

# College of Science and Technology

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## Overview

Science and technology were responsible for a profound transformation of the world in the 20th century and will drive the economy of the 21st century. The objectives of the undergraduate programs of the College of Science and Technology are to prepare students for careers in these important areas and to graduate informed, responsible citizens.

The college approaches science and technology as a body of knowledge that has an advancing frontier and a complex interface with society. The traditional mandate for a university is to provide undergraduate students with a comprehensive education and the opportunity to focus closely on a particular area of study. The College of Science and Technology embraces this mandate and extends additional opportunities to our students. Science and Technology students are encouraged to participate in faculty research projects and thus experience the advancement of this body of knowledge.

Bachelor of Science programs offer a greater concentration in major coursework, while Bachelor of Arts programs offer a greater variety of coursework. All programs offer undergraduates the opportunity to work with distinguished faculty and a richly-diverse and stimulating student body as they prepare for active roles in society.

## Mission Statement

The mission of the College of Science and Technology is to seek academic excellence by providing outstanding instruction in the sciences, and to foster scientific research of the highest quality. In pursuing its mission, the College is committed to meeting the needs of a diverse student body, and is truly dedicated to the founding principles of Temple University in providing a superior education to the prepared student. The educational mission of the College is pursued through offering a current curriculum that incorporates the fundamental principles as well as the latest discoveries in the major scientific disciplines.

Interdisciplinary degree programs and independent research projects allow the student to explore scientific boundaries. The College offers a general education curriculum that provides the opportunity for non-science majors to be better informed of the complex scientific and ethical issues facing society. The College also strives to improve science and mathematics education in the Philadelphia schools. All of these aspects of the educational mission of the College are achieved through the dedicated efforts of the faculty, who are leading scholars in their field.

The research mission of the College is pursued through a sustained effort to recruit the best and brightest new faculty, to aggressively develop promising research initiatives, and to create a modern science campus with facilities fully supportive of cutting-edge research. The College also strives to support the scholarly pursuits and professional activities of its faculty, who in turn advance their respective disciplines. In doing so, the College provides an outstanding environment for graduate and undergraduate research, with the Departments and Centers as focal points for interdisciplinary research initiatives and graduate degree programs. In pursuing its research mission, the College of Science and Technology will be a vital participant in establishing Temple University as a recognized center of excellence in scientific research and development.

## Academic Departments

The College of Science and Technology consists of the following departments:

- Biology
- Chemistry
- Computer and Information Sciences
- Earth and Environmental Science
- Mathematics
- Physics

## Admissions

See Undergraduate Admissions for more details.

## Awards and Achievements

### Awards & Scholarships

Rising sophomores, juniors and seniors are often honored for outstanding performance in a variety of academic areas and for exceptional service to the College and the University. The college offers both awards and scholarships.

## Distinction in Major

Many programs allow exceptional students to receive a Distinction in Major. Please see the program pages for the specific requirements for any particular major.

## Honor Societies

Temple University is in partnership with several national honor societies including Phi Beta Kappa.

## Financial Aid and Scholarships

See Financial Aid for more details.

## Special Facilities

The College of Science and Technology (CST) is home to the advanced Science Education and Research Center (SERC). One of the largest facilities of its kind on the East Coast, SERC is home to teaching and research labs, sophisticated instrumentation and collaborative spaces to facilitate innovation and discovery. Learn more about CST's facilities.

CST's advanced research institutes and centers provide the facilities and support needed for scientists to conduct advanced investigation, partner with similar entities around the world, disseminate new discoveries and turn scientific breakthroughs into advances that improve society.

Additionally, students have access to the Ambler Arboretum at Temple University, The Temple University Field Station at Ambler, and the Temple University Ambler Campus Greenhouse Education and Research Complex where faculty and students can use these resources in coursework and research.

## Special Programs

The College of Science and Technology offers the following opportunities for students.

