

# COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY

The College of Science, Engineering and Technology (COSET) at Texas Southern University consists of 9 departments:

- Department of Biology (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/biology/>)
- Department of Chemistry (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/chemistry/>)
- Department of Computer Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/computer-science/>)
- Department of Engineering (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/engineering/>)
- Department of Environmental and Interdisciplinary Sciences (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/environmental-interdisciplinary-sciences/>)
- Department of Industrial Technologies (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/industrial-technologies/>)
- Department of Mathematics (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/mathematics/>)
- Department of Physics (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/physics/>)
- Department of Transportation Studies (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/transportation-studies/>)

In serving students, these units allow the College to fulfill its mission; and through them, thirteen undergraduate and six graduate degrees are offered. For detailed information on the six graduate degrees, students are referred to the Graduate School Bulletin of Texas Southern University. A summary of the degrees and departments, by name, appears in the chart below:

- Department of Biology (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/biology/>)
  - 2-Year Pre-Nursing (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/biology/2-year-pre-nursing/>)
  - Biology (Comprehensive Concentration), Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/biology/biology-comprehensive-concentration-bs/>)
  - Biology (Geographic Information Systems Certificate), Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/biology/biology-gis-certificate-bs/>)
  - Biology (Pre-Health Professional Concentration), Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/biology/biology-pre-health-professional-concentration-bs/>)
  - Biology Minor (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/biology/biology-minor/>)
- Department of Chemistry (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/chemistry/>)
  - Chemistry (American Chemical Society (ACS) Approved Concentration), Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/chemistry/chemistry-american-chemical-society-approved-concentration-bs/>)
  - Chemistry (Forensic Chemistry Concentration), Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/chemistry/chemistry-forensic-chemistry-concentration-bs/>)
  - Chemistry (Pre-Medical & Pre-Dental Concentration), Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/chemistry/chemistry-pre-medical-pre-dental-concentration-bs/>)
  - Chemistry Minor (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/chemistry/chemistry-minor/>)
- Department of Computer Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/computer-science/>)
  - Accelerated 4+1 Computer Science (General CS Concentration), BS MS (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/computer-science/accelerated-41-computer-science-general-cs-concentration-bs-ms/>)
  - Computer Science (Computer Networks Concentration), Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/computer-science/computer-science-computer-networks-concentration-bs/>)
  - Computer Science (General CS Concentration), Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/computer-science/computer-science-general-cs-concentration-bs/>)
  - Computer Science Minor (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/computer-science/computer-science-minor/>)
- Department of Engineering (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/engineering/>)
  - Civil Engineering Technology, Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/engineering/civil-engineering-technology-bs/>)
  - Civil Engineering, Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/engineering/civil-engineering-bs/>)
  - Computer Engineering Technology, Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/engineering/computer-engineering-technology-bs/>)
  - Electrical and Computer Engineering (Computer Engineering Concentration), Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/engineering/electrical-computer-engineering-computer-engineering-concentration-bs/>)
  - Electrical and Computer Engineering (Electrical Engineering Concentration), Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/engineering/electrical-engineering-concentration-bs/>)

