

Genomics in Medicine I
M17-532
Fall 2016 Syllabus

Time: Wednesdays, 4:00-5:00 PM, August 31, 2016 – December 7, 2016

Location: Holden Auditorium

Instructors: Marcy Vana, PhD
Senior Support Scientist, Becker Medical Library
vanam@wustl.edu
Office: 314-362-2796

Maze Ndonwi, PhD
Senior Support Scientist, Becker Medical Library
ndonwimaze@wustl.edu
Office: 314-362-4737

Ramaswamy Govindan, MD
Professor of Medicine, Internal Medicine – Medical Oncology
rgovinda@wustl.edu
Office: 314-362-5737

Office hours: By appointment

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.

Credits: One credit. Credit is awarded Pass/Fail.

Course Overview:

Introduction: Students will be provided with an introduction to genomics research and applications of genomics technologies. Students will also be provided with an understanding of clinical applications of genomics knowledge. Critical thinking and scientific/analytic competencies are emphasized throughout the course.

Format: The course format will include lectures by renowned faculty, discussion of the lecture topic in the form of questions asked during the lectures and at the end of the lectures, required reflection papers, and optional supplementary reading material.

Course Elements and Requirements for Students:

- It is very important that students attend all classes. The information needed to master the course objectives will be presented in class. Students who miss more than two classes will need to make arrangements with the instructors for alternative assignments.
- Students are required to complete a total of eight 1-1.5 page reflection papers. Each student will choose eight of the fourteen lecture topics on which to write reflection papers. Each paper is due one week after the chosen lecture occurs. The papers should be emailed to vanam@wustl.edu.
- Optional readings may be selected to supplement the lectures. Students will be notified by email if readings are selected for a given lecture.

Course Elements and Requirements for Instructors:

- Instructors will usually be available via e-mail during normal business hours to answer any questions that students may have about the course.
- The instructors retain the right to change the order of the lectures to accommodate scheduling conflicts of the faculty lecturers.

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%)
 - Each class attended will contribute to the attendance grade.
 - Students can miss up to two classes without penalty.
 - See the Attendance Policy 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 should 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 one week after the chosen lecture occurs. Reflection papers should be emailed to vanam@wustl.edu.**

Attendance Policy: You are expected to do your best to attend all classes in this course. You will need to sign in to the roster before or immediately after the lecture to get credit for attending. You may miss two classes for any reason without penalty, after that you will need to make arrangements with the instructors for alternative assignments.

Blackboard:

You can access Blackboard at <https://bb.wustl.edu> using your WUSTL Key username and password. Several days after each class session the lecture materials (lecture recording and/or slides) will be posted to Blackboard if the lecturer consents to share the materials. Students will be notified by email if/when the lecture materials are posted to Blackboard.

Schedule:

DATE	TOPIC	LOCATION
Aug 31	Molecular Biology/Genetics Refresher	Holden Auditorium
Sep 7	Molecular Biology/Genetics Refresher – Cancer	Holden Auditorium
Sep 14	The Genetic Basis of Disease	Holden Auditorium
Sep 21	Statistics for Genomics Research	Holden Auditorium
Sep 28	Genomes & Genome Browsers	Holden Auditorium
Oct 5	Genome Sequencing Technologies	Holden Auditorium
Oct 12	Genetic Variation & Disease	Holden Auditorium
Oct 19	Copy Number Variation	Holden Auditorium
Oct 26	Research Software Resources	Holden Auditorium
Nov 2	Proteomics & Mass Spec	Holden Auditorium
Nov 9	Genome Engineering & iPSCs	Holden Auditorium
Nov 16	From Genomic Data to Biological Knowledge	Holden Auditorium
Nov 23	NO CLASS – THANKSGIVING BREAK	N/A
Nov 30	Epigenetics	Holden Auditorium
Dec 7	Analysis of the Transcriptome	Holden Auditorium