# Math 240 — Calculus III

## Summer 2015, Session II

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| **Instructor** | Sebastian Moore |
| **Email** | `moose@math.upenn.edu` |
| **Course website** | `http://www.math.upenn.edu/~moose/teaching.html` or Canvas |
| **Lectures** | MTWR 1–3:10PM in DRL 4C4 |
| **Office hours** | M 3:10–4:10 and R 12–1, after class, or by appointment — in DRL 4C15 |
| **Extra help** | Math help is available MTWR 9AM–1PM in DRL 4E9 |

**Course overview:** This course consists of two parts: linear algebra and differential equations. In the linear algebra section we will begin by solving systems of linear equations and proceed to generalize this to the abstract concepts of vector spaces and linear transformations. Then we will use the methods of linear algebra to find solutions to linear ordinary differential equations.

**Prerequisite:** You are expected to be comfortable with integrating and differentiating functions as well as with the concepts of multivariable geometry (vectors vs. scalars, equations defining lines and planes, parameterized paths, etc.).

**Material covered:** A more detailed list of the topics covered in this class can be found on the Math department's official 240 syllabus at `http://www.math.upenn.edu/ugrad/calc/m240/math240syllabus.pdf`.

**Text:** The following text is required:

> *Differential Equations and Linear Algebra*, 3rd edition, Stephen W. Goode and Scott A. Annin.

**Grade components:**

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| Homework | 15% |
| Quizzes | 20% |
| Midterm | 30% |
| Final | 35% |

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*Last updated: July 6, 2015

**Important dates:**

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| 7/8 | Quiz 1 |
| 7/14 | Quiz 2 |
| 7/20 or 7/21 (TBD) | Midterm Exam |
| 7/27 or 7/28 (TBD) | Quiz 3 |
| 8/3 | Quiz 4 |
| 8/6 | Final Exam |

Also see the official SAS summer calendar at `http://www.sas.upenn.edu/summer/calendar`.

**Exams:** There will be one one-hour midterm exam administered during normal class time. This will be the culmination of the linear algebra part of the course. The last day of class will be devoted to the final exam, which will draw on material from the entire summer session. No makeup exams, midterm or final, will be given.

**Quizzes:** Quizzes will take place in class on the dates indicated above. The quiz will strongly resemble one of the previous week's homework problems. Let me know *in advance* if you will be absent for one or more of the quizzes.

**Regrades:** If you believe that your quiz, midterm, or final was graded in error it may be regraded. You must submit your request to me in writing (e.g. by email) and specify explicitly the potential error. Regrade requests must be submitted no later than one week after the assignment was returned to you. Note that the entire assignment will be regraded, and your grade may go up or down as a result.

**Homework:** Homework will be assigned daily and collected at the beginning of the next class. You are required to hand in solutions to problems marked with a *. The other homework problems are optional but recommended. Doing homework is the *most* effective way to prepare for the quizzes and exams, and will best prepare you to apply the material we learn this summer in your future endeavors. I will grade all of the homework that you hand in, but only the starred problems will contribute to your grade. Homework will be accepted late at a penalty of 10% per day, but not more than a week late.

**Collaboration and academic integrity:** I encourage you to work together to study and do homework. However, in order to assign you a grade as an individual, I ask that any work that is handed in for a grade be written up individually. This means that you may work with your fellow students to figure out how to solve a problem, then put away any notes or other written material produced in collaboration and write the solution on your own, using only the understanding you have gained. Please see the University's Code of Academic Integrity for more information. Any instances of academic dishonesty may be brought up with the Mathematics Department and/or the Office of Academic Integrity. It is your responsibility to know what constitutes cheating and clarify any ambiguities with me ahead of time.

**Getting help:** The pace of this course is very fast. If you are confused about anything, don't hesitate to take advantage of the many resources available to you:

- **Me!** Ask questions in class. No question is too basic. Come to my office hours if you don't want to speak up in class. If you can't, make an appointment.

- **Math help** is available Monday–Thursday 9AM–1PM in DRL 4C8. No appointment necessary.

- **The Tutoring Center** `http://www.vpul.upenn.edu/tutoring/`

- **Math Department Approved Tutors** `http://www.math.upenn.edu/ugrad/tutors.html`

- **Weingarten Learning Resource Center** in Stouffer Commons, Suite 300, 3702 Spruce Street. Stop by to use the study lounge or computer lab or to pick up self-help brochures and semester calendars. To schedule an appointment with a Learning Instructor, call (215) 573-9235 or visit in person. To learn more about Weingarten's services, visit `www.vpul.upenn.edu/lrc/lr/`.

**Disabilities:** Any student who requires special accomodation should contact the Office of Student Disabilities Services (SDS) at the Weingarten Learning Resources Center. For more information see `http://www.vpul.upenn.edu/lrc/sds/`.