Psychology 461 Introduction to R Programming in the Social Sciences

Online (MW 9:00 am - 10:15 am)

Course Website: https://sites.google.com/view/r-in-the-social-sciences

Piazza Discussion Board: piazza.com/gmu/fall2020/psyc461014fall2020/home

Instructor: Shea Fyffe
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Office Hours: By appointment
(via Skype or Hangouts)

Course Description: This isn't your traditional Psychology course. However, it's divergence from the normal makes it no less important—in fact—I'm willing to bet it will be one of the most important courses you take in your academic career. You will develop a deep sense of humility, while you start to look at the world a little differently. When you registered for this class you decided to challenge yourself, and I promise you that it will be worth it. If you're scared, that's okay, I'm here to help you along the way. *I'm assuming all students in the course have ZERO knowledge of R.* In fact, I would rather have a class filled with curious beginners than overly confident "experts."

You will not be memorizing things, you will be doing things. The first half of the course will focus on learning **R.** I want everyone to begin with a very solid understanding of **R**, so in the second half of the course we can use **R** to do some cool things (e.g., scrape the web, automate monotonous processes, create cool data visualizations). This class will end at the beginning of a journey. You will start to explore a world that will make you a better person, and I hope you keep going even after the course ends.

Learning Outcomes: By the end of the course, students should be able to:

- Understand programming paradigms and why they are important to be a good social scientist
- Leverage **R** to solve real world problems
- Gain experiences that can be added to a resume/CV for applications to graduate programs or employment
    - Developing R tools that you can brag to employers about
    - Passing LinkedIn's R assessment
    - Creating a *active* Github, Stack Overflow, and/or Rpubs profile
- Collaborate with others to solve problems
- Solve data-related problems much faster (a 10th of the time) than a regular person

Course Materials: There is a required textbook for this course, but it's your lucky day because it's free:

Norman Matloff. 2011. The Art of R Programming: A Tour of Statistical Software Design (1st. ed.). No Starch Press, USA

Course Overview

This course is divided into **15** weekly modules. For each weekly module you will be required to do the following:

1. *Attentively* watch the online lectures
2. If there is one scheduled, attend the *Live Meeting* (Wednesdays) and ask questions
3. Check Piazza for updates
4. Complete the week's assignments

Given the online nature of the class, weekly assignments will **not** be accepted after the due date. *If you are having technical difficulties, these should be communicated to at least one day before the due date.* This course is designed to give you autonomy, while ensuring accountability for your course responsibilities.

- This class is taught entirely online. This class will be flipped so live courses will focused on **you asking me questions about the assignments**

- This course is divided into weekly modules- each module will typically be due on *Monday at 11:59 am EST.* You may complete the required components at any time prior to the module due date. Module due dates and start dates are listed in the Course Schedule.

- While the ability to have this course be self-paced allows for flexibility, it can also make it easier to procrastinate and fall behind. I highly recommend NOT waiting until right before due dates to start working on the assignments.

Lectures/Online Recordings: Each week I will release online lecture(s)—these lectures are meant to supplement your understanding. Lecture slides will be posted corresponding to each week (you can see the lectures here). **Lectures will typically be a tutorial style (no need to take notes)**

Thought Questions: Some weeks (see course schedule). I will post a thought question on the course's *Piazza* website. To receive credit in a given week you will need to:

- Create a follow-discussion that responds to my question
- Reply to a classmate's follow-up discussion

