Syllabus: M17-533, Spring 2017 — Genomics in Medicine II

About the Coursemasters

Contact Information:

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Preferred method of contact: e-mail
Virtual Office Hours: None
In-Person Office Hours: Please e-mail to schedule if needed.

Welcome:
Welcome to Genomics in Medicine II. Together, Genomics in Medicine I and II provide students with a practical background in molecular biology and genetics, an introduction to genomics technologies and research, and an understanding of the clinical applications of genomics knowledge. We hope you enjoy the course.

About This Course

Required Texts:
None

Course Description:
The course format will include lectures by renowned faculty, discussion of the lecture topics in the form of questions asked during the lectures and at the end of the lectures, required reflection papers, and optional supplementary reading material. Critical thinking and scientific/analytic competencies are emphasized throughout the course.

Target Audience:
Clinicians (residents, fellows, and junior faculty), research scientists, and students interested in learning more about how to incorporate genomics into their own research. Prior clinical research experience is helpful but not required.

Goals of the Course:
By the end of this course students will be able to:
• Demonstrate understanding of principles of genomics in medicine as they apply to clinical research.
• Exhibit a basic background in molecular biology and genetics.
• Identify clinical applications of genomics knowledge.
• Recognize critical thinking and analytic competencies in genomics research.

Major Assignment Descriptions:
There are 8 reflection papers due throughout the semester.

Technology Requirements:
Course materials will be posted on Blackboard when lecturers consent to share their lecture materials. Students will be notified by email when lecture materials are posted. You are expected to have access to a reliable internet connection for this course. If you have computer problems, it is your responsibility to address these or utilize the CRTC Computer Lab. Problems with your computer or other technology issues are not an excuse for delays in meeting expectations and missed deadlines for the course. If you have a problem, get help in solving it immediately. At a minimum, you will need the following software/hardware to participate in this course:

1. Computer with an updated operating system (e.g. Windows, Mac, Linux)
2. Updated Internet browser (Apple Safari, Internet Explorer, Google Chrome, Mozilla Firefox)
3. Ability to navigate the Blackboard Learning Management System https://bb.wustl.edu/
4. Minimum processor speed of 1 GHz or higher recommended
5. DSL or Cable internet connection or a connection speed no less than 6 Mbps
6. Media player such as VLC Media Player.

Time Requirements

This course holds weekly one hour lectures. It is expected that you will be viewing these lectures either in person or via recording. In addition, it is expected you will complete reflection papers for at least eight of the lectures. As with all courses, work outside the session should be expected to take at least twice the time you are in session. The amount of time will vary as reflection papers are not required for every lecture.

Lecture Schedule (subject to modification)

Dates	Topic
January 18	Germline Genomics & Non-Cancer Case Studies
January 25	Genomics of Microbes & Microbiomes
February 1	Analysis of the Human Virome
February 8	Biospecimen Resources for Biomarker Validation
February 15	Cancer Genome Sequencing - Clinical Implications
February 22	Consent & Ethics
March 1	Susceptibility Genetics
March 8	Informatics Resources for Clinical Interpretation of Cancer Genome Variants
March 15	*Spring Break – No Class*
March 22	Precision Medicine & Healthcare Transformation
March 29	Cancer Case Studies
April 5	Metabolomics
April 12	Consumer Genomics
April 19	Clinical Genomic Testing - GPS@WUSTL
April 26	Panel Discussion – The Future of Genomic Medicine
May 3	*No session*

Assessment/Grading

Grading Determination and Policy:
Grades for the course will be determined based on attendance and reflection papers and will be calculated as follows:

- Attendance (50%)
    - See the Attendance Requirement section below.
- Reflection Papers (50%)
    - Each student will choose eight of the fourteen lecture topics on which to write reflection papers.
    - The reflection papers should address all of the required reflection questions listed below and be 1-1.5 pages (double-spaced) in length.
    - Required reflection questions:
        - Give a description of the topic, technique, or issue.
        - Why is this topic included in this series? What is the relevance to the concept of "Genomics in Medicine"?
        - What are the major challenges of the topic or technique described?
        - How could you integrate the topic or technique into your clinical research?
    - **Each reflection paper is due by the end of the second Friday after the chosen lecture occurs, whether viewing the lecture in person or via recording. Reflection papers should be emailed to Dr. Vana (vanam@wustl.edu).**

Grading Scale:
Credit for this course is awarded pass/fail.

Penalties for Late Work:
Late work will not be accepted.

