

College of Dupage
Math 1635-001: Statistics
Monday, Wednesday 9:00AM – 10:50AM
BIC 1D07

Contact Information:

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Course Objectives and Topic Outline:

Course Description: Students will be introduced to elements of descriptive and inferential statistics. Business applications will be emphasized throughout the course. Topics include communication with data descriptions and graphs, probability principles and their use in developing probability distributions, binomial, normal, student-t, chi-square, and F distributions, hypothesis testing, estimation, contingency tables, linear regression and correlation, and one-way ANOVA.

Credit Hours: 4 Lecture Hours: 4 Lab Hours: 0

Pre-Enrollment Criteria: MATH 1428, MATH 1431, or MATH 1533 or college equivalent with a grade of C or better or a qualifying score on the mathematics placement test.

A. General Course Objectives:

Upon successful completion of the course the student should be able to do the following:

1. Express statistical information using proper terminology and graphs
2. Calculate measures of central tendency and dispersion
3. Interpret measures of central tendency and dispersion
4. Calculate probabilities and statistical measures
5. Perform sampling techniques
6. Determine appropriate probability models for given situations
7. Estimate parameters based on samples
8. Perform hypothesis testing
9. Analyze contingency tables using chi square techniques
10. Determine linear relationship using regression and correlation
11. Use one-way ANOVA
12. Apply statistical information to real-world business problems

B. Topical Outline:

1. Basic terms
2. One-variable descriptive statistics
3. Probability
4. Discrete probability distributions
5. Normal distribution
6. Sample variability and the central limit theorem
7. Hypothesis testing and estimation of population means, variances, and proportions (large and small samples)
8. Hypothesis testing and estimation using sample data from two populations

- a) Comparison of population means (independent and dependent samples)
 - b) Comparison of population variances (F-test)
 - c) Comparison of population proportions
9. Two-variable statistics
 - a) Linear correlation
 - b) Linear regression and estimation
 10. Multinomial experiments and contingency tables
 11. One-way ANOVA

Textbook:

- *Business Statistics*, 4th ed. by Sharpe, De Veaux, Velleman (ISBN 9780134783031 or 9780135904329 (<https://www.bkstr.com/dupagestore/home>))
If purchasing the physical textbook, you should buy the bundled textbook + MyStatLab code. DO NOT buy the textbook alone.
- The online MyStatLab access code will be required. The access code comes with a virtual copy of the textbook. You can buy the access code only and still have access to the textbook.
- A TI-83, TI-84, or equivalent graphing calculator. Calculators with internet connections are not allowed. Students can also use built-in software on COD computers for calculations during class.

Classtime:

Students are expected to attend class and PARTICIPATE. Students are responsible for all material covered in each class, even if they missed that day. Exams will be held during class time.

While in class, students should be respectful of other students as well as the instructor. All students are welcome to share their thoughts and the classroom will be an inclusive space.

Students should not distract others with their computers or cell phones. Any distractible cell phone use should be done outside the classroom. All communication between instructor and students will be conducted either through Blackboard or via a COD email account. Make sure you check your COD email regularly.

Homework:

Homework will be assigned for every lecture using MyStatLab. Students need to spend time and attempt every assigned homework problem to master the material and be prepared for quizzes and exams.

Solution guides and online step-by-step solutions should not be overused when doing homework. Students who rely on these resources are not self-sufficient and will underperform on exams. When stuck on a problem, take the time to read class notes and the textbook for related examples. Set aside time for contacting the instructor or the Math Assistance Area for help.

All homework assignments are weighted equally when computing the homework average. The lowest 2 homework grades will be dropped before computing the final course grade.

Quizzes:

Quizzes will be taken during class time according to the course calendar.

Calculators and allowed computer software may be allowed during quizzes. Calculators cannot be shared or traded during quizzes. Formula sheets may be allowed, but will be distributed *with* the quiz. Students cannot bring their own formula sheets. Outside resources like online help or other people are **not allowed**. Quizzes will usually cover a few sections in-depth. The material covered on a quiz will be announced beforehand.

All quizzes are weighted equally when computing the quiz average. The lowest quiz score will be dropped before computing the final course grade.

Free Passes:

Each student is allowed three “free passes” for the semester, good for a 48-hour extension on any assignment. *No more than one* of these passes may be used on a unit exam, and free passes cannot be used at all on the final exam. The 48 hours starts from the original deadline of the assignment, and students *must* complete the form request (which is linked to in Blackboard) before the deadline to request the use of a free pass before submitting it. Email requests will not be honored.

All exams or in-class quizzes must be taken in a COD Testing Center or using the Virtual Testing Center. There are no extensions after the 48 hours, even if the Testing Center has limited hours during that time.

Exams:

There will be three (3) unit exams and a cumulative final exam given in the course in class.

Scratch work will be graded on exams, and correct work will be rewarded partial credit even if the final answer is not correct.

The cumulative final exam will take place on Thursday, December 14, as shown on the calendar.

No cell phones are allowed at all at a student's desk during the exam. Calculators and allowed computer software will be allowed on exams. Calculators cannot be shared or traded during exams.

The final exam score will replace one of the unit exam grades if it will benefit the final grade.

Attendance Policy:

Students are expected to attend every class and to understand material for classes they miss. See the Free Passes section for the policy regarding late work for quizzes.

