Introduction

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.

Admissions

See Undergraduate Admissions for more details.

Financial Aid / Scholarships

See Financial Aid: Scholarships & Grants for more details.

Special Programs

For a complete list, see Accelerated Degree Programs in the About Temple University section of the Undergraduate Bulletin.

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, including all course requirements for the major, College and University, 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, including all course requirements for the major, College and University, 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 & 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.

**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 TUteach Certification for Secondary Education**

Eight Bachelor of Science programs enable students to prepare for secondary education certification while mastering the content of their field. The programs are: Biology with Teaching, Chemistry with Teaching, Earth and Space Science with Teaching, General Science with Teaching, Mathematics with Teaching, Mathematics and Computer Science with Teaching, Mathematics and Technology with Teaching, and Physics with Teaching. See the TUteach Programs for more details.

**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 in the Opportunities section of this Bulletin 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 Academic Opportunities: University Honors Program for more information.

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 Bulletin 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.

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
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.

Academic Policies & Regulations
Please see the Undergraduate Academic Policies in this Bulletin. 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 or Minors
CST Students
In order to add or change majors or minors 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 or minors within the CST will be automatically approved.
2. Continuing CST students who wish to add or change declared majors or minors 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. 5) 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.

Please see Changing your Major or Minor for further information.
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 8000-8999 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, 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.

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 and the CST prerequisites page 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. Students are required to follow the most current curriculum or choose another current curriculum, upon return. Any existing holds, including financial, must be cleared prior to the re-enrollment deadline. Official transcripts must be submitted for any college-level courses completed after leaving Temple University by the re-enrollment deadline as well. The deadline for application to re-enroll for the fall semester is August 1; the deadline to re-enroll for the spring semester is December 1; and the deadline for summer semester I and II is April 1.

Repeating a Course
Students may attempt a course two times without restriction. Students in the College of Science and Technology should meet with an advisor prior to attempting a course for the second time to discuss changes to make prior to and during the next registration of the course. A third attempt of any course is not guaranteed and requires permission of the Center for Academic Advising and Professional Development. Approvals for a third attempt frequently require remediation, including additional coursework, and/or academic/personal planning. Third attempt petitions must be submitted at least one week prior to the start of Fall/Spring courses. Petitions will not be processed one week before the start of class and throughout the add/drop period of the Fall/Spring semesters. Please plan accordingly. 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 see 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 (B.A.) and a Bachelor of Science (B.S.). The B.A. degree gives students a broad-based education, including the study of a foreign language. The B.S. 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 (Biology with Teaching, Chemistry with Teaching, Earth & Space Science with Teaching, General Science with Teaching, Mathematics with Teaching, Mathematics and Computer Science with Teaching, Mathematics and Technology with Teaching, and Physics with Teaching) require students to complete a total of
124 credits. Of those 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.

First Year 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.

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 GPA.

Residency Requirements
Students must satisfy general Temple University residency requirements. In addition, half of the courses required in the department of the major must be
taken at Temple. Please refer to degree programs for the specific number of major, minor, or certificate courses required.

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
- Data Science with Concentration in Computational Analytics
- Data Science with Concentration in Computation and Modeling
- Data Science with Concentration in Genomics and Bioinformatics
- Earth and Space Science with Teaching
- Environmental Science
- General Science with Teaching
- Genomic Medicine
- Genomic Medicine: Pre-Medicine Track
- Geology
- Information Science and Technology
- Mathematics
- Mathematics and Computer Science
- Mathematics and Physics
- Mathematics with Teaching
- Mathematics and Computer Science with Teaching
- Mathematics and Technology with Teaching
• Natural Sciences
• Neuroscience: Cellular & Molecular
• Pharmaceutical Sciences
• Physics
• Physics with Teaching

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 upper-level distribution requirements by completing two upper-level courses in one or more departments of the College of Liberal Arts or the department of Art History with a C- or better. Upper-level courses consist of course numbers at the 2000 level or above.

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. B.A. majors are offered in the following programs:

• Biology
• Chemistry
• Computer Science
• Geology
• Information Science and Technology
• Mathematics
• Mathematical Economics
• Natural Sciences
• Physics

Specific Program Requirements
Listed under each degree program are the courses students must successfully complete to earn that particular B.A. or B.S. degree.

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. At least three of the courses credited towards the minor must be courses that were not credited towards a CST major, additional CST minor, or CST certificate. Minors are available in the following programs:

• 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. At least two of the courses credited towards the certificate must be courses that were not credited towards a CST major, CST minor, or CST additional certificate. Certificates are available in the following programs:

- Computer Security & Digital Forensics
- Data Science: Computational Analytics
- Environmental Professional Training
- Fundamentals of Programming
- Genomic Medicine

Second Major

Students may complete a second major by fulfilling all requirements for the primary and second majors, including at least four distinct courses in the primary major and four distinct courses in the second major. 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/
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.

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.