### Accelerated Bachelor of Arts/Professional Programs

Temple Professional School Programs (within the Lewis Katz School of Medicine at Temple University, Temple University Kornberg School of Dentistry, Temple University School of Podiatry, and Temple University School of Pharmacy) agree to cooperate in providing an accelerated 3 + 4 undergraduate/professional school education leading to both a Bachelor of Arts degree in the College of Science and Technology and a Doctorate degree from the professional school. The Temple University College of Public Health agrees to cooperate in providing an accelerated 3 + 3 undergraduate/graduate education leading to both a Bachelor of Arts degree in the College of Science and Technology and a Doctorate of Physical Therapy in the College of Public Health.

Students in the College of Science and Technology who are in the joint program above, have been admitted to the professional program at the end of their third year, and have completed 90 semester hours, may transfer their first year in professional study toward the completion of the credit requirements for the degree of Bachelor of Arts. Biology and Chemistry majors may also transfer approved courses in their first year of professional study toward the elective courses in their major.

Students in the College of Science and Technology who have been admitted to other health-related professional schools at the end of their third year with a cumulative GPA of at least 3.5 and who have completed 90 semester hours, including all course requirements of the major, college and university, may petition the dean for the transfer of their first year of professional study toward the completion of the credit requirements for the degree of Bachelor of Arts. University residency requirements must also be met.

### Accelerated Bachelor of Science/Professional Programs

The Temple University School of Pharmacy agrees to cooperate in providing an accelerated 3 + 4 undergraduate/professional school education leading to both a Bachelor of Science degree in Pharmaceutical Sciences in the College of Science and Technology and a Doctor of Pharmacy degree from the Temple University School of Pharmacy.

Students in the College of Science and Technology who are in the joint program above, have been admitted to the professional program at the end of their third year, and have completed 90 semester hours, may transfer their first year in professional study toward the completion of the credit requirements for the degree of Bachelor of Science.

### Accelerated Bachelor/Master and Bachelor/Professional Science Master (PSM) in CST Programs

Many departments in the College of Science and Technology cooperate in providing an accelerated +1 undergraduate/graduate education leading to a Bachelor of Arts or Science degree as well as a Master of Arts or Science, or a Professional Science Master (PSM) degree from the Graduate School.

### Accelerated Bachelor/Master of Education Programs with Teacher Certification

Temple's College of Education and Human Development cooperates in providing an accelerated +1 undergraduate/graduate education leading to a Bachelor of Arts or Science degree in the College of Science and Technology as well as a Master of Education degree from the College of Education and Human Development. The Biology, Chemistry, Earth and Environmental Science, Mathematics, and Physics departments enable talented students to complete both a Bachelor's degree in one of the above departments and a Master of Education degree typically in a total of five years. After completing the Bachelor's degree in one of the aforementioned disciplines, students spend an additional year as a graduate student in the College of Education and Human Development. Students must apply for the accelerated +1 Bachelor/Master of Education program during their sophomore year. If accepted, they will take both undergraduate major courses as well as Master of Education courses beginning in their junior year. They typically complete their undergraduate major in their fourth year and their Master of Education degree in their fifth year. Students who complete this program earn a Master

of Education degree and may apply for a Pennsylvania Instructional I Teaching Certificate after passing all required licensure examinations. See the College of Education and Human Development for more details.

For a complete list, see Accelerated Degree Programs.

## CST Science Scholars Program

The CST Science Scholars Program offers exceptional and motivated students additional paid research opportunities and academic and professional development. Students must be invited to apply based on their admissions information or performance in their first year of courses.

## CST TTeach Certification for Secondary Education

Bachelor of Science programs enable students to prepare for secondary education certification while mastering the content of their field.

## CST Undergraduate Research Program

The CST Undergraduate Research Program offers students in the College of Science and Technology an opportunity to work directly with world-class scientists on real-world research. Completing hands-on independent research is critical to the next step in a student's educational or professional career.

## Study Abroad

See Education Abroad and Overseas Campuses and Temple University's Education Abroad and Overseas Campuses web site for more information about study abroad options.

