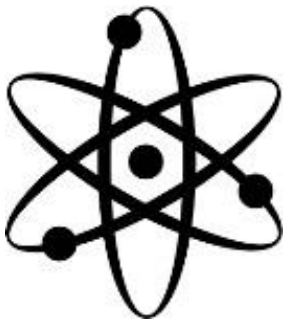
Undergrad Physics Majors Handbook



Fall 2023

Physics Department Contacts

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Physics Club
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Faculty Advisor – Dr. Matt Guthrie, guthrie@phys.uconn.edu

Undergraduate Women in Physics
President – Danya Alboslani, danya.alboslani@uconn.edu
Faculty Advisor – Nora Berrah

The Physics Learning Resource Center – http://physics.uconn.edu/learning-resource-center/
*The PLRC is located **in Gant South 216**, Staffed by physics grad students, this is an excellent resource for physics majors.*

University Contacts

CLAS Academic Services Center – 860-486-2822, http://clasadvising.uconn.edu/
Advising and other academic services; online forms such as Excess Credit Request, Late Drop Petition, CLAS Online Program Change; Dean's signature

Undergraduate Catalog – http://catalog.uconn.edu/

Registrar's Office – 860-486-3331, http://registrar.uconn.edu/
Registration issues, academic calendar, final exam schedule

Bursar's Office – 860-486 – http://bursar.uconn.edu/

Counselling and Mental Help Services – 860-486-4705, http://counseling.uconn.edu/

The Academic Achievement Center – http://achieve.uconn.edu/

The Academic Achievement Center assists students in attaining their academic and personal goals by providing a comprehensive, personalized array of programs, resources, and services which enhance skill development, effective decision-making, and personal transitions to and within the university setting.

The Writing Center – http://writingcenter.uconn.edu/

Tutoring, drop in and by appointment

Physics Department Events

Weekly Physics Colloquium

The Physics Department holds colloquia every Friday afternoon 3:30 – 4:30. Students and visitors are welcome!

Physics Club

Meets every other Thursday, 6:30 for pizza, and a presentation by a faculty member or visiting scholar.

Waffle Wednesdays, Movie Nights, and Liquid Nitrogen Ice Cream

Throughout the year, as needed!

Mount Monadnock Hike and BBQ

Typically in October, the Physics Department travels to New Hampshire to hike Mount Monadnock. This is a 5 mile hike with 1700 ft elevation gain, at the height the fall colors. All are welcome!

Holiday Party, Ice Cream Social, and End of Year Picnic

Early in the fall semester we have an ice cream social; we conclude the semester with a potluck holiday party; and we end the year in May with a department picnic.

Summer Research Opportunities Seminar

Scheduled for late in the fall semester, a tutorial in applying for summer research funding – REU applications (Research Opportunities for Undergraduates); SURF Awards (Summer Undergraduate Research Fund Awards); SULI Internships; SLAC Summer Positions; The Mark Miller Undergraduate Research Award; NASA CTGC Student Grant and Scholarships.

PHYSICS MAJOR TRACKS

- General Option (BS)
- Applied Option (BS)
- Bachelor of Arts (BA)
- Engineering Physics (application required)
- Math-Physics (BS)
- Astrophysics minor

More information on the undergraduate program as well as Plans of Study for each concentration can be found here: https://physics.uconn.edu/undergraduate/

PHYSICS COURSE BY SEMESTER

Subject	Catalog	Course Title	Semester Offered
PHYS	1040E	Cosmic Origins of Life	Spring
PHYS	1075Q	Physics of Music	Fall alternate years odd
PHYS	1201Q	General Physics	Fall Spring
PHYS	1202Q	General Physics	Fall Spring
PHYS	1230	General Physics Problems	Fall Spring
PHYS	1401Q	General Physics with Calculus	Fall Spring
PHYS	1402Q	General Physics with Calculus	Fall Spring
PHYS	1501Q	Physics for Engineers I	Fall Spring
PHYS	1502Q	Physics for Engineers II	Fall Spring
PHYS	1600Q	Introduction to Modern Physics	Fall
PHYS	1601Q	Fundamentals of Physics I	Spring
PHYS	1602Q	Fundamentals of Physics II	Fall
PHYS	2200	Computational Physics	Fall alternate years odd
PHYS	2300	Development of Quantum Physics	Fall Spring
PHYS	2400	Math Methods	Spring alternate years odd
PHYS	2501W	Lab Electric, Magnetism,& Mech	Fall Spring
PHYS	2701	Foundations Modern Astrophysics	Fall
PHYS	2702	Techniques Modern Astrophysics	Spring
PHYS	3101	Mechanics I	Fall Spring
PHYS	3102	Mechanics II	Spring alternate years, even
PHYS	3150	Electronics	Spring
PHYS	3201	Electricity and Magnetism I	Fall Spring
PHYS	3202	Electricity and Magnetism II	Spring
PHYS	3300	Statistical & Thermal Physics	Spring

