

# EBERLY COLLEGE OF SCIENCE

## About the College

Tracy Langkilde, Verne M. Willaman Dean, Eberly College of Science

The Eberly College of Science provides instruction and research opportunities in the biological, mathematical, physical and interdisciplinary sciences. The college offers undergraduates sixteen majors that lead to the B.S. degree, with several options, and Mathematics can lead to either the B.S. or B.A. degree. Fourteen minors for undergraduates that can broaden their learning are also offered. The college strives to provide students with the knowledge and experiences that will enable them to be scientifically-trained leaders and innovators who advance the frontiers of science and make a difference in the world. Our faculty, staff, and students work together to learn, create, and apply knowledge in the basic sciences. Graduates of our programs use their strong foundation and critical thinking skills in a wide range of careers. Many graduates continue their education in graduate or professional schools, while others choose from a variety of careers in industry, government, or education.

MORE INFORMATION ABOUT THE COLLEGE (<https://science.psu.edu>)

## Mission and Goals

The mission of the college is to improve society and address global challenges through excellence in science education and research. We train tomorrow's scientific leaders and innovators, and provide rich science education for all Penn State students. We enhance public understanding of science by sharing our knowledge and discoveries with the people of the Commonwealth, nation, and world. We make discoveries that expand fundamental knowledge in science, and are applied to solve real-world challenges.

MORE INFORMATION ABOUT THE MISSION AND GOALS OF THE EBERLY COLLEGE OF SCIENCE (<https://science.psu.edu/about/college-vision-mission-and-goals/>)

## Departments and Schools

### Department of Astronomy and Astrophysics

The Department of Astronomy & Astrophysics seeks to expand our knowledge of the universe through undergraduate and graduate education, research, and public outreach. Students are active and vital participants in the research programs conducted in the department; with its depth and breadth in research opportunities, the department offers pathways to careers in research and teaching in astronomy and related fields. The Department is involved in a wide variety of observational, experimental, and theoretical projects that cover most active areas of astrophysical research. The Department has an extensive program of public outreach that promotes science including public lectures, workshops, planetarium shows, and public open houses.

MORE INFORMATION ABOUT THE DEPARTMENT OF ASTRONOMY AND ASTROPHYSICS (<http://astro.psu.edu/>)

### Department of Biochemistry and Molecular Biology

The Biochemistry and Molecular Biology department is enthusiastically engaged not only in basic research to probe fundamental principles of the behaviors of molecules and cells as well as the organization of biological systems, but also in promising applied research, identifying scientific solutions to pressing problems in areas such as medicine, energy

production, environmental concerns and agriculture. BMB is dedicated to educating the next generation of scientists, and is the departmental home to students from four majors: Biochemistry and Molecular Biology, Microbiology, Biotechnology and Forensic Science, in addition to training Ph.D. students in the Biochemistry, Microbiology and Molecular Biology Program, and Master's degree programs in Biotechnology and Forensic Science.

MORE INFORMATION ABOUT THE DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR BIOLOGY (<http://bmb.psu.edu/>)

### Department of Biology

The Department of Biology is internationally recognized in teaching and research in the biological sciences. The research and instructional mission of the department spans ecology to molecular biology, and represents the most diverse program in the biological and life sciences at Penn State. Over the past 35 years more than 6,000 students have earned bachelors degrees in Biology from Penn State, and over 400 graduate students have earned advanced degrees with Biology faculty members. Departmental students, faculty, and alumni contribute to the welfare of our society through their activities including education, public health and services, business, and basic and applied research.

MORE INFORMATION ABOUT THE DEPARTMENT OF BIOLOGY (<http://bio.psu.edu/undergraduate-portal/>)

### Department of Chemistry

The Department of Chemistry is a leader in many significant areas of chemistry research and discovery, including materials chemistry, life sciences and nanoscience. The department has nationally acclaimed strengths in faculty research, graduate and undergraduate education. With a dedicated staff and state-of-the-art research support facilities, Penn State Chemistry is an excellent place to work, study or pursue your love of research. The department is dedicated to a core set of values: excellence in teaching and research, respect for all members of the Department and University, diversity in our students, faculty and staff, and service to the citizens of the world.

MORE INFORMATION ABOUT THE DEPARTMENT OF CHEMISTRY (<http://chem.psu.edu/>)

### Department of Mathematics

The Mathematics Department is a thriving research and teaching community of faculty, undergraduate and graduate students, and postdoctoral researchers. The department is committed to excellence in mathematics instruction for all Penn State undergraduates, and houses the Mathematics bachelors, masters, and doctoral degrees. The Department is housed in the newly renovated McAllister Building on the University Park Campus, and it is one of the few in the nation with a physical laboratory where research and educational laboratory experiments are conducted.

