

MCB 195B: Genomic Medicine Colloquium
Fall 2021
1 unit

Instructor Prof. Ryan Gutenkunst Department of Molecular and Cellular Biology University of Arizona	Contact Information Email: rgutenk@arizona.edu Office Hour: By appointment, LSS 325 http://arizona.zoom.us/my/gutenkunst
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Course Description

Students will explore the impacts of genomics on medicine, learn how to succeed in university-level biology courses, and explore career opportunities related to molecular biology and genomics. This is a first-year colloquium course. Topics will include big data biology, precision cancer treatment, personalized genomics, and ethics.

Course modality

This class is scheduled to be taught in the in person modality.

Required Course Materials

Reading: The required text is Personalizing Precision Medicine: A Global Voyage from Vision to Reality, by Kristin Ciriello Pothier. The UA library has an unlimited use Ebook version of this text. A link to it can be found under Library Tools on the d2l site. Additional readings will be available on D2L.

Course Objectives and Expected Learning Outcomes:

By participating in the class, students will be able to:

- Apply evidence-based learning strategies to the study of biology.
- Identify ethical questions that arise as new biomedical research emerges.
- Describe career opportunities in molecular biology and genomics.
- Describe the role of genomics in modern biomedical research and medicine.
- Assess the ethical implications of emerging genomic technologies.

Attendance and Class Participation Policies

MCB 195B is an active colloquium where students are expected to attend class ready to discuss the week's reading and participate in the related activities. As such weekly attendance and participation are required.

Required Course Activities

Reflection Journal Entries: Students will make weekly entries in an online journal in which they will reflect on the current week's reading and the previous week's discussion. These journal entries will be **due Tuesday night at 11:59 pm**. For each student, his or her lowest-graded journal entry will be dropped and not contribute to his or her final grade.

Class Discussion: Students will participate in class-wide discussion. For each student, his or her two lowest participations grade will be dropped and not contribute to his or her final grade. Absences may be excused with prior permission of the instructor. If a student misses a class session due to illness or other engagement, they will view the session's recording and complete a reflection assignment on D2L.

Final Presentation: On the date of the final exam, students will make small-group presentations on a career related to genomics. A grading rubric will be provided to students in advance.

Final Exam

During the scheduled final exam time, students will make small group presentations on a career related to genomics. This semester, our schedule time is 3:30-5:30 on December 10th.

<https://www.registrar.arizona.edu/courses/final-examination-regulations-and-information>, and Final Exam Schedule, <http://www.registrar.arizona.edu/schedules/finals.htm>

Grading Scale and Grade Policies

Final grades will be calculated based on the weights below, and letter grades will be assigned based on the rubric below. Students will receive feedback on their discussion participation each week.

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|---------------------------------|-----------|
| • Journal entries: 35% | S: >95% |
| • Final presentation: 35% | P: 60-95% |
| • Discussion participation: 30% | F: <60% |

Late Assignments

Unless prior approval is granted by the instructor, journal entries must be submitted on time and late entries will not be accepted.

Extra credit

Extra credit assignments may be offered at the discretion of the instructor. If they are offered, all students will have the option of completing them.

Requests for incomplete (I) or withdrawal (W)

These must be made in accordance with University policies, which are available at <http://catalog.arizona.edu/policy/grades-and-grading-system#incomplete> and <http://catalog.arizona.edu/policy/grades-and-grading-system#Withdrawal> respectively.

Additional Attendance Policies

Exceptions to the attendance policy will be made due to University-authorized commitments (pre-approved by the UA Dean of Students), or holidays observed by an organized religion with which you are affiliated, provided the instructor is contacted *before* the discussion is missed, proper documentation is provided, and a make-up assignment is completed within one week of the absence. At the instructor's discretion, some form of accommodation may be made in the event of extraordinary circumstances such as serious illness, accident, or family emergency.

The UA policy concerning Class Attendance, Participation, and Administrative Drops is available at: <http://catalog.arizona.edu/policy/class-attendance-participation-and-administrative-drop>.

The UA policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable: <http://policy.arizona.edu/human-resources/religious-accommodation-policy>.

Absences pre-approved by the UA Dean of Students (or Dean Designee) will be honored: <https://deanofstudents.arizona.edu/absences>

Participating in the course and attending lectures and other course events are vital to the learning process. As such, attendance is required at all lectures and discussion section

meetings. Absences may affect a student's final course grade. If you anticipate being absent, are unexpectedly absent, or are unable to participate in class online activities, please contact the instructor as soon as possible. To request a disability-related accommodation to this attendance policy, please contact the Disability Resource Center at (520) 621-3268 or drc-info@email.arizona.edu. If you are experiencing unexpected barriers to your success in your courses, the Dean of Students Office is a central support resource for all students and may be helpful. The Dean of Students Office is located in the Robert L. Nugent Building, room 100, or call 520-621-7057.

If you feel sick, or may have been in contact with someone who is infectious, stay home. Except for seeking medical care, avoid contact with others and do not travel.

Notify your instructor(s) if you will be missing a course meeting or an assignment deadline.

Non-attendance for any reason does **not** guarantee an automatic extension of due date or rescheduling of examinations/assessments.