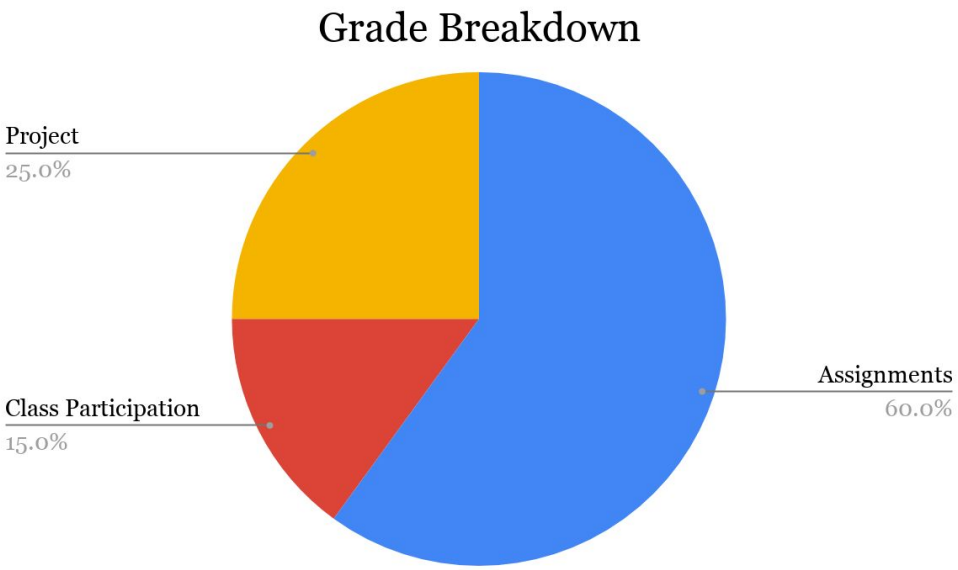
You can post your post and reply anonymously (I will still be able to see who posted what). I just ask that you **do not troll** one another, please see the Technology Policy for more information on how to behave within *Piazza.*

Required Assignments: You will be required to complete ***2*** *weekly assignments (Thought questions count as assignments)*. These will be a combination of multiple-choice quizzes, interactive activities, or coding samples. Your grade will be based on **effort.**

Note: All weekly assignments will be open-note, open internet, but I will check for originality.

Final R Project: Students are required to submit a final project--see course schedule for due date. You will be developing your own R package! However, you won't be alone. This will be a group project (ewwww). I will assign groups of 3 after week 6. The thing is all group members will be required to contribute and it will be very easy to tell who doesn't. I will release more information about how you will be graded and general project information before midterms.

Grading Policy



Weekly Assignments/Piazza Thought Questions (60%): Each week you will have to complete **2** weekly assignments that will assess your understanding of the material. Assignments will be submitted via Blackboard. Thought Questions will be submitted on Piazza. You have a few video assignments, which will be recorded and uploaded to Blackboard (don't worry you don't have to talk).

Class Participation (15%): This course will be flipped, so you will be doing most of your learning outside of the class. However, I'm always available to help. I've also scheduled **8** live class sessions (see course schedule). These sessions will be for you to come and ask questions. Those that miss the live sessions will suffer a penalty, so please come.

Final R Project (25%): Student's will work in teams of 3 to develop their own, somewhat novel, R package (this will get you a job). I will schedule some time throughout the semester to discuss package ideas. However, the basic requirements of the project will be:

- Project is published on Github.com
- All group members have made a contribution (e.g., commits, documentation, pushes)
- There are at least 5 functions
- Package works without issues (loosely)
- All components of the package are properly documented

Extra-Credit: I will reward bonuses for those students that "overly" participate in Piazza. This includes posting an R problem you are having to the class, asking a great question, or talking about how you're using R in your personal life.

Stretch Goals: A course of this nature lends itself to students of variable skill (which is totally fine!). Some students may want to try to push themselves a little harder. Each week I will release a stretch goal. If you email me proof that you reached this goal, I will reward you with bonus points.

Grade Breakdown

A+	97-100%	A	93-96%	A-	90-92%
B+	87-89%	B	83-86%	B-	80-82%
C+	77-79%	C	73-76%	C-	70-72%
D+	67-69%	D	63-66%	D-	60-62%
F	below 60%				

Attendance Policy

Attendance: Students should ensure they have a reliable way to complete course assignments. I understand that technological issues can happen (e.g., internet outages, spilling wine on your laptop); however, *these issues should be brought up at least one day before a weekly deadline.* Additionally there will be 8 Live Sessions (see course schedule), I expect that you attend them and participate (e.g., ask questions).

Scheduling Policies

Enrollment: Students are responsible for verifying their enrollment in this class. Schedule adjustments should be made by the deadlines published in the Schedule of Classes (available from the Registrar's Website: registrar.gmu.edu).

- Last Day to Add: June 3rd
- Last Day to Drop without tuition penalty: June 3rd
- Selective withdrawal period: June 16 – June 23

After the last day to drop a class, withdrawing from this class requires the approval of the dean and is only allowed for nonacademic reasons. Please see the following webpage for more details about the new Add/Drop policy: https://registrar.gmu.edu/drop-withdrawal-deadlines-faqs/

Changes to Syllabus: The instructor reserves the right to make necessary changes to the syllabus with reasonable advance notice.

