

# STAT 200 7971 Introduction to Statistics (2202) STAT-200

Spring 2020 Section 7971 3 Credits 03/16/2020 to 05/10/2020

## Faculty Contact

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## Course Description

An introduction to statistics. The objective is to assess the validity of statistical conclusions; organize, summarize, interpret, and present data using graphical and tabular representations; and apply principles of inferential statistics. Focus is on selecting and applying appropriate statistical tests and determining reasonable inferences and predictions from a set of data. Topics include methods of sampling; percentiles; concepts of probability; probability distributions; normal,  $t$ -, and chi-square distributions; confidence intervals; hypothesis testing of one and two means; proportions; binomial experiments; sample size calculations; correlation; regression; and analysis of variance (ANOVA). Students may receive credit for only one of the following courses: BEHS 202, BEHS 302, BMGT 230, ECON 321, GNST 201, MATH 111, MGMT 316, PSYC 200, SOCY 201, STAT 100, STAT 200, STAT 225, or STAT 230.

## Course Introduction

In this course, you will develop a basic understanding of descriptive and inferential statistics. STAT 200 provides the quantitative tools for decision-making and develops the ability to interpret statistical results in professional literature as well as the media.

This course is intended to accommodate every student who needs an introductory statistics course, regardless of the subject in which one plans to major.

Following is a general outline of specific topics you will encounter in this course:

- ◦ Introduction to Statistical Thinking, Types of Data, and Collection of Sample Data
- ◦ Methods of Summarizing and Graphing Data
- ◦ Measures of Center and Variation
- ◦ Probability, Basic Counting Methods, and Conditional Probability
- ◦ Discrete Random Variables, the Binomial Distribution
- ◦ The Normal Distribution
- ◦ Confidence Interval Estimation
- ◦ Hypothesis Testing, including  $z$ -,  $t$ -, and  $\chi^2$  Tests
- ◦ Correlation and Regression
- ◦ Goodness of Fit
- ◦ One-Way Analysis of Variance (ANOVA)

**Note:** This course is identified as a prerequisite for another course at UMGC. Successful completion of this course is required to advance to the next course in a sequence. A grade of Withdrawal (W), Failure for non-attendance (FN), Failure (F) or Incomplete (I) will not meet a prerequisite requirement. You may be barred from enrolling in or may be removed from courses for which you do not have the necessary prerequisites. Keep track of your progress in this course. If you are uncertain about your standing, consult with your instructor. You should also work with an academic advisor to be sure you are aware of your options and are meeting all necessary program requirements when planning your schedule.

## Course Outcomes

After completing this course, you should be able to:

- distinguish among sampling methods for the collection of data in order to assess the validity of statistical conclusions

- organize, summarize, interpret, and present data using graphical and tabular representations
- apply basic concepts of probability in order to assess the likelihood of an event
- select and apply the statistical test or tests that are most appropriate to analyze a data set
- determine reasonable inferences and predictions from a set of data to make appropriate decisions

## Course Materials

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[Click to access your course materials information \(http://webapps.umgc.edu/UgcmBook/BPage.cfm?C=STAT%20200&S=7971&Sem=2202\)](http://webapps.umgc.edu/UgcmBook/BPage.cfm?C=STAT%20200&S=7971&Sem=2202)

## \* Class Guidelines

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### Faculty Information

To locate information within your LEO classroom, log in and review your faculty member's information, which is found in the Start Here section of your classroom after clicking on the **Content** link.

### Preferred Contact Method

Don't use the send a message feature in LEO. It goes to spam too frequently. Use your own email service and send a message to [jphoward@faculty.umgc.edu](mailto:jphoward@faculty.umgc.edu). It will buzz my phone. I am unlikely to respond until the end of the day or even the next. But I will probably see it quickly.

### Contacting your Faculty Member

You can use the Pager feature within the classroom to send a message to your faculty member. Click the Classroom Walkthrough Videos link below, and then click **The Pager** link, to view a how-to video on how to use the Pager function within the classroom:

[Classroom Walkthrough Videos Link \(http://www.umgc.edu/students/leo/videos.cfm\)](http://www.umgc.edu/students/leo/videos.cfm)

Within the **Content** section of your classroom, view the **Start Here** section or **Additional Course Information** section within the **Syllabus** to learn more about contacting your faculty member.

