Syllabus & Course Information
R Workshop in Biology (Bio 3100)
Fall 2020

Course Master:
Dr. Jonathan Myers, Associate Professor of Biology
E-mail: jamyers@wustl.edu
Virtual help sessions on Zoom:
To be announced for Workshops 4 & 9, or by appointment
Laboratory website: myersecologylab.com
Pronouns: he/him/his

Instructor:
Dr. Chris Shaffer, Biology Senior Lecturer and DNA Facility Coordinator
E-mail: shaffer@biology.wustl.edu
Virtual help sessions on Zoom: To be determined
Pronouns: he/him/his

Assistant to the Instructor:
Kyle Vuong, Ph.D. Student
E-mail: h.r.vuong@wustl.edu
Virtual help sessions on Zoom: Monday 3:00–4:00 p.m., Tuesday 10:00–11:00 a.m.
Pronouns: he/him/his

Course Description:
Biologists in all areas increasingly find that they have the need and opportunity to work with large data sets. The goal of this 1-credit course is to provide students with an opportunity to gain skills in data analysis and presentation using R, a free software environment for statistical computing and graphics (http://www.r-project.org). Topics include an introduction to basic programming in R, data types and manipulation, graphics, hypothesis testing and statistics, and applications to various fields of biology ranging from ecology to genomics. The course format will consist of ten, two-hour workshops that include a brief introduction to key concepts in R and applications in biology, followed by interactive, hands-on tutorials.

Prerequisites:
Concurrent or prior course in statistics (Math 2200 or Math 3200 recommended) or permission of instructor.

Course website:
The course website will be on Canvas (mycanvas.wustl.edu). The website will contain the syllabus, current course schedule and assignments, recorded mini-lectures and slides, a grade book, reading material, and important course announcements. You will upload all assignments to Canvas. You should check the course website on a regular basis, and to help stay up-to-date on the course, we recommend setting the option to receive an email when we post announcements. You can access help for Canvas at: mycanvas.wustl.edu/studentsupport/
Virtual course meeting times and attendance policy:
The course consists of ten, two-hour workshops that will be held “live” on Zoom. We will meet on Wednesday from 12:30–2:15 p.m. (Section 2) and 3:00–4:45 p.m. (Section 1). You are expected to attend classes synchronously during the scheduled meeting time. Each workshop will begin with a short mini-lecture by the instructors, followed by a hands-on tutorial session. During the tutorial session, you may choose to work individually or in a small group during or outside of class. The mini-lectures will be recorded live and uploaded to Canvas after class.

Best practices and tips for attending live classes on Zoom:

Attending classes online using Zoom
Zoom is a video conferencing and recording tool that can be used on its own or within Canvas. Washington University provides a Zoom account to all faculty, students, and staff. To get started, sign in with your WUSTL Key at: gozoom.wustl.edu

Is your computer ready?
Make sure your computer is ready by test your internet connection, software, camera, and microphone using the Zoom test tool at: zoom.us/test

How do I find the Zoom meeting link for my class?
The instructors will post the Zoom link in Canvas. It is important that you stay on top of email and that you have notifications turned on in Canvas to ensure you don’t miss any communications.

What should I expect when I join a Zoom session?
- Click the Zoom meeting link several minutes before your meeting, as you may be prompted to download Zoom to your device.
- Test your internet connection, software, camera, and microphone using the Zoom test tool at: zoom.us/test
- Follow the instructions to join.

How can I be an effective participant during a Zoom session?
During a Zoom session, use etiquette rules to manage your own audio/video, be an effective participant, and not disrupt sessions inadvertently:
- Click Mute to mute your audio, if not already done, and minimize background noise. Unmute when you wish to talk.
- To help preserve bandwidth for the Zoom session, do not record lectures. All mini-lectures will be recorded by the instructors and uploaded to Canvas following the lecture.
- Click Stop Video to stop your video and preserve bandwidth for the session. Start Video to show your video (for example, if called upon).
- In lectures, type your questions in the Chat Box, rather than asking them out loud. The instructors will provide opportunities during class to answer questions in the Chat Box.
- Use the Raise Hand button to prompt the instructor to call on you without interrupting.
- Be aware of your personal background while live on Zoom video.
- Please avoid displays that may be offensive to others.
- Please dress appropriately.
How do I find recordings of a Zoom meeting in Canvas?
The Zoom recording will be in the Canvas course in the Zoom tool > Cloud Recordings tab a few hours after class ends.

