

University of Florida
College of Public Health and Health Professions Syllabus
PHC 6052: Introduction to Biostatistical Methods (3 Credits, Fall 2020)
Morning sections – Monday 4th Period (10:40-11:30), Thursday 3rd & 4th Period (9:35-11:30)
Afternoon sections – Monday 9th Period (4:05-4:55), Thursday 7th & 8th Period (1:55-3:50)
Delivery Format: Online with additional virtual live sessions
Open Access Course Materials: <http://bolt.mph.ufl.edu/>
Course Specific Content and Assessments in E-Learning: <http://elearning.ufl.edu/>

Note: It is important to review the weekly page in CANVAS each week and read all announcements carefully.

STARTING THIS COURSE: Read this syllabus. Review the E-Learning homepage and weekly schedule. You must take the “Syllabus Quiz” (Quiz 0) in CANVAS and earn a 100% in order to start the course. This quiz is located under Assignments. The quiz is based on the information contained in this syllabus and may be taken as many times as needed to earn a 100%. This quiz is required and will count toward your final grade.

INSTRUCTOR: Jonathan Fischer
Office: CTRB 5223
Phone Number: 352-294-5459
Email: jfischer1@ufl.edu
Office Hours: Wednesdays 1pm-3pm (tentative; subject to change)

TEACHING ASSISTANTS: Lingsong Meng, Xiaoru Dong
Emails: lingsongmeng@ufl.edu, xdong1@ufl.edu
Office Hours: Tuesday (9:30-10:30am, Lingsong)
Wednesday (9:30-10:30am, Xiaoru)

PREFERRED COURSE COMMUNICATIONS:

- Ask questions during class pertaining to assignments, worksheets, and lecture notes.
- Ask about specific questions or issues of a personal nature by email through CANVAS inbox in E-learning.
- Ask more general questions (NOT personal or specific quiz questions) on the corresponding discussion board in E-learning.

COURSE MATERIALS: All course materials are available online either through CANVAS or in the online open access textbook and course materials. You will also need access to the statistical software package, SAS. There is no required textbook to purchase for this course. However, the following textbooks have additional examples/exercises for those who are interested:

- Daniel, W.D. (2013): *Biostatistics: A Foundation for Analysis in the Health Sciences*. 10th Edition, Wiley.
- Agresti, A. (2013): *The Art and Science of Learning from Data*. 4th Edition, Pearson.

Open Access Course Materials: <http://bolt.mph.ufl.edu>

CANVAS: <http://elearning.ufl.edu>

IMPORTANT: The course materials discuss a few software packages. **In PHC 6052 you are only responsible for SAS.**

Statistical Software Package: We are using SAS Version 9.3 (or higher) in this course. The current version available is SAS 9.4. See the **SAS information sheet** for specific instructions. **SAS is only available for Windows as a direct installation.**

SAS can be purchased **ON CAMPUS** at the UF computing help desk located at the 132 HUB Stadium Road which should be the one mentioned here: <https://software.ufl.edu/software-listings/sas.html>. Click on **SAS Student page** for SAS program purchase information and online documents.

SAS is also available, along with other applications such as Microsoft Office, on the free **UFApps** server, <https://info.apps.ufl.edu>. This may be the best option for MAC users. Many students have been successful at using this system for their assignments in this course. To use SAS on UFApps, you will need to learn additional skills regarding how the apps server works with files and how to get information back and forth between your computer and the UFApps server. See the **Using SAS on UFApps** for specific instructions. Note there is limited number of simultaneous users, please start the software assignment as early as possible to avoid any delay because you are not able to use the software.

SAS also has a virtual app called **SAS University Edition**. For more information and to download the needed software, see https://www.sas.com/en_us/software/university-edition.html. It can be used with Windows, OS X, and LINUX system.

For some departments, SAS may also be available through their unit IT group or remote desktop. Check with your own department for SAS access.

ABOUT THE COURSE

PREREQUISITES AND CO-REQUISITES: There are no specific prerequisite courses, but students should be comfortable working with equations and performing basic mathematical calculations including order of operations, fractions, and square roots.