- technology/engineering/electrical-computer-engineering-electrical-engineering-concentration-bs/)
- Electronics Engineering Technology, Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/engineering/electronics-engineering-technology-bs/>)
  - Department of Environmental and Interdisciplinary Sciences (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/environmental-interdisciplinary-sciences/>)
  - Department of Industrial Technologies (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/industrial-technologies/>)
    - Industrial Technology (Construction Technology Concentration), Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/industrial-technologies/industrial-technology-construction-technology-concentration-bs/>)
    - Industrial Technology (Design Technology Concentration), Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/industrial-technologies/industrial-technology-design-technology-concentration-bs/>)
  - Department of Mathematics (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/mathematics/>)
    - Accelerated Master of Science- Mathematics (5-year BS to MS) (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/mathematics/accelerated-master-of-science-mathematics-bs-to-ms/>)
    - Data Science Certificate (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/mathematics/data-science-certificate/>)
    - Data Science Minor (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/mathematics/data-science-minor/>)
    - Mathematics (Data Science Concentration), Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/mathematics/mathematics-data-science-concentration-bs/>)
    - Mathematics Minor (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/mathematics/mathematics-minor/>)
    - Mathematics, Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/mathematics/mathematics-bs/>)
  - Department of Physics (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/physics/>)
    - Physics (Engineering-Physics Concentration), Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/physics/physics-engineering-physics-concentration-bs/>)
    - Physics (Premedical-Physics Concentration), Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/physics/physics-premedical-physics-concentration-bs/>)
    - Physics Minor (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/physics/physics-minor/>)
  - Department of Transportation Studies (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/transportation-studies/>)
    - Aviation Science Management (Aviation Science Management Concentration), Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/transportation-studies/aviation-science-technology-aviation-science-management-track-bs/>)
    - Aviation Science Management (Professional Pilot Concentration), Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/transportation-studies/aviation-science-management-professional-pilot-concentration-bs/>)
    - Aviation Science Management Minor (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/transportation-studies/aviation-science-technology-aviation-science-management-minor/>)
    - Maritime Transportation Management and Security (with Minor), Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/transportation-studies/maritime-transportation-management-security-minor-bs/>)
    - Maritime Transportation Management and Security for Transfer Students with AAS Logistics & Global Supply Chain Management Maritime Specialization, Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/transportation-studies/maritime-transportation-management-security-transfer-students-aas-logistics-global-supply-chain-management-maritime-specialization-bs/>)
    - Maritime Transportation Management and Security Minor (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/transportation-studies/maritime-transportation-management-security-minor/>)
    - Maritime Transportation Maritime Management and Security (Without Minor), Bachelor of Science (<https://catalog.tsu.edu/undergraduate/schools-colleges/science-engineering-technology/transportation-studies/maritime-transportation-maritime-management-security-without-minor-bs/>)

Administratively, COSET is headed by a Dean who is assisted by the Associate Dean of Academic Affairs, the Associate Dean of Administration and Development, and the Assistant Dean of Student Services and Instructional Support. Each of the ten departments is headed by a Department Chair who reports to the Dean. All administrative offices, classrooms, and research facilities for the College are primarily located in two facilities designated as follows: the Texas Southern University Science Center and the Leonard H. O. Spearman Technology Building.

## Mission Statement

The College of Science, Engineering and Technology at Texas Southern University is dedicated to integrating sciences and contemporary technologies, through education, scholarly activities, and community service, and meeting the needs of a diverse graduate and undergraduate student population while addressing critical urban issues within a global economy.

As an instructional agent of the University, COSET has an additional service mission as stated below: to provide students of varied scholastic levels access to higher education by providing the academic foundations

necessary for accessing educational programs at the University; and to prepare competent professionals and leaders capable of providing effective service and developing solutions to the problems of the nation and the world, especially in urban environs.

In pursuing its missions, the College embraces the following goals: provide high quality instruction; perform basic and applied research; engage in community service; optimize enrollment of college-ready undergraduate students and enhance graduate student enrollment; strive for steady increase in external funding; and ensure that the College's administrative units function effectively and efficiently so that they support the mission of the College and the University.

## Accreditation

All programs in the College are accredited by the Commission on Colleges of the Southern Association of Colleges and Schools, but some programs have national disciplinary accreditation as well. The Chemistry program is certified by the American Chemical Society. The Electronics Engineering Technology Program in the Department of Engineering is accredited by the Engineering Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (ETAC of ABET). The undergraduate programs in the Department of Industrial Technologies are accredited by the Association of Technology, Management, and Applied Engineering (ATMAE). The Aviation Science Management program in the Department of Aviation Science and Technology is accredited by ATMAE. The undergraduate flight concentration in the Department of Aviation Science and Technology is recognized by the Federal Aviation Administration, under Federal Aviation Regulation, Code of Federal Regulations Part 141.

## Admission Policies

Students (either new or transfer) wishing to enroll in one of the programs of study leading to one of the 11 undergraduate degrees offered through COSET must first gain admission to Texas Southern University through policies and procedures established by the University Director of Admissions. Once admitted, students are required to contact the University Testing Center for advisement regarding the fulfillment of the TSI assessment requirements, and the department of choice in the College for additional advisement. Students may not officially declare majors until the TSI assessment requirement has been fulfilled and identified deficiencies have been eradicated. However, they are eligible to enroll in some selected courses offered through the departments in the College once admitted. The department offices provide advisement upon request related to courses available to students who are not yet eligible to declare majors in the College.

Once admitted, or while applying for admission, students who need financial aid or assistance should contact the **Office of Student Financial Assistance at the University**. In addition, some competitive scholarships may be available to students through the College. Students earning GPA's of approximately 3.00 or higher (out of 4.00) may inquire about making application for these scholarships through one of the ten department offices or the Dean's Office.