Student Policies

Academic Integrity: Academic integrity refers to honest and ethical behavior in all aspects of academic activity. This includes not cheating on in-class assignments (e.g., copying the work of others or using), not passing off someone else's ideas as your own (plagiarism), not engaging in dishonesty of any kind regarding your class participation and assignments.

Plagiarism: Plagiarism is the unacknowledged use of another person's labor, another person's ideas, another person's words, or another person's assistance. ***Unless otherwise stated, all work done for courses is expected to be the individual effort of the student presenting the work.*** Any assistance must be reported to the instructor. If the work has entailed consulting other resources -- journals, books, or other media -- these resources must be cited in a manner appropriate to the course. Everything used from other sources -- suggestions for organization of ideas, ideas themselves, or actual language -- must be cited. Failure to cite borrowed material constitutes plagiarism. Undocumented use of materials from the World Wide Web is plagiarism. If you are caught plagiarizing or cheating, you will fail the assignment, and, depending upon the severity of the violation, you may fail the class. This includes code!

Honor Code: George Mason University has an Honor Code, which requires all members of this community to maintain the highest standards of academic honesty and integrity. Cheating, plagiarism, lying, and stealing are all prohibited. All violations of the Honor Code will be reported to the Honor Committee. See honorcode.gmu.edu for detailed information.

Classroom Needs: Disability Services at George Mason University is committed to providing equitable access to learning opportunities for all students by upholding the laws that ensure equal treatment of people with disabilities. If you are seeking accommodations for this class, please first visit http://ds.gmu.edu/ for detailed information about the Disability Services registration process. Then please discuss your approved accommodations with me. Disability Services is located in the Student Union Building I (SUB I), Suite 2500. Email: ods@gmu.edu | Phone: (703) 993-2474

Diversity and Psychological Services: George Mason University is committed to providing a learning, living and working environment that is free from discrimination and a campus that is free of sexual misconduct and other acts of interpersonal violence in order to promote community well-being and student success. We encourage students who believe that they have been sexually harassed, assaulted or subjected to sexual misconduct to seek assistance and support. University Policy 1202: Sexual Harassment and Misconduct speaks to the specifics of Mason's process, the resources, and the options available to students. Any faculty or staff member at Mason is required to report all disclosures of sexual assault, interpersonal violence, and stalking to Mason's Title IX Coordinator, but please know that such reports will result only in someone reaching out to you directly to let you know about available services and to determine if you wish to take any action. That said, you can also contact the Student Support and Advocacy Center (703-380-1434) or Counseling and Psychological Services (703-993-2380) to speak to someone confidentially, as individuals who work in those offices are not required to report disclosures. You may also seek assistance directly from Mason's Title IX Coordinator (703-993-8730; titleix@gmu.edu).

Class Etiquette: Thought this class is online, this course is a "safe space", which means we commit to: (1) Making our class a welcoming, open space for everyone; (2) Being aware of our prejudices and insecurities and how our words affect others; (3) Providing room for each of us to explore our own identities; (4) Allowing others to define their own identities and to speak for themselves; (5) Respecting the privacy of others by maintaining confidentiality.

Technology Policies

Official Communications via GMU Email: Mason uses electronic mail to provide official information to students. Examples include communications from course instructors, notices from the library, notices about academic standing, financial aid information, class materials, assignments, questions, and instructor feedback. Students are responsible for the content of university communication sent to their Mason email account and are required to activate that account and check it regularly. If class is canceled, I will notify you via email; this email will include information about making up the missed class.

Technology: Please check Blackboard and your email regularly. Regarding electronic devices in class (such as laptops, cell phones, etc.), please be respectful of your peers and your instructor and do not engage in activities that are unrelated to class. Such disruptions show a lack of professionalism and may affect your grade. I reserve the right to modify seating if laptops and/or cellphones become distracting. If a problem reoccurs, I may prohibit the use of laptops, tablets, or mobile devices during class-time.

Course Schedule

NOTE: Your instructor reserves the right to make edits to this schedule based on several factors, including the progression of lecture. Any changes will be announced in class.

Click here for Course Schedule