

PHYSICS MAJOR (2008 - 2009)

INTELLECTUAL FOUNDATIONS PROGRAM (I.F.P.) REQUIREMENTS (except Science), FOREIGN LANGUAGE and ELECTIVES

ENGLISH COMPOSITION (6 credits, two courses, **must earn 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 minimum, three courses from the following list) (Gordon Rule, must get a C or better)

MUST TAKE A PLACEMENT TEST BEFORE REGISTERING FOR MATH COURSES

- MAC 1105 College Algebra (3 credits) - *Recommended if not ready to take Calculus*
MAC 1114 Trigonometry (3 credits) - *Recommended after MAC 1105, before MAC 2311*
MAC 1147 Precalculus Algebra and Trigonometry (5 credits)
MAC 2311 Calculus with Analytic Geometry 1 (4 credits) - REQUIRED FOR MAJOR

or

- MAC 2253 Calculus for Engineers I (4 credits)**
MAC 2312 Calculus with Analytic Geometry 2 (4 credits) - REQUIRED FOR MAJOR

or

- MAC 2253 Calculus for Engineers II (4 credits)**
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 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** course 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 (D) Film Appreciation (3 credits)
DAN 2100 Appreciation of Dance (3 credits)

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. For questions related to this requirement, consult an academic advisor. Students can earn proficiency for a first-level course by successfully completing a second-level course.

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

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

ELECTIVES (32 - 55 credits minimum)

- ___ Free Electives - in any college or subject, including Physics - *needed to meet the 120 credit minimum required for the degree*

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

MAJOR COURSES AND COLLEGE REQUIREMENTS

PHYSICS Core (34 credits – includes 12 credits of Calculus) – **REQUIRED for both B.A. and B.S. Degree**

Introductory Physics Courses - (14 credits)

PHY 2048 & 2048 L	General Physics I & Lab - <i>MAC 2311 is a prerequisite (4 + 1 = 5 credits)</i>
PHY 2049 & 2049 L	General Physics II & Lab - <i>PHY2048 with lab is a prerequisites (4 + 1 = 5 credits)</i>
PHZ 2106	General Physics III - <i>MAC 2313 and PHY 2049 with lab is a prerequisite (4 credits)</i>

Related Science Courses - (8 credits within either Chemistry or Biology)

CHM 2045 & L	General Chemistry I and lab (3 + 1 = 4 credits)
CHM 2046 & L	General Chemistry II and lab (3 + 1 = 4 credits)
or	
BSC 1011 & L	Biodiversity with lab (3 + 1 = 4 credits)
BSC 1010 & L	Biological Principles with lab (3 + 1 = 4 credits)

*** A grade of “C” or better is required in each of the physics, mathematics and chemistry courses taken as part of the course requirements for a degree in the Department of Physics.**

BACHELOR OF SCIENCE (BS) DEGREE (44 credits total, 13 courses)

Additional Mathematics Introductory Course (3 credits)

MAS 2103	Matrix Theory (3 credits)
----------	---------------------------

Bachelor of Science Additional Intermediate Core Requirements (41 credits)

PHY 3101C	Survey of Modern Physics - <i>PHY 2049 with lab & MAC 2313 are prerequisites (5 credits)</i>
PHY 3221	Classical Mechanics - <i>PHY 2048 with lab & MAC 2313 are prerequisites (4 credits)</i>
PHY 3323	Electromagnetism I - <i>PHY 2049 with labs & MAC 2313 are prerequisites. (4 credits)</i>
PHY 4324	Electromagnetism II - <i>PHY 3323 is a prerequisite (4 credits)</i>
PHY 3503	Thermodynamics - <i>MAC 2313 and PHY 2048 with lab is a prerequisite (4 credits)</i>
PHY 4523	Statistical Physics - <i>PHY 3101C is a prerequisite (3 credits)</i>
PHY 4604	Quantum Mechanics I - <i>PHY3101C prerequisite, and PHZ 3113 a co-requisites (4 credits)</i>
PHY 4605	Quantum Mechanics II - <i>PHY 4604 is a prerequisite (3 credits)</i>
PHY 3722C	Physical Electronics - <i>PHY 2049 is a prerequisite (4 credits)</i>
PHY 4811L	Undergraduate Laboratory - <i>PHY 3101C is a prerequisite (2 credits)</i>
PHZ 3113	Mathematical Methods for Physics - <i>PHZ 2106 a prereq or permission by instructor (3 credits)</i>

BACHELOR OF ARTS (BA) DEGREE (25 credits total, 6 courses)

Additional Mathematics Introductory Course (3 credits)

MAS 2103	Matrix Theory (3 credits)
----------	---------------------------

Bachelor of Arts Additional Intermediate Core Requirements (22 credits)

PHY 3101C	Survey of Modern Physics - <i>PHY 2049 with lab & MAC 2313 are prerequisites (5 credits)</i>
PHY 3221	Classical Mechanics - <i>PHY 2048 with lab & MAC 2313 are prerequisites (4 credits)</i>
PHY 3323	Electromagnetism I - <i>PHY 2049 with labs & MAC 2313 are prerequisites. (4 credits)</i>
PHY 4604	Quantum Mechanics I - <i>PHY3101C prerequisite, and PHZ 3113 a co-requisites (4 credits)</i>

Choose at least three (3) credits from the following list:

PHY 3503	Thermodynamics - <i>MAC 2313 and PHY 2048 with lab is a prerequisite (4 credits)</i>
PHY 4523	Statistical Physics - <i>PHY 3101C is a prerequisite (3 credits)</i>
PHY 3722C	Physical Electronics - <i>PHY 2049 is a prerequisite (4 credits)</i>

Optional Preprofessional Track (23 credits) - Required Courses

BSC 1011 & L	Biodiversity with lab (3 + 1 = 4 credits)
BSC 1010 & L	Biological Principles with lab (3 + 1 = 4 credits)
CHM 2210 & D	Organic Chemistry I with discussion (3 cr) - <i>CHM 2045 & CHM 2046 with labs are prerequisites</i>
CHM 2211	Organic Chemistry II (3 credits)
CHM 2211L	Organic Chemistry II Lab (2 credits)
PCB 3063	Genetics (4 credits) - <i>BSC 1011 and BSC 1010 with labs are prerequisites</i>
BCH 3033	Biochemistry I (3 credits) - <i>8 credits of organic chemistry is the prerequisite</i>

28 - 32 credits	Intellectual Foundations Program (I.F.P.) and Foreign Language (without math & science)
12 credits	Mathematics - Calculus (B.A. and B.S. Degree)
25 - 44 credits	Physics Major (44 credits for B.S. and 25 credits for B.A.)
<u>32 - 55 credits</u>	Electives
120 CREDITS	TOTAL

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 Charles E. Schmidt College of Science has the following requirements: (1) Any course work in the major field transferred from another institution must be approved by the major dept; (2) No major course may be taken pass/fail; (3) The maximum amount of credit which may be earned through co-op is 10 credits, some departments allow some of these credits to substitute for major courses, check with dept for specifics; (4) A grade of "C" or better is required in all the physics, mathematics, and chemistry courses taken as part of the course requirements for a degree within the department. *All course selections should be made in consultation with an advisor.*

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