

NATURAL SCIENCES AND MATHEMATICS DIVISION

The Natural Sciences and Mathematics Division encompasses the investigation of natural phenomena, including the development of predictive explanatory systems, and includes the study of numerical and other abstract structures and relations. These are central concerns of the departments of Biology, Chemistry, Communication Sciences and Disorders, Earth and Environmental Sciences, Physics, and Mathematics. Hence most courses satisfying the Natural Sciences and Mathematics Division requirements come from these departments.

The Natural Sciences and Mathematics List

Students must take at least four courses from this list, including a 2-course sequence (indicated below) and a course with a laboratory to complete the requirement for four courses in this division. No more than three courses may be taken from a single department or program (even if the courses of the department or program are in more than one division).

Anthropology

- ANT 131 Introduction to Biological Anthropology sequences with
 - ANT 433 Human Osteology

Astronomy

- AST 101 Our Corner of the Universe
- AST 104 Stars, Galaxies, & the Universe
- All AST courses.
- A sequence can be made up of any two 100-level PHY or AST courses, any two 200-level PHY or AST courses, or a combination of one 100-level PHY or AST and one 200-level PHY or AST course.

Biology

- BIO 121 General Biology I | BIO 122 General Biology I Laboratory sequences with
 - BIO 123 General Biology II (BIO 124 General Biology II Laboratory)
- All BIO courses.

Chemistry

- CHE 103 Chemistry in the Modern World sequences with
 - CHE 113 Forensic Science
- CHE 106 General Chemistry Lecture I (CHE 107 General Chemistry Laboratory I) sequences with
 - CHE 116 General Chemistry Lecture II (CHE 117 General Chemistry Laboratory II)
- CHE 109 General Chemistry Lecture I (Honors and Majors) (Honors and Majors) {CHE 129 General Chemistry Laboratory I (Honors and Majors)} sequences with
 - CHE 119 General Chemistry Lecture II (Honors and Majors) (Honors and Majors) {CHE 139 General Chemistry Laboratory II (Honors and Majors) (Honors and Majors)}
- Credit is given for CHE 106/CHE 116 or, CHE 109/CHE 119 but not for both. Note: this is the same for the lab CHE 107/CHE 117 or CHE 129/CHE 139.
- All CHE courses.

Cognitive Science

- COG courses may be accepted by petition.

Communication Sciences and Disorders

- CSD 212 Introduction to Communication Sciences and Disorders sequences with
 - CSD 315 Anatomy and Physiology of the Speech and Hearing Mechanisms
- CSD 212 Introduction to Communication Sciences and Disorders sequences with
 - CSD 325 Fundamentals of Hearing Sciences
- CSD 212 Introduction to Communication Sciences and Disorders sequences with
 - CSD 345 Speech Science
- CSD 409 Cognitive Neuroscience of Speech and Language (crosslisted with NEU 409)

Earth and Environmental Sciences

ANY EAR course will count toward the divisional requirement of four courses in the natural sciences and mathematics.

First Course in the Sequence:

- EAR 105 Earth Science or
- EAR 110 Dynamic Earth or
- EAR 203 Earth System Science

Second Course in the Sequence:

- EAR 106 Geohazards & Natural Disasters
- EAR 111 Climate Change Past and Present
- EAR 117 Oceanography
- EAR 200 Selected Topics
- EAR 205 Water and Our Environment
- EAR 210 History of Earth and Life
- EAR 225 Volcanoes and Earthquakes

Notes:

- Prospective Earth Science majors are strongly encouraged to take the EAR 110 - EAR 210 sequence.
- Credit is given for EAR 110 or EAR 105, but not for both.

Geography and the Environment

- GEO 155 The Natural Environment sequences with
 - GEO 215 Global Environmental Change
- GEO 155 The Natural Environment sequences with
 - GEO 316 River Environments
- GEO 155 The Natural Environment sequences with
 - GEO 326 The Geography of Climate and Weather
- GEO 455 Biogeography
- GEO 482 Environmental Remote Sensing
- GEO 583 Environmental Geographical Information Science

Honors

- HNR 250 Topics in the Natural Sciences and Mathematics Honors
- HNR 350 Topics in the Natural Sciences and Mathematics Honors
- HNR 450 Topics in the Natural Sciences and Mathematics Honors
- HNR 255 Topics in the Sciences with Laboratory Component

- HNR 355 Topics in the Sciences with Laboratory Component
- HNR 455 Topics in the Sciences with Laboratory Component

A sequence can be made up of any 2-course combination of HNR 250 or 255, 350 or 355, or 450 or 455, including either taken twice.

Mathematics

- MAT 285 Life Sciences Calculus I sequences with
 - MAT 286 Life Sciences Calculus II
- MAT 295 Calculus I sequences with
 - MAT 296 Calculus II

All MAT courses above 230. (MAT 284 cannot be used simultaneously to meet the divisional perspective requirement and to meet the Quantitative Skills Requirement.)

Neuroscience

- NEU 409 Cognitive Neuroscience of Speech and Language
(crosslisted with CSD 409)
- NEU 223 Introduction to Cognitive Neuroscience (crosslisted with PSY 223)

Physics

Four physics courses have no pre-requisites and are recommended as introductory courses. PHY 101 is algebra-based. PHY 211, PHY 312 ("Relativity, Black Holes, and the Big Bang"), and PHY 314 ("Quantum Computing Demystified") have a calculus co-requisite (MAT 285 or MAT 295).

- PHY 101 Major Concepts of Physics I
- PHY 102 Major Concepts of Physics II
- PHY 211 General Physics I or
- PHY 215 General Physics I for Scientists
- PHY 221 General Physics Laboratory I
- PHY 212 General Physics II or
- PHY 216 General Physics II for Scientists
- PHY 222 General Physics Laboratory II
- All PHY courses.

A sequence can be made up of any two 100-level PHY or AST courses, any two 200-level PHY courses, or a combination of one 100-level PHY or AST and one 200-level PHY course.

Psychology

- PSY 223 Introduction to Cognitive Neuroscience (crosslisted with NEU 223)
- PSY 323 Brain and Behavior
- PSY 324 Developmental Biopsychology
- PSY 334 Laboratory in Developmental Biopsychology

Public Health

- PHP 303 Environmental Health
- PHP 401 Epidemiology

Science Teaching

- All SCI courses.

Science, Technology, and Society

- STS course may be accepted by petition.

Other Schools and Colleges

*Apply as Non-Arts & Sciences credit

David B. Falk College of Sport

- NSD 225 Nutrition in Health*