COURSE OVERVIEW: This 3-credit course is a sophisticated introduction to the concepts and methods of biostatistical data analysis. The topics include descriptive statistics, probability, standard probability distributions, sampling distributions, point and confidence interval estimation, hypothesis testing, power and sample size estimation, one and two-sample parametric and non-parametric methods for analyzing continuous or discrete data, and simple linear regression. The SAS statistical software package will be taught in this class for data management and statistical analyses.

COURSE OBJECTIVE AND/OR GOALS: Upon completion of this course, students will be able to

- CO-1: Describe the role biostatistics serves in the discipline of public health.
- CO-2: Differentiate among different sampling methods and discuss their strengths and limitations.
- CO-3: Describe the strengths and limitations of designed experiments and observational studies.
- CO-4: Distinguish among different measurement scales, choose the appropriate descriptive and inferential statistical methods based on these distinctions, and interpret the results.
- CO-5: Determine preferred methodological alternatives to commonly used statistical methods when assumptions are not met.
- CO-6: Apply basic concepts of probability, random variation, and commonly used statistical probability distributions.
- CO-7: Use statistical software to analyze public health data.
- CO-8: Develop presentations based on statistical analyses for both public health professionals and educated lay audiences.

RELATION TO PROGRAM OUTCOMES: This three credit course is a required core public health course for certain MPH concentrations and covers the following MPH competencies.

- Analyze quantitative and qualitative data using biostatistics, informatics computer-based programming and software, as appropriate.
- Communicate audience-appropriate public health content, both in writing and through oral presentation.

What is blended learning and why is it important? A blended learning class uses a mixture of technology and face-to-face instruction to help you maximize your learning. Knowledge content that I would have traditionally

presented during a live class lecture is instead provided online before the live class takes place. This lets us spend our face-to-face time on course activities designed to help you more directly. Although this semester is unique due to COVID-19, I hope to replicate as much of the in-person experience as possible in our live virtual sessions.

What is expected from me? You are expected to actively engage in the course throughout the semester. Please come to class prepared by completing all out-of-class assignments. This preparation gives you the knowledge or practice needed to engage in higher levels of learning during the live class sessions. If you are not prepared for the face-to-face sessions, you will struggle to keep pace with the activities, and it is unlikely that you will reach your full potential in the course. Similarly, you are expected to actively participate in the live class. Your participation fosters a rich course experience for you and your peers which facilitates overall mastery of the course objectives.

Because I post materials online, you can go back and review them as many times as needed to feel comfortable with the material prior to live class. Please keep in mind that you have to allocate your time wisely to take full advantage of the blended learning approach.

DESCRIPTION OF COURSE CONTENT, COURSE MATERIALS, AND TECHNOLOGY

LIVE SESSIONS: Live course sessions will be held on Mondays and some Thursdays. I'm planning to offer these in both the mornings and afternoons at the times indicated at the top of this syllabus. Sessions held on the same day are the same; the two time options are intended to give you flexibility and to keep too many people from attending one session. Monday class sessions will consist of a brief lecture and discussion of the current content followed and, when possible, time to ask questions of the course staff. Thursday sessions will vary depending on the week. Possibilities include lectures, group learning assignments, and supplementary office hours. You can see the full course schedule on pages 9-11. Lectures will be recorded and made available along with any slides used. Attendance is optional, though recommended.

Our class sessions may be audio/visually recorded for students in the class to refer back to and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who unmute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the chat feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

ZOOM: As the live sessions will be conducted over Zoom, please ensure you are able to use this software on your computer. Zoom can be run from your browser or a downloaded app. When prompted for your log in information, you should choose the SSO option, type "ufl" as the company domain, and then use your GatorLink credentials. I will provide the room and password information for our sessions via CANVAS.

COMPUTING: Please review the Student Computing requirements appropriate for you found at <http://mph.ufl.edu/current-students/student-essentials/technology-requirements/>.

