PHYSICS MINOR

Introduction

Please click here (http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-liberal-arts-sciences/physics/) to see Physics department information.

The department of Physics at the University of Colorado Denver enriches understanding of how the world works by incorporating physics in every aspect of life. Good intuition about how things work has been, since the time of Galileo, a hallmark of physicists.

CU Denver's faculty is committed to providing substantive applied research experiences for our undergraduate students by incorporating aspects of every day life into their classrooms and research. A major in physics is one of the few academic degree programs that prepares its students for an amazing array of careers including computer analyst, engineer, technical writer, industrial marketer, doctor, and lawyer.

Our faculty is committed to provide students with opportunities for laboratory experience in a research environment. Students work elbow-to-elbow with their professor mentors on such projects as:

- Applying chaos and complex systems theory to problems ranging from the onset of turbulence in fluid flows to the erratic motions of loads hanging from cranes aboard ships at sea
- Study of quasar jets and other associated dynamical properties, supernovae and nucleosynthesis
- Superconducting Quantum Interference Devices (SQUIDs) specifically the fabrication of microelectronic SQUIDs
- Applying non-linear dynamics and stochastic modeling to biological systems to understand how variations in genotype can lead to unique behavior
- Developing detection techniques in the search for the Dark Matter component of our Universe
- Applying physics to archaeology and historic preservation
- Developing ways to help students learn physics better

Students are strongly encouraged to consult with the Physics advisor, meet physics faculty engaged in Pure & Applied Physics research, attend departmental seminars, and explore ways that Physics relates to research undertaken by faculty in other disciplines.

For more information, contact:

Michael "Bodhi" Rogers (Physics advisor)
Email: physics.chair@ucdenver.edu
Office: North Classroom 3123B

These degree requirements are subject to periodic revision by the academic department, and the College reserves the right to make exceptions and substitutions as judged necessary in individual cases. Therefore, the College strongly urges students to consult regularly with their major advisor and CLAS advisor to confirm the best plans of study before finalizing them.

Program Delivery

- This is an on-campus program.

Declaring This Minor

- Click here (http://catalog.ucdenver.edu/cu-denver/undergraduate/records-registration/registration/declare-change-major-minor/) to go to information about declaring a minor.

General Requirements

Students must satisfy all requirements as outlined below and by the department offering the minor.

- CU Denver General Graduation Requirements (http://catalog.ucdenver.edu/cu-denver/undergraduate/graduation/general-graduation-requirements/)
- Click here (http://catalog.ucdenver.edu/cu-denver/undergraduate/academic-policies-procedures/) for information about Academic Policies

Program Requirements

1. Students must complete a minimum of 16 PHYS credit hours.
2. Students must complete a minimum of 6 upper-division (3000-level and above) PHYS credit hours.
3. Students must earn a minimum grade of C- (1.7) in all minor courses taken at CU Denver and must achieve a minimum cumulative minor GPA of 2.0. All graded attempts in required and elective courses are calculated in the minor GPA. Students cannot complete minor or ancillary course requirements as pass/fail.
4. Students must complete a minimum of 9 PHYS credit hours with CU Denver faculty.

Program Restrictions, Allowances and Recommendations

1. A student majoring in physics cannot earn a minor in physics.

Introductory Physics Lecture/Lab

Code	Title	Hours
Take the following courses		*10*
PHYS 2010	College Physics I	4
or PHYS 2311	General Physics I: Calculus-Based	
PHYS 2321	Intro Experimental Phys Lab I	1
or PHYS 2351	Applied Physics Lab I	
PHYS 2020	College Physics II	4
or PHYS 2331	General Physics II: Calculus-Based	
PHYS 2341	Intro Experimental Phys Lab II	1
or PHYS 2361	Applied Physics Lab II	

Upper Division Physics Electives

Code	Title	Hours
Take six upper division (3000-level or higher) PHYS credit hours of electives.		*6*
PHYS 3050	General Astronomy II	3
PHYS 3070	Physical Cosmology	3
PHYS 3082	Energy and the Environment	3

PHYS 3120	Methods of Mathematical Physics	3
PHYS 3151	Biophysics Outlook I	1
PHYS 3161	Biophysics Outlook II	1
PHYS 3211	Analytical Mechanics	4
PHYS 3251	Biophysics of the Body	4
PHYS 3252	Biophysics of the Body NM	4
PHYS 3411	Thermal Physics	3
PHYS 3451	Biophysics of the Cell	4
PHYS 3452	Biophysics of the Cell NM	4
PHYS 3620	Sound and Music	3
PHYS 3711	Junior Laboratory I	2
PHYS 3721	Junior Laboratory II	2
PHYS 3811	Quantum Mechanics	4
PHYS 3840	Independent Study: PHYS	1-3
PHYS 3880	Directed Research	1-3
PHYS 3939	Internship	1-3
PHYS 4251	Physical Fluid Dynamics	3
PHYS 4331	Principles of Electricity and Magnetism	4
PHYS 4351	Bioelectromagnetism	4
PHYS 4352	Bioelectromagnetism NM	4
PHYS 4400	Scientific Instrumentation	3
PHYS 4401	Special Topics	1-3
PHYS 4440	Electricity and Magnetism II	3
PHYS 4510	Optics	3
PHYS 4550	Astrophysics	3
PHYS 4611	Computational Physics	3
PHYS 4620	Computational Physics II	2
PHYS 4650	Solid State Physics	3
PHYS 4711	Senior Laboratory I	2
PHYS 4721	Senior Laboratory II	2
PHYS 4810	Atomic and Molecular Structure	3
PHYS 4820	Subatomic Physics	3
PHYS 4840	Independent Study: PHYS	1-3
PHYS 4880	Directed Research	1-6
PHYS 4920	Advanced Undergraduate Seminar	1
PHYS 4939	Internship	1-3
PHYS 4950	General Relativity	3
PHYS 4980	Advanced Physics Topics	1-3

To learn more about the Student Learning Outcomes for this program, please visit our website.