

Advanced Technologies CIS-293 30 0

Spring Term 2024-2025 School Year Section 30 0 2.00 Credits 01/13/2025 to 05/09/2025
Modified 01/13/2025

Meeting Times and Location

ONLINE (1/13/2025-5/9/2025)

Contact Information

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Course Description

This course will allow to students to explore/research new technologies in the IT world, make use of the technologies, and present/demonstrate the technology to their classmates in a classroom setting.

Prerequisite: CIS 130, CIS 196

Outcomes

Technical Skills

- Students will demonstrate the ability to encode/decode data such that it may keep track of the state of applications and objects, be saved for later use, or be transported between applications/systems

Critical Thinking

- Students will analyze documentation for new frameworks, systems, and languages to create unique projects.

Professionalism

- Students will demonstrate initiative in completing group work by dividing tasks for themselves and group members, and assisting in focusing the team on strengthening the project.

- Students will create technical documentation that clarifies the use, purpose, and intent of their code/programs.

Communication

- Students will align, present and summarize their work in respect to time constraints and intended audience.
- Students will recognize and apply industry standard terminology.
- Students will communicate their progress on projects and utilize time management skills to complete projects on time.

Course Materials

Online Documentation

There is no official textbook for this course. You will be finding and utilizing documentation at your own discretion.

Optional

Deliverables

Plan

For each project, you will explain your plan for the application you will build, and break down the plan to research the topic you chose as well as the prerequisite knowledge for that topic.

For example, when creating an Android app, you may break down that you need a front end for the app, and a back end for the database/server. From there, you can break down that the front end, you'll use React and Proton, and for the back end you'll use Node.js and MySQL. Then, you would make a list of sub topics within each of those to learn, e.g. React components, React web hooks, etc.

Plans are not graded, however you will not be allowed to turn in any other material for a topic until you complete your plan.

Status Report

You will turn in a progress reports at the end of the second and third week of each project.

If you did not make any progress during a week, send a report anyways. If you need support, reach out.

Status reports are not graded themselves, however if you do not complete the status reports, you will lose 20% of your grade on the related project for each report missed.

Project Presentation

One completed every 4 weeks. Presentation covering the project that the student completed, with the following areas looked at:

- Critical Thinking
 - Student's research first breaks down the prerequisite topics to what they will be learning, then displays a plan for learning prerequisites and theory incrementally.
 - Student is able to explain the concepts/topics researched to audiences unfamiliar with those topics.
- Communication
 - Student presentation draws audience attention and is audible to the whole audience (e.g. The classroom, people watching the recording, etc.)
- Professionalism
 - Diagrams and supporting material assist in explanations and make the results clear

For online sections, presentations will be recorded, however the instructor may require students to meet synchronously with the instructor to clarify details. Please check your email and the course pages regularly.

✓ Evaluation Procedures and Grading

Criteria

Type	Weight	Topic	Notes
Project/Presentation	25%	Learn a New Programming Language	<p>You will learn a new programming language of your choice and create a substantial project in that language.</p> <p>Note: This can optionally also be a group project.</p>
Project/Presentation	25%	Group Project	<p>You will complete a substantial project as part of a group of 3 or more students.</p> <p>Note: You must complete at least one project as part of a group of 3 or more students. Group projects will need to be more substantial for each extra student added to the project.</p>
Project/Presentation	25%	Free Choice - Solo	<p>You will choose a topic that is new to you, research it, and create a substantial project.</p> <p>Note: You will need to complete at least one project on your own. You may choose to have this be the new language project if you like.</p>
Project/Presentation	25%	Framework/API Project	<p>You will choose a framework or api that is new to you, research it, and create a substantial project.</p>

* Course Expectations

Collaboration

In this course, collaboration is encouraged. I strongly advise talking to other students, talking to other developers, and utilizing AI to gather information. However, it is expected that you will still become proficient in, and understand the terminology used in the topics that you're working with. In both the classroom and life, you should consider the sources for your information. Official documentation is almost always a trustworthy source. AI frequently gives incorrect answers.

While you may choose any resource to create your projects, you will be graded based on your ability to explain the code and what you learned. If you copy code and are not able to explain every line of that code, you will lose points. Because of this, it is encouraged that you still complete your own work, and try things out.

Tips for Ethical Sourcing:

- If you copy code, use comments in the code and explain in your presentation the source of that code. (E.g. `/*Credit to @CoolGuyCoder123 on Twitter for this header file that creates a Soup object.*/`)
- Try to understand the steps/process that others took to complete tasks and replicate it yourself. If you base your code off of someone else's, then that's typically inspiration, not plagiarism.
- If you feel like you are not learning anything, but completing an application, you may be cheating. Take time to communicate with your instructor for help and guidance. We would rather take the time to explain concepts/code and have you learn than to have you cheat and learn nothing.