## University Honors Program

Students in the College of Science and Technology may apply to the University Honors Program. Honors students are eligible to enroll in CST honors courses, provided that they have satisfied the prerequisites and co-requisites. Honors courses are designated with a nine as the second digit in the four-digit number, e.g. MATH 1941 is *Honors Calculus I*. See University Honors Program for more information.

## Student Associations

Many of the departments within the College of Science and Technology support student interest organizations known as Majors' Associations and Societies. Each department organization provides an opportunity for students to interact with faculty and other students who share similar interests. It is through these venues that students may influence course offerings, faculty recruitment, and departmental policy. Temple University has many pre-professional health organizations that may interest students in the College of Science and Technology. These organizations allow students to interact with others with similar professional interests and gain more knowledge about admissions requirements and examinations.

## Contact Information

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1803 North Broad Street  
215-204-2888  
<https://cst.temple.edu/>  
[cst@temple.edu](mailto:cst@temple.edu)

For information about the College of Science & Technology, please contact the Center for Academic Advising and Professional Development, 215-204-2890 or at [cstadv@temple.edu](mailto:cstadv@temple.edu).

## Undergraduate Programs

- Accelerated Health Programs in CST
- Advanced Core Science Studies Postbaccalaureate Certificate
- Applied Mathematics BS
- Astrophysics Certificate
- Astrophysics Minor
- Basic Core Science Studies Postbaccalaureate Certificate
- Biochemistry BS
- Biology BA
- Biology BS
- Biology Minor
- Biology with Teaching BS
- Biophysics BS
- Chemistry BA

- Chemistry BS
- Chemistry Minor
- Chemistry with Teaching BS
- Computer Science and Physics BS
- Computer Science BA
- Computer Science BS
- Computer Science Minor
- Computer Security and Digital Forensics Certificate
- Cybersecurity BS
- Data Science BS with Computation and Modeling Concentration
- Data Science BS with Computational Analytics Concentration
- Data Science BS with Genomics and Bioinformatics Concentration
- Data Science: Computational Analytics Certificate
- Data Science: Computational Analytics Minor
- Digital Media Technologies Minor (CST)
- Earth and Space Science with Teaching BS
- Ecology, Evolution and Biodiversity BS
- Environmental Professional Training Certificate
- Environmental Science BS with Applied Ecology Concentration
- Environmental Science BS with Climate Concentration
- Environmental Science BS with Environmental Geochemistry Concentration
- Environmental Science BS with Hydrology Concentration
- Fundamentals of Physics Certificate
- Fundamentals of Programming Certificate
- General Science and Mathematics with Teaching BS
- General Science and Technology with Teaching BS
- General Science with Teaching BS
- Genomic Medicine BS
- Genomic Medicine BS with Pre-Medicine Concentration
- Genomic Medicine Certificate
- Geology BA
- Geology BS
- Geology Minor
- Information Science and Technology BA
- Information Science and Technology BS
- Information Science and Technology Minor
- Integrative Genetics and Genomics BS
- Mathematical Economics BA (CST)
- Mathematics and Computer Science BS
- Mathematics and Computer Science with Teaching BS
- Mathematics and Physics BS
- Mathematics and Technology with Teaching BS
- Mathematics BA
- Mathematics BS
- Mathematics Minor
- Mathematics with Teaching BS
- Mobile Application Development Certificate
- Natural Sciences BA with Biology Concentration
- Natural Sciences BA with Chemistry Concentration
- Natural Sciences BA with Earth and Environmental Sciences Concentration
- Natural Sciences BA with Physics Concentration
- Natural Sciences BS with Biology Concentration

- Natural Sciences BS with Chemistry Concentration
- Natural Sciences BS with Earth and Environmental Sciences Concentration
- Natural Sciences BS with Physics Concentration
- Natural Sciences Minor
- Neuroscience: Cellular and Molecular BS
- Pharmaceutical Sciences BS
- Physics BA
- Physics BS
- Physics Minor
- Physics with Teaching BS
- Quantum Materials Science BS
- Science and Technology Writing Certificate

## Academic Policies and Regulations

Please see the Undergraduate Academic Policies for details. Students are responsible for complying with all university-wide academic policies that apply to their individual academic status. Additional and unique policies, or exceptions for the College of Science and Technology (CST), appear below.