### Preparation

To succeed in an 8-week mathematics course, it is important to complete all assignments on time. Print out a copy of the Course Schedule and keep it in a place where you can consult it daily. Late work will be accepted only in cases of documented emergency.

Turn in your material on time. The syllabus is clear that no material will be accepted late. If you have a thing happening, let me know ahead of time. I can plan; you can plan; we'll both be much happier.

### Classroom Management

Don't edit your posts in discussion sessions. After I see your post, it gets marked as read. If you go in and edit it, it doesn't show up as new again. So I never know you posted something new! And it won't get graded.

Log into our online classroom regularly to read news, participate in discussions, and post questions. After posting work in a discussion, check back into the discussion to read comments and make any necessary revisions.

Questions and thoughts of general interest to the class should be posted in the "Ask the Professor" or "Student Lounge" discussions. For questions pertaining to your own work in the course, please send an e-mail with our course name in the subject line.

If you need help or get lost, let me know. I have a lot of resources I can send you that will get you through this. But if you're lost, you gotta tell me where you last knew where you were. If you send me an email that just says "I am lost, help, I don't know what to do," I will have no idea where you are or how to find you. It's just like being lost in the real world. So when you do get lost, tell me exactly where you are or, if you can't, what's happening and how you got there. It will make it a lot easier on both of us.

## ✓ Grading Information

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**Meeting course deadlines is crucial for success in computer-mediated courses. You may read at your own pace, but online participation, homework problems, quizzes, and final exam must adhere to the timetable given in the Course Schedule. Otherwise the grade will be 0. The academic schedule in this Syllabus is referenced to Eastern Time Zone (local time at Adelphi, MD). No late online participation, assignments, or makeup for the quizzes and final exam will be accepted.**

You are expected to submit *your own work* for all assignments, quizzes and final exam. Submitted assignments, quizzes, and final exam that are highly similar in content and presentation will be considered suspect and will be questioned. No credit will be given for plagiarism. Please refer to UMGC Policy on Academic Dishonesty and Plagiarism ([Policy 150.25 - Academic Dishonesty and Plagiarism - UMGC](#)). Please visit UMGC's Virtual Academic Integrity Laboratory ([VAIL - Home - UMGC](#)) for further information.

### *Guideline for Receiving Tutoring Service*

We fully appreciate that many of our students may seek tutoring services to supplement our instructional program. However, it should be understood that tutors may not be used to complete any portion of assignments, projects, quizzes, exams and final exam on behalf of our students. Students are expected to submit their own work. Students who are suspected of submitting the work of their tutors will be reported to the Dean's Office for potential investigation in accordance to UMGC's academic policy on Academic Dishonesty and Plagiarism ([Policy 150.25 - Academic Dishonesty and Plagiarism - UMGC](#)).

If you are to receive tutoring services, please inform your tutor of this expectation and be sure to clarify your tutor's role and responsibility to your academic endeavors at UMGC.

You are encouraged to harness commonly available technologies (one of six cross-curricular initiatives: Competence in Information Technology) to perform your work. For example, you should be able to write out mathematical equations in MS WORD files using Microsoft Equation 3.0 (which comes with MS WORD) or equivalent or more advanced equation-writer such as [MathType](#). You should also be able to plot line graphs and related statistical diagrams using common graphic packages such as EXCEL, [MATLAB](#), or free web resources.

### Grading Criteria

The course grade will be determined as follows:

Component	Weighted Percentage
LEO Discussion Participation (8 weeks@2.5% each)	20%
Weekly Homework Problems (7 weeks@ 4% each)	28%
Three Written Assignments 1. Assignment #1 (4%) 2. Assignment #2 (4%) 3. Assignment #3 (4%)	12%
Midterm Exam	20%
Final Exam	20%
<b>TOTAL</b>	<b>100%</b>

### Grading Details

The work you are required to do in this course consists of:

- Weekly reading assignments
- Weekly LEO discussion participation
- Weekly homework problems
- Written assignments
- Midterm exam
- Final exam

These course components are described in more detail below.

#### *Weekly Reading Assignments*

Even though there is no numerical score associated with the weekly reading assignments, it should be understood that how well you do in the course depends heavily on how conscientious you are with the reading assignments. Each week there will be reading assigned from the eBook by Kathryn Kozak. You should also read the Modules (Course Resources) presented in the Course Content area of LEO. The details of which

chapter(s) assigned for which week can be found in the Course Schedule in this syllabus.