PHYS	3401	Introductory Quantum Mechanics	Fall Spring
PHYS	3402	Introductory Quantum Mechanics	Spring
PHYS	3501	Modern Experimental Methods	Fall alternate years, odd
PHYS	3989	Undergraduate Research	Fall Spring
PHYS	4093	Foreign Study	By arrangement
PHYS	4095	Special Topics	As needed
PHYS	4096W	Research Thesis in Physics	Fall Spring
PHYS	4098	Variable Topics	Not regularly offered
PHYS	4099	Independent Study	Fall Spring
PHYS	4100	Physics of Earth's Interior	Fall alternate years, odd
PHYS	4130	Fund of Planetary Science	Fall alternate years, even
PHYS	4140	Principles of Lasers	Spring alternate years, odd
PHYS	4150	Optics	Fall alternate years, even
PHYS	4210	Intro to Solid State Physics	Fall alternate years, even
PHYS	4350	Nuclei and Particles	Fall alternate years, odd
PHYS	4710	Stars and Compact Objects	Alternates with 4720
PHYS	4720	Galaxies and the Interstellar Med	Alternates with 4710
PHYS	4730/6730	General Relativity and Cosmology	Spring alternate years even
PHYS	4740/6740	Observational Astrophysics	Fall alternate years, odd

Research Opportunities with Physics Faculty

The UConn Physics Department strongly encourages and facilitates undergraduate physics majors in engaging in research with our faculty. Our physics professors are accessible and welcoming. Students are invited to reach out to professors to discuss their research and inquire about opportunities in their labs. Students can receive academic credit for research through PHYS 3989 “Undergraduate Research,” and PHYS 4099 “Independent Study.” Advanced students can also complete a three credit capstone “Research Thesis in Physics” (PHYS 4096W).

A seminar in early November will provide students with information regarding summer research opportunities, and tips for applying. These include:

- Independent Studies/Research with faculty
- REU (Research Experience for Undergraduates, funded by the National Science Foundation)
- NASA Connecticut Space Grant Consortium, Undergraduate Scholarship
- SULI (Science Undergraduate Laboratory Internships, funded by the Department of Energy)
- SURF Awards (Summer Undergraduate Research Fund, Office of Undergraduate Research)
- SLAC National Accelerator Laboratory, Summer Student Program

Searching and Applying for Internships

Whether you intend to go to graduate school or enter the work force, an internship can provide you with an opportunity to gain hands-on work experience and help build your professional credentials.

Hiring for summer internships begins in the fall of the year prior, and continues into spring. Finding an internship is similar to searching for a full-time job. You'll need to prepare a resume, search for opportunities, and go on interviews. See the UConn **Undergraduate Internship and Co-op Guide:** https://cdn.uconnectlabs.com/wp-content/uploads/sites/7/2017/12/intern-coop-guide-2018.pdf; the **AIP Careers Toolbox:** https://www.spsnational.org/sites/all/careerstoolbox/; and the **APS Career help page:** https://www.aps.org/careers/.

The UConn Center for Career Development can help you find internship opportunities and prepare for your interview. https://career.uconn.edu/

- Schedule a career coaching appointment to discuss internships
- Get help preparing an effective resume
- Practice interview skills
- Search for opportunities
- Attend a Career fair

UCONN Career Fairs

UConn sponsors a number of career fairs where students have an opportunity to meet potential employers and establish professional relationships.

- At the **"Navigating the Career Fair"** info session, you can hear from a panel of recruiters from prominent employers on what to expect and how to prepare for the upcoming fairs.