### Changing Majors

**CST Students:** In order to add or change majors within the College of Science and Technology, a CST student must meet with an advisor in the CST's Center for Academic Advising and Professional Development. The advisor will evaluate the student's record in accordance with the following policy:

1. CST students in their first semester at Temple University who wish to add or change majors within the CST will be automatically approved.
2. Continuing CST students who wish to add or change declared majors within the CST should have a cumulative grade point average (GPA) of 2.00 or higher. Continuing CST students who wish to change their major to undeclared will be automatically approved, provided that the total of completed and registered credits is fewer than 60 credits.
3. CST students can complete a second major in the CST. For more details, please refer to the Second Major section within the Requirements (p. 7) page.

**Non-CST Students:** To transfer into the College of Science and Technology (CST), a non-CST student must be in accordance with the following policy:

1. Complete the CST Change of Program (COP) requirements on the Temple University COP Canvas.
2. Students in their first semester at Temple University who wish to transfer into CST will be automatically approved.
3. Continuing students who wish to transfer into CST must have a cumulative grade point average (GPA) of 2.00 or higher.

### Adding a CST minor or certificate

**CST Students:** Must meet with a CST Academic Advisor.

**Non-CST Students:** e-mail [cstadv@temple.edu](mailto:cstadv@temple.edu).

### Course Eligibility

The College of Science and Technology offers four types of undergraduate courses as well as graduate courses:

1. Preparatory courses numbered 0700-0799: open to all students, including non-degree seeking students who have completed appropriate course prerequisites and have completed or are in the process of completing required co-requisite courses. If required, students must complete these courses before enrolling in any higher level courses in the same department.
2. General Education courses numbered 0800-0999: open to all students, including non-degree seeking students who have completed appropriate course prerequisites and have completed or are in the process of completing required co-requisite courses. These courses satisfy University General Education requirements as indicated in the course description.
3. Lower-level courses numbered 1000-1999: open to all students, including non-degree seeking students who have completed appropriate course prerequisites and have completed or are in the process of completing required co-requisite courses. These are general foundation level courses in the various disciplines.
4. Upper-level courses numbered 2000-4999: open to all students, including non-degree seeking students who have completed appropriate course prerequisites and have completed or are in the process of completing required co-requisite courses. These courses build on the foundation courses (and on other upper-level courses) to provide a focused exploration of field-specific content.
5. Graduate-level courses numbered 5000-9999: undergraduate students are generally prohibited from taking graduate-level courses. In rare circumstances, special permission may be granted for undergraduate students to take graduate courses. Graduate-level courses numbered 5000-5999 require permission of the course instructor, the Undergraduate Faculty advisor for the student's undergraduate major, the Graduate Chair of the department housing the course, and the College of Science and Technology's Center for Academic Advising and Professional Development.

Graduate-level courses numbered 8000-9999 require permission from those listed above as well as the Vice Provost for Undergraduate Studies and the Vice Provost for Graduate Studies.

## Courses Over Five Years Old

For transfer and re-enrolling students, courses over five years old will be reviewed by the College to determine whether they will be accepted toward the degree. Final determination of the acceptability of such courses is the responsibility of the Center for Academic Advising and Professional Development.

## Dean's List

Each fall and spring semester, those undergraduates who have met the credit hour and academic criteria are placed on the Dean's List. See the Dean's List policy for specific GPA and credit-hour requirements.

## Grading

Major, Minor, Certificate and GenEd courses must be completed with a letter grade of C- or higher unless otherwise specified. Certain courses require a higher minimum grade in order to advance to the next level.