Attendance Requirement:
You are required to view 75% of the lectures for this course, either in person or via recording. You can view all of the required lectures in person, via recording, or a combination of both. When viewing a lecture in person, be sure to sign in at the lecture to receive attendance credit. As many as possible of the live sessions will be recorded (audio and slides) and posted in [Blackboard](). Students will be notified by email when recordings are posted (usually by the end of the first Friday following the lecture). Attendance credit will be awarded for viewing the recorded lecture if the recording is viewed by the end of the second Friday following the lecture. Email Dr. Vana (vanam@wustl.edu) when you've finished viewing a recording to get attendance credit. Some lectures might not be recorded due to technical problems or guest lecturer request, however it's important to note that the attendance requirement is NOT 75% of the lectures recorded but of the TOTAL lectures offered for the semester. We will assure there are enough recorded lectures to meet this requirement should you choose to view all required lectures via recording. Contact crtc@email.wustl.edu if you are unsure of the exact number of lectures you need to complete.

Feedback and Grading Timeline:
Feedback on reflection papers will be emailed within a week of their submission date.

Technical Support

If you have any technical problems accessing [Blackboard]() please e-mail crtc@email.wustl.edu. Note this mailbox is not monitored in the evening or on weekends. If you need immediate help after hours please put in a service request at https://wusm.service-now.com.

CTSA Competencies

The following Clinical and Translational Science Award (CTSA) competencies are met by this course.

Core Thematic Areas	Competencies
VII. BIOMEDICAL INFORMATICS	• Describe the effects of technology on medical research, education, and patient care. • Discuss the role of bioinformatics in the study design and analyses of high dimensional data in areas such as genotypic and phenotypic genomics.

Course Policies

Participation (Expectations):
- It is vitally important that our classroom environment promote the respectful exchange of ideas. This entails being sensitive to the views and beliefs expressed during discussions whether in class or online.
- Your success in this course will heavily depend on your ability to communicate, engage and participate in all course activities. Successful completion of this course requires that a student keep up with all assignments and prep work for the lab components.

If you are unable to participate in the scheduled class activity or discussions you must notify the coursemasters within the week of that class module or discussion. **An unexcused failure to engage or participate with the class will be counted as an absence; unexcused absences may result in failure.** The coursemasters reserve the right to make judgment to accept and/or make–up assignments missed because of failed participation in the course activities.

Drop Dates:
If the occasion should arise that you want or need to drop this class, please talk to the coursemasters first. You can drop for any reason during the course of the semester; however you may only receive a partial or no tuition reimbursement depending upon how far into the semester you drop the course. See the Academic Calendar for your program for specific dates and reimbursement policies. Note, late withdrawals will also appear on your transcript as a withdrawal.

CRTC Academic Policy Guidelines:
Guidelines regarding CRTC course registration and enrollment, grades, tuition obligation, and academic leave are consolidated in the CRTC Academic Policy Guidelines. Please take a moment to review this document.

CRTC Guidelines for Academic and Non-Academic Transgressions:
By registering for this course you have agreed to the terms of the CRTC Guidelines for Academic and Non-Academic Transgressions. If you have not already reviewed this policy, please be sure to before beginning any CRTC related coursework.

Academic Integrity/Plagiarism:
- Academic dishonesty is a serious offense that may lead to probation, suspension, or dismissal from the University. One form of academic dishonesty is plagiarism – the use of an author's ideas, statements, or approaches without crediting the source. Academic dishonesty also includes such acts as cheating by copying information from another student. **Plagiarism and cheating are not acceptable.**
- Academic dishonesty will be reported to the Office of the Registrar for possible action. The coursemasters will make an academic judgment about the student's grade on that work and in that course. The CRTC process regarding academic dishonesty is described in the CRTC Guidelines for Academic and Non-Academic Transgressions

Writing Assistance:
For additional help on your writing, consult the expert staff of The Writing Center in Olin Library (first floor). It can be enormously helpful to ask someone outside a course to read your essays and to provide feedback on strength of argument, clarity, organization, etc.

Disability Resources:

Washington University is committed to providing accommodations and/or services to students with documented disabilities. Washington University's [Cornerstone: Center for Advanced Learning Disability Resources](#) is the University's official resource for students with disabilities and students with suspected disabilities. DR assists students with disabilities by providing guidance and accommodations to ensure equal access to our campus, both physically and academically. To learn more about its services, initiate the process of formal documentation and/or to arrange for accommodations, please contact [Disability Resources](#) at the start of the course.

Mental Health Resources:

Mental Health Services' professional staff members work with students to resolve personal and interpersonal difficulties, many of which can affect the academic experience. These include conflicts with or worry about friends or family, concerns about eating or drinking patterns, and feelings of anxiety and depression. See: http://shs.wustl.edu/MentalHealth.

Reporting Policies:

Please also [review the CRTC website for policies](#) regarding sexual assault reporting and reporting concerns about bias, prejudice or discrimination.