- **Fall Career Fair** is held in early fall – hosts representatives from numerous companies and organizations

- **STEM Career Fair** is held in early fall – designed for employers with opportunities in Science, Technology, Engineering, and Mathematics

- **Internship & Co-op Fair** held in February – provides an opportunity for businesses and government agencies to meet with students and focus specifically on cooperative education, internship and summer career-related experiences

- **Spring Career Fair** held the end of March – for students looking for full-time positions and internship opportunities

UConn Academic Support Services

The Physics Learning Resource Center
http://physics.uconn.edu/learning-resource-center/
The PLRC is located in GS 216. Staffed by physics grad students, this is an excellent resource for physics majors.

The Q-Center
http://qcenter.uconn.edu/
Tutoring and review sessions. Check their schedule, however some courses that the Q-Center provides review sessions for are: CHEM 1128, MATH 1131 and 1132, PHYS 1502.

The Academic Achievement Center
http://achieve.uconn.edu/
The Academic Achievement Center assists students in attaining their academic and personal goals by providing a comprehensive, personalized array of programs, resources, and services which enhance skill development, effective decision-making, and personal transitions to and within the university setting.

UConn Connects
http://achieve.uconn.edu/program-information/
UConn Connects serves as an intervention program to help students be more successful. Students may participate in the UConn Connects program on a semester by semester basis. UConn Connects pairs each student with a faculty, staff or peer facilitator who will guide them through the semester. Students and Facilitators will meet to go over course work and academic progress on a weekly basis. The facilitator provides the student with a variety of resources, support and list of workshops offered by the AAC.

The Writing Center
http://writingcenter.uconn.edu/
Tutoring, drop in and by appointment.

Students Requesting Accommodations
http://csd.uconn.edu/

Counselling and Mental Help Services
http://counseling.uconn.edu/
860-486-4705
Arjona, 4th floor
Hours of operation:
Monday - Thursday 8:30 am - 4:30 pm
Fridays 9:00 am - 4:30 pm
Together with Student Health Services, CMHS offers a holistic and collaborative model of care. The mission of CMHS is to provide the highest quality clinical services to promote the emotional, relational, and academic potential of all students.

Dean of Students Office

https://dos.uconn.edu/

The Dean of Students Office serves as an advocate for students and as a centralized resource for connecting students with appropriate university and community programs, offices and individuals. The office supports students in resolving educational, personal and other

Hints for Academic Success

- Stay on top of your homework and studies.
- Collaborative study is encouraged – the Physics Reading Room (Gant West 103) is a gathering place for undergraduate physics majors to work and study.
- If you find yourself struggling, reach out for help! Micki (our department academic advisor), the physics faculty, as well as your fellow physics majors are available to assist you.

SCHOLASTIC PROBATION

https://clasadvising.uconn.edu/academic-probation-policies-procedures/

Scholastic probation is an identification of students whose scholastic performance is below University standards. The student and the student's advisor are informed that a marked academic improvement in future semesters is necessary to obtain the minimum scholastic standards.

Students are on scholastic probation for the next semester in which they are enrolled if their academic performance is such that they are included in any of the following conditions:

- Students who have earned 0-11 credits (considered to be first semester standing) and who have earned less than a 1.8 semester grade point average.
- Students who have earned 12-23 credits (considered to be second semester standing) and who have earned less than a 1.8 semester grade point average.
- Students who have earned 24 credits or more (considered to be third semester or higher) and who have earned less than a 2.0 semester grade point average or cumulative grade point average.

Any student placed on scholastic probation because of a cumulative grade point average less than 2.0 shall be removed from probation when the cumulative grade point average reaches 2.0 or above.

Students will remain on probation until both their semester and cumulative GPA reaches 2.0.

Please see the University Undergraduate Catalog for more information regarding academic policies and procedures.

College of Liberal Arts and Sciences students who are placed on scholastic probation will have the following conditions attached to their enrollment:

- There is a 14 credit limit on their account and they must adjust their credits by the 10th day of classes or the ASC will adjust their schedule for them.

- They are required to meet with an advisor in the Academic Services Center during the semester. After the 10th day of classes an enrollment hold will be placed on their account, which will only be lifted once they've met with an ASC advisor.

ACADEMIC DISMISSAL

Students are eligible for academic dismissal when they fail to meet the minimum scholastic standards (see above) for two consecutive registered semesters.