When doing the reading for this course you need to really *SLOW DOWN!*

Reading statistics is not like reading anything else! You need to look very carefully at the numbers and *formulae* and spend some time making sure you understand them and that they make sense. Reading statistics (or any mathematical text) can take three to four times longer, per page, than reading a non-mathematical text.

### ***Weekly Online LEO Discussion Participation***

Active engagement is an important ingredient in student success in online classes. In particular, online students learn best in small group settings based on findings from institutional research. The weekly online participation is, therefore, structured in a study group setting. You will be randomly rostered into a study group of five to six members at the beginning of the term.

Every week, students are given conceptual questions that may serve as study guides to the weekly materials to be covered. They will be posted in each week's conference area. They include various kinds of activities and questions about the material we are addressing.

You will be working with your study group members on the weekly discussion questions and activities for seven days of an academic week in your study group. You are encouraged to participate in each week's LEO academic conference by carrying out discussions on these questions and activities with your study group members. What I would like to see is that you communicate with each other and help each other out with this material. I am sure some of you feel very confident coming into a Statistics class while others are feeling great FUD (that stands for "fear, uncertainty and doubt"). Please help each other out with encouragement and substantive support, whenever possible. With your help, we can create a supportive environment that is conducive to learning from each other. A representative chosen by your study group will post a summary report in the main Discussion area under the appropriate discussion of the week.

Grading and points for online participation is not automatic. Students must fully complete the weekly discussion assignment, in order to earn full credit. In addition, the **first posting** must be completed **by the Thursday** of the assigned week. The idea is to give you additional opportunities to explore concepts as well as ways for me to give additional guidance on concepts that students appear to have difficulty understanding. I am looking for answers, comments, questions, explanations, and challenges to your classmates' ideas. You have to demonstrate good writing, critical thinking, objective discussion, and accurate interpretation of course material as well as some insight into the issues. The online participation constitutes 20% of the final course grade.

### ***Participation – World Wide Web Protocols***

By registering for a Web-based course, you have made a commitment to participate in your course conferences as well as other online activities.

To contact your instructor, use the conferencing software or email links provided, which allow you to communicate with the instructor and your classmates in a virtual classroom 24 hours a day, 7 days a week. Please plan to participate regularly. You will note in the grading policy that your online participation counts towards your final grade.

You are expected to adhere to the general rules of online etiquette.

### ***Weekly Homework Problems***

In the Homework area of each weekly module in the Table of Content, you are given a list of exercises each week from the textbook. You are assigned 70 problems throughout the semester, and the assignment for each week is worth 10 points. Seven weeks of these homework exercises constitute 28% of the final course grade.

Homework is a very important part of this course because the best way to learn statistics is to do statistics. You are encouraged to seek help from the instructor or fellow students when you need it. You are also expected to show your work and reasoning. Simply writing a final answer is not sufficient to show that you have completed the problem.

Solving a mathematical or scientific problem is an exercise in logical and critical thinking. The process in coming up with the correct solution is much more important than the correct answer itself. Therefore, it is important to show that you understand the problems by showing your work, including calculations and methodologies. You will not receive full credit if you cannot convince your instructor that you actually know how to solve the problems. You will get full credit only if you show your work and your answer is complete and correct. For problems with calculation involved, you have to show the formula used, intermediate calculation steps and final answer. For multiple choice or true-or-false questions, you will get no credit if you don't show your rationale in choosing a certain answer. Your work should be posted in your Assignments Folder for the week they are assigned. To keep up with the pace of this course, you should submit homework assignments to the Assignments Folder on or before the due date. There is a lock date in the Assignments Folder. The Assignments Folder will be locked after the due date.

Weekly homework assignment may be submitted in plain ASCII, TFE format, or even as attached file such as a Microsoft Word file and PDF. By the way, an attached file might be necessary if graphic files, figures, and/or diagrams are included.

### ***Written Assignments***

Over the course of the term, there will be three required written assignments, which will give students the opportunity to apply concepts from the course to the analysis of real world data. The three written assessments together constitute 12% of the final course grade. You are also expected to show your work and reasoning. Simply writing a final answer is not sufficient to show that you have completed the problem.

Please see the **Project Descriptions** section for more information.