Assessment:
The grade you earn in this course will be based on a total of 115 points:

- 100 points Weekly R tutorials (10 total; 10 points each; ~87% of final grade)
- 10 points Mini-projects (2 total; 5 points each; 8.5% of final grade)
- 5 points Semester-long in-class participation and attendance (4.5% of final grade)

The following scale will be used to assign final course grades. To pass the course and qualify for a grade you must submit at least 9 of the weekly R tutorials. To receive an A or A+ in the course you must complete at least one of the mini-projects. If you are taking this course Credit/No Credit, you must receive a C- or better to receive credit.

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<tr>
<th>Grade</th>
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<tr>
<td>A+</td>
<td>97%</td>
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<tr>
<td>A</td>
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<td>A-</td>
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<td>B+</td>
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<td>B</td>
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<td>B-</td>
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<td>C+</td>
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<td>C</td>
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<td>C-</td>
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R tutorials, mini-projects, and assignment due dates
The goal of the R tutorials is to develop and demonstrate mastery of R concepts and tools. The tutorials will start out relatively simple at the beginning of the semester and become more challenging as the course progresses. You will begin the assignments in class and continue working on them outside of class if necessary. The due date for uploading R tutorials to Blackboard will be 11:59 p.m. on the Tuesday following the Wednesday R Workshop. Due dates for the mini-projects will be posted on Canvas.

Semester-long in-class participation and attendance:
To receive full credit for participation and attendance, you must attend synchronous mini-lectures during the class meeting time. You are responsible for all material covered in class whether or not you attend. If you anticipate that you must be absent from a class for a legitimate reason, please contact the instructors before your absence.

As part of each R tutorial, we will ask you to provide information on the amount of time that it takes you to complete the tutorial (including the exercises). This feedback helps the instructors improve the tutorials over the course of the semester and improve the course for future semesters. To receive full credit for in-class participation, you must provide this information for all of the R tutorials.

Late work:
To be fair to all students and to the instructor who is responsible for grading, no late work will be accepted after the item is due. To avoid losing data and to help you develop a sound workflow for data analysis and management, you are required to keep copies of all work, save your work frequently, and store back-up copies in multiple locations. We will not consider technology excuses such as lost, missing or stolen data.
Installing and using R on your personal computer:
We recommend that you install R on your personal computer for use outside of class. R can be downloaded for free from: http://r-project.org/. You may use your computer or one of the lab computers during the R computer labs. For help with installing R, see the video tutorials on "How to Install R for Mac" and “How to Install R for Windows” on YouTube. If necessary we can help you install R on your computer during office hours. We require that all students use the same default user interface that is included as part of the R installation. Other user interfaces such as RStudio contain more sophisticated features that can help with using R. You are welcome to use RStudio in this course, but the instructors will focus on teaching the basics of R using the standard R console and editor.

Academic integrity:
The academic integrity policy of Washington University in St. Louis states: “Effective learning, teaching and research all depend upon the ability of members of the academic community to trust one another and to trust the integrity of work that is submitted for academic credit or conducted in the wider arena of scholarly research. Such an atmosphere of mutual trust fosters the free exchange of ideas and enables all members of the community to achieve their highest potential. In all academic work, the ideas and contributions of others must be appropriately acknowledged, and work that is presented as original must be, in fact, original. Faculty, students, and administrative staff all share the responsibility of ensuring the honesty and fairness of the intellectual environment at Washington University.”

The complete policy and procedures are available at: studentconduct.wustl.edu/integrity/policy. As a student at Washington University, it is your responsibility to become familiar with, understand, and abide by the standards outlined in this policy before performing any academic work. Ignorance of these policies is not a defense in cases of infringement.

Any person found using unauthorized assistance (including plagiarism, submitting work for more than one class without obtaining permission from all instructors, copying answers from another student’s exam, or turning in group work to which you did not contribute) will be forwarded to the Committee for Student Academic Integrity. Students found guilty by the Committee will be given a grade of F for the course and be referred to the Dean for further action.

Information and resources to help you succeed:

1. COVID-19 Health and Safety Protocols:

Exceptions to course policies, expectations, and requirements (including attendance and assignment deadlines) because of a COVID-19 diagnosis, symptoms consistent with COVID-19, or exposure to a person with a confirmed or suspected COVID-19 diagnosis that requires quarantine or isolation will be made in collaboration between the student and instructor. In these cases, please notify your instructor as soon as possible to discuss appropriate accommodations.

