PHYSICS 7-12, B.S.

This program has a separate admission process. Please consult the admission requirements for this program on the College of Education page for more information.

Overall GPA of 2.7 Required
120 Overall Credits Required

LIBERAL EDUCATION PROGRAM AND WRITING REQUIREMENTS

Liberal Education Program

Students must complete a comprehensive three-tiered Liberal Education Program (LEP). View all requirements of the tiers on the Liberal Education Program.

While the choice of courses that fulfill the requirements is generally left up to students, courses in the major and/or cognate may also satisfy LEP requirements. These shared courses are recommended below to fulfill both areas, although the course credits are only counted once towards the 120 credits required for graduation.

Tier 1 - Quantitative Reasoning:
MAT 150 – Calculus I

Tier 2 – American Experience (select one):
HIS 110 – United States History I
HIS 111 - United States History II

Tier 2 – Mind and Body:
SHE 203 – School Health (‘C’ or better)

Tier 2 – Natural World I: Physical Realm:
CHE 120 - General Chemistry I

Tier 2 - Social Structure, Conflict and Consensus
EDU 200 - Teachers, Schools, and Society (‘C’ or better)

Tier 3 – Capstone (select one):
EGR 471 - Capstone Experience for Engineering
PHY 471 - Capstone Experience in Physics

Writing Requirements (“W-Courses”)

Three W-courses are required. These may not be taken until after a student has passed ENG 112 — Writing Arguments. W-courses may count toward LEP, major, or cognate requirements, as well as free electives. Course sections that meet this requirement are designated by section numbers ending in “W”.
Transfer students who enter with 60 to 89 credits are required to pass two W-courses, while transfer students who enter with 90 credits or more must pass one W-course.

MAJOR REQUIREMENTS

57 Credits Required

Physics Requirements
30 Credits Required

Requirements:

PHY 230
— Physics for Scientists and Engineers I (‘C-’ or better)

PHY 231
— Physics for Scientists and Engineers II (‘C-’ or better)

PHY 309
— Modern Physics (‘C-’ or better)

PHY 370
— Modern Physics Laboratory (‘C-’ or better)

PHY 400
- Classical Mechanics I

PHY 406
- Electricity and Magnetism

PHY 461
— Methods in Physics Research

EGR 471
or

PHY 471
- Capstone

Select an additional 6 credits of PHY

Since all 100-level courses are introductory, a student may not receive credit for more than one of PHY 100, 101, 103, and 111.

Education Requirements
27 Credits Required

Requirements:

EDU 316 - Child Development and Psychology for Educators (‘C’ or better)

EDU 413 – Secondary Education (‘C’ or better)

EDU 471 – Supporting English Learners for School Success (‘C’ or better)

RDG 470 – Literacy in the Content Areas (‘C’ or better)
SED 482 – Teaching Exceptional Students in the Secondary Education Classroom (‘C’ or better)
SCE 490 – Science (Secondary School) (‘C’ or better)
SCE 494 – Student Teaching (Science)
SCE 496 – Student Teaching Seminar (Science)

Non-Course Requirements:
Module 1: Behavioral Difficulties (Social and Emotional Development)
Module 2: Dyslexia Required

COGNATE REQUIREMENTS

32 Credits Required

Requirements:
CHE 120
– General Chemistry I

CHE 121
– General Chemistry II

EDU 200
– Teachers, Schools, and Society (‘C’ or better)

HIS 110
or

HIS 111
– United States History I or II

MAT 150
– Calculus I

MAT 151
– Calculus II

MAT 252
– Calculus III

MAT 245
– Differential Equations

SHE 203
– School Health (‘C’ or better)

FREE ELECTIVES

Students must take remaining credits to reach Overall Credits Required (listed above).