## Graduation Procedures

Fly in 4 requires students to complete a graduation review prior to the start of the senior year. To meet this requirement, all CST students will have a graduation review prepared by an advisor in Spring of the junior year. Students must apply for graduation online via Self-Service Banner (SSB) early in the semester in which they will complete their degree requirements. For application deadlines, see the University's Undergraduate Graduation Procedures.

## Grievance Procedure

To begin the grievance process of filing a grievance in a course offered from a CST department, please send an e-mail to [cstgrv@temple.edu](mailto:cstgrv@temple.edu) from your Temple e-mail address. In that e-mail, please include your 9 digit TUID number, the course you are filing a grievance in, the semester you took the course, and a written out detailed summary of the nature of your grievance

## Non-Traditional Credits

A maximum of 12 semester hours of credit will be allowed by CST for life experience, upper-level military science (ROTC) courses, and CLEP/DSST examinations.

### CLEP

A maximum of 8 semester hours of credit will be allowed by CST for CLEP examinations.

### Life Experience

A maximum of 8 semester hours of credit will be allowed by CST for Life Experience. Students are required to write what proficiencies are developed by their life experience and designate courses similar to their background. The experience will be reviewed by the appropriate faculty. Students need a 2.5 minimum cumulative GPA in order to apply.

### ROTC

A maximum of 4 courses or up to 12 semester hours will be allowed for upper-level Military Science (Army ROTC), Naval Science (Navy ROTC) or Aerospace Studies (Air Force ROTC) courses.

## Overload Requests

Students in the College of Science and Technology must petition through the Center for Academic Advising and Professional Development for approval of an overload when they request to take more than 18 credits in either the fall or spring semesters or more than 8 credits in either summer session. Credits over 18 carry additional tuition charges. The following items are considered when reviewing an overload petition:

- Minimum 2.75 GPA overall and in the last semester of graded coursework at Temple.
- The number of credits completed in previous semesters.
- The number of science and math courses taken previously in each semester.
- The amount of credits requested.
- The type of courses requested including requests for repeated coursework. The office focuses particularly on the number of science and math courses in the student's proposed roster.

## Placement Assessment

The results of placement assessments determine the best place for students to start in their English, Foreign Language and Mathematics courses. Please see Placement Assessment for additional information.

All CST transfer students are required to complete the Math placement assessment unless they transfer in the equivalent of MATH 1041, MATH 1042, MATH 2043 or MATH 3041.

## Pre-Pharmacy Track Students

Students can be admitted to the Pre-Pharmacy track. Pre-Pharmacy students will need to declare a major before reaching 30 earned credits. Pre-Pharmacy students who have completed 30 or more credits without declaring a major will have a "declaration of major" hold added to their account and will need to see an advisor to declare a major before being able to register for a future semester.

## Prerequisites and Co-Requisites

Students will be de-enrolled from courses for which they do not meet prerequisites and co-requisites. Please see the University's Prerequisites and Co-requisites for additional information.

## Re-enrollment to the College of Science and Technology

College of Science and Technology students who have not enrolled for one or more semesters and are not on an approved Leave of Absence must submit a Request to Re-Enroll.

## Repeating a Course

Please refer to the University policy on Repeating a Course for further information.

## Undeclared Majors

Due to the sequencing of our coursework, CST encourages undeclared students to declare a major by the time they have earned 30 credits. In accordance with University policy, students must declare a degree-earning major by the time they have earned 60 credits. Undeclared students who have 60 or more credits will have a "declaration of major" hold added to their account and will need to meet with an advisor to declare a major before being able to register for a future semester.

## General College Graduation Requirements

The College of Science and Technology offers two undergraduate degrees: a Bachelor of Arts (BA) and a Bachelor of Science (BS). The BA degree gives students a broad-based education, including the study of a foreign language. The BS degree is for those students who wish for more specialized training in their chosen disciplines.