COURSE MATERIALS: There is no textbook to purchase for this course. Course materials will be provided in the form of an "online" textbook at <http://bolt.mph.ufl.edu>. The materials for each week will be clearly identified in the E-Learning site for the course. Students are expected to work through the material as scheduled. This page can be used to test your system: <http://bolt.mph.ufl.edu/2012/11/07/test-your-system/>.

It is very important that you work through all content contained on this site as directed and ask questions about the material you do not understand. **Working through the content from start to finish is the best approach to achieve a high level of understanding and success in this course.**

WORKSHEETS: Some sessions will involve group activities based upon worksheets (these are always available from links in the weekly schedule). The solutions will be automatically released on Thursday evening prior to the related Quiz deadline.

VIDEOS: Most videos presented in the course material are stored in YouTube. If the text in the video is too blurry, try increasing the quality of the YouTube video using the small gear icon which appears at the bottom of the video when it is playing. If you want to view the video faster or slower, you can adjust the speed using the gear icon. Many videos have closed captions and/or transcripts available.

FLASH: Embedded self-assessment quizzes and other components of the course materials require Flash. Be sure to enable Flash in your browser and update if needed (<http://www.adobe.com/software/flash/about/>.)

RECOMMENDED SAS BOOKS (optional – extra resources): The Little SAS Book: A Primer 5th ed., by Lora Delwiche and Susan Slaughter is available online via UF, or Applied Statistics and the SAS Programming Language (2005), by Ron P. Cody and Jeffrey K. Smith. The best for you may depend on what you might be doing with SAS after our course. Many resources are available both in print and online via the UF library. Your recommendations for others are also appreciated.

SAS INFORMATION: If you have questions about SAS, ask in the “SAS Questions” discussion board. **Do not allow yourself to waste time working in the software. If you are having issues, let us know immediately, and we will help as soon as possible. Try to make sure as much of your time as possible in the software is productive.** We offer some advice below and are happy to help you determine the best approach for you.

There are tutorials provided for all skills needed for assignments in this course (<https://bolt.mph.ufl.edu/software/sas/phc-6052-sas-tutorials/>). We have tried to make it as easy as possible to follow along with the tutorials. Watching the videos at a slower speed can help. Viewing the transcripts while you watch or work in SAS may also help. Whenever possible, many students find it helpful to have the videos playing in one window, monitor, or other device while working in the software in another, pausing as needed to work through the process with your own data.

There is also a document on the main SAS Resource page called SAS Skills Document for Material Covered in PHC 6052 (http://media.news.health.ufl.edu/misc/bolt/Intro/SAS/PHC6052_SAS_Skills.pdf). This can be very useful but does contain more and possibly different code than we cover in our newer video tutorials. You can also look at the SAS code posted on the actual tutorial pages. As you become more proficient in SAS, it may be that looking at the code will be all that is necessary for you to learn new SAS skills.

E-LEARNING: An E-Learning site will be available for the course. **The weekly schedule and all course materials are available online through this site including grades, assignments, discussions boards, and other course information. It is very important to check the weekly page and review all announcements carefully.** E-Learning is accessible at <http://elearning.ufl.edu/> or through my.ufl.edu. You must have a valid Gatorlink ID and password. For assistance, call the UF Help Desk at 352-392-HELP.

NON-SAS TECHNICAL HELP: Information on many common issues can be found in the E-Learning support pages at <http://studentlife.online.mph.ufl.edu/e-learning/>.

For technical difficulties with E-Learning in general please contact the UF Help Desk at: Learning-support@ufl.edu or (352) 392-HELP – select option 2.

For technical support for our E-Learning CANVAS site, activities and assessments, please contact Dr. Fischer.

UF BROWSER RECOMMENDATIONS:

<https://kb.helpdesk.ufl.edu/FAQs/SupportedBrowsersForUFWebsites>

RESPONSE TIMES: During the week, I will respond to questions within 24 hours (and typically sooner). For questions posted over the weekend, I will respond Monday or as soon as possible thereafter. When asking about assignments, please don't wait until the last minute as there is no guarantee that the course staff will be able to respond on such short notice.