### **Midterm Exam**

The midterm exam is an important milestone, as it provides valuable feedback for instructors and students. The midterm exam is open book and will be given as indicated in the schedule. You will be given one week to work on the midterm exam and the due date of the midterm can be found in the schedule. The midterm exam will be posted in the Activities area at the beginning of the designated academic week and is due at the end of that academic week.

***The midterm must be individually completed and represent your own personal work. Neither collaboration nor consultation with others is allowed.***

To keep up with the pace of this course, you should submit your midterm in the Assignments Folder on or before the due date as there is a lock date on the Assignment Folder. The midterm exam may be submitted in plain-text format, as attached files such as Microsoft Word documents, or as handwritten and scanned documents. Since the midterm is an assessment tool, there no revisions will be accepted. The midterm exam constitutes 20% of the final course grade.

You are also expected to show your work and reasoning. Simply writing a final answer is not sufficient to show that you have completed the problem.

Makeup midterm exams are not available except in cases of documented emergency.

### **Final Exam**

The final exam will become available at 00:01 a.m. ET on the Friday of Academic Week 8. It is an open book exam. The chapters to be covered on the Final Exam are those covered in the Course Schedule. The final exam will be posted under My Tools -> Quizzes at 00:01 a.m. ET on the Friday of Academic Week 8, and it is due at 11:59 p.m. ET on the last day of Academic Week 8 (Sunday). The final exam will be locked right after midnight on Sunday. You have a window of 72 hours to complete and submit the exam.

***The final exam must be individually completed and represent your own personal work. Neither collaboration nor consultation with others is allowed.***

The solutions for the final exam will not be posted.

The final exam will be given during the final exam week, and you are expected to take the exam as scheduled. In the event of illness or extraordinary circumstances, you must contact your faculty member and provide documentation to request an exception and approval to take a makeup exam. If the request is not approved, the exam grade will be recorded as a zero. The final exam constitutes 20% of the final course grade.

## **Important Grade Information**

### **Grade of W**

In accordance with UMGC [Policy 170.71 - Grade of Incomplete and Withdrawal - UMGC](#), students may withdraw and receive a grade of *W* by following the procedures detailed at [Withdrawals - UMGC](#). The grade of *W* appears on the permanent record unless the withdrawal is completed before a course begins. For purposes of academic retention, the grade of *W* is counted as attempted hours. It is not used in determining grade-point averages.

### **Grade of G**

In accordance with UMGC [Policy 170.71 - Grade of Incomplete and Withdrawal - UMGC](#), when an allegation of academic dishonesty and/or plagiarism is reported by the faculty under UMGC [Policy 150.25 - Academic Dishonesty and Plagiarism - UMGC](#), a grade of *G*, grade pending, is administratively entered and will remain on a student's record until the process of [Policy 150.25 - Academic Dishonesty and Plagiarism - UMGC](#) is completed and the final grade for the course is assigned.

### **Grade of FN**

In accordance with UMGC [Policy 205.06 - Calculation Of Grade-Point Average \(GPA\) for Inclusion on Transcripts and Transcript Requests - UMGC](#), a grade of *FN* will be given for a failure in the course because the student has ceased to attend and participate in the first 60% of the semester in course assignments and activities. It is assigned when the student ceases to attend class but has not officially withdrawn. The *FN* grade is treated as an *F* in calculating the grade-point average.

### **Grade of I**

In accordance with UMGC [Policy 170.71 - Grade of Incomplete and Withdrawal - UMGC](#), a grade of Incomplete (*I*) will be awarded only if you have completed at least 60% of the course material with a passing grade, can present a compelling reason for an extension, and have made the request for an incomplete prior to the end of the semester.

The grade of *I* (Incomplete) is an exceptional mark given only to students whose work in a course has been satisfactory but who for reasons beyond their control have been unable to complete all the requirements of a course. The following criteria must be met:

- You must have completed the major portion of the work in the course.
- The work you have already completed must be of satisfactory quality.
- You must have requested the grade of *I* before the end of the course.