## Credit Hour Requirements

The College of Science and Technology requires that students complete a total of 123 credits for most programs. The TUteach programs require students to complete a total of 124 credits. Of these totals, 90 credits must be in the College of Science and Technology, the College of Liberal Arts or the College of Engineering. A course shall count as a College of Science and Technology or College of Liberal Arts or College of Engineering course if it is offered by a department or program in these respective colleges, or if it is in the department of Art History, or if it is taken to satisfy a major, minor or certificate requirement in the College of Science and Technology. Of those 90 credits, 45 must be in upper-level courses. Upper-level courses consist of course numbers at the 2000 level or above.

## Seminar Requirement

All students in the College of Science and Technology are required to take a one credit first year seminar. SCTC 1001 CST First Year Seminar is the appropriate course option for every entering first year CST major as well as those students changing from another School/College at Temple during the first year. UNVS 1001 First Year Seminar I and HNRS 1901 Honors First Year Seminar I can also fulfill this requirement.

Transfer students and students changing their major to CST after the first year should use SCTC 2001 CST Transfer Seminar to fulfill this requirement. UNVS 2002 Transfer Seminar: Planning for Success can also fulfill this requirement.

Students are allowed a maximum of three attempts in total to fulfill the Seminar Requirement.

## General Education

All students are required to complete the General Education (GenEd) requirements.

## Grade Point Average (GPA) Requirement

The College of Science and Technology requires that students have a GPA of at least 2.00 overall and at least 2.00 in the courses applicable to their major and/or minor and/or certificate GPA.

## Calculation of Major GPA

Unless otherwise noted, all courses listed under the major requirements for the degree will be included in the calculation of the major GPA. Courses that do not apply toward the major as an elective or required course would not be counted in the calculation of the major GPA. Please refer to degree programs for any variations from this.

## Residency Requirements

Students must satisfy general Temple University residency requirements. Please refer to degree programs for the specific number of major, minor, or certificate courses required to be completed at Temple.

## Bachelor of Science Requirements

### Major

Students must also complete the requirements of a departmental major. The minimum acceptable grade in a course taken to fulfill major requirements is a C- unless otherwise specified. Bachelor of Science majors are offered in the following programs:

- Applied Mathematics
- Biochemistry
- Biology
- Biology with Teaching
- Biophysics
- Chemistry
- Chemistry with Teaching
- Computer Science
- Computer Science and Physics
- Cybersecurity
- Data Science with Concentration in Computation and Modeling
- Data Science with Concentration in Computational Analytics
- Data Science with Concentration in Genomics and Bioinformatics
- Earth and Space Science with Teaching
- Ecology, Evolution, and Biodiversity
- Environmental Science with Concentration in Applied Ecology
- Environmental Science with Concentration in Climate
- Environmental Science with Concentration in Environmental Geochemistry
- Environmental Science with Concentration in Hydrology
- General Science with Teaching
- General Science and Mathematics with Teaching
- General Science and Technology with Teaching
- Genomic Medicine
- Genomic Medicine with Concentration in Pre-Medicine
- Geology
- Information Science and Technology
- Integrative Genetics and Genomics
- Mathematics
- Mathematics and Computer Science
- Mathematics and Physics
- Mathematics with Teaching
- Mathematics and Computer Science with Teaching
- Mathematics and Technology with Teaching
- Natural Sciences with Concentration in Biology
- Natural Sciences with Concentration in Chemistry
- Natural Sciences with Concentration in Earth and Environmental Sciences
- Natural Sciences with Concentration in Physics
- Neuroscience: Cellular and Molecular
- Pharmaceutical Sciences



- Physics
- Physics with Teaching
- Quantum Materials Science

## Bachelor of Arts Requirements

### Language Requirement

Bachelor of Arts candidates are required to successfully complete the second semester (typically courses numbered 1002) of a foreign language with a C- or better or demonstrate this proficiency through placement. In addition to the language offerings in the College of Liberal Arts, American Sign Language coursework can also fulfill this requirement.