Former students in the College who were enrolled for credit within the year prior to registration are not required to apply for readmission. However, students who last attended one year or more, prior to registration, are required to file applications for readmission and submit transcripts from all colleges attended since their last enrollment at Texas Southern University.

## Academic Standards Policy

The College of Science, Engineering and Technology has set minimum standards that a student must achieve to remain in good academic standing. In general, these standards are reflective of those established by the University and are as follows: the minimum GPA required by the University for awarding the baccalaureate degree is 2.00 for all credit work taken by the student as part of an approved program of study. The GPA is computed by dividing the total number of quality points earned by the total number of GPA hours (See "Grading System", University Catalog), except for credit hours in courses for which the student received a "W" or "I". For any repeated course, the grade earned only in the last attempt is used in the GPA calculation. The academic standing is determined at the end of each semester based on the institutional cumulative GPA at the end of that semester as well as the GPA earned during the semester. Good Academic Standing: A student who maintains an institutional cumulative GPA of 2.00 or higher is in good academic standing.

## Academic Probation

Students who start the semester in good academic standing but fail to maintain an institutional cumulative GPA of 2.00 or higher at the end of the semester, will be placed on Academic Probation for the following semester. Students on probation may be removed from Academic Probation at the end of the semester if they earn a cumulative GPA of 2.00 or higher. Students who fail to bring their cumulative GPA to 2.00 or higher at the end of the semester will be placed on Suspension. However, a student on Academic Probation will be considered in good academic standing and will not be suspended at the end of any semester during which a semester GPA of 2.25 or higher has been earned.

Students on Academic Probation:

- May not register for more than 15 semester credit hours.
- Must adhere to the requirements prescribed for COSET probation students.
- Must get advisement in their home (major) department or with a College Academic Advisor before they will be allowed to enroll.

After advisement, the student enrollment request, and maximum hours allowed is reported to the Office of Student Services and Instructional Support. The student must report to the Office of Student Services and Instructional Support in the Leonard Spearman Technology Building, room 150 for academic monitoring.

## Suspension

Students on Academic Probation at the beginning of the semester are suspended if they fail to bring their cumulative GPA to 2.00 or higher by the end of the semester unless they earn a semester GPA of 2.25 or higher. Additionally, any student enrolled in nine or more credit hours and who earns an "F" in all classes will be suspended from the University.

1. The first academic suspension is for a period of at least one long semester (fall or spring). Students placed on academic suspension at the end of a fall semester are suspended for the following spring and are not eligible to re-enroll until the following summer. Students placed on academic suspension at the end of a spring semester are suspended for the following fall and are not eligible to re-enroll until the following spring. Students placed on academic suspension at the end of a summer semester are suspended for the following fall and are not eligible to re-enroll until the following spring.

2. Any suspension after the first one will be for a period of one year. At the end of the suspension period, students will need to apply for re-admission to the University provided they can show evidence of increased academic maturity as explained below.
3. While on academic suspension, the student must enroll in another institution of higher learning and show evidence of academic maturity at the end of the suspension period. Such evidence may be grades from courses taken at that institution. Military service and associated courses / training may also be used as evidence of maturity. The following are evidence of academic maturity based on the suspension period:
  - a. Academic maturity evidence for one semester suspension: Completion of 12 credit hours or more in courses that are not repeats of courses previously taken at TSU and a GPA of 2.5 or higher at the end of the enrollment period.
  - b. Academic maturity evidence for one year suspension: Completion of 24 credit hours or more in courses that are not repeats of courses previously taken at TSU and a GPA of 2.5 or higher at the end of the enrollment period.

### Academic Suspension and Appeal

Faculty and staff are committed to helping students achieve their academic goals. Nevertheless, some students fail to maintain an adequate grade point average and are academically suspended. Students who believe that extenuating circumstances contributed to their suspension may appeal their case to the University's Committee on Suspension and Readmission. To appeal, students must explain those circumstances in a letter submitted to the committee immediately after receiving notification of suspension. (See also "Grade Appeal, Retention Standards, and Academic Probation" in the Undergraduate Catalog)

### Readmission from Academic Suspension

Only the Dean of the college may readmit students on academic suspension from Texas Southern University. Readmission from academic suspension is neither automatic nor guaranteed. Students seeking readmission must submit the following to the dean of the college or school in which they wish to earn their degrees:

- A written petition justifying their readiness to resume their studies at the University.
- Official transcripts showing at least a 2.50 GPA (with no course having a grade below C) on all college work completed elsewhere while on academic suspension from Texas Southern University.
- Transcripts of all other completed college work.
- Students seeking to change their majors from the college from which they were suspended to another college must submit a "change of major" request along with a petition for readmission from academic suspension to the college of the intended major.

