



TEXAS A&M UNIVERSITY
SAN ANTONIO

CSCI 5337:001, Application Programming, Spring 2026
Department of Computing and Cyber Security, College of Arts and Sciences
Course Syllabus

Class Modality:	On-Campus
Class Meeting Time and Place:	M 4:00 PM – 6:45 PM, STEM 125
Class Duration:	01/20 - 05/12
Instructor:	Dr. GB. Tony Liang Office: STEM 211G Tel: 210-784-2373 E-Mail: gliang@tamusa.edu Students' emails will receive a reply within two business days.
Course Website:	https://tamusa.blackboard.com/
Office Hours:	M/W 9:30 AM – 11:00 AM M 2:00 PM – 3:30 PM or by appointment. Please reserve your office appointment using the link below: https://outlook.office365.com/owa/calendar/Gd2eae9aebbcd487c954bae3cc27e7168@tamusa.edu/bookings/ Please email your instructor to set up an appointment if you wish to meet your instructor outside of the hour hours.

Catalog Course Description: The course covers intermediate to high-level programming topics with intensive hands-on programming exercises and assignments. Programming topics may include (but are not limited to) applications in cybersecurity, networks, parallel/multi-threading, system programming, data analytics, and machine learning. The instructor determines the programming language. **Students with conditional admission will be required to complete CSCI 5337 at A&M-SA in the first semester of admission and get a grade of “B” or better to be permitted to continue in the program.**

Prerequisites: N/A

Course Objectives: The objectives of the course include introducing high-level programming languages (Python) and their intermediate to high-level topics in computer graphics and 3D programming. The students will also explore multiple hands-on projects throughout the semester.

Student Learning Outcomes: After successfully completing this course, students will demonstrate the ability to:

1. Use computer graphics software packages;
2. Define common terms in computer graphics;
3. Write computer programs to generate graphics;
4. Describe problem-solving techniques applicable to 3D graphics programming.

Course Materials:

- **Recommended Textbooks**
 - Stemkoski, Lee, and Michael Pascale. Developing Graphics Frameworks with Python and OpenGL. Taylor & Francis, 2021. [ISBN 9780367721800]
 - *Open access content is available for the digital copy*
- **Blackboard:** Connect to <http://tamusa.blackboard.com>.
 - You will have lecture notes and other supplementary materials in Blackboard.
- **Software:** [Python](#), PyOpenGL, PyOpenGL_accelerate
- **Hardware:** A laptop or a desktop computer suitable for common programming.

Time Expectation for coursework: You are expected to spend 6-8 hours per week on the course. Based on the background and other factors, some students may require more time. Time spent may be longer when assignments/exams are due.

Grading Policy: The final course grade will be based on your performance on the quizzes, exams, assignments, and class participation using the following weights:

Assignments	60%
Mid-term Exam	15%
Final/Term Project	25%
Total	100%

- The final letter grades will be assigned as follows:
 - A = 90-100%; B = 80-89%; C = 70-79%; F < 70%.
 - This course requires a minimum grade of B for satisfactory completion.

Examinations:

- There will be a mandatory mid-term exam and a mandatory final project. Being absent/non-submitted to an exam will result in a grade of zero for that exam and may result in a failing grade in the course.
- The mid-term exam will be project-based. A question will be given to students on or before the exam date. Students must implement a solution and write a report within 48-72 hours.

Assignments:

- The course will have several assignments and projects (individual/team of two).
- Individual assignment statements and due dates will be posted through Blackboard.
- For the programming assignments/projects, a clear representation of the program code and logic, including comments, is necessary. Considerable points will be taken off for not following these requirements.

Make-up and Late Assignment/Exam policy:

- All assignments will have a clearly indicated due date. Late assignments will be penalized 10% per school day.
- No make-up will be generally accepted for any missed assignments/exams. However, make-ups may be accepted/administered only in extraordinary circumstances, such as an excused official university activity, a severe illness, or a dire emergency, with comprehensive documentation before or within a few days of the missed assignments/exams.