### Upper-Level Distribution Requirements

Bachelor of Arts students must complete a minimum of six credits of upper-level coursework (courses numbered 2000 and above) in one or more departments of the College of Liberal Arts or the department of Art History with a C- or better.

### Major

Bachelor of Arts candidates must complete the requirements of a major. It is important to note that students enter the College of Science and Technology as Bachelor of Science majors. If students wish to change their degree choice to Bachelor of Arts, they must do so with an advisor in the Center for Academic Advising and Professional Development. The minimum acceptable grade in a course taken to fulfill major requirements is a C- unless otherwise specified. BA majors are offered in the following programs:

- Biology
- Chemistry
- Computer Science
- Geology
- Information Science and Technology
- Mathematics
- Mathematical Economics
- Natural Sciences with Concentration in Biology
- Natural Sciences with Concentration in Chemistry
- Natural Sciences with Concentration in Earth and Environmental Sciences
- Natural Sciences with Concentration in Physics
- Physics

## Optional Minors, Certificates and Second Majors

### Minors

Students may also choose to complete the requirements for a minor. The minimum acceptable grade in a course taken to fulfill minor requirements is a C- unless otherwise specified.

**Distinct course rule:** At least seven credits or three courses of the minor must not be credited towards a CST major, additional CST minor, or CST certificate.

Minors are available in the following programs:

- Astrophysics
- Biology
- Chemistry
- Computer Science
- Data Science: Computational Analytics
- Digital Media Technologies (CIS/MSP)
- Geology
- Information Science and Technology
- Mathematics
- Natural Sciences
- Physics

## Certificates

Students may also choose to complete the requirements for a certificate. The minimum acceptable grade in a course taken to fulfill certificate requirements is a C- unless otherwise specified.

**Distinct course rule:** At least four credits or two courses of the certificate must not be credited towards a CST major, additional CST minor, or CST certificate.

Certificates are available in the following programs:

- Astrophysics
- Computer Security and Digital Forensics
- Data Science: Computational Analytics
- Environmental Professional Training
- Fundamentals of Physics
- Fundamentals of Programming
- Genomic Medicine
- Mobile Application Development
- Science and Technology Writing

## Second Major

CST students may complete a second CST major by fulfilling all requirements for the primary and second majors.

**Distinct course rule:** At least four courses of the second major must not be credited towards the primary CST major, CST minor, or CST certificate.

General Education requirements must be satisfied in accordance with the requirements of the primary major. In instances of a double major, only one degree will be conferred.

## Academic Advising

The Center for Academic Advising and Professional Development  
111 Tuttleman Learning Center  
1809 North 13th Street  
Philadelphia, PA 19122-6073  
215-204-2890  
<https://cst.temple.edu/students/academic-advising>  
[cstadv@temple.edu](mailto:cstadv@temple.edu)

The College of Science and Technology's Center for Academic Advising and Professional Development utilizes best practices to facilitate undergraduate student development and academic growth while guiding students from pre-admission to degree completion. By establishing a support network of connections with faculty, campus resources and the Temple University community, our academic advisors encourage positive and independent thinking, provide professional planning, promote resource utilization and foster quality academic strategies for the students we serve. Through teamwork, collaboration and open lines of communication, we empower our students to take ownership of their decisions, choices, and goals relating to academic and professional aspirations.

Professional advisors help students plan courses, explore majors, research career opportunities, and understand Temple's resources. CST's advising model consists of a First Year Advising team, which serves students from the time of admission throughout the successful completion of the first academic year, and advising by two Discipline teams for sophomores through to graduation. One discipline team oversees the majors, minors, and certificates in the Biology, Chemistry and Earth and Environmental Science (BCE) departments and the other does the same for the Computer and Information Sciences, Mathematics and Physics (CMP) departments. This model allows students to develop a connection with advisors who specialize in their area of study.