Cheating/Plagiarism

Failure to document or credit work taken from resources will constitute as cheating and/or plagiarism. The instructor reserves the right to deduct up to 100% of the credit on any topic for suspected cheating/plagiarism.

Please see the Collaboration expectation for tips on ethically copying code.

Attendance/Emails

Students will be expected to check emails regularly, as course details may change.

Attendance will be measured based on the student's work completion. Students not turning in assignments for 2 consecutive weeks will be marked for administrative withdrawal, per school policy. The instructor will reach out to the student at this time, and if no work is completed by the end of the week, the student will be withdrawn from the course.

Note: For this course, you should be completing progress reports weekly, even if you completed nothing. If you do not complete these reports, this is where it will count against you.

Professionalism

Projects in this course may include a degree of freedom in choosing the content/topics presented within them. In preparing for a career, professionalism with content choice is an important area of focus.

Projects including unprofessional topics will be docked 20-100% depending on the severity, and at the instructor's discretion. Intent and context will also be considered.

If a student's work is to be presented in class, the instructor reserves the right to suspend a presentation for the content shown.

Content that should be considered unprofessional includes, but is not limited to:

- Violence/gore/viscera
- Illicit substances
- Non-prescription drugs
- Alcohol
- Non-prescription stimulants
- Content of a pornographic nature
- Content that harasses or discriminates against a person or group of people
- Slurs or slang commonly considered inappropriate
- Content that may be seen as vulgar/offensive/obscene by some audiences

In summary, please try to keep content appropriate for a PG rating. If there are any questions about what should/should not be included in your assignments, please contact the instructor for this course, as they would be happy to work with you on what is acceptable.

Course Outline

When	Topic	Notes
Topic 1 Weeks 1-4	Self Determined	Students will choose the order to the topics they pick.
Topic 2 Weeks 5-8	Self Determined	Students will choose the order to the topics they pick.
Topic 3 Weeks 9-12	Self Determined	Students will choose the order to the topics they pick.
Unit 4 Weeks 13-16	Self Determined	Students will choose the order to the topics they pick.

Institutional Policies

Course Subject to Change

The syllabus is a statement of intent and schedule of topics, activities, assessments, and requirements as well as an overall road map to ensure students will achieve both the course learning objectives and the program-level learning objectives.

The scheduled educational activities are subject to change with reasonable advance notice to students by either the instructor or academic administration. The grading and attendance policies are not subject to change once posted.

During campus closures, the dynamic nature of our learning environment supports the possibility of remote learning days. In such instances, instructors will demonstrate flexibility, providing necessary support to ensure students can actively engage in coursework while accommodating individual circumstances. Clear communication and understanding will be prioritized to maintain the quality of education.

Students wishing to appeal changes to a course syllabus must first do so in writing to their instructor. If a successful resolution is not achieved after submitting the written appeal, the student has the option to file a written appeal to the appropriate Associate Dean of Curriculum and Instruction or Dean of Curriculum and Instruction. If the second level appeal does not result in a resolution, the student can submit a final appeal to the Vice President of Academic Affairs. The review and final decision of the Vice President of Academic Affairs is final and not subject to appeal.

Attendance

Administrative Withdraw for Non-Attendance

Students are expected to attend all sessions of courses for which they are enrolled. Absences do not excuse the student from meeting course requirements. Each instructor will evaluate the student's progress to determine how to handle outstanding assignments and assessments. Students attending 16 week courses who have a record of zero attendance for fourteen (14) calendar days will be administratively withdrawn from the course(s) the absence is occurring, resulting in a grade of "W" for the course. Students attending courses of less than a 16 week duration, who have a record of zero attendance for seven (7) calendar days will be administratively withdrawn. Students who receive financial aid may have their financial aid status affected. More information is located in the [Southeast Tech Catalog](https://catalog.southeasttech.edu/index.php) (<https://catalog.southeasttech.edu/index.php>):

Course Recording Statement

Delivery of some courses at STC allows flexible participation options for students in time and location. Courses may be made available to properly enrolled students who are not physically in the classroom, and/or a time delayed recording made available to all properly enrolled students. In addition to instructional content, remote delivery may include capture of all classroom audio and visual happenings during designated class times, including that of students who may be part of the class, but who are not physically in the classroom. By remaining in classes capturing audio and visual happenings, you are agreeing to this statement.

Institutional Learning Outcomes

Student success is important to Southeast Tech faculty, and all faculty are involved in assessing student learning. Upon graduation, Southeast students will have competence in the following four institutional learning outcomes:

Technical Skills: Students will be able to explain industry-relevant concepts (knowledge) and demonstrate industry-relevant technical skills (performance).