ANNOUNCEMENTS: Class announcements will be sent via the Announcements tool in E-Learning. You should have your CANVAS notification settings to send alerts to your UF email for announcements through CANVAS. You are

responsible for all information in these announcements. It is very important to check your UFL email address and course sites regularly. An easy way to access your UF email account is at <http://webmail.ufl.edu>.

DISCUSSION BOARDS: Reviewing the discussion posts of other students and posting your own can be very helpful.

ACADEMIC REQUIREMENTS AND GRADING

Note: Although you can never be awarded negative points for an assignment, if you do not follow the directions given in this syllabus and in the actual assignment, additional points can be deducted even if the assignment is otherwise correct.

QUIZZES: There will be untimed quizzes in CANVAS due each **Wednesday by 10pm** covering the material assigned for review from the previous week. You have the opportunity to take each quiz **up to three times** before the due date. Your highest of these scores will be recorded.

When you submit a quiz attempt, you will see your grade and will be able to review your quiz attempt. For each question, you will see whether you answered correctly or incorrectly, but you will not see the correct answers for questions you may have missed. There will also be feedback for each question which will direct you to the most important content to review.

Quizzes test basic definitions and skills and may sometimes be cumulative in that they will go back and ask earlier questions. We highly recommend that you start your first attempt early and take your three attempts on different days with time for reviewing the course material in between. There is feedback available in the quiz review which can help direct you to the content to review.

ASSIGNMENTS: Most assignments will involve data analysis using SAS as well as questions which cannot be easily presented in the quizzes. Assignments will be due on **Monday at 10pm**, but all assignments except the first and last will require extended work and should be started as early as possible, no later than the week prior to the due date, in order to have time to address any questions or issues. For all **software assignments** in this course, if you do not receive full credit for the software part (Part A), please check the comments and correct the corresponding mistakes. You still have the chance to resubmit the software part (Part A) before the deadline of the written part (Part B). If your first submission of the software part is after the deadline of Part A but before the deadline of Part B, the software part will still be viewed but will receive a grade of zero.

COURSE PROJECT: Each student will individually prepare a course project consisting of a guided data analysis based upon two (hopefully linearly related) quantitative variables. These variables will then be categorized in two ways (2 levels, 3+ levels). The relationship between the two variables will be investigated using different combinations of variable types. This course project will be completed in 4 steps during the semester.

GROUP ASSIGNMENTS: During selected class sessions, there will be group activities. These won't be graded, but are useful learning exercises.

Note: All assignments (except for group assignments, which will be collected in class) must be submitted via E-Learning by the exact due date and time.

GRADING:

| Requirement | % of final grade |
|--|------------------|
| Quizzes (15) | 25% |
| Assignments (7) | 45% |
| Software for Assignments | 5% |
| Software for Course Project (Step 1,2,3) | 10% |
| Course Project Step 4 | 15% |

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|----------------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| Final Average | 94-100 | 90-93 | 85-89 | 80-84 | 77-79 | 74-76 | 70-73 | 67-69 | 64-66 | 60-63 | 57-59 | <57 |
|----------------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|

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|---------------------|-----|------|------|-----|------|------|-----|------|------|-----|------|---|
| Letter Grade | A | A- | B+ | B | B- | C+ | C | C- | D+ | D | D- | E |
| GPA | 4.0 | 3.67 | 3.33 | 3.0 | 2.67 | 2.33 | 2.0 | 1.67 | 1.33 | 1.0 | 0.67 | 0 |

Please be aware that a C- is not an acceptable grade for graduate students. A grade of C counts toward a graduate degree only if an equal number of credits in courses numbered 5000 or higher have been earned with an A.

GRADE RESPONSE TIMES: The time to receive your grade on assignments will vary depending on the type and length of the assignment. The instructor and TAs will always strive to return your graded work as soon as possible.