The guidelines for awarding the grade of *I* are as follows:

- The student must ask the instructor for a grade of *I*. (Teachers cannot award a grade of *I* on their own initiative.)
- The instructor decides whether to grant the request.
- The instructor sets a date, no more than four (4) months after submitting the original grade, for completion of the remaining requirements of the course.
- The instructor and the student together agree on the remaining requirements of the course and the deadline for submitting the work.
- The instructor and the student should fill out an Incomplete Contract: [Incomplete Agreement Form- Faculty - UMGC](#), a copy of which should be sent to the Math/Stat Department for record.
- The student is responsible for completing the work.
- After the work is completed, the instructor submits a grade change form to replace the grade of *I* on the student's record with a letter grade.
- The grade of *I* cannot be removed by means of credit by examination.
- The grade of *I* cannot be replaced by a grade of *W* (defined above).
- If the student does not meet the deadline, the grade of *I* will be converted automatically to a final grade of *F*.

Students who elect to repeat an incomplete course must register again for the course, pay all applicable fees, and retake the course. For purposes of academic retention, your grade is counted as an *F*. The grade of *I* is not used in determining grade-point averages.

### Changes in Grade

In accordance with UMGC policy on [Procedure for Late Grade Changes - Exams & Testing - Faculty - UMGC](#), teachers may change a grade previously assigned only by submitting a Grade Adjustment Report, along with a letter giving the reasons for the change. Any change must be made no later than four (4) months after the original grade was awarded.

## Project Descriptions

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### Written Assignments

Over the course of the term, there will be three required assignments, which will give students the opportunity to apply concepts from the course to the analysis of real world data.

**Written Assignment #1: Descriptive Statistics Data Analysis Plan.** For this assignment, students will develop a plan to calculate descriptive statistics and generate graphs and tables from a set of real world data.

**Written Assignment #2: Descriptive Statistics Data Analysis and Writeup.** For this assignment, students will:

- Use the plan developed for Written Assignment #1 to complete a descriptive statistics analysis on a set of real world data
- Write up the results from the descriptive statistics analysis.

**Written Assignment #3: Inferential Statistics Data Analysis and Writeup.** For this assignment, students will:

- Develop a plan to calculate inferential statistics on a set of real world data
- Conduct the analysis
- Write up results.

## Academic Policies

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### ACADEMIC INTEGRITY

University of Maryland Global Campus (UMGC) has adopted a [Philosophy of Academic Integrity \(https://www.umgc.edu/current-students/learning-resources/academic-integrity/philosophy.cfm\)](https://www.umgc.edu/current-students/learning-resources/academic-integrity/philosophy.cfm) to guide the university's commitment to a culture of academic integrity and authentic education encompassing a set of dispositions and behaviors that are socially beneficial, educationally critical, and professionally necessary.

All members of the University community must maintain the highest level of integrity across the academic experience. For students, intellectually honest academic work represents independent analysis, acknowledges all sources of information that contribute to the ideas being explored, and ensures the ability to engage in life and work authentically. Your instructor is your primary resource for how to uphold the highest ethical standards in the context of this course's specific requirements.

Your instructor and other UMGC staff may use Turnitin or other technology resources to support the development and assessment of authentic student writing. To learn more about Turnitin, the feedback it provides, and your options regarding the inclusion of your work in the Turnitin database, visit University guides for Turnitin at [sites.umgc.edu/library/libresources/turnitin.cfm](https://sites.umgc.edu/library/libresources/turnitin.cfm) (<https://sites.umgc.edu/library/libresources/turnitin.cfm>) and <https://sites.umgc.edu/library/libresources/turnitin.cfm#studentcopyright> (<https://sites.umgc.edu/library/libresources/turnitin.cfm#studentcopyright>).

Additional resources to support you in authentic learning are available at [umgc.edu/academicintegrity](https://www.umgc.edu/current-students/learning-resources/academic-integrity/index.cfm) (<https://www.umgc.edu/current-students/learning-resources/academic-integrity/index.cfm>).

## CLASSROOM CIVILITY

Students are expected to work together cooperatively, and treat fellow students and faculty with respect, showing professionalism and courtesy in all interactions. Please review the Code of Civility for more guidance on interacting in UMGC classrooms:

<https://www.umgc.edu/students/support/studentlife/conduct/code.cfm> (<https://www.umgc.edu/students/support/studentlife/conduct/code.cfm>).

## POLICIES AND GUIDELINES

UMGC is committed to ensuring that all individuals are treated equally according to Policy 040.30 [Affirmative Action, Equal Opportunity, and Sexual Harassment](https://www.umgc.edu/administration/policies-and-reporting/policies/administration-policies/affirmative-action-and-equal-opportunity.cfm) (<https://www.umgc.edu/administration/policies-and-reporting/policies/administration-policies/affirmative-action-and-equal-opportunity.cfm>).