MORE INFORMATION ABOUT THE DEPARTMENT OF MATHEMATICS (<http://math.psu.edu/>)

### Department of Physics

The Department of Physics is home to innovative scientists, inspiring teachers, creative students, and accomplished alumni making exciting discoveries at the frontiers of knowledge. According to a multi-year study released by the National Research Council (NRC) in 2010, the Department of Physics is in the top echelon of physics departments in the United States. Developments in science and technology move very fast, the

undergraduate and graduate degrees in Physics provide the fundamental tools with which to attack the scientific and technological problems of the next millennium.

MORE INFORMATION ABOUT THE DEPARTMENT OF PHYSICS (<http://www.phys.psu.edu/undergraduate/>)

## Department of Statistics

The Department of Statistics is committed to teaching the theory and practice of statistics to undergraduate and graduate students and to conducting original research. Our world-renowned faculty are members of international collaborations making significant discoveries that will make life better throughout the world. Penn State Statistics has recently been ranked among the best programs in the nation according to the National Research Council.

MORE INFORMATION ABOUT THE DEPARTMENT OF STATISTICS (<http://stat.psu.edu/>)

## Premedical Professions Programs

The Premedical Professions Programs are the academic home for undergraduate students interested in pursuing professional careers in medicine and related health professions. The programs include the undergraduate major Premedicine and the accelerated Premedicine-Medicine program. In addition, the program's advisers provide academic and career counseling for all students, regardless of their major, who wish to apply to medical schools and professional health programs.

### PreMedical Medical Program

MORE INFORMATION ABOUT THE PREMEDICAL MEDICAL PROGRAM (<http://science.psu.edu/premed/accelerated-programs/premedmed/>)

### Premedical Program

MORE INFORMATION ABOUT THE PREMEDICAL PROGRAM (<http://science.psu.edu/premed/>)

## Science B.S. Programs

The Science B.S. Programs are the academic home for undergraduate students interested in pursuing broad, integrative studies in science. The program includes the general science major (Science B.S.) as well as the accelerated Science/MBA program for students interested in leadership positions in science and technology industries.

### Science B.S. Program

MORE INFORMATION ABOUT THE SCIENCE B.S. PROGRAM (<http://science.psu.edu/sciencebs/>)

### Science B.S./M.B.A. Program

MORE INFORMATION ABOUT THE SCIENCE B.S./M.B.A. PROGRAM (<http://science.psu.edu/bsmba/>)

## Baccalaureate Degrees

- Astronomy and Astrophysics, B.S.
- Biochemistry and Molecular Biology, B.S. (Science)
- Biology, B.S. (Science)
- Biotechnology, B.S.
- Chemistry, B.S. (Science)
- Data Sciences, B.S. (Science)
- Forensic Science, B.S.
- Mathematics, B.A. (Science)

- Mathematics, B.S. (Science)
- Microbiology, B.S.
- Physics, B.S. (Science)
- Planetary Science and Astronomy, B.S.
- Premedical-Medical, B.S.
- Premedicine, B.S.
- Science, B.S. (Science)
- Statistics, B.S.

## Minors

- Astronomy and Astrophysics, Minor
- Biochemistry and Molecular Biology, Minor
- Biology, Minor
- Chemistry, Minor
- Information Sciences and Technology for Mathematics, Minor
- Marine Sciences, Minor
- Mathematics, Minor (Science)
- Microbiology, Minor
- Natural Science, Minor
- Physics, Minor
- Planetary Science and Astronomy, Minor
- Statistics, Minor (Science)

## Certificates

- International Science, Certificate
- Science Research Distinction, Certificate

## College Procedures

### Entering the College as a Current Student in Pre-Major Status

In order to be eligible for entrance to the Eberly College of Science in pre-major status, a current student must have:

1. attained at least a 2.00 cumulative grade-point average; and
2. completed MATH 140 with a grade of C or better

### Change of Campus

All students whose entrance-to-major requirements are in progress during the spring semester of the second year and who request a change of assignment to University Park will be conditionally approved. These students' academic records will be re-reviewed when the spring semester grades are available, and at that time any student who does not meet the entrance to major requirements will revert to SCIEN pre-major status at University Park.

MORE INFORMATION ABOUT CHANGE OF CAMPUS (<https://science.psu.edu/current-students/transfer-and-change-of-campus-students/change-of-campus-guidelines/>)

### Early Change of Campus

Early change of campus from another Penn State campus to University Park is one that would take place before the entrance-to-major requirements are met and/or before at least three semesters of course work are completed. These requests will not be approved by the Eberly College of Science, except in the circumstance that progress cannot be

made toward the degree at that campus location. The originating campus must first approve of the change of location request.

