**Math 425A – Fundamental Concepts of Analysis**

**Fall 2017 – SYLLABUS**

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**Instructor**: Guillermo Reyes

**Office:** KAP 444B

**Phone:** 213-740-7285

**Email**: guillermo.[reyes@usc.edu](mailto:reyes@usc.edu)

**Web site**: https://dornsifecms.usc.edu/guillermo-reyes-souto/

**Lecture hours and location** : MWF 11:00 – 11:50 am, KAP 145

**Office hours**: MWF 10:00 am – 11:00 am or by appointment, KAP 444B

**TA**: Maxwell Siegel

**Email**: maxwelcs@usc.edu

**TA Discussion hours and location:** Th 11:00 am and 12