Class Attendance and Participation:

- A vital part of every student's education is regular attendance of class meetings. Any absences tend to lower the quality of a student's work, and frequent or persistent absences may result in a failing grade.
- Students are responsible for the materials covered in class. The course is intensive and challenging, and students are expected to master the materials presented in class.
- **Class participation is required.** Absences for more than a third of the class meetings will result in a letter grade reduction.

Spring 2026 CSCI 5337:001 Class Schedule

The provisions and information in the schedule below are intended to be informational and not contractual. The instructor reserves the right to amend, alter, change, delete, or modify the provisions of the schedule.

Weeks	Topics	Notes
1	Course Introduction, Introduction to Computer Graphics	Python Review, Assignment I
2-3	Graphics Programming	Feb 2: Asynchronous Class Census Date (Wed, Feb 4)
4-5	Matrix Algebra and Transformations	Assignment I
6-7	Geometric Objects – Part I	Mid-term Exam
8	Spring Break (No Class)	
9-10	Textures	Assignment III
11-12	Lighting and Shading	Assignment IV
13-16	Advanced Techniques	April 3: University Study Day (No Class)
16	Term-Project Presentation	May 5: University Study Day (No Class)
Finals Exam Week (May 6-12)		

Class conduct and civility code: Everyone in class is expected to follow all rules in the student handbook, as well as a common courtesy during classroom lectures and discussions in class and online, including the following:

1. Attendance may be taken by an appropriate method by the instructor.
2. It is the student's responsibility to obtain and be able to use the required materials and software for this class.
3. Students must retain copies of all assignments and graded work for verification purposes and provide them to the instructor if necessary. Keep copies of all computer files and e-mails until the final grade is received.
4. Talking while the instructor is lecturing is highly disruptive and discourteous to the instructor and other students.
5. Using computers or phones (except for a valid urgent need) during class for a purpose unrelated to the class is disruptive. All cell phones and gadgets should be turned OFF.
6. For any questions about the exams and assignments, a student should contact the instructor well in advance of the day they are due so the instructor may have enough time to provide feedback.
7. All communications will be via e-mail communications to the Texas A&M University e-mail account, and students are expected to use their school-provided email account. The instructor will reply to a student's e-mail messages and voice messages within two business days (Monday-Friday).
8. All assignment submissions must be uploaded as instructed by the due date and time. The submission window may close or be marked late, even if it is late by one second.

Anyone violating these policies may be subject to disciplinary action.

ABET Assessment: The Computer Science program at Texas A&M University-San Antonio is ABET-accredited by the Computing Accreditation Commission (CAC) of ABET. As part of the ongoing process, students will be assessed on course and program level outcomes based on various courses. The materials from this course may be used for assessing such program level outcomes, and hence students are required to follow appropriate guidelines for submission of course work, as well as the necessary rigor to ensure mastery and retention of the course outcomes.

University Email Policy and Course Communications: All correspondence between professors and students must occur via University email accounts. You must have your Jaguar email account ready and working. If it is not working, contact the help desk at helpdesk@tamusa.edu or at 210-784-HELP (4357). If you don't hear back within 48 hours, contact them again. They have many requests during the first part of the semester, so you may need to follow up with them.

Academic Accommodations for Persons with Disabilities: Texas A&M University-San Antonio is committed to providing all students with reasonable access to learning opportunities and accommodations in accordance with The Americans with Disabilities Act, as amended, and Section 504 of the Rehabilitation Act. If you experience barriers to your education due to a disability or think you may have a disability, Disability Support Services is located in the Central Academic Building, Suite 210. You can also contact us via phone at (210) 784-1335, visit us at the [website](http://www.tamusa.edu/dss) or email us at dss@tamusa.edu. Disabilities may include, but are not limited to, attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their academic accommodations with Disability Support Services and their instructors as soon as possible.