MAKE-UP POLICY: Students are allowed to make up work ONLY as a result of illness or other unanticipated circumstances warranting a medical excuse and resulting in the student missing an assignment deadline, consistent with College policy. Documentation from a health care provider is required. Work missed for any other reason will receive a grade of zero. Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from e-learning support when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

ATTENDANCE: Attendance for live sessions is optional, though recommended. Regardless of attendance, students are responsible for all material presented in class and meeting the scheduled dates for class assignments. Students should review the currently assigned materials prior to the class meetings and be prepared to discuss the material.

STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT

COMMUNICATION GUIDELINES: Questions about course material should be asked in class or posted on the course discussion boards in E-Learning. Questions about specific quiz questions or issues of a personal nature should be sent by email through E-Learning.

ONLINE FACULTY COURSE EVALUATIONS: Students are expected to provide feedback on the quality of instruction in this course by completing online evaluation at <http://evaluations.ufl.edu>. I value your feedback on the course and consistently work to improve the course based on your comments in the evaluations. Course evaluations are also an integral part of the faculty promotion process. Evaluations are typically open the last two weeks of the semester.

ACADEMIC INTEGRITY: Students are expected to act in accordance with the UF policy on academic integrity. As a student at UF, you have committed yourself to uphold the Honor Code, which includes the following pledge:

“We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.”

You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at UF. The following pledge is either required or implied on all work:

“On my honor, I have neither given nor received unauthorized aid in doing this assignment.”

It is your individual responsibility to know and comply with all UF policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at UF will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For additional information on the student honor code see: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>.

Please remember cheating, lying, misinterpretations, or plagiarism in any form is unacceptable and inexcusable behavior.

ADVICE

All that I can ask is that you do the best you can with the materials that are made available to you and to ask when you need more direction or explanation.

It is expected that you will spend approximately 10-12 hours per week on this course. This is roughly equivalent to 3 hours in class combined with 6-9 hours outside of class. Scheduling your time wisely and working efficiently will minimize the need for extra work in this course.

Generally, I advise students to break this time up into blocks of 1-3 hours split over as many days of the week as possible given your schedule. Working on too much material in one sitting is more likely to cause frustration and does not allow for time for understanding to develop or for questions to be answered.

Learn to use the materials to your greatest advantage. There is a lot of content, but if you understand the examples we present or if you have experience with certain topics, it may not be necessary to review all of the content we provide.

The questions presented in the “Learn by Doing” and “Did I Get This” activities as well as the course worksheets are indicative of important questions and concepts that you will need to understand and are designed to teach as well as test your understanding. We highly encourage you to go through these as they are presented in the online textbook (for the “Learn by Doing” and “Did I Get This” activities) and on the weekly page in E-Learning (for the worksheets).

If you go through the content as directed, you will learn the skills you need to succeed in the course as well as build a foundation of statistical knowledge. If at times you feel lost, please ask but also understand that the course is building to a complete picture. Sometimes it is hard to see how each topic is related until later in the semester when we tie everything together. Often in the learn by doing activities and worksheets we are leading you to think about things that will be important later in the course in addition to working on skills related to the current topic.

Watch the software tutorials carefully, especially if you find the software aspect challenging, and review our suggestions in the SAS information section earlier. Do not allow yourself to waste time working in the software. If you are having issues, let us know immediately and we will help as soon as possible. Try to make sure as much of your time as possible in the software is productive.

Be sure to ask when you don't understand, and work hard to stay on track with the material. Getting behind can be difficult to fix in any course. Let the instructor know as soon as possible if you feel you are falling behind.

SUPPORT SERVICES

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES: If you require classroom accommodation because of a disability, you must register with the Dean of Students Office <http://www.dso.ufl.edu> within the first week of class. The Dean of Students Office will provide documentation to you, which you then give to the instructor when requesting accommodation. The College is committed to providing reasonable accommodations to assist students in their coursework.

COUNSELING AND STUDENT HEALTH: Your well-being is important to the University of Florida. **The U Matter, We Care initiative** is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need.

