

**Fundamental Principles of Calculus**  
**Math 118 – Section 39444 – Fall 2016**  
**University of Southern California**

**Lecture time and location:** M/W/F 12:00 – 12:50pm, THH 212

**TA Discussion Sections (register for one):**

T/Th 2:00 – 2:50pm, GFS 213, with Shuang Li

T/Th 3:00 – 3:50pm, GFS 213, with Shuang Li

**Professor:** Frank Lucas “Luke” Wolcott

**Email:** [luke.wolcott@usc.edu](mailto:luke.wolcott@usc.edu) or [fwolcott@usc.edu](mailto:fwolcott@usc.edu)

**Office:** KAP 424F

**Office hours:** Wednesdays 10am – 12pm and 2pm – 3pm

**Course website:**

Find it on Blackboard! All homework assignments and important announcements will be communicated here. Includes a detailed course calendar.

**Text:**

*Applied Calculus*, Hughes-Hallett. You have two options. (1) Buy the book at the bookstore. This is a custom textbook that comes with codes for the homework system WileyPLUS, as well as a special supplement on double integrals. ISBN: 9781119342373. (2) Pay for access to WileyPLUS, which comes with an electronic version of the textbook.

**Course objectives:**

This course introduces you to the key ideas of calculus, using a very hands-on and applied approach. Rather than focus on plug-and-chug algorithms that computers can do faster than humans, we’ll try to really understand what calculus is about and what it’s good for. A derivative measures the rate of change of a quantity. An integral measures the accumulation of a quantity. There are gazillions of applications in the real world.

We’ll cover Chapters 1–6 and 8, as well as a supplement on double integrals (although we will skip Sections 1.10 and 3.5, and probably one or two others).

**Homework:**

We’ll be using an online homework system called WileyPLUS that is closely integrated with the textbook. I think you’ll find that it has lots of handy features that help you learn and understand the material better while working on the assignments.

You’ll need to register at [www.wileyplus.com](http://www.wileyplus.com); if you’ve bought the textbook at the bookstore it comes with a code. Note that there is a 14-day grace period: WileyPLUS is free for 14 days, since some of you may drop this course in the first two weeks. Here is a how-to video for registering: <http://site-340784.bcvp0rtal.com/>.

Homework will be assigned weekly and **due by noon on Friday**. The lowest two homework scores will be dropped.

### TA Discussion Sections and Quizzes:

You must be enrolled for one of the two TA discussion sessions associated with this class. These meet T/Th for an hour, and are run by our TA, Shuang Li. These smaller sessions are your chance to get more comfortable with the material, ask lots of questions, work through problems, and do group work or partner work. Except for the first week, **on Tuesdays you will have a quiz during the TA section.** The lowest two quiz scores will be dropped.

The TA also has office hours each week, in the Math Center on the second floor of Kaprielian Hall. These hours haven't been scheduled yet.

### Exams:

There will be two midterm exams, in Week #5 and Week #10 probably, and a final exam. The final is common with all the Math 118 sections and is **on Wednesday, December 7 from 2 – 4pm.** Because it is a common final it counts as an exception in the USC listing of final exams; it might not fall on the day you think it falls on. It falls on **December 7.**

On quizzes and exams you will be allowed to use a simple scientific calculator only (e.g. the TI-30X). No graphing calculators, no phones. If you don't have one of these, they only cost about \$8.

**Grading:** Your final grade will be calculated as follows.

<u>Category</u>	<u>% of grade</u>
Homework (due Fridays)	15
Quizzes (on Tuesdays)	15
Midterm I	20
Midterm II	20
<u>Final Exam</u>	<u>30</u>
Total	100

### Make-ups:

Late homework assignments will not be accepted for any reason, and you cannot make up a quiz. In case of observance of religious holidays or participation in university sponsored activities, arrangements must be made at least three weeks in advance for exams. You will be required to provide documentation for your absence, and only in this case might a make-up exam be given. If you miss an exam due to unavoidable and well-documented circumstances, your final exam will be weighted more heavily.

### Tips for succeeding in this class:

- **Read the book and do the homework.** The only way to understand mathematical ideas deeply is to work out solutions to problems. Learning is an active process, and in this course you cannot succeed without doing the homework and class activities. My role as instructor is to explicate and clarify the concepts, but I can't make you learn if you don't put in the effort. You should plan to spend two hours working outside of class for every hour in class.

- **Attend TA section.** This is a great opportunity to ask all your questions, and to listen to your classmates' questions. Students often report that it was during TA sections that they really started to understand the material.
- **Ask for help.** No matter how much math you understand, there will always be people who understand more, and people who understand less. Asking questions is how we personalize this somewhat impersonal material, and make it mean something. So no question is a bad question. If there's something that isn't clear to you, I guarantee that you're not the only one. Ask your questions, and everyone will be grateful.
- **Study for exams.** Exams count for a large portion of your grade; the reason for this is that I want to force you to study. When you study for an exam you are relearning and reorganizing the material in a more useful form. It forces you to step back and try to see the larger picture. Without this integration of knowledge you will be lost in the forest, and will miss the underlying simplicity and beauty of these concepts.

#### Resources:

- **The course website!**
- **WileyPLUS** is full of helpful goodies. Worth exploring.
- The **Math Center**, on the second floor of Kaprielian Hall, is open throughout the week and staffed by graduate students. Your TA will hold office hours there, but you're welcome to pop in at other times. There is a roaming TA/tutor that can help you. Many students find it helpful to work through problems there.
- My **office hours** are dedicated to helping you – whether you just need a hint, need a back-to-basics explanation, or have a random question I might know the answer to. You can always email me or your TA a question too. I will try to respond within a few hours.
- The Center for Academic Support can provide **personal tutors**.

#### Academic Conduct:

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Section 11, Behavior Violating University Standards:

(<https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions>).

Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, (<http://policy.usc.edu/scientific-misconduct>).

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the Office of Equity and Diversity (<http://equity.usc.edu>) or to the Department of Public Safety (<http://adminopsnet.usc.edu/department/department-public-safety>). This is important for the safety of the whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. The Center for Women and Men (<http://www.usc.edu/student-affairs/cwm/>) provides 24/7 confidential support, and the sexual assault resource center webpage (<http://sarc.usc.edu>) describes reporting options and other resources.

Use of electronic devices – cell phones, laptops, etc – in class is a privilege not a right, and is distracting to everyone. Please be considerate of the instructor and your classmates when deciding how you want to spend your class time.

### **Support Systems:**

Students whose primary language is not English should check with the American Language Institute (<http://dornsife.usc.edu/ali>), which sponsors courses and workshops.

The Office of Disability Services and Programs provides certification for students with disabilities and helps arrange the relevant accommodations: ([http://sait.usc.edu/academicssupport/centerprograms/dsp/home\\_index.html](http://sait.usc.edu/academicssupport/centerprograms/dsp/home_index.html))

If an officially declared emergency makes travel to campus infeasible, USC Emergency Information (<http://emergency.usc.edu>) will provide safety and other updates, including ways in which instruction will be continued by means of Blackboard, teleconferencing, and other technology.

### **Extra credit – Joint Education Program:**

JEP gives you the opportunity to work as a math tutor in a local school. If you participate, I'll give you 3% extra credit. I think it fills up, so you might want to jump on it: (<https://dornsife.usc.edu/joint-educational-project/>)

This syllabus is subject to change. Check the course website for the current version.