



*College of Letters & Sciences*

*PHYSICS AND ASTRONOMY  
COURSES (PHYSICS, ASTRONOMY)*

## **PHYSICS AND ASTRONOMY COURSES (PHYSICS, ASTRONOMY)**

### **PHYSICS COURSES (PHYSICS)**

#### **PHYSICS-503**

##### **Microprocessor Laboratory 2 cr**

Laboratory experience in microprocessor addressing, digital logic circuits, microcomputer input and output techniques, digital to analog and analog to digital interfacing and device control by microcomputers. This course will not satisfy the laboratory work requirements for the physics major; the credit will count toward the major.

Prereq: PHYSICS-175 (or PHYSICS-163) and COMPSCI-171; or concurrent registration in COMPSCI-302/502; or graduate standing with computer programming experience.

#### **PHYSICS-610**

##### **Modern Physics I 3 cr**

A study of twentieth century physics. Topics covered include relativity, elementary quantum physics, atomic structure, elementary nuclear physics and fundamental particles. Three one-hour lectures per week.

Prereq: PHYSICS-174, PHYSICS-175 or PHYSICS-162, PHYSICS-163 and MATH-254.

#### **PHYSICS-611**

##### **Modern Physics Laboratory I 1 cr**

A laboratory course in modern physics. The experiments performed in this course complement the lectures of Modern Physics I. It is recommended that this course be taken concurrently with Modern Physics I. One two-hour laboratory per week.

Prereq: PHYSICS-410/610 or concurrent registration or consent of instructor.

#### **PHYSICS-612**

##### **Modern Physics II 3 cr**

A continuation of Modern Physics I. Topics covered include statistical mechanics, atomic and molecular spectra, x-ray spectra, physics of the solid state and nuclear physics. Three one-hour lectures per week.

Prereq: PHYSICS-410/610.

**PHYSCS-690**  
**Workshop 1-8 cr**

**PHYSCS-691**  
**Travel Study 1-3 cr**

**PHYSCS-694**  
**Seminar 1 cr**

**PHYSCS-696**  
**Special Studies 1-3 cr**  
Prereq: Consent of the instructor.

**PHYSCS-790**  
**Workshop 1-6 cr**

**PHYSCS-794**  
**Seminar 1-3 cr**

**PHYSCS-796**  
**Special Studies 1-3 cr**

**PHYSCS-798**  
**Individual Studies 1-3 cr**

**PHYSCS-799**  
**Thesis Research 1-6 cr**  
Students must complete a Thesis Proposal Form in the Graduate Studies Office before registering for this course.

## **ASTRONOMY COURSES (ASTRONMY)**

**ASTRONMY-550**  
**Astrophotography For The Amateur 3 cr**

This course is designed for people interested in combining astronomy with photography through the media of telescope and camera. Techniques for photographing astronomical objects are presented in an activity-oriented format. Computer scanning of slide images and darkroom procedures for processing prints are also included. One two-hour lecture and one two-hour laboratory per week.

Prereq: Consent of instructor.

**ASTRONMY-630**  
**Astronomy For Teachers 3 cr**

An individualized course intended for teachers with limited astronomy background. Subject matter covered will depend on the needs and interests of the student. Each student does an experimental or observational project which is presented at the end of the

course as a paper in a seminar.

Prereq: Enrollment in this course is limited to those teaching at the K-12 grade levels or consent of the instructor.

**ASTRONMY-690**

**Workshop 1-5 cr**

**ASTRONMY-798**

**Individual Studies 1-3 cr**