
Junior Colloquium

Math 300 Spring 2016

Ⓟ 2016 Ron Buckmire

Fowler 110 T 10:30am - 11:25am

<http://sites.oxy.edu/ron/math/300/16/>

INSTRUCTOR Ron Buckmire ~ Fowler 313 ~ x2536 ~ ron@oxy.edu ~ **MadProfessah**

WEBSITE The official website for this course is at <http://sites.oxy.edu/ron/math/300/16/>

OFFICE HOURS I am in my office (Fowler 313) until at least 5pm most weekdays. My official office hours for Spring 2016 are **MTWRF 2-3pm**.

I am readily accessible by e-mail at ron@oxy.edu and by phone at **323-259-2536**. My Twitter handle is **MadProfessah** and my Google Chat name is **MadProfessah**. If you need to see me at a time not specified here, then contact me and make an appointment and I'll be happy to meet with you then. If you don't interact with me on a 1-to-1 basis then you really aren't getting your (tuition) money's worth!

CLASSROOM We will meet in Fowler 110, Tuesdays from 10:05am-11:30am.

TEXTBOOK No Required Text.

GOALS OF THE CLASS Specifically, by the end of this class I want you to be able to

- Show proficiency in writing clear and accurate mathematical content
- Show basic proficiency in presenting mathematical content verbally
- Demonstrate satisfactory understanding of fundamental concepts in Differential & Integral Calculus, Multivariable Calculus, Linear Algebra, and Discrete Mathematics
- Begin to develop a proficiency in professional written display of mathematical content using the \LaTeX typesetting language
- Be exposed to a wide spectrum of mathematical ideas and applications
- Be informed of post-graduation career opportunities in mathematics

FORMAT OF THE CLASS This course is a colloquium or seminar course. This is intended to facilitate small discussion and encourage academic collaboration and mutual support. Math 300 is a graded, 2-unit course. There are significant oral and written communication components. You are not required to attend (this is college!) but you are responsible for all announcements, assignments, handouts and course material that are presented during class times.

GROUP WORK Each of you will be assigned to become "expert" in one or several of the foundational areas:

Calculus OR Multivariable Calculus OR Linear Systems OR Discrete Mathematics

One of your **Assignments** will be a summary of the ideas in one of these foundational areas. I encourage you to work together on these summaries, but each person will write their own. The final summaries will be shared with everyone.

COMPREHENSIVE EXAMINATION The Comprehensive Examination (which is a graduation requirement administered by every academic department at Occidental College) in the Mathematics Department is split into two parts, Part 1 and Part 2. Part 1 is a comprehensive exam on the five Fundamental Courses (Differential & Integral Calculus, Multivariable Calculus, Linear Systems, and Discrete Mathematics) usually taken for the first time in the Spring semester of your Junior year. Part 2 of the Comprehensive Examination in the Mathematics Department is usually done in the Spring semester of the Senior year and usually consists of a paper and oral presentation. *Junior Colloquium* is intended to be the course where Part 1 is passed and preparation for Part 2 occurs.

We will work together throughout the first half of the semester to help prepare you for the Comps Part I Exam. The success of this review work is up to you individually and as a group. The exam will be given in late March or early April. (Tentatively, I have scheduled the Exam for Tuesday March 15 from 10am-1pm).

In recent years, the math department has used the following policy: for each section of the Comps Part 1 Exam, you must earn at least 60% to pass that section; to be eligible for “Distinction” upon graduation with a math major, you must attain at least 80% on every section on your first attempt. We will probably use this or a similar policy again this year.

GRADING Your course grade in Math 300 will be composed of the following:

- Assignments **20 %**
- Junior Writing Competency **30 %**
- Comps Part 1 Exam Score **30 %**
- Attendance and Participation **20 %**

JUNIOR WRITING COMPETENCY Math 300 is the course which the Mathematics Department uses to insure that all Mathematics Majors have fulfilled the Junior Writing Requirement. Thus there will be numerous opportunities to demonstrate your competency in the written presentation of mathematical ideas. Some of these assignments may be:

- A detailed solution to a standard Comps I problem (typewritten in \LaTeX)
- A summary of some (atleast five) of the main concepts in one of the fundamental classes (typeset in \LaTeX).
- A written summary of and reflection on one mathematical talk you attend during the semester
- A short paper presenting a mathematical topic/problem of your choice (i.e. for your Senior Comps)

Most likely you will have opportunities to revise and resubmit at least one of these papers.

SENIOR COMPS TALKS Unless you have a standing and unmovable commitment, and discuss this in-person with me, you are **REQUIRED** to attend the Senior Comps talks. These are currently scheduled to be given on **Thursdays 4:30-6:30 in February and March**. This will be part of your participation grade for Math 300.

ON-LINE MATERIALS There is a class mailing list, to which all registered students are subscribed, at `math300-L@oxy.edu`. I have produced a website for the course, where more detailed (and current) information about the class will be published. You are responsible for being aware of all course announcements that are available online.

The course web-page will act as the official syllabus for the course, which is subject to change.