Life (3 credits, Chemistry) for non-science majors (Online Course)
- CHM 2032 Chemistry for the Health Related Sciences (3 credits, Chemistry)
- CHM 2045 & L General Chemistry I with lab (4 credits, Chemistry)
- ESC 2070 The Blue Planet (3 credits, Geology) for non-science majors (Online course)
- GLY 2010 & L Evolution of the Earth with lab (4 credits, Geology) for non-science majors
- GLY 2100 History of Earth & Life (3 credits, Geology) for non-science majors
- MET 2010 & D Weather & Climate (3 credits Geology) for non-science majors
- OCE 2001(P/F) Introduction to Oceanography (3 credits Ocean Eng) for non-science majors
- PSC 2121 Physical Science (3 credits, Physics) for non-science majors
- PHY 2053 College Physics for Life Sciences 1 (4 credits, w/lab, 5 credits, Physics)
- PHY 2048 General Physics 1 (4 credits, w/lab 5 credits, Physics)

♦ **NOTE: Lower-division Honors Seminars SHALL BE ACCEPTED AS MEETING THE GORDON RULE WRITING REQUIREMENT. See Freshman Academic Advising Services for details.**

FOREIGN LANGUAGE (4 - 8 credits, 1 or more courses in the same language) **REQUIRED FOR MAJOR**

Students with more than one year of foreign language in high school should enroll in Beginning Language and Culture 2 (FOL/FRE/GER/GRE/GRK/HBR/ITA/JPN/LAT/SPN 1121) or a higher-level course. Students can earn proficiency for a first-level course by successfully completing a second-level course. For questions related to this requirement, consult an academic advisor.

NOTE: Native speakers of a foreign language must consult the Languages & Linguistics dept. regarding this requirement. CLEP exam credits meets this requirement, see catalog.

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

BACHELOR OF ARTS (BA) DEGREE Thirty-six (36) credits beyond the Calculus sequence consisting of the Major Core (18 credits) and Major Electives (15 credits minimum).

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 Calculus sequence consisting of:

MAP 2302	Differential Equations I (3 credits) - <i>prerequisite MAC 2254 or MAC 2312</i>
MAS 4107	Linear Algebra II - <i>MAS 2103 or Linear Algebra I is a prereq.</i> , and the Major Core (18 credits), and Major Electives (21 credits minimum)

Major Electives (18 credits minimum)

CHOOSE 8 COURSES FROM THE FOLLOWING, 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, 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.

ELECTIVES (22 - 34 credits; 22 - 24 credits for the BS, 34 for the BA)

— Free elective in any college or subject, including Mathematics (22 - 34 credits minimum) -these credits are needed to meet the 120 credit minimum required for the degree.

BA Degree		BS Degree	
50 credits	I.F.P. (incl. Foreign Language)	51 - 53 credits	I.F.P. (incl. Foreign Language)
21 credits	Major Core	27 credits	Major Core including MAP 2302 & MAS 4107
15 credits	Major Electives (upper division)	18 credits	Major Electives (upper division)
34 credits	Electives	22 - 24 credits	Electives
120 CREDITS TOTAL		120 CREDITS TOTAL	

CLAST: Satisfy the College Level Academic Skills Test (CLAST) see Catalog for options.

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 dept; (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.

All course selections should be made in consultation with an advisor.

STUDENTS ASSUME ALL RESPONSIBILITY FOR MEETING ALL GRADUATION REQUIREMENTS. (05/08)

SPECIALIZATIONS WITHIN MATHEMATICS

CHECK WITH DEPARTMENT FOR SPECIALIZATION AREAS AND COURSES, INCLUDING:

ACTUARIAL SCIENCE

COMBINATORICS

APPLIED MATHEMATICS

PURE MATHEMATICS

STATISTICS (MINOR)

CRYPTOGRAPHY

DYNAMICAL SYSTEMS