Please communicate and coordinate any request directly with your instructor.

If you must miss the equivalent of more than one week of class, you should contact the Dean of Students Office DOS-deanofstudents@email.arizona.edu to share documentation about the challenges you are facing.

Voluntary, free, and convenient [COVID-19 testing](#) is available for students on Main Campus.

If you test positive for COVID-19 and you are participating in on-campus activities, you must report your results to Campus Health. To learn more about the process for reporting a positive test, visit the [Case Notification Protocol](#).

COVID-19 vaccine is available for all students at [Campus Health](#).

Visit the [UArizona COVID-19](#) page for regular updates.

Classroom Behavior

To foster a positive learning environment, students and instructors have a shared responsibility. We want a safe, welcoming, and inclusive environment where all of us feel comfortable with each other and where we can challenge ourselves to succeed. To that end, **our focus is on the tasks at hand and not on extraneous activities** (e.g., texting, chatting, reading a newspaper, making phone calls, web surfing, etc.).

Students are asked to refrain from disruptive conversations with people sitting around them during discussion. Students observed engaging in disruptive activity will be asked to cease this behavior. Those who continue to disrupt the class will be asked to leave lecture or discussion and may be reported to the Dean of Students.

Threatening Behavior

The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to oneself. See <http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students>.

Accessibility and Accommodations for Students with Disabilities

At the University of Arizona, we strive to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, you are welcome to let me know so that we can discuss options. You are also encouraged to contact Disability Resources (520-621-3268) to explore reasonable accommodation.

If our class meets at a campus location: Please be aware that the accessible table and chairs in this room should remain available for students who find that standard classroom seating is not usable.

Academic Integrity

Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog. See:

<http://deanofstudents.arizona.edu/codeofacademicintegrity>

<http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity>.

The University Libraries have some excellent tips for avoiding plagiarism, available at

<http://new.library.arizona.edu/research/citing/plagiarism>.

Selling class notes and/or other course materials to other students or to a third party for resale is not permitted without the instructor's express written consent. Violations to this and other course rules are subject to the Code of Academic Integrity and may result in course sanctions. Additionally, students who use D2L or UA e-mail to sell or buy these copyrighted materials are subject to Code of Conduct Violations for misuse of student e-mail addresses. This conduct may also constitute copyright infringement.

UA Nondiscrimination and Anti-Harassment

The University is committed to creating and maintaining an environment free of discrimination; see <http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy>

Our classroom is a place where everyone is encouraged to express well-formed opinions and their reasons for those opinions. We also want to create a tolerant and open environment where such opinions can be expressed without resorting to bullying or discrimination of others.

Academic Advising

If you have questions about your academic progress this semester, or your chosen degree program, please note that advisors at the Advising Resource Center can guide you toward university resources to help you succeed.

Life Challenges

If you are experiencing unexpected barriers to your success in your courses, please note the Dean of Students Office is a central support resource for all students and may be helpful: <https://deanofstudents.arizona.edu/>. The Dean of Students Office can be reached at 520-621-2057 or DOS-deanofstudents@email.arizona.edu.

Physical and Mental-Health Challenges

If you are facing physical or mental health challenges this semester, please note that Campus Health provides quality medical and mental health care. For medical appointments, call (520-

621-9202. For After Hours care, call (520) 570-7898. For the Counseling & Psych Services (CAPS) 24/7 hotline, call (520) 621-3334.

Additional Resources for Students

UA Academic policies and procedures are available at <http://catalog.arizona.edu/policies>

Student Assistance and Advocacy information is available at <http://deanofstudents.arizona.edu/student-assistance/students/student-assistance>

Confidentiality of Student Records

<http://www.registrar.arizona.edu/personal-information/family-educational-rights-and-privacy-act-1974-ferpa?topic=ferpa>

Subject to Change Statement

Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor.

Tentative Schedule of Topics and Activities

Week	Date	Topic	Reading
1	August 25 th	Introduction to course	
2	September 1 st	Foundations of Precision Medicine Metacognition	Pothier: Ch 1
3	September 8 th	Precision Diagnostics Growth Mindset	Pothier: Ch 2
4	September 15 th	Special COVID seminar	
5	September 22 nd	The Patient Journey Retrieval Practice	Pothier: Ch 4
6	September 29 th	Access Elaboration	Pothier: Ch 5
7	October 6 th	Regulation and Payment Spaced Practice	Pothier: Ch 7
8	October 13 th	Supportive Care Interleaving	Pothier: Ch 9
9	October 20 th	Informatics Learning resources at UA	Pothier: Ch 10
10	October 27 th	Beyond Cancer Getting involved in research	Pothier: Ch 12
11	November 3 rd	Consumer Applications MCB Accelerated Master's degree	Pothier: Ch 13
12	November 10 th	Long Term Potential Professional Science Master's	Pothier: Ch 15
13	November 17 th	<i>de novo</i> mutations	Articles from d2I
14	November 25 th	No class – Thanksgiving	
15	December 1 st	CRISPR Introduction to Final Presentation	Articles from d2I
16	December 8 th	Presentation preparation	
	December 10 th	Final Exam: Student presentations	