Communication: Students will be able to define the purpose of the communication; organize and structure the communication; provide supporting material; demonstrate precision of language; and professionally deliver and format the communication.

Problem Solving & Critical Thinking: Students will be able to define the problem; analyze the problem; generate solutions; evaluate solutions; and select the best solution.

Professionalism: Students will be able to demonstrate positive work ethic; collaborate as part of a team; adapt to change; adhere to professional standards; and model integrity and ethics.

Student Conduct, Cheating and Plagiarism

Students attending Southeast Technical College are expected to follow policies and requirements in the Southeast Technical College Student Handbook: [STC Student Handbook](https://catalog.southeasttech.edu/index.php) (<https://catalog.southeasttech.edu/index.php>). In addition, some departments have academic handbooks for their areas that outline expected student conduct.

Southeast policies authorize the Vice President of Academic Affairs to suspend or terminate any student from the college for misconduct as outlined in the rules of this policy. The following student misconduct shall constitute grounds for student discipline, suspension, or termination when such activity occurs on school grounds, in the online course environment or during an educational function under the auspices of the school board: acts of dishonesty, including cheating and plagiarism or other forms of dishonesty relating to academic achievement such as the misuse of technology, software, apps, or other computer-assisted or artificial intelligence in violation of individual course or assignment policies as defined by instructors.

Test Proctoring

The Southeast Testing Center offers test proctoring located in the Wood Center Building, Room 103. Online instructors will communicate details regarding required test proctoring and how to sign up to take these assessments. Testing Center contact information: 605.367.6014 or testing@southeasttech.edu

Academic Resource Center (ARC)

The Academic Resource Center (ARC) is dedicated to helping Southeast Tech students achieve their academic goals and pursue their professional ambitions. While classes and assignments can sometimes pose challenges, the ARC provides essential support through free one-on-one and online

tutoring from both professional and peer tutors. Services include academic assistance with course content, opportunities to practice learned material, strategies for independent learning, personalized feedback, and study skills development in areas such as writing, math, test-taking, memorization, note-taking, and organization. Additionally, the ARC offers techniques to reduce anxiety and stress related to assignments, methods to boost academic confidence and self-esteem, and distraction-free workspaces to enhance focus. Learn more about these services by visiting the ARC page found in the Student tab of myTech: [Academic Resource Center and Resources on myTech](https://my.southeasttech.edu/ICS/Student/Student_Support_Services/Student_Success_Center/Academic_Resource_Center/) (https://my.southeasttech.edu/ICS/Student/Student_Support_Services/Student_Success_Center/Academic_Resource_Center/).

Student Mental Health

Mental health and overall well-being are significant predictors of academic success. As such, it is essential that during your college experience you develop the skills and optimize resources effectively to navigate stress, anxiety, depression, and other mental health concerns. Please familiarize yourself with the range of resources Southeast Tech provides and seek out support for mental health concerns as needed. Individual counseling services are available in the Sullivan Health Science Center or virtually via Teams-based video, Telephone, or Email. Please visit [Personal Counseling on myTech](https://my.southeasttech.edu/ICS/Student/Student_Support_Services/Student_Success_Center/Personal_Counseling.jnz) (https://my.southeasttech.edu/ICS/Student/Student_Support_Services/Student_Success_Center/Personal_Counseling.jnz) to complete the Personal Counseling form. Contact the counselor at counseling@southeasttech.edu (<mailto:counseling@southeasttech.edu>) or 605-367-4821 for more information and to schedule a session. Crisis Counseling is available nationwide by calling 988, and in the Sioux Falls area via the Helpline Center at [Helpline Center Website](https://www.helplinecenter.org/) (<https://www.helplinecenter.org/>).

Safety

Violation of safety to self and others and/or violations of safe operating practices of equipment may result in the reduction or loss of a daily grade, removal from class, and/or other disciplinary action.

ADA and Accessibility Services

It is the policy and practice of Southeast Technical College and the instructor of this course to act with integrity, engage in equitable conduct with respect to differences in age, gender, race, disability, and religion, and to create inclusive and accessible learning environments consistent with federal and state laws. In accordance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, and the Americans with Disabilities Amendment Act of 2008, Southeast Technical College ensures that no student with a disability will be discriminated against or denied access to participate in, or benefit from, programs, services and activities. If you are a student with a documented disability, think you may have a disability, or have a temporary health condition that requires accommodations, please visit the [Accessibility Services](https://www.southeasttech.edu/student-life/accessibility-services.php) (<https://www.southeasttech.edu/student-life/accessibility-services.php>) website, call 605-367-6110, or email access@southeasttech.edu (<mailto:access@southeasttech.edu>). All students are encouraged to discuss access-related needs with their instructors and the Accessibility Services Office as soon as possible in their academic career.