All students on the Danforth Campus are required to complete the self-screening app before they come to campus or leave their residence hall room. To complete the screening app, visit WashU COVID-19 Screening (screening.wustl.edu) for campus access and log in with your WUSTL Key. If you do not receive a green check and pass the screening app, you are not permitted to
come to campus or leave your residence hall room. You must contact Habif Health and Wellness Center immediately.

While on campus, it is imperative that students follow all public health guidelines established to reduce the risk of COVID-19 transmission within our community. The full set of University protocols can be found at: covid19.wustl.edu/health-safety/. This includes:

- **Complying with physical distancing requirements at all times and adhering to signage and environmental cues.** This includes not congregating before or after class as well as during breaks or class activities.
- **Complying with universal masking.** All individuals on campus must wear disposable masks or cloth face coverings while occupying indoor public settings, including: multi-person offices; hallways; stairwells; elevators; meeting rooms; classrooms; restrooms; and when in campus outdoor spaces unless they can maintain six feet of physical distance from others. *In the event that a student cannot wear a mask due to a medical condition, they should contact Habif or Disability Resources to seek an accommodation and, if an accommodation is granted, communicate with their instructor.*
- **Practicing healthy personal hygiene,** including frequent handwashing with soap and warm water for at least 20 seconds and/or using hand sanitizer with at least 60% alcohol.
- **Complying with cleaning and sanitation protocols.** Students may be responsible for wiping down common surfaces after use, particularly those that might be shared with others (e.g. classroom desks). Instructions for sanitizing technology equipment can be found at: sites.wustl.edu/itss/desktop-services/sanitizing-technology-equipment/

We take your health and the health of our community very seriously. Any Danforth Campus student who is **currently diagnosed with COVID-19, is experiencing symptoms consistent with COVID-19, or has had direct contact with a person with a confirmed or suspected COVID-19 diagnosis must remain home and isolate yourself from others.** Students who have symptoms and/or do not pass the screening protocol must call the Habif Health and Wellness Center at 314-935-6666 for additional instructions.

2. **Academic Accommodations:**

- **Reasonable Accommodations for Disabled Students** - Washington University in St. Louis supports the rights of enrolled students to a full and equal educational opportunity and, in compliance with federal, state, and local requirements, is committed to reasonable accommodations for individuals with documented disabilities. Disabled students for whom accommodations may be necessary must be registered with, and provide their instructors official notification through, WUSTL’s **Disability Resources** (students.wustl.edu/disability-resources/). Once established, responsibility for disability-related accommodations and access is shared by DR, faculty, and the student. Please contact Disability Resources at 314.935.5970 or disabilityresources@wustl.edu.
- **Sexual Assault Resources** - The University is committed to offering reasonable academic accommodations (e.g., a no-contact order, course changes) to students who are victims of relationship or sexual violence, regardless of whether they seek criminal or disciplinary action. If you need to request such accommodations, please contact RSVP (information above) to schedule an appointment with an RSVP confidential and licensed
counselor. Although information shared with counselors is confidential, requests for accommodations will be coordinated with the appropriate University administrators and faculty. See: RSVP Center (students.wustl.edu/relationship-sexual-violence-prevention-center/)

3. Bias Reporting:

The University has a process through which students, faculty, staff, and community members who have experienced or witnessed incidents of bias, prejudice, or discrimination against a student can report their experiences to the University’s Bias Report and Support System (BRSS) team. See: brss.wustl.edu.

4. Center for Diversity and Inclusion (CDI):

The Center for Diversity and Inclusion (CDI) supports and advocates for undergraduate, graduate, and professional school students from underrepresented and/or marginalized populations, collaborates with campus and community partners, and promotes dialogue and social change to cultivate and foster a supportive campus climate for students of all backgrounds, cultures, and identities. See: diversityinclusion.wustl.edu/

5. Gephardt Institute:

There is a federal election happening on November 3, 2020. If you would like to register to vote prior to the election or request an absentee ballot, you can do so at wustl.turbovote.org. If you are ineligible to vote, you can still participate by referring your friends who are eligible to the TurboVote link to register. Additionally, everyone can contribute to the campus energy surrounding voting by starting dialogue with your peers about the importance of voting, educating yourself on American democracy and the ways public policy affect you and others, and participating in year-round forms of civic engagement beyond voting. If you have any questions about the voting process, please visit: washuvotes.wustl.edu

6. Mental Health:

Mental Health Services’ professional staff members work with students to resolve personal and interpersonal difficulties, many of which can affect a student’s academic experience. These include conflicts with or worry about friends or family, concerns about eating or drinking patterns, and feelings of anxiety, depression, and thoughts of suicide. See: students.wustl.edu/mental-health-services/. Additionally, see the mental health services offered through the RSVP Center listed above.