If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Students sometimes experience stress from academic expectations and/or personal and interpersonal issues that may interfere with their academic performance. If you find yourself facing issues that have the potential to or are already negatively affecting your coursework, you are encouraged to talk with an instructor and/or seek help through University resources available to you.

- The Counseling and Wellness Center 352-392-1575 offers a variety of support services such as psychological assessment and intervention and assistance for math and test anxiety. Visit their web site for more information: <http://www.counseling.ufl.edu>. Online and in person assistance is available.
- You Matter We Care website: <http://www.umatter.ufl.edu/>. If you are feeling overwhelmed or stressed, you can reach out for help through the You Matter We Care website, which is staffed by Dean of Students and Counseling Center personnel.
- The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the web site at: <https://shcc.ufl.edu/>
- Crisis intervention is always available 24/7 from: Alachua County Crisis Center: (352) 264-6789 <http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx>

BUT – Do not wait until you reach a crisis to come in and talk with us. We have helped many students through stressful situations impacting their academic performance. You are not alone so do not be afraid to ask for assistance.

INCLUSIVE LEARNING ENVIRONMENT

Public health and health professions are based on the belief in human dignity and on respect for the individual. As we share our personal beliefs inside or outside of the classroom, it is always with the understanding that we value and respect diversity of background, experience, and opinion, where every individual feels valued. We believe in, and promote, openness and tolerance of differences in ethnicity and culture, and we respect differing personal, spiritual, religious and political values. We further believe that celebrating such diversity enriches the quality of the educational experiences we provide our students and enhances our own personal and professional relationships. We embrace The University of Florida’s Non-Discrimination Policy, which reads, “The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans’ Readjustment Assistance Act.” If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see your instructor or refer to the Office of Multicultural & Diversity Affairs website:

www.multicultural.ufl.edu

GUESTS ATTENDING CLASS: Only registered students are permitted to attend class. However, we recognize that students who are caretakers may face occasional unexpected challenges creating attendance barriers. Therefore, by exception, a department chair or his or her designee (e.g., instructors) may grant a student permission to bring a guest(s) for a total of two class sessions per semester. This is two sessions total across all courses. No further extensions will be granted. Students are responsible for course material regardless of attendance. For additional information, please review the Classroom Guests of Students policy in its entirety. Link to full policy:

<http://facstaff.php.ufl.edu/services/resourceguide/getstarted.htm>

PHC 6052 Outline of Schedule for Course Materials and Due Dates
For more details, see the weekly schedule in E-learning

| Content to Review | Monday | Wednesday | Thursday |
|---------------------------------------|--|---|--|
| Week 1 | 8/31 | 9/02 | 9/03 |
| Introduction Preliminaries | Lecture: • Syllabus and introduction of PHC6052 | | Lecture: • Preliminaries and EDA for one variable (Q1 & Q2) Due 10:00pm • Assignment #1 – Self Assessment |
| Week 2 | 9/07 | 9/09 | 9/10 |
| Unit 1A – EDA for One Variable | No Class - Labor Day Holiday | Due 10:00pm • Quiz #0 – Syllabus • Quiz #1 – Preliminaries | Presentation: • Demo of SAS on UFApps DUE TODAY – Software Working!!! 6052 = SAS |
| Week 3 | 9/14 | 9/16 | 9/17 |
| Unit 1B – EDA for Two Variables | Lecture: • EDA for two variables (Q3) | Due 10:00pm • Quiz #2 – Unit 1 (Part 1 – EDA for One Variable) | Group activity: • Group Assignment #1 – Variables |
| Week 4 | 9/21 | 9/23 | 9/24 |
| Remainder of Unit 1, All of Unit 2 | Lecture: • Causation and Producing Data (Q4) Due 10:00pm • Assignment #2 Part A – EDA for One Variable (Software) | Due 10:00pm • Quiz #3 – Unit 1 (Part 2 – EDA for Two Variables, Role-type through Linear Regression) • Quiz #4 – Unit 1 Causation – Unit 2 | Group activity: • Group Assignment #2 – Probability |
| Week 5 | 9/28 | 9/30 | 10/01 |
| Unit 3A – Probability | Lecture: • Probability (Q5) Due 10:00pm • Assignment #2 Part B – EDA for One Variable (Written) | Due 10:00pm • Quiz #5 – Unit 3A - Probability | Group activity: • Group Assignment #3 – Discrete random variables |