Freedom of Speech

Southeast Tech strives to create an environment in which diverse opinions can be expressed and heard. Students have the right to peacefully express their views and opinions, regardless of whether others may disagree, but not in such a way as to interfere with the rights of others or the operation of the college. Views expressed should not violate any of Southeast Tech policies or core values.

Southeast Technical College students are both citizens and members of the Southeast Tech community. Students should enjoy the same freedom of speech, peaceful assembly, and right to petition that other citizens enjoy and should abide by the obligations and expectations as members of the Southeast Tech community.

Notice of Nondiscriminatory Policy

Southeast Tech is committed to a policy of equal opportunity for all in every aspect of its operations. Southeast Tech does not discriminate on the basis of race, color, creed, religion, age, gender (including pregnancy), sexual orientation, disability, national origin or ancestry, military/veteran status, genetic information, or any other category protected by law in its educational programs, admissions policies, employment policies, financial aid, or other institute-administered programs. Click this link for more information: [Non-Discriminatory Policy and Contact Information \(https://catalog.southeasttech.edu/index.php\)](https://catalog.southeasttech.edu/index.php).

Title IX/Pregnancy Leave/Sexual Misconduct/Sexual Assault/Sexual Offense

Southeast Tech is committed to providing a learning and working environment free of unlawful harassment based on an individual's race, color, religion, creed, ancestry, national origin, gender, sexual orientation, disability, age, protected military/veteran status, genetic information or any other basis protected by law. Faculty also work with students to provide medically necessary student absences related to pregnancy, childbirth, related conditions, and recovery. Concerns may be reported directly to this individual in person, by calling 605-367-5681, or by emailing Jim.Larson@southeasttech.edu. Individuals with immediate concerns should call campus security at 605-367-7847. For more information, click this link: [Title IX in Student Catalog \(https://catalog.southeasttech.edu/index.php\)](https://catalog.southeasttech.edu/index.php).

Sexual Misconduct

Southeast Tech is committed to providing a learning and working environment that emphasizes the dignity and worth of every member of its community, free from discriminatory conduct. Sexual harassment in any form or context is contrary to this commitment and will not be tolerated. Sexual harassment subverts the mission and the work of Southeast Tech and can threaten the career, educational experience, and well-being of students, faculty, and staff.

Southeast Tech recognizes that sexual harassment includes harassment based on gender, sexual orientation, gender identity, or gender expression and may occur regardless of the formal position or status of each person involved. Sexual harassment is especially offensive, however, when it occurs in

relationship between an instructor and student or between supervisor and subordinate. In those situations, sexual harassment exploits unfairly the power inherent in the position of the faculty member or supervisor.

Sexual harassment also constitutes a form of sexual discrimination that is illegal under Title VII of the Civil Rights Act of 1964, Title IX of the Elementary/Secondary Education Act of 1972, as amended, and state law. Southeast Tech also recognizes that sexual assault, domestic violence, dating violence, and stalking may also be considered sexual harassment.

Students have the right to be free of sexual misconduct while pursuing their education at Southeast Tech which would include participating in any off-campus activity such as internships, clinical experiences, and preceptor experiences.

Students should immediately report any form of sexual misconduct to their instructor or the designated contact at Southeast Tech.

Student Right-to-Know/Campus Security Act/Clery Act

Southeast Tech is required under Public Law 101-542 to encourage students to report all crimes (murder, rape, forcible or non-forcible sex offenses, robbery, aggravated assault, burglary, motor vehicle and other thefts or crimes) which occur on the Southeast Tech Campus to the local law enforcement offices and to the Southeast Tech Student Success Center or campus security. For more information on Student Right to Know/Campus Security Act, click this link: [Student Right to Know - Campus Security Act \(https://catalog.southeasttech.edu/index.php\)](https://catalog.southeasttech.edu/index.php).

Family Educational Rights & Privacy Act

FERPA stands for the Family Educational Rights and Privacy Act of 1974. It is a federal law governing the privacy and handling of educational records and giving specific rights to students. You can find more information about the law at [FERPA Website \(https://studentprivacy.ed.gov/ferpa\)](https://studentprivacy.ed.gov/ferpa).

Student Communications

Southeast Tech's student email accounts will be used as Southeast Tech's official means of communications with students. Southeast Tech students should also use the myTech Student and Campus Life tabs for information regarding important upcoming events and required dates for fee payment, etc. The Student and Campus Life tabs will also inform students about job opportunities, scholarship information, and other important announcements.