Academic Learning Center: All currently enrolled students at Texas A&M University-San Antonio can utilize the Academic Learning Center for subject-area tutoring. The Academic Learning Center provides free course-based tutoring to all currently enrolled students at Texas A&M University-San Antonio. Students wishing to work with a tutor can make appointments through the Brainfuse online tutoring platform. Brainfuse can be accessed in the *Tools* section of Blackboard. You can contact the Academic Learning Center by emailing tutoring@tamusa.edu, calling (210) 784-1307, or visiting the Central Academic Building, room 202. Online tutoring is also available for after hours and weekend assistance.

While tutoring hours may change based on tutor schedules and availability, the current tutoring hours for MATH in the ALC are as follows:

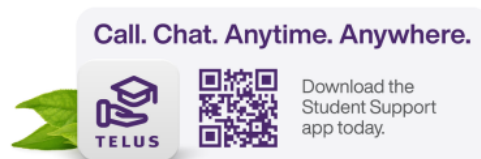
	Appointments available	Walk in Tutoring – No appointment needed
MONDAY	8 am – 6 pm	9 am – 5 pm
TUESDAY	8 am – 6 pm	9 am – 5 pm
WEDNESDAY	8 am – 6 pm	9 am – 5 pm
THURSDAY	8 am – 6 pm	9 am – 5 pm
FRIDAY	8 am – 5 pm	11 am – 4 pm

Counseling Resources: As a college student, there may be times when personal stressors interfere with your academic performance and negatively impact your daily functioning. If you are experiencing emotional difficulties or mental health concerns, support is available to you through the Student

Counseling Center (SCC). To schedule an appointment, visit our website, call 210-784-1331 or visit Madla 120 between the hours of 8:00 AM and 5:00 PM.

All mental health services provided by the SCC are free and confidential (as the law allows). The Student Counseling Center provides brief individual and group therapy, crisis intervention, consultation, case management, and prevention services. *Crisis support is available 24/7/365 by calling the SCC at 210-784-1331 or through the TELUS student support App.*

The TELUS Student Support App provides a variety of mental health resources to including 24/7/365 support for in the moment distress, crisis support, an anonymous peer-to-peer support network, mental health screenings, podcasts, and articles to improve your mental wellbeing.



Emergency Preparedness: JagE Alert is Texas A&M University-San Antonio's mass notification system. In the event of an emergency, such as inclement weather, students, staff and faculty, who are registered, will have the option to receive a text message, email with instructions and updates. To register or update your information visit: <https://tamusa.bbcportal.com/>. More information about Emergency Operations Plan and the Emergency Action Plan can be found [here](#). Download the SafeZone App (<https://safezoneapp.com/>) for emergencies or call (210) 784-1911. Non-Emergency (210) 784-1900.

Financial Aid and Verification of Attendance: According to the following federal regulation, 34 CFR 668.21: U.S. Department of Education (DoE) Title IV regulation, a student can only receive Title IV funds based on Title IV eligibility criteria which include class attendance. If Title IV funds are disbursed to ineligible students (including students who fail to begin attendance), the institution must return these funds to the U.S. DoE within 30 days of becoming aware that the student will not or has not begun attendance. Faculty will provide the Office of Financial Aid with an electronic notification if a student has not attended by the published Census Date (the first week of class). Any student receiving federal financial aid who does not attend prior to the published Census Date (the first week of class) will have their aid terminated and returned to the DoE. Please note that any student who stops attending at any time during the semester may also need to return a portion of their federal aid.

Jaguar Writing, Language, and Digital Composing Center (WLDCC): The Jaguar Writing Center provides writing support to graduate and undergraduate students in all three colleges as well as faculty and staff. Writing tutors work with students to develop reading skills, prepare oral presentations, and plan, draft, and revise their written assignments. Our language tutors support students enrolled in Spanish courses and students composing in Spanish for any assignment. Our digital studio tutors support students working on digital projects such as eportfolios, class presentations, or other digital multimedia projects. The Writing Center offers face-to-face, synchronous online, and asynchronous digital appointments. Students can schedule appointments with the Writing Center in JagWire under the

Student Services tab. Click on “Writing, Language, and Digital Composing Center” to make your appointment. Students wanting to work in realtime with a tutor can schedule an “Online Appointment.” Students wishing to receive asynchronous, written feedback from a tutor can schedule an “eTutoring” appointment. More information about what services we offer, how to make an appointment, and how to access your appointment can be found on our [website](#) . The Writing Center can also be reached by emailing writingcenter@tamusa.edu.

