



Catalog year: 2020

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J. WILLIAM FULBRIGHT COLLEGE OF ARTS AND SCIENCES

### MAJOR REQUIREMENTS for a BACHELOR OF SCIENCE in PHYSICS

MINIMUM DEGREE CREDIT HOURS REQUIRED TO GRADUATE = 120 (CORE + MAJOR + GENERAL ELECTIVES)

Department of Physics

226 PHYS

479-575-2506

[physics.uark.edu](http://physics.uark.edu)

#### ADDITIONAL SCIENCES (2 courses – 8 hours)

- CHEM 1103/1101L University Chemistry I
- CHEM 1123/1121L University Chemistry II
- CSCE 2004 Programming Foundations I
- CSCE 2014 Programming Foundations II
- BIOL 1543/1541L Principles of Biology/Lab
- BIOL 1584 Biology for Majors
- GEOS 1113/1111L Physical Geology/Lab
- GEOS 1133/1131L Earth Science/Lab
- OR** an approved eight hours of laboratory-based courses from the department

#### MATHEMATICS (5 courses – 19 hours)

- MATH 2554 Calculus I
- MATH 2564 Calculus II
- MATH 2574 Calculus III
- MATH 2584 Elementary Differential Equations
- MATH 3083 Linear Algebra

**Note:** CSCE 3513, CSCE 4423, GEOS 4223 or MEEG 2703 can be substituted for MATH 3083 with the advisor's approval.

**Assessment of Student Learning:** In accordance with state, University, and college requirements, all students must have learning assessed before graduation. Students majoring in physics will be assessed in the course PHYS 4991, which must be taken in the year prior to graduation.

#### PHYSICS CORE (7 courses – 23 hours)

- PHYS 2054 University Physics I
- PHYS 2074 University Physics II
- PHYS 2094 University Physics III
- PHYS 3453 Electromagnetic Theory I
- PHYS 3613 Modern Physics
- PHYS 4073 Intro to Quantum Mechanics
- PHYS 4991 Physics Senior Seminar

**Note:** Majors must propose participation in a research experience project no later than the end of their junior year of study. A written report of the results must be submitted during PHYS 4991 Senior Seminar.

#### PHYSICS CONCENTRATIONS (hours vary)

Physics B.S. majors must complete all the requirements for one of seven available concentration areas. All concentrations consist of 16 credit hours with the exception of the Geophysics concentration, which requires 24.

- ASTRONOMY (16 hours minimum)
- BIOPHYSICS (16 hours minimum)
- COMPUTATIONAL (16 hours minimum)
- ELECTRONICS (16 hours minimum)
- GEOPHYSICS (24 hours minimum)
- OPTICS (16 hours minimum)
- PROFESSIONAL (16 hours minimum)

#### PHYSICS WRITING REQUIREMENT

- Satisfied by a senior thesis (PHYS 498V), an honors thesis, or a paper submitted as a part of PHYS 4991 or any physics or astronomy course numbered 3000 or higher. Students electing the last route must obtain approval of the instructor during the first three weeks of the semester.