The exam dates are all posted on the calendar. If a student knows in advance they will not be in class that day, they must plan to take the exam on an earlier day in a COD Testing Center. These situations are planned on an individual basis and the instructor should be notified at least two days in advance. Any exam missed without consulting the instructor beforehand will receive 0 points unless a free pass is used.

Exams CANNOT be made up after their due date under any circumstances except as an accommodation required by the Center for Access and Accommodations or as one of the free passes. Quizzes cannot be made up unless a request for a free pass is communicated to the instructor using the link in Blackboard.

Grade Calculation:

Graded Assessment	Percentage of Final Grade
Homework	10%
Quizzes	15%
Three Unit Exams	17% Each
Cumulative Final Exam	24%

Letter Grade	A	B	C	D	F
Percentage	89.5% and Up	79.5% - 89.5%	69.5% - 79.5%	60% - 69.5%	Below 60%

Only the grades posted in Blackboard will be used to compute your final semester grade. Grades posted in MyStatLab will be imported to Blackboard and then weighted. DO NOT mistake your cumulative grade in MyStatLab as your current semester grade.

All solutions to quizzes and exams will be posted in Blackboard after all students have taken the assessment. Extra credit will be awarded to students who find mathematical errors or mathematical typos in the solutions. This will be awarded on a first-come, first-serve basis, and errors found should be emailed to the instructor.

Academic Integrity:

Students should be aware of the Code of Academic Conduct and know the consequences should the code be violated. The document can be found at

[Code of Academic Conduct](#)

If a student is caught violating the Code they will receive an automatic zero on that assignment and will be reported through COD's academic integrity reporting system. Multiple violations will result in a failing grade in the course.

Student academic dishonesty includes but is not limited to:

- Dishonest use of course materials, such as student papers, examinations, reports and material posted on the Internet.
- Knowingly posting course materials of any kind on Internet sites such as (but not limited to) Course Hero and Chegg without the consent of the instructor.
- Knowingly assisting others in the dishonest use of course materials such as student papers, examinations and reports.
- Knowingly providing course materials such as papers, lab data, reports and/or electronic files to be used by another student as that student's own work.
- Plagiarizing, i.e., using language or ideas from materials without acknowledgement and/or copying work from other sources and submitting it as one's own.

- Examples of plagiarism include but are not limited to:
 - § Copying a phrase, a sentence, or a longer passage from a source (including an Internet source) and submitting it as one's own.
 - § Summarizing or paraphrasing someone else's ideas without acknowledging the source.
 - § Submitting group assignments individually as one's own independent work.
 - § Copying or taking pictures of course materials such as videos, exams, quizzes or assignments and posting the copied items and/or pictures on the Internet or sharing these copied items and/or pictures with other students who have not yet completed the assignments.
 - § Taking pictures or copying course materials that are considered confidential by the instructor such as exams or quizzes.

A student's completion of homework without overusing solution manuals has strong correlation with the student's performance on the exams. If a student's unproctored exam grade is significantly higher than their homework grade for a unit of study, they may be required to have a one-on-one Zoom or Blackboard Collaborate meeting with the instructor to explain this discrepancy. If the student cannot satisfactorily justify the improvement, disciplinary action will be taken in this event, which may include a 0 on that assignment, a letter grade deduction on their course grade, or a failing grade in the course. This meeting, if requested by the instructor, must happen within 3 days of receiving the exam grade.

Covid-19 Information and Exposure Reporting

Students should adhere to COD's Covid-19 safety protocols throughout the semester if visiting campus. All relevant policies regarding masking, vaccinations, reporting can be found on the COD website at

<https://www.cod.edu/coronavirus/index.aspx>

If you have been exposed to Covid-19 or have been diagnosed with Covid-19, please fill out the Student Self-Reporting form at

https://cm.maxient.com/reportingform.php?CollegeofDuPage&layout_id=9

Center for Access and Accommodations:

The College of DuPage is committed to the equitable access of educational opportunities for students with disabilities in accordance with The Americans with Disabilities Act, As Amended and Section 504 of the Rehabilitation Act of 1973. Any student who feels they may need an accommodation on the basis of an illness, injury, medical condition, or disability should contact the Center for Access and Accommodations to determine eligibility for accommodations and to obtain an official Letter of Accommodation. The Center for Access and Accommodations can be reached via email at

access@cod.edu. Students may also initiate a request for services by going to www.cod.edu/access and clicking on the green box labeled “complete form to request accommodations.” If you are already registered with the Center for Access and Accommodations, please email me your Letter of Accommodation as soon as possible. Please DO NOT send any private health documentation or doctor’s notes to the course instructor.

Withdrawal Policy:

The final day for a student to withdraw from any course will be equal to 75% of the time for the respective academic session (see the [Registration Calendar](#)) through myACCESS <https://myaccess.cod.edu> or in person at the Registration office, Student Services Center (SSC), Room 2221.

After the deadline, students will be required to appeal for late withdrawal and provide appropriate documentation to the Student Registration Services Office for all requests. Students who are granted approval to withdraw by petition will not be eligible for refunds of tuition or fees and will receive a 'W' grade on their transcript. Appeals must be submitted prior to the designated final exam period for 16-week classes and before the last class meeting for all other session classes