Student Advisor and Advocates

Each department in the College of Science and Technology has a Student Advisor and Advocate who is a qualified undergraduate student in that department. The Student Advisor and Advocate is thoroughly familiar with requirements and curricula of the department and can competently advise fellow students on the courses and faculty members of the department. He or she also has information about career options for the department's
College of Science & Technology

graduates. The Student Advisor and Advocate also coordinates the student grievance procedure. A list of the Student Advisor and Advocates is available on the CST web site.

Student Grievance Procedure
The Student Advisor and Advocate is familiar with the College of Science and Technology Grievance Procedure and is the first person to consult in case of an academic grievance. The Student Advisor and Advocate will serve as a student-faculty liaison and attempt to resolve the grievance through mediation. The College of Science and Technology grievance procedure is available on the CST web site.

Pre-Professional Advising
The College of Science and Technology works in conjunction with the Office of Pre-Professional Health Studies 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 Studies 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.
- Students may apply to the direct admit 3+4 Pharmaceutical Sciences & 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/.

Abraham Abebe, Assistant Professor (Teaching/Instructional), Department of Mathematics, College of Science and Technology; Ph.D., University of North Carolina at Greensboro.

Ergin H. Ahmed, Assistant Professor (Research), Department of Physics, College of Science and Technology; Ph.D., Temple University.

Robert M. Aiken, Professor Emeritus, Department of Computer and Information Sciences, College of Science and Technology; Ph.D., Northwestern University.

Ola Ajaj, Assistant Professor (Teaching/Instructional), Department of Computer and Information Sciences, College of Science and Technology; Ph.D., Florida Atlantic University.

Tamer Aldwairi, Assistant Professor (Teaching/Instructional), Department of Computer and Information Sciences, College of Science and Technology; Ph.D., Mississippi State University.

Shohreh Amini, Professor, Department of Biology, College of Science and Technology; Ph.D., University of Pennsylvania.

Edwin J. Anderson, Professor Emeritus, Department of Earth and Environmental Science, College of Science and Technology; Ph.D., Brown University.

Rodrigo B. Andrade, Professor, Department of Chemistry, College of Science and Technology; Ph.D., Massachusetts Institute of Technology.

Eleni Anni, Associate Professor (Research), Department of Biology, College of Science and Technology; Ph.D., University of Patras.

Alla Arzumanyan, Assistant Professor (Research), Department of Biology, College of Science and Technology; Ph.D., Yerevan State University.

Leonard B. Auerbach, Professor Emeritus, Department of Physics, College of Science and Technology; Ph.D., University of California Berkeley.

Margaret (Max) Avener, Instructor, Department of Mathematics, College of Science and Technology; M.A., Temple University.

Jessica Babcock, Instructor (Teaching/Instructional), Department of Mathematics, College of Science and Technology; M.Ed., Temple University.

Zachary Bailey, Assistant Professor, Department of Mathematics, College of Science and Technology; Ph.D., University of Delaware.
Darius Balciunas, Associate Professor, Department of Biology, College of Science and Technology; Ph.D., Uppsala University.

Michael Joseph Balsai, Assistant Professor (Teaching/Instructional), Department of Biology, College of Science and Technology; Ph.D., University of Pennsylvania.

Giora Baram, Associate Professor Emeritus, Department of Computer and Information Sciences, College of Science and Technology; Ph.D., University of Toledo.

Suman Batish, Assistant Professor (Teaching/Instructional), Department of Biology, College of Science and Technology; Ph.D., University of Pennsylvania.

Jocelyn Behm, Assistant Professor, Department of Biology, College of Science and Technology; Ph.D., University of Wisconsin-Madison.

Richard Beigel, Professor, Department of Computer and Information Sciences, College of Science and Technology; Ph.D., Stanford University.

Gianfranco Bellipanni, Associate Professor (Teaching/Instructional), Department of Biology, College of Science and Technology; Ph.D., University of Palermo.

Abha Belorkar, Assistant Professor (Teaching/Instructional), Department of Computer and Information Sciences, College of Science and Technology; Ph.D., National University of Singapore.

Richard Berger, Assistant Professor (Research), Department of Mathematics, College of Science and Technology; Ph.D., Johannes Kepler University Linz.

Shiferaw S. Berhanu, Professor, Department of Mathematics, College of Science and Technology; Ph.D., Rutgers University.

Edgar A. Bering IV, Assistant Professor (Research), Department of Mathematics, College of Science and Technology; Ph.D., University of Illinois at Chicago.

Dorothy B. Berner, Professor Emerita, Department of Biology, College of Science and Technology; Ph.D., University of Pennsylvania.

Eugeney Bichenkov, Assistant Professor (Research), Department of Biology, College of Science and Technology; Ph.D., Novosibirsk Institute of Bioorganic Chemistry.

Christopher J. Biehl, Instructor (Teaching/Instructional), Department of Computer and Information Sciences, College of Science and Technology; M.B.A., Temple University.

James L. Bloomer, Associate Professor Emeritus, Department of Chemistry, College of Science and Technology; Ph.D., University of London.

James D. Bloxton, Associate Professor (Teaching/Instructional), Department of Chemistry, College of Science and Technology; Ph.D., Temple University.

Silvia Boffo, Assistant Professor (Research), Department of Biology, College of Science and Technology; M.S., University of Trieste.

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