| Content to Review | Monday | Wednesday | Thursday |
|----------------------------------|---|---|--|
| Week 6 | 10/05 | 10/07 | 10/08 |
| Unit 3B – Discrete RVs | Lecture: • Random variables (Q6) Due 10:00pm • Assignment #3 Part A – Case CC and Case CQ (Software) | Due 10:00pm • Quiz #6 – Unit 3B – Discrete RVs | Group activity: • Group Assignment #4 – Continuous random variables |
| Week 7 | 10/12 | 10/14 | 10/15 |
| Unit 3B – Continuous RVs | Lecture: • Random variables (Q7) Due 10:00pm • Assignment #3 Part B – Case CC and Case CQ (Written) | Due 10:00pm • Quiz #7 – Unit 3B Continuous RVs | Additional office hours Due 10:00pm • Assignment #4 – Independent Events |
| Week 8 | 10/19 | 10/21 | 10/22 |
| Unit 3B – Sampling Distributions | Lecture: • Sampling distributions (Q8) Due 10:00pm • Assignment #5 Part A – EDA for Two Variables (Software) | Due 10:00pm • Quiz #8 – Unit 3B – Sampling Distributions | Group activity: • Group Assignment #5 – Estimation |
| Week 9 | 10/26 | 10/28 | 10/29 |
| Unit 4A – Estimation | Lecture: • Estimation (Q9) Due 10:00pm • Course Project STEP 1 | Due 10:00pm • Quiz #9 – Unit 4A -Estimation | Group activity: • Group Assignment #6 – Hypothesis testing Due 10:00pm • Assignment #5 Part B – EDA for Two Variables (Written) |
| Week 10 | 11/02 | 11/04 | 11/05 |
| Unit 4A – Hypothesis Testing | Lecture: • Hypothesis testing (Q10) | Due 10:00pm • Quiz #10 – Unit 4A – Hypothesis Testing | Additional office hours |

| Content to Review | Monday | Wednesday | Thursday |
|---------------------------------------|--|---|--|
| Week 11 | 11/09 | 11/11 | 11/12 |
| Unit 4B – Inference for Relationships | Lecture: • Inference for Relationships (Q11) Due 10:00pm • Course Project STEP 2 | Veteran’s Day | Additional office hours Due 10:00pm • Quiz #11 – Unit 4B – Case CQ |
| Week 12 | 11/16 | 11/18 | 11/19 |
| Unit 4B – Inference for Relationships | Lecture: • Inference for Relationships (Q12) Due 10:00pm • Assignment #6 – Examples from Literature | Due 10:00pm • Quiz #12 – Unit 4B – Case CC/CQ | Additional office hours |
| Week 13 | 11/23 | 11/25 | 11/26 |
| Review | Lecture: • Units 1-3 Review (Q13) Due 10:00pm • Course Project STEP 3 | Thanksgiving Holiday | No Class – Thanksgiving Holiday |
| Week 14 | 11/30 | 12/02 | 12/03 |
| Review | Lecture: • Unit 4 Review (Q14) Due 10:00pm • BONUS: Paired T-tests in Software | | Additional office hours |
| Week 15 | 12/07 | 12/09 | 12/10 |
| Review | Additional office hours Due 10:00pm • Course Project STEP 4 | Due 10:00pm • Quiz #13 – Review Units 1-3 • Quiz #14 – Review Unit 4 | |
| Week 16 | 12/14 | 12/16 | 12/17 |
| Final Exam Week | Due 10:00pm • Assignment #7 – End of Semester Self-Assessment | | |