

ACO 100 – All About Data – Spring 2025 – Sessions A & B

Sections: 35434, 35433, 14756

Instructor: Steven Clayden, PhD, CISSP

Office: CLCC 220 (or Zoom)

Phone: 480-510-7673 (Cell)

Email: steven.clayden@asu.edu

Office hours: Available by appointment

Zoom link: <https://asu.zoom.us/j/5245675347>

Course Description: Data modeling and design, spreadsheets, relational databases and querying, visualization and XML.

Prerequisite(s): None

Required Textbook and Materials: No physical textbook is required for this class. A Cengage/SAM account is required and is accessible through Canvas immediately upon the start of class and will be billed through the ASU bookstore to your student account. There is an e-texts that will be used in the Cengage account:

Cengage

Illustrated
Series



Required Software: Microsoft Office 365 with Access. This software is installed on classroom computers and other computers on campus. ASU students can get Office 365 installed on personal laptops for free.

Special note: This course has specific operating system (OS) requirements. Exercises include the use of MS Access database software, which requires a current Windows OS.

Mac and Chromebook (non-Windows) Users: There are elements of some assignments that cannot be completed without the installation of special software. You can install one of several virtual environments available such as VMware for Chromebook. For Mac: VirtualBox, Parallels Desktop, VMware, etc. Contact Arizona Enterprise Technology (<https://tech.asu.edu/>) for installation assistance. *Please note that this is not highly recommended. A better option is to borrow a Windows laptop, or use a Windows computer at an ASU location, local college, or public library.*

Cengage/SAM:

Course Title: ACO 100: All About Data. This course is automatically available at the start of class from the course Canvas page. The course will be charged to your student account at the lowest possible price.

Message from Cengage:

MindTap is required for this course and will be made available to you in Canvas at a special, discounted rate. The charge for the materials will appear on your student account under the item type BKSTR PUBLISHER NEGOTIATE RATE after the add/drop date. You do have the option to opt out of this program by clicking this link: [OPT-OUT-LINK], but please be advised that MindTap access is required to take this course, and if you choose to opt out, you will need to purchase elsewhere, which will be more expensive.

Course Outline:

Topic	eText, training, exam, applied project
Basic Spreadsheets	Cengage/SAM Excel Modules 1-3
Visualization	Cengage/SAM Excel Module 4
Analysis	Cengage/SAM Excel Modules 3, 5
Relational Database: Introduction	Cengage/SAM Access Module 1
Relational Database: Table Design	Cengage/SAM Access Module 2
Relational Database: Query	Cengage/SAM Access Module 3
Problem Analysis & Design	Canvas course materials: Data Transformation Project

Learning Outcomes: At the completion of this course, students will be able to:

- Formulate the application of the ordering of data and fundamental aggregation operations, such as sum, count, average, maximum, minimum
- Understand how decisions can be incorporated in the analysis of data
- Use tools provided in spreadsheets and databases to visualize data in line graphs, bar charts, and clustered bar charts
- Identify primary and foreign key relationships between tables
- Utilize a graphical user interface, such as Query By Example (QBE), to write queries, including ordering and fundamental aggregation operations
- Compose fundamental queries in the SQL industry-standard query language
- Analyze a problem description and formulate a conceptual design that captures the constraints of the analysis
- Apply mapping techniques of conceptual designs to spreadsheets/tables

Course Topics, Schedule & Grading:

Activities used for instruction and assessment include: textbook, supplemental readings, individual activities/assignments, and case scenarios.

Students are required to complete 5 Microsoft Excel modules, 3 Microsoft Access modules, and an integrated project. Each module Excel contains a required reading component, a training component, an exam component, and an applied project. Access Modules do Not contain a project. The readings have [optional] hands-on exercises for students to follow (necessary files are in Canvas). Students may complete the readings without the hands-on activities. Each exam has activities and multiple-choice questions. Students prepare for exam activities with module trainings. Students prepare for multiple choice exam questions and projects with the module readings.

Assessments:

Assessed Component	Weight
Module Trainings, Module Exams, Excel Projects	72%
Midterm: Final project check-sheet	3%
Data Transformation Project (final project)	10%
Final Exam	15%

Grading:

Grade	Percentage	Grade	Percentage	Grade	Percentage
A+	97 – 100%	A	94 – 97%	A–	90 – 94%
B+	87 – 90%	B	84 – 87%	B–	80 – 84%
C+	76 – 80%	C	70 – 76%		
D	60 – 70%	E	< 60%		

Tentative Schedule:

See the Course Modules in Canvas for assignment schedule.

