Physics Courses

Courses

PHYS 5195. Graduate Seminar.
Graduate Seminar: May be repeated three times for credit.
Department: Physics
1 Credit Hour
1 Total Contact Hour
0 Lab Hour
1 Lecture Hour
0 Other Hour

PHYS 5196. Graduate Research in Physics.
Graduate Research in Physics: This course may be taken as often as needed, but no more than 3 semester credit hours may be applied to satisfy the requirements for the master's degree. A student will receive only a P or F grade, except when the student has filed a preliminary degree plan in which this course appears. Prerequisite: Department approval.
Department: Physics
1 Credit Hour
1 Total Contact Hour
0 Lab Hour
0 Lecture Hour
1 Other Hour

PHYS 5321. Mechanics.
Mechanics: Lagrange's equations, nonholonomic constraints, Hamilton's principles, two-body central force, rigid body dynamics, Lagrangian relativistic mechanics, Hamilton and Hamilton-Jacobi equations, canonical transformations. Prerequisite: PHYS 3352. Offered Fall semester.
Department: Physics
3 Credit Hours
3 Total Contact Hours
0 Lab Hours
3 Lecture Hours
0 Other Hours
Prerequisite(s): (PHYS 3352 w/C or better)

PHYS 5325. Mathematical Physics.
Mathematical Physics: Linear systems, special functions, complex variables, and tensor problems in physics. Offered Fall semester.
Department: Physics
3 Credit Hours
3 Total Contact Hours
0 Lab Hours
3 Lecture Hours
0 Other Hours

PHYS 5341. Electrodynamics.
Department: Physics
3 Credit Hours
3 Total Contact Hours
0 Lab Hours
3 Lecture Hours
0 Other Hours
Prerequisite(s): (PHYS 4342 w/C or better)
**PHYS 5361. Quantum Mechanics.**
Quantum Mechanics: Solution of the Schroedinger wave equation for discrete and continuous energy eigenvalues; representation of physical variables as operators and the matrix formulation of quantum mechanics; approximation methods. Prerequisite: PHYS 4356.

**Department:** Physics  
**3 Credit Hours**  
**3 Total Contact Hours**  
0 Lab Hours  
3 Lecture Hours  
0 Other Hours  
**Prerequisite(s):** (PHYS 4356 w/C or better)

**PHYS 5365. Advanced Statistical Mechanics.**
Advanced Statistical Mechanics: Classical and quantum statistics of systems in equilibrium. Treatment of fluctuations and transport phenomena. Introduction to many body problems. Prerequisite: PHYS 3331 with a grade of "C" or better.

**Department:** Physics  
**3 Credit Hours**  
**3 Total Contact Hours**  
0 Lab Hours  
3 Lecture Hours  
0 Other Hours  
**Prerequisite(s):** (PHYS 3331 w/C or better)

**PHYS 5371. Solid State Physics.**
Solid State Physics: Electromagnetic, elastic and particle waves in periodic lattices as applied to the electrical, magnetic and thermal properties of solids. Prerequisite: PHYS 4356 or department approval.

**Department:** Physics  
**3 Credit Hours**  
**3 Total Contact Hours**  
0 Lab Hours  
3 Lecture Hours  
0 Other Hours  
**Prerequisite(s):** (PHYS 4356 w/C or better)

**PHYS 5391. Research Problems in Physics.**
Research Problems in Physics: Required course for the 36-hour non-thesis option. Requires two copies of a type-written report. May be repeated for credit; maximum credit allowed six hours. May not be counted as thesis research but may be taken one time as a preparatory investigation course prior to the beginning of thesis research. Prerequisites: Submission of the Petition of Candidacy and department approval.

**Department:** Physics  
**3 Credit Hours**  
**3 Total Contact Hours**  
0 Lab Hours  
0 Lecture Hours  
3 Other Hours

**PHYS 5393. Special Topics in Physics.**
Special Topics in Physics: Topics to be announced. May be repeated for credit.

**Department:** Physics  
**3 Credit Hours**  
**3 Total Contact Hours**  
0 Lab Hours  
3 Lecture Hours  
0 Other Hours

**PHYS 5396. Graduate Research in Physics.**
Graduate Research in Physics: This course may be taken as often as needed, but no more than 3 semester credit hours may be applied to satisfy the requirements for the master's degree. A student will receive only a pass/fail grade except when the student has filed a preliminary degree plan in which this course appears. Prerequisite: Department approval.

**Department:** Physics  
**3 Credit Hours**  
**3 Total Contact Hours**  
0 Lab Hours  
3 Lecture Hours  
0 Other Hours
PHYS 5398. Thesis.
Thesis: Prerequisite: Department approval.
Department: Physics
3 Credit Hours
3 Total Contact Hours
0 Lab Hours
0 Lecture Hours
3 Other Hours

PHYS 5399. Thesis.
Thesis. Prerequisite: PHYS 5398 and department approval.
Department: Physics
3 Credit Hours
3 Total Contact Hours
0 Lab Hours
0 Lecture Hours
3 Other Hours
Prerequisite(s): (PHYS 5398 w/P or better)

PHYS 5696. Graduate Research in Physics.
Graduate Research in Physics (0-0-6) This course may be taken as often as needed, but no more than three semester hours may be applied to satisfy the requirements for the master's degree. A student will receive only a pass/fail grade except when the student has filed a preliminary degree plan in which this course appears. Prerequisite: Department approval.
Department: Physics
6 Credit Hours
6 Total Contact Hours
0 Lab Hours
0 Lecture Hours
6 Other Hours