Meeting Basic Needs: Any student who has difficulty affording groceries or accessing sufficient food to eat every day or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to submit a [CARE report](#) for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable them to direct you to available resources. A food pantry is available on campus; click [here](#) for hours and contact information.

Military Affairs: Veterans and active-duty military personnel are welcomed and encouraged to visit the Office of Military Affairs for any question involving federal or state VA Education Benefits. Visit the Patriots’ Casa building, room 202, or to contact the Office of Military Affairs with any questions at military.va@tamusa.edu or (210)784-1397.

Religious Observances: Texas A&M University-San Antonio recognizes the wide variety of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or course work requirements that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes for regular session classes.

The Six-Drop Rule: Students are subject to the requirements of Senate Bill (SB) 1231 passed by the Texas Legislature in 2007. SB 1231 limits students to a maximum of six (6) non-punitive course drops (i.e., courses a student chooses to drop) during their undergraduate careers. A non-punitive drop does not affect the student’s GPA. However, course drops that exceed the maximum allowed by SB 1231 will be treated as “F” grades and will impact the student’s GPA.

Statement of Harassment and Discrimination: Texas A&M University-San Antonio is committed to the fundamental principles of academic freedom, equal opportunity, and human dignity. To fulfill its multiple missions as an institution of higher learning, A&M-San Antonio encourages a climate that values and nurtures collegiality and the uniqueness of the individual on our campus and within our state, nation, and world. All decisions and actions involving students and employees are to be based on applicable law and individual merit. Texas A&M University-San Antonio, in accordance with applicable federal and state law, prohibits discrimination, including harassment, on the basis of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation, or pregnancy/parenting status. Individuals who believe they have experienced harassment or discrimination prohibited by this statement are encouraged to contact the University’s Civil Rights Officer at 210-784-2061 or titleix@tamusa.edu.

Texas A&M University-San Antonio faculty are committed to providing a safe learning environment for all students and for the university as a whole. If you have experienced any form of sex discrimination or harassment, including sexual assault, sexual harassment, domestic or dating violence, or stalking based

on sex, know that help and support are available. A&M-San Antonio's Title IX Coordinator can support those impacted by such conduct in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, and more. The university strongly encourages all students to report any such incidents to the Title IX Coordinator. Please be aware that all A&M-San Antonio employees (other than those designated as confidential resources such as counselors and trained victim advocates) are required to report information about such discrimination and harassment to the university. This means that if you tell a faculty member about a situation of sexual harassment, sexual violence, or other related sex-based misconduct, the faculty member must share that information with the university's Title IX Coordinator (titleix@tamusa.edu, 210-784-2061, CAB 439K). If you wish to speak to a confidential employee who does not have this reporting requirement, you can contact the Student Counseling Center at (210) 784-1331 or visit them in Madla 120.

Pregnant/Parenting Students: Texas A&M-San Antonio does not require a pregnant or parenting student, solely because of that status or issues related to that status, to (1) take a leave of absence or withdraw from their degree or certificate program; (2) limit the student's studies; (3) participate in an alternative program; (4) change the student's major, degree, or certificate program; or (5) refrain from joining or cease participating in any course, activity, or program at the University. The university will provide such reasonable accommodations to pregnant students as would be provided to a student with a temporary medical condition that are related to the health and safety of the student and the student's unborn child. These could include maintaining a safe distance from substances, areas, and activities known to be hazardous to pregnant individuals and their unborn child; excused absences because of illness or medical appointments; modified due dates for assignments; rescheduled tests/exams; taking a leave of absence; and being provided access to instructional materials and video recordings of lectures for excused absences, if these would be provided to any other student with an excused absence. Pregnant/parenting students are encouraged to contact the Title IX Coordinator with any questions or concerns related to their status (titleix@tamusa.edu; 210-784-2061; CAB 439K).