7. Military Service Leave:

Washington University recognizes that students serving in the U.S. Armed Forces and their family members may encounter situations where military service forces them to withdraw from a course of study, sometimes with little notice. Students may contact the Office of Military and Veteran Services at (314) 935-2609 or veterans@wustl.edu and their academic dean for guidance and assistance. See: veterans.wustl.edu/policies/policy-for-military-students/
8. Preferred Name and Gender Inclusive Pronouns:

In order to affirm each person’s gender identity and lived experiences, it is important that we ask and check in with others about pronouns. This simple effort can make a profound difference in a person’s experience of safety, respect, and support. See: students.wustl.edu/gender-pronouns-information/, https://registrar.wustl.edu/student-records/ssn-name-changes/preferred-name/

9. Reporting Sexual Harassment:

If a student discusses or discloses an instance of sexual assault, sex discrimination, sexual harassment, dating violence, domestic violence or stalking, or if a faculty member otherwise observes or becomes aware of such an allegation, the faculty member will keep the information as private as possible, but as a faculty member of Washington University, they are required to immediately report it to the Department Chair or Dean or directly to Ms. Jessica Kennedy, the University’s Title IX Director, at (314) 935-3118, jwkennedy@wustl.edu. Additionally, you can report incidents or complaints to the Office of Student Conduct and Community Standards or by contacting WUPD at (314) 935-5555 or your local law enforcement agency. See: Title IX (titleix.wustl.edu)

- Confidential Resources for Instances of Sexual Assault, Sex Discrimination, Sexual Harassment, Dating Violence, Domestic Violence, or Stalking:
  If a student needs to explore options for medical care, protections, or reporting, there are free, confidential support resources and professional counseling services are available through the Relationship and Sexual Violence Prevention (RSVP) Center in Seigle Hall, Suite 435, rsvpcenter@wustl.edu, 314-935-3445. For after-hours emergency response services, call 314-935-6666 or 314-935-5555 and ask to speak with an RSVP Counselor on call.

10. WashU Cares:

WashU Cares, within the Health and Wellness Unit, provides resources to all students on the Danforth Campus who may be having a hard time. WashU Cares is committed to helping create a culture of caring. Through proactive, collaborative, and systemic approaches, WashU Cares works with students to identify interventions, resources, and supports that allow them to be successful. If there is a concern about the physical or mental well-being of a student, please file a report on the WashU Cares website. See: washucares.wustl.edu/

11. Contacting your course instructors:

Please feel free to email us or to stop by our virtual help sessions. Please allow 48 hours for email responses and do not wait until the last minute (e.g., after 5:00 p.m. or a weekend) to contact us, as we may be unavailable to reply. Please strive to use professional email etiquette. For example, use clear subject lines, use a salutation to open your email, sign off with your full name, and avoid using informal phrases or words such as “Hey” or textspeak. The PhD Comic below provides excellent examples of how not to compose an e-mail to us.
HOW TO WRITE AN E-MAIL TO YOUR INSTRUCTOR OR T.A.

From: Student
To: Instructor/TA

"hey"

lol, when is your office hours?

btw, where is you’re office?

AAAAHHH!! HOW DID YOU GRADUATE HIGH SCHOOL!?

BEFORE ASKING YOUR QUESTION, ALWAYS CONSULT:
A) THE SYLLABUS
B) COMMON SENSE
C) THE SYLLABUS

OMG, WHAT ARE YOU, 14? WRITE FULL SENTENCES!
The internet has enough bandwidth.

SIGN YOUR NAME! THIS ISN’T CHAT AND WE ARE NOT FRIENDS.

IT ONLY TAKES A SECOND TO SPELL CHECK! SERIOUSLY, YOUR TIME IS NOT THAT IMPORTANT.

IT’S IN THE SYLLABUS!!!

WWW.PHDCOMICS.COM