## Concurrent Majors

A Concurrent Majors Program is one in which students take courses to concurrently meet the requirements of at least two majors, with graduation for all majors in the program occurring during the same semester.

Eberly College of Science students seeking to obtain concurrent majors request approval to do so by the departments and the dean of the college. Eberly College of Science students may not concurrently enroll in a general science major (either Science BS or Premedicine) and another Eberly College of Science major degree program.

MORE INFORMATION ABOUT CONCURRENT MAJORS (<https://science.psu.edu/current-students/student-services/academics-and-advising/policies/>)

READ SENATE POLICY 60-00: COMPLETING MORE THAN ONE UNDERGRADUATE MAJOR PROGRAM (<http://senate.psu.edu/policies-and-rules-for-undergraduate-students/60-00-completing-more-than-one-undergraduate-program/#60-00>)

## Academic Warning

A student who fails to earn a 2.00 cumulative grade-point average will be placed on academic warning. A student placed on academic warning will have a hold placed on registration and will be required to meet with an academic adviser in order for this registration hold to be removed. To remove academic warning, the cumulative grade-point average must be 2.00 or higher.

MORE INFORMATION ABOUT ACADEMIC WARNING (<http://senate.psu.edu/policies-and-rules-for-undergraduate-students/54-00-academic-progress/#54-20>)

READ SENATE POLICY 54-20: ACADEMIC WARNING (<http://senate.psu.edu/policies-and-rules-for-undergraduate-students/54-00-academic-progress/#54-20>)

## Academic Suspension

A student in academic warning who fails to maintain a semester grade-point average of 2.00 or higher will be academically suspended. A student who has been academically suspended may not schedule courses at the University for two consecutive semesters. (Note: Summer session is equal to one semester.) Students applying to re-enroll at the University following Academic Suspension are required to first meet with an academic adviser in the college.

MORE INFORMATION ABOUT ACADEMIC SUSPENSION (<http://senate.psu.edu/policies-and-rules-for-undergraduate-students/54-00-academic-progress/#54-40>)

READ SENATE POLICY 54-40: ACADEMIC SUSPENSION (<http://senate.psu.edu/policies-and-rules-for-undergraduate-students/54-00-academic-progress/#54-40>)

## Resources

### Academic Advising

The goal of academic advising in the college is to assist with students' transition to college, and provide guidance that will lead to being a successful science student. We provide assistance with policies and

procedures, courses, academic programs, and requirements related to our majors and career goals.

MORE INFORMATION ABOUT ACADEMIC ADVISING (<https://science.psu.edu/current-students/student-services/academics-and-advising/>)

### Health Professions Advising

This office provides health professions advising to any Penn State student, enrolled in any college, who is interested in medicine and allied health professions, including podiatry, dentistry, optometry, pharmacy, physician assistant, and others.

MORE INFORMATION ABOUT HEALTH PROFESSIONS ADVISING (<https://science.psu.edu/interdisciplinary-programs/premedicine/prehealth-advising/>)

### Center for Excellence in Science Education

The Center for Excellence in Science Education (CESE) in the Eberly College of Science provides faculty and students with a collaborative educational network that promotes excellence in science teaching and learning. CESE offers a variety of instructional development activities for faculty and students interested in science teaching.

MORE INFORMATION ABOUT THE CENTER FOR EXCELLENCE IN SCIENCE EDUCATION (<http://cese.science.psu.edu/>)

### Office of Science Engagement

The Office of Science Engagement connects students with opportunities to enhance and extend their learning in co-curricular experiences such as research and educational abroad. We also offer career counseling and development for students, emphasize academic and professional growth, and offer a range of resources to support students' success.

MORE INFORMATION ABOUT THE OFFICE OF SCIENCE ENGAGEMENT (<http://scienceengagement.psu.edu/>)

## Honors Programs

### Schreyer Honors College

The Schreyer Honors College, regarded as one of the nation's top programs of its kind, promotes achieving academic excellence with integrity, building a global perspective, and creating opportunities for leadership and civic engagement. Schreyer Scholars, including those admitted after their first or second year of enrollment, are a diverse and motivated group of approximately 2,000 students at University Park and 20 Commonwealth campuses. The College strives to educate students who will have an important and ethical influence in the world, to improve educational practice, and to continue to be recognized as a leading force in honors education nationwide.

MORE INFORMATION ABOUT THE SCHREYER HONORS COLLEGE (<http://www.shc.psu.edu>)

## Contact

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