ASU Academic Integrity

Academic honesty is expected of all students in all examinations, papers, laboratory work, academic transactions, and records. Students in this class must adhere to ASU's academic integrity policy. Students are responsible for reviewing this policy and understanding each of the areas in which academic dishonesty can occur. All academic integrity violations will be reported to the New College Academic Integrity Office (AIO). The possible sanctions include but are not limited to appropriate grade penalties, course failure (indicated on the transcript as a grade of E), course failure due to academic dishonesty (indicated on the transcript as a grade of XE), loss of registration privileges, disqualification, and dismissal. The AIO maintains records of all violations and has access to academic integrity violations committed in all other ASU college/schools.

Generative AI is not permitted in this course

ASU Student Code of Conduct

Students are expected to follow the ASU Student Code of Conduct, especially when communicating with peers, staff, and instructors. Violations of the student code of conduct may result in withdrawal from the class.

Assessments

Please be aware that student scores on exams or other graded work may be used to assess program goals of degrees offered by the School of Mathematical and Natural Sciences.

Attendance/Absence Policies

In addition to the instructor's general policy on absences and missed work, excused absences and conditions for making up work include Accommodation of Religious Practices and Missed Classes Due to University-Sanctioned Activities (ACD 304-02). Students must notify their instructors of these absences as early as possible in the semester.

Community of Care Guidelines

ASU's response to COVID-19 for preserving and protecting every community member's health will continue to be dynamically adjusted to keep our community healthy and well. Please consult the ASU Coronavirus website and Coronavirus FAQ for up-to-date information on status, current risk, and appropriate response.

Copyright Infringement

All course content and materials are copyrighted materials. Students may not share outside the class, upload to online websites not approved by the instructor, sell, or distribute course content or notes taken during the conduct of the course [see Academic Affairs Manual policy 304-06: Commercial Note Taking Services and Student Code of Conduct policy 5-308 F.14 Prohibited Conduct (page 10) for more information]. This includes lectures, recorded lectures, and lectures administered and recorded using Zoom. Students must refrain from uploading to any course shell, discussion board, or website used by the course instructor or other course forum.

material that is not the student's original work unless the students first comply with all applicable copyright laws. Faculty members reserve the right to delete materials on the grounds of suspected copyright infringement.

Course/Instructor Evaluation

The course/instructor evaluation for this course will typically be conducted online 7-10 days before the last official day of classes of each semester or summer session. Your response(s) to the course/instructor is anonymous and will not be returned to your instructor until after grades have been submitted. The use of a course/instructor evaluation is an important process that allows our college to (1) help faculty improve their instruction, (2) help administrators evaluate instructional quality, (3) ensure high standards of teaching, and (4) ultimately improve instruction and student learning over time. Completing the evaluation is not required for you to pass this class and will not affect your grade, but your cooperation and participation in this process are critical. About two weeks before the class finishes, watch for an e-mail with "NCIAS Course/Instructor Evaluation" in the subject heading. The e-mail will be sent to your official ASU e-mail address.

Emergencies/Campus Power Outage

In the event of a campus power outage or other event affecting the ability of the University to deliver classes, any decision to cancel classes will be announced using the ASU emergency notification system. For this reason, it is imperative that students register with ASU's emergency notification system LiveSafe. In cases where a limited number of buildings are affected, students should check the University website and/or call the School office at (602) 543-6050.

Evacuation Plan

Students should be aware of the evacuation route posted on the exit door of each classroom. Students who cannot use the stairs should notify the instructor as early in the course as possible so the instructor can provide information regarding the location of the designated meeting area on each upper floor of the building (marked with a blue sign that states Emergency Evacuation Response Area).

Final Exam Make-up Policy

ASU's Final Exam Schedule will be strictly followed. Exceptions to the schedule and requests for make-up examinations can be granted only by the Associate Director of the School of Mathematical and Natural Sciences for one of the following reasons: 1) religious conflict; 2) the student has more than three exams scheduled on the same day; 3) two finals are scheduled to occur at the same time. Make-up exams will NOT be given for any of the following reasons: non-refundable airline tickets, vacation plans, work schedules, weddings, family reunions, or other such activities. Students should consult the final exam schedule before making end-of-semester travel plans.

If there is a last-minute personal or medical emergency, the student may receive a grade of Incomplete and make up the final within one calendar month. The student must provide written documentation and be passing the class at the time to receive an incomplete. A signed Request for Grade of Incomplete must be submitted by

the student and approved by the student's instructor and the Associate Director of the School of Mathematical and Natural Sciences.

Incomplete

A grade of incomplete will be awarded only if a documented emergency or illness prevents a student doing acceptable work from completing a small percentage of the course requirements at the end of the semester. The guidelines in the current general ASU catalog regarding a grade of incomplete will be strictly followed. A signed Request for Grade of Incomplete must be submitted by the student and approved by the student's instructor and the Associate Director of the School of Mathematical and Natural Sciences. A grade of incomplete will NOT be awarded unless there is documented evidence of extreme personal or immediate family hardship. Changes in work hours, child-care emergencies, or other similar personal problems will not be approved as reasons for awarding incompletes. The Associate Director of the School of Mathematical and Natural Sciences must approve any incomplete grade requests.

