

# Introduction to Databases

## CIS-194 30 O

Spring Term 2023-2024 School Year Section 30 O 3.00 Credits 01/08/2024 to 05/03/2024  
Modified 01/03/2024

### Meeting Times and Location

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ONLINE (1/8/2024-5/3/2024)

### Contact Information

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Instructor: Roger Morris

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Office: TC202

Phone: 605 367-5858

#### Office Hours

Monday, Wednesday, 3:15 PM to 4:15 PM, TC 202 or TC 210

Tuesday, Thursday, 9:00 AM to 10:00 AM, TC 202 or TC 210

Thursday, 6:00 PM to 7:00 PM, TC 202 or TC210

### Course Description

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This course teaches students the fundamentals of proper relational database design. Exposure to data modeling is provided by using many real life examples. Activities designed to develop "professional skills" include teamwork and team building, presentation, and project management. Hands-on experience working with relational databases is obtained by using the Structured Query Language (SQL). Creation of a normalized database utilizes Entity Relationship Diagrams (ERD's).

### Outcomes

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# Course Outcomes

Upon successful completion of this course, the student shall be able to

- Define and utilize database terminology effectively.
- Create queries using SQL.
- Diagram users' requirements using modeling techniques.
- Transform data models into normalized relations.
- Describe database access standards.

## Program Outcomes

### Science and Technology

- Develop software applications to solve a business problem.
- Demonstrate proficiency in the design and use of databases.

### Problem Solving/Critical Thinking

- Appraise the strengths and weaknesses of one's completed work.
- Analyze a client's software requirements in order to develop possible solutions.

### Professionalism

- Utilize professional resources (i.e. professional organizations, media and IT websites).
- Use effective time management skills.

### Communication

- Research and present an IT topic using appropriate terminology.
- Write programs with clarity, efficiency, and accuracy.

## Course Materials

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Oracle online curriculum is used in this course which also serves as the textbook.

## Deliverables

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### Assignments

Assignments are to be turned in via MyTech while quizzes and tests are to be completed online in the Oracle online curriculum.

There will also be two projects to present in the class.

## Evaluation Procedures and Grading

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# Criteria

## Exams (40% of grade)

Exams are assigned from the Oracle web site. There are 6 exams (2 1-part and 2 2-part). The lowest test score will be dropped from the final grade.

## Quizzes (20% of grade)

Quizzes are given after most lessons. They are being recorded in 4 parts (midterm, final, midterm, final)

## Labs/Database Projects (40% of grade)

- Each assignments will be given a due date.
- Being absent from class is not an excuse for turning in an assignment late.
- A due dates will not be changed unless prior arrangements have been made.
- Student may receive partial credit for partial solutions.

# Breakdown

## Grading Scale:

A: 89.5 -100%	B: 79.5 - 89.5%	C: 69.5 - 79.5%	D: 59.5 - 69.5%	F = 59% and Below
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# \* Course Expectations

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## Flexibility

The syllabus is an outline of baseline policies for the course. Instructors want to meet the needs of students within reasonable guidelines and maintain the discretion to provide exceptions to policies only if communication is established by the student.

Students are encouraged to maintain an open line of communication with their instructor about their progress in the course.

## Collaboration

All work completed for this course is expected to be completed by the individual student unless otherwise stated. Two or more entities working on the same project not specified as group work will be considered cheating and/or plagiarism. At the instructor's discretion, all parties involved will receive a 0 for the assignment.

Assisting other students in their understanding of the material to help them understand the approach to solve a problem is not against policy. Giving them the solution or writing it for them is.

Utilizing AI to generate code for you is cheating. An AI can help you learn the material, but it shouldn't solve problems for you.

If there are any questions about what constitutes cheating/plagiarism, please contact your instructor of this course. They would be happy to help outline allowed resources for success and understanding of the material.

## **Late Work**

Late work will result in a 0 for the assignment. Exceptions can be made at the instructor's discretion for each assignment individually.

Students are encouraged to start on assignments early. Continuous communication with instructors will allow them to work with you more effectively on course progress.

## **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. We are all (hopefully) adults, but we are also professionals. Professionalism doesn't have to be boring, but it does have to be mature in the way that it handles content.

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.

## Additional Items

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### The class is broken into two parts

#### Part 1:

##### Database Design

This part lays the foundation for understanding relational databases and database design. After learning about the Oracle Academy and Oracle's commitment to education, students plunge into the theory and practice of data modeling. A data model is a conceptual representation of the data structures in a database. The data structures include the data objects (entities), the associations between data objects (relationships), and the rules that dictate operations on the objects (business rules). Students are exposed to data modeling through many real life examples that are relevant to their age group -- case studies include a fast food restaurant and a small music business. In addition to data modeling concepts, the course engages students in activities designed to develop "professional skills." The skills highlighted in the Database Design course include teamwork and team building, public speaking, interviewing, presentation, and project management. The data modeling portion of the course culminates in Section 15 with a final project which assesses all of the data modeling skills learned to date. After completing the project, students begin to learn the Structured Query Language (SQL), the standard language for querying and modifying relational databases. The final three sections of the course (Sections 16-18) introduce the SQL programming language and teach students how to write basic SELECT statements

Daily assignments will be mostly completed in a group setting.

A project and presentation will be completed as group.

#### Part 2:

##### Database Programming with SQL

In this part students gain an understanding of relational databases through the powerful Structured Query Language (SQL). The SQL commands, functions, and operators supported by Oracle as extensions to standard SQL are emphasized. Students learn to create and maintain database objects such as tables, indexes, views, constraints, and sequences. Students practice SQL using SQL Workshop, an application that is available via a web browser in Oracle HTML DB. The Database Programming with SQL portion of the Academy curriculum is designed to help prepare students to pass the Oracle Certified Professional (OCP) exam, "Introduction to Oracle9i SQL Exam." As part of the Academy, many students will want to take the OCP exam as it is the

industry standard for proficiency with SQL. In the Database Programming with SQL course, students focus on searching for a job, job interviewing skills, and writing cover and thank you letters.

Daily Assignments will be completed as individuals.

A project and presentation will be completed as a group.

## Institutional Policies

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### 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.

## Student 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 common 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](mailto:testing@southeasttech.edu)

# Academic Resource Center (ARC)

Your success is important to us! In addition to meeting with your instructor for academic assistance, STC students are encouraged to use the free tutoring and other support services in the Academic Resource Center (ARC) to reinforce understanding of course concepts and improve performance in courses. ARC offers one-on-one tutoring for course assignments or skill building (e.g., test-taking strategies, note-taking, memorization, etc.) with faculty or peer tutors. Learn more about these services by visiting the ARC page found in the Student tab of myTech.

# 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](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) (<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) (<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/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. Concerns may be reported directly to this individual in person, by calling 605-367-4670, or by emailing [Brett.Arenz@k12.sd.us](mailto:Brett.Arenz@k12.sd.us). Individuals with immediate concerns should call campus security at 605-941-9003. 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

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 \(https://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html\)](https://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html).

## 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.