Texas A&M-San Antonio has also designated the Title IX Coordinator as the liaison officer for current or incoming students who are the parent or guardian of a child younger than 18 years of age. The Title IX Coordinator can provide students with information regarding support services and other resources. Young Jaguars can support parenting students with daycare if students meet this criteria: (1) must be enrolled in classes at Texas A&M-San Antonio in the current semester, (2) must be Pell eligible or a single parent, (3) child(ren) must be aged 3 to 12-years-old, and (4) child(ren) must be enrolled in Pre-K-3 through 6th grade. For more information, please contact Young Jaguars at youngjaguars@tamusa.edu or call (210) 784-2636.

Students' Rights and Responsibilities: The following statement of students' rights and responsibilities is intended to reflect the philosophical base upon which University Student Rules are built. This philosophy acknowledges the existence of both rights and responsibilities, which is inherent to an individual not only as a student at Texas A&M University-San Antonio but also as a citizen of this country.

Students' Rights

1. A student shall have the right to participate in a free exchange of ideas, and there shall be no University rule or administrative rule that in any way abridges the rights of freedom of speech, expression, petition and peaceful assembly as set forth in the U.S. Constitution.
2. Each student shall have the right to participate in all areas and activities of the University, free from any form of discrimination, including harassment, on the basis of race, color, national or ethnic origin, religion, sex, disability, age, and pregnancy/parenting or veteran status in accordance with applicable federal and state laws.
3. A student has the right to personal privacy except as otherwise provided by law, and this will be observed by students and University authorities alike.
4. Each student subject to disciplinary action arising from violations of university student rules shall be assured a fundamentally fair process.

Students' Responsibilities

1. A student has the responsibility to respect the rights and property of others, including other students, the faculty, and administration.
2. A student has the responsibility to be fully acquainted with the published University Student Rules found in the Student Handbook, [Student Code of Conduct](#), on our website, and University Catalog, and to comply with them, as well as with federal, state, and local laws.
3. A student has the responsibility to recognize that student actions reflect upon the individuals involved and upon the entire University community.
4. A student has the responsibility to recognize the University's obligation to provide a safe environment for learning.
5. A student has the responsibility to check their university email for any updates or official university notifications.

We expect that students will behave in a manner that is dignified, respectful, and courteous to all people, regardless of sex, ethnic/racial origin, religious background, or disability. Conduct that infringes on the rights of another individual will not be tolerated.

Students are expected to exhibit a high level of honesty and integrity in their pursuit of higher education. Students engaging in an act that violates the standards of academic integrity will find themselves facing academic and/or disciplinary sanctions. Academic misconduct is any act, or attempt, which gives an unfair advantage to the student. Additionally, any behavior specifically prohibited by a faculty member in the course syllabus or class discussion may be considered as academic misconduct. For more information on academic misconduct policies and procedures please review the [Student Code of Conduct](#) or visit the resources available in the [OSRR website](#).

No Use of Generative AI Permitted: This course assumes that all work submitted by students will be generated by the students themselves, working individually or in groups. Students should not have another person/entity do the writing of any portion of an assignment for them, which includes hiring a person or a company to write assignments and/or using artificial intelligence (AI) tools like ChatGPT. Use of any AI-generated content in this course qualifies as academic dishonesty and violates Texas A&M-San Antonio's standards of academic integrity

Important Spring 2026 Dates:

Dates	Event
January 13	Tuition & Fee Payments deadline
January 19	Martin Luther King, Jr. – No Classes
January 20	First day of class
February 4	Census date
February 23-March 6	Midterm grading period
March 9-March 14	Spring Break
April 3	Study Day – No classes
April 17	Last day to drop with an automatic “W”
May 1	Last day to drop a course or withdraw from the University
May 4	Last day of classes
May 5	Study Day – No classes
May 6-May 12	Final exams
May 19	Commencement

The complete [academic calendar](#) is available online