Grade Grievances

Any student seeking to appeal a grade must follow the following steps. This process does not address academic integrity allegations or faculty misconduct. Student grade appeals must be processed in the regular semester immediately following the issuance of the grade in dispute (by commencement for Fall or Spring semesters), regardless of whether the student is enrolled at the University. There are two stages to the grievance process: the informal process and the formal process. Each process contains a series of steps that must be followed in order. The informal process, outlined below and facilitated by the School of Mathematical and Natural Sciences, must be followed prior to escalation to the formal process:

1. A one-on-one meeting must be scheduled with the instructor. During this meeting, a student must state the reason for questioning that the grade was not given properly/in good faith. The instructor must review the matter, explain the grading procedure, and explain how the grade was determined. The student and the instructor must work toward resolution, and grade grievances should ideally be resolved at this level.
2. If the issue is unresolved, the student can appeal to the School of Math and Natural Sciences Grievances committee (MNSgrievances@asu.edu). The student must provide a written rationale and evidence that the grade was not given appropriately as well as a summary of the instructor's response/the meeting with the instructor.
3. If MNS Grievances policy do not resolve the issue, the student can appeal to the Associate Director and Director of the School of Math and Natural Sciences.
4. If the issue is not resolved at the level of the School of Math and Natural Sciences, the student can confer with the Dean's Representative in the New College of Interdisciplinary Arts and Sciences (Executive

Director of Academic Services and Strategic Initiatives) who will review the case and explain the formal process to the student.

Policy against Threatening Behavior

In the classroom and out, students are required to conduct themselves in a manner that promotes an environment that is safe and conducive to learning and conducting other university-related business. All incidents and allegations of violent or threatening conduct by an ASU student will be reported to the ASU Police Department (ASU PD) and the Office of the Dean of Students. Such incidents will be dealt with in accordance with the policies and procedures described in Section 104-02 of the Student Services Manual.

Potentially Offensive Content

If you find any of the content in your class offensive, please bring your concerns to the instructor immediately. If raising the issue with the instructor is problematic, these concerns should be brought to the attention of the Director and Associate Director of the School of Mathematical and Natural Sciences.

Reasonable Accommodations for Students with Disabilities

Student Accessibility and Inclusive Learning Services (SAILS) provide information and services to students with any documented disability who are attending ASU. Individualized program strategies and recommendations are available for each student as well as current information regarding community resources. Students also may have access to specialized equipment and supportive services and should contact the instructor for accommodations necessary for course completion.

Respectful Communications

As a beacon for critical thought and the advancement of knowledge, ASU values dissenting opinions. Acknowledging that someone else's opinion matters as much as our own is the first step to creating a respectful dialogue. However, we must also distinguish between opinion, fact, and policy. Valuing and respecting those opinions that are different from our own does not mandate acquiescence or violation of policy. We expect all written, e-mail, verbal, and otherwise communications to be conducted with a respectful tone and tenor, and in compliance with established protocols and the ASU Code of Conduct.

Title IX

It is a federal law that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the University. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at ASU's website for Sexual Violence Awareness, Prevention, and Response. As mandated reporters, faculty are obligated to report any information of which

they become aware regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services are available if you wish to discuss any concerns confidentially and privately.

Withdrawals

Specifically, students should be aware that non-attendance will NOT automatically result in being dropped from the course. Therefore, if a student does not attend class during the first week or for any extended period of time during the semester, they should not presume that they are no longer registered. It is the student's responsibility to be aware of their registration status. Any withdrawal transaction must be completed by the deadline date in accordance to the appropriate session at the registrar's office. If not, you will still be officially enrolled and receive a grade based on your completed work. For additional information about ASU's

withdrawal policy and the possible consequences of withdrawing from a class, contact Registration Services or your academic counselor.

Table 1: Some Calendar Reminders – Session C

Event Date

Classes Begin August 22, 2024

Last day to Register or Add a Class August 28, 2024

Last day to Drop a Class September 4, 2024

Labor Day Observed - Classes excused/University Closed September 2, 2024

Fall Break- Classes excused/University Open October 12-15, 2024

Course Withdrawal Deadline November 6, 2024

Veterans Day Observed- Classes excused/University Closed November 11, 2024

Thanksgiving Holiday Observed- Classes excused/ Closed November 28-29, 2024

Complete Session Withdrawal Deadline/Last Day of Classes*

December 6th, 2024

Final Exams December 9-14, 2024

Holiday Break- Classes excused/University Closed December 25-26, 2024

[ASU's Full Academic Calendar](#)

*As part of a complete session withdrawal, a student must withdraw from all classes in that session. Beginning the first day of classes, undergraduate students are required to work with a Student Retention Coordinator to facilitate the withdrawal process. Please refer to the ASU Registrar's webpage How to Drop, Add, and Withdrawal.