In the College of Science, Engineering and Technology, the appeal process is as follows. The student will receive notification of the academic suspension from the College. The suspended student must submit a COSET application for reinstatement from suspension with all supporting documents to the College before the designated deadline in the application instructions. The College committee will review the application and make recommendations regarding reinstatement. The suspended student will be notified in writing of the decision. Students allowed to return from suspension will be admitted under probationary status. After advisement in their home department or with the designated academic advisor, the student enrollment request, and maximum hours allowed is processed. The student must report to Office of Student

Services and Instructional Support, room 150 of the Leonard Spearman Technology Building for academic monitoring.

Departments may have additional policies and procedures pertaining to readmission from academic suspension; therefore, students seeking readmission should consult the appropriate college section in the undergraduate catalog or request information from the office of the Department Chair for specific departmental requirements. When re-admitted, the student will enter the College with probationary status. Another suspension at the end of the semester of re-admission may be avoided by achieving the minimum cumulative average according to the standards above.

**Note:** Each department may adopt its own set of "Academic Progression Standards" to address the particular academic needs of its students. These standards, however, may be higher than the standards of the College, as set out above, but they may not be lower.

## General College Policies

1. All students enrolled in the College of Science, Engineering and Technology are required to follow the sequence of courses outlined in their respective degree plans.
2. Students may not enroll in required advanced courses without satisfactorily completing the prerequisites for these courses whether they are offered through the College or through other colleges or schools at the University.
3. Students earning undergraduate degrees from the College may or may not be required to declare a minor; hence, the respective departmental information describing the various degrees should be consulted regarding this matter.
4. For all undergraduate programs offered through the College, a common core of courses (interdisciplinary in nature) is required for completion of the respective degree requirements.
5. Students may be required to pass a comprehensive exit examination prior to graduation.
6. All students enrolled in the College are encouraged to secure either cooperative education or internship positions prior to graduation. Further information on these positions may be obtained from either the Office of the Dean of the College of Science, Engineering and Technology or the University Career Planning and Placement Center.

## Student Organizations

Student participation in a number of professional organizations and societies having student affiliated chapters on campus is encouraged. The principle organizations operating in the College are listed below:

- American Association of Airport Executives (AAAE)
- American Society of Civil Engineers (ASCE)
- American Chemical Society Student Chapter (ACS)
- American Design Drafting Association (ADDA)
- Associated General Contractors Student Chapter (AGC)
- Beta Beta Beta Biological Honor Society
- Beta Kappa Chi Scientific Honor Society
- Biology Undergraduate Student Association
- Chinese Students and Scholars Association (CSSA)
- Conference of Minority Transportation Officials (COMTO)
- Cyber Internet Security Student Association
- Environmental Student Club (ESC)

- Environmental Toxicology Graduate Students Association (ETGSA)
- Health Occupations Students of America (HOSA)
- Institute of Transportation Engineers (ITE)
- Intelligent Transportation Society of Texas (ITSA), TSU Student Chapter
- Minority Association of Pre-Medical Students (M.A.P.S.)
- Mobil Application Development (MAD) Group
- National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCCHE)
- National Society of Black Engineers (NSBE) Student Chapter
- National Technical Association (NTA) TSU Student Chapter
- Organization of Black Aerospace Professionals (OBAP)
- Society of Urban Mathematics (SUM)
- Society of Physics Students (SPS)
- Texas Southern Computing Society (TSCS)
- Texas Southern University Pre-Nursing Association
- Texas Southern University Maritime Student Association
- Texas Southern University Student Chapter of Society of Environmental Toxicology and Chemistry (SETAC)
- Texas Southern University Society of Young Engineers (SYE)
- The Construction Club
- The National Association of Minority Contractors (NAMC)
- Women in Aviation International, TSU Maroon Tails Chapter
- Women's Transportation Seminar (WTS) TSU Student Chapter

Students should seek additional information on these organizations through the Office of the Dean or through the Department offices in the College.

## Right to Modify

The information contained in this bulletin is considered to be descriptive in nature and not contractual. The University reserves the right to change any policy or requirement at any time during the time that students are enrolled. Courses are also subject to change.