Our CST Peer Team assists our students with a variety of questions. The peer advisors are trained on CST and Temple University policies, services, and procedures. They serve as a point of contact as students arrive at the Center for Academic Advising and Professional Development. Our peers help with student-related programs and projects. Any general questions can be directed to our CST Peers at [cstpeers@temple.edu](mailto:cstpeers@temple.edu).

CST also has Faculty advisors. Faculty advisors use their knowledge of departmental curriculum to help students choose courses consistent with their specific career objectives. Each faculty advisor is knowledgeable within their field and can help with questions involving research and real work experience within each field. Faculty advising is very important in developing ties between a student's academic program and his or her professional goals. Faculty advisors may assist students in finding research opportunities and professional internships and will help students choose courses that will best prepare them for their field of interest within a particular discipline. A list of Faculty Advisors may be found on the CST web site.

The Student Professional Development office prepares students for academic and professional careers through a variety of workshops, professional development training sessions, networking events, and job fairs. Hands-on independent research and internships are considered to be critical steps in a students' preparation for pursuing additional educational opportunities or their professional career.

The office facilitates the Undergraduate Research Program (URP) which provides world class research opportunities for undergraduate students in labs on campus as well as at the Temple University Health Science Campus.

## Pre-Professional Advising

The College of Science and Technology works in conjunction with the Office of Pre-Professional Health Advising to advise students interested in professional schools. Knowledge gained in the College of Science and Technology curricula provides the foundation needed in preparing for Professional Health School entrance exams. Many of the courses required by professional programs such as dentistry, medicine, pharmacy, and veterinary medicine are incorporated into College of Science and Technology curricula. This approach allows our students to fulfill degree requirements, while at the same time meeting admissions criteria for professional and graduate programs. Students interested in professional health programs should contact the Office of Pre-Professional Health Advising early in their academic career for detailed advising.

CST offers a variety of ways in which students can pursue health professional programs.

- Students may complete a bachelor's degree and apply to health professional programs.
- Students may apply to the 3+4 and 3+3 accelerated programs linked to particular Temple health professional programs by which they may complete both their bachelor and professional degree. For more information on accelerated programs, please visit the Office of Pre-Professional Health Advising web site.
- Students may apply to the direct admit 3+4 Pharmaceutical Sciences and Temple University School of Pharmacy by which students would complete a Bachelor of Science in Pharmaceutical Sciences (BS-PS) and a Doctor of Pharmacy (PharmD).
- Students who have completed prerequisite courses may apply to the Temple University School of Pharmacy without completing their Undergraduate degree requirements such that students would only complete a Doctor of Pharmacy (PharmD).
- Students who have completed prerequisite courses may apply to the Temple University School of Podiatric Medicine without completing their Undergraduate degree requirements such that students would only complete a Doctor of Podiatric Medicine (DPM).

## Faculty

Please go to the College of Science & Technology web site at <https://cst.temple.edu> and click on the individual department at the bottom of the page for a list of faculty in each department. See also <https://directory.temple.edu/>.

*Ahmed Abdelwaly*, Research Assistant Professor, Department of Chemistry, College of Science and Technology; PhD, Cairo University.

*Ergin H. Ahmed*, Research Associate Professor, Department of Physics, College of Science and Technology; PhD, Temple University.

*Ola Ajaj*, Assistant Professor of Instruction, Department of Computer and Information Sciences, College of Science and Technology; PhD, Florida Atlantic University.

*Aiman S. Al Khlieh*, Assistant Professor of Instruction, Department of Mathematics, College of Science and Technology; PhD, People's Friendship University of Russia.

*Tamer Aldwairi*, Associate Professor of Instruction, Department of Computer and Information Sciences, College of Science and Technology; PhD, Mississippi State University.

*Saeid Aliei*, Research Assistant Professor, Department of Chemistry, College of Science and Technology; MS, Sharif University.

*Shohreh Amini*, Professor, Department of Biology, College of Science and Technology; PhD, University of Pennsylvania.

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