Students with disabilities who need accommodations in a course are encouraged to contact the Office of Accessibility Services (OAS) at [accessibilityservices@umuc.edu](mailto:accessibilityservices@umuc.edu), or call 800-888-8682 or 240-684-2287.

The following academic policies and procedures apply to this course and your studies at UMGC.

150.25	<p><a href="https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/dishonesty-plagiarism.cfm">Academic Dishonesty and Plagiarism</a> (<a href="https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/dishonesty-plagiarism.cfm">https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/dishonesty-plagiarism.cfm</a>) - The University expects all members of the university community—students, faculty, and staff—to share the responsibility and authority to report known acts of academic misconduct. Report suspected academic misconduct to your instructor. All cases of academic misconduct will be addressed in accordance with Policy 150.25.</p> <p>This policy also states that faculty may determine if the resubmission of coursework from previous classes (whether or not taken at UMGC), partially or in its entirety, is acceptable or unacceptable. Faculty communicate these expectations to students in writing. If you are unclear about the reuse of your prior work, consult with your instructor.</p>
151.00	<p><a href="https://www.umgc.edu/administration/policies-and-reporting/policies/student-affairs/code-of-student-conduct.cfm">Code of Student Conduct</a> (<a href="https://www.umgc.edu/administration/policies-and-reporting/policies/student-affairs/code-of-student-conduct.cfm">https://www.umgc.edu/administration/policies-and-reporting/policies/student-affairs/code-of-student-conduct.cfm</a>).</p>
170.40 170.41 170.42	<p>The following policies describe the requirements for the award of each degree:</p> <p><a href="https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/graduate-school-degree-completion-requirements.cfm">Degree Completion Requirements for the Graduate School</a> (<a href="https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/graduate-school-degree-completion-requirements.cfm">https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/graduate-school-degree-completion-requirements.cfm</a>).</p> <p><a href="https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/bachelors-degree-completion-requirements.cfm">Degree Completion Requirements for a Bachelor's Degree</a> (<a href="https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/bachelors-degree-completion-requirements.cfm">https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/bachelors-degree-completion-requirements.cfm</a>).</p> <p><a href="https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/associates-degree-completion-requirements.cfm">Degree Completion Requirements for an Associate's Degree</a> (<a href="https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/associates-degree-completion-requirements.cfm">https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/associates-degree-completion-requirements.cfm</a>).</p>
170.71	<p><a href="https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/grade-of-incomplete-policy.cfm">Policy on Grade of Incomplete</a> (<a href="https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/grade-of-incomplete-policy.cfm">https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/grade-of-incomplete-policy.cfm</a>) - The mark of I is exceptional and considered only for certain courses. Students who have completed 60% of their coursework with a grade of B or better for graduate courses or C or better for undergraduate courses and request an I before the end of the term. The mark of I is not available for noncredit courses.</p>
170.72	<p><a href="https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/course-withdrawal.cfm">Course Withdrawal Policy</a> (<a href="https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/course-withdrawal.cfm">https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/course-withdrawal.cfm</a>) - Students must follow drop and withdrawal procedures and deadlines available at <a href="https://www.umgc.edu/">https://www.umgc.edu/</a> (<a href="https://www.umgc.edu/">https://www.umgc.edu/</a>) under Academic Calendar.</p>
130.80	<p><a href="https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/capricious-grading-review.cfm">Procedures for Review of Alleged Arbitrary and Capricious Grading</a> (<a href="https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/capricious-grading-review.cfm">https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/capricious-grading-review.cfm</a>) – appeals may be made on final course grades as described herein.</p>

190.00	<a href="https://www.umgc.edu/administration/policies-and-reporting/policies/research/intellectual-property.cfm">Intellectual Property (https://www.umgc.edu/administration/policies-and-reporting/policies/research/intellectual-property.cfm)</a> . - All university faculty, staff, and students must comply with University guidelines on the use of copyrighted material. Uploading UMGC or faculty copyrighted material without authorization degrades and corrupts the integrity of the teaching and learning experience and is a potential violation of UMGC policy and copyright law. You must obtain permission to post UMGC or other's copyrighted material to third-party websites, including social learning network sites. UMGC reserves the right to take appropriate action to remove copyrighted material uploaded without authorization.
205.06	<a href="https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/grade-point-average-calculation-for-inclusion-on-transcripts-and-transcript-requests.cfm">Calculation Of Grade-Point Average (GPA) for Inclusion on Transcripts and Transcript Requests (https://www.umgc.edu/administration/policies-and-reporting/policies/academic-affairs/grade-point-average-calculation-for-inclusion-on-transcripts-and-transcript-requests.cfm)</a> . - Note: Undergraduate and graduate courses have different Grading Policies. See Course Syllabus for Grading Policies.
270.00	<a href="https://www.umgc.edu/administration/policies-and-reporting/policies/fiscal-and-business-affairs/acceptable-use.cfm">Acceptable Use (https://www.umgc.edu/administration/policies-and-reporting/policies/fiscal-and-business-affairs/acceptable-use.cfm)</a> . - The security of the online classroom is critical to ensuring a strong culture of academic integrity and authentic education at the University. It is a violation of the University's policies for anyone to share logon, password, and any other secure information about a UMGC online account, including credentials required to access the online learning environment.

## GRADING

According to UMGC's grading policy, the following marks are used:

	Undergraduate	Graduate
A	90-100	90-100
B	80-89	80-89
C	70-79	70-79*
D	60-69	N/A**
F	59 or below	69 or below
FN	Failure-Non attendance	Failure-Non attendance
G	Grade Pending	Grade Pending
P	Passing	Passing
S	Satisfactory	Satisfactory
U	Unsatisfactory	Unsatisfactory
I	Incomplete	Incomplete
AU	Audit	Audit
W	Withdrew	Withdrew

\* The grade of "B" represents the benchmark for graduate courses. Students must maintain a Grade Point Average (GPA) of 3.0 or higher. Classes where final grade of C or F places a student on Academic Probation must be repeated.

\*\* UMGC does not award the grade of D in graduate courses.

## COURSE EVALUATION SURVEY

UMGC values its students' feedback. You will be asked to complete an online evaluation toward the end of the term. The primary purpose of this evaluation process is to assess the effectiveness of classroom instruction in order to provide the best learning experience possible and make continuous improvements to every class. Responses are kept confidential. Please take full advantage of this opportunity to provide your feedback.

## LIBRARY SUPPORT

Extensive library resources and services are available online, 24 hours a day, seven days a week at <https://sites.umgc.edu/library/index.cfm> (<https://sites.umgc.edu/library/index.cfm>) to support you in your studies. The UMGC Library provides research assistance in creating search strategies, selecting relevant databases, and evaluating and citing resources in a variety of formats via its Ask a Librarian service at <https://www.umgc.edu/library/libask/index.cfm> (<https://www.umgc.edu/library/libask/index.cfm>).

## EXTERNAL LINK DISCLAIMER



This course may contain links to external sites neither owned nor maintained by UMGC. UMGC bears no responsibility for the accuracy, legality, or content of external sites or for that of subsequent links. In addition, the terms of use, security policies, and privacy policies may differ from those of UMGC. Contact the external site for answers to questions regarding its content, terms of use, and policies.

#### LEARNING MANAGEMENT SYSTEM SUPPORT

Those requiring technical assistance can access Help@UMGC Support directly in LEO under the Help menu. Additional technical support is available 24 hours a day, seven days a week via self-help and live chat at <https://www.umgc.edu/help/> (<https://www.umgc.edu/help/>) or by phone toll-free at 888-360-UMUC (8682).

#### SYLLABUS CHANGES

All items on this syllabus are subject to change at the discretion of the Instructor and the Office of Academic Affairs.

## Class & Assignment Schedule

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Week	Activities
1	<p><b>Week 1: Orientation to Statistics, Data and Sampling Methods</b></p> <p>(March 16 - March 22)</p> <p><b>Read:</b></p> <ul style="list-style-type: none"><li>• Announcement</li><li>• Syllabus</li><li>• Chapter 1: Statistical Basics</li><li>• Chapter 2: Graphical Descriptions of Data (pp. 25-35)</li><li>• Additional Learning Resources contained in Week 1: Module</li></ul> <p><b>Do:</b></p> <ul style="list-style-type: none"><li>• Familiarize yourself with the Course Resources in LEO</li><li>• Week 1 Participation<ul style="list-style-type: none"><li>◦ Introductions</li><li>◦ Week 1 Study Group Discussion</li></ul></li><li>• Week 1: Homework Problems</li></ul>
2	<p><b>Week 2: Descriptive Statistics: Graphs/Tables and Numerical Measures with Quantitative Data</b></p> <p>(March 23 - March 29)</p> <p><b>Read:</b></p> <ul style="list-style-type: none"><li>• Chapter 2: Graphical Descriptions of Data (pp. 36-70)</li><li>• Chapter 3: Numerical Descriptions of Data</li><li>• Additional Learning Resources contained in Week 2: Module</li></ul> <p><b>Do:</b></p> <ul style="list-style-type: none"><li>• Week 2 Study Group Discussion Participation</li><li>• Week 2 Homework Problems</li><li>• <b>Written Assignment #1: Descriptive Statistics Data Analysis Plan</b></li></ul>

3	<p><b>Week 3: Basic Probability</b></p> <p>(March 30 - April 5)</p> <p><b>Read:</b></p> <ul style="list-style-type: none"> <li>• Chapter 4: Empirical Probability (pp. 121-139 - Sections 4.1 and 4.2 and 142-145)</li> <li>• Chapter 5: Discrete Probability Distributions</li> <li>• Additional Learning Resources in Week 3: Module</li> </ul> <p><b>Do:</b></p> <ul style="list-style-type: none"> <li>• Week 3 Study Group Discussion Participation</li> <li>• Week 3 Homework Problems</li> </ul>
4	<p><b>Week 4: Normal Distribution</b></p> <p>(April 6 - April 12)</p> <p><b>Read:</b></p> <ul style="list-style-type: none"> <li>• Chapter 6: Continuous Probability Distributions</li> <li>• Additional Learning Resources in Week 4: Module</li> </ul> <p><b>Do:</b></p> <ul style="list-style-type: none"> <li>• Week 4 Study Group Discussion Participation</li> <li>• Week 4 Homework Problems</li> <li>• <b>Written Assignment #2: Descriptive Statistics Data Analysis and Writeup</b></li> </ul>
5	<p><b>Week 5: Single Sample Hypothesis Tests and Estimation</b></p> <p>(April 13 - April 19)</p> <p><b>Read:</b></p> <ul style="list-style-type: none"> <li>• Chapter 7: One-Sample Inference</li> <li>• Chapter 8: Estimation</li> <li>• Additional Learning Resources in Week 5: Module</li> </ul> <p><b>Do:</b></p> <ul style="list-style-type: none"> <li>• Week 5 Study Group Discussion Participation</li> <li>• Week 5 Homework Problems</li> <li>• <b>Midterm Exam</b></li> </ul>
6	<p><b>Week 6: Two Sample Hypothesis Tests and ANOVA</b></p> <p>(April 20 - April 26)</p> <p><b>Read:</b></p> <ul style="list-style-type: none"> <li>• Chapter 9: Two Sample Inference</li> <li>• Chapter 11: Section 11.3 Analysis of Variance (pp. 382-387)</li> <li>• Additional Learning Resources in Week 6: Module</li> </ul> <p><b>Do:</b></p> <ul style="list-style-type: none"> <li>• Week 6 Study Group Discussion Participation</li> <li>• Week 6 Homework Problems</li> </ul>

7	<p><b>Week 7: Correlation, Linear Regression, and Chi Square</b></p> <p>(April 27 - May 3)</p> <p><b>Read:</b></p> <ul style="list-style-type: none"><li>• Chapter 10: Regression and Correlation</li><li>• Chapter 11: Chi-Square (pp. 359-381)</li><li>• Additional Learning Resources in Week 7: Module</li></ul> <p><b>Do:</b></p> <ul style="list-style-type: none"><li>• Week 7 Study Group Discussion Participation</li><li>• Week 7 Homework Problems</li><li>• <b>Written Assignment #3: Inferential Statistics Analysis and Writeup</b></li></ul>
8	<p><b>Week 8: Review and Wrap-up</b></p> <p>(May 4 - May 10)</p> <p><b>Do:</b></p> <ul style="list-style-type: none"><li>• Week 8 Discussion Participation</li><li>• <b>Final Exam (comprehensive).</b> The final exam is available at 00:01 a.m. ET on Friday, March 8, and due at 11:59 p.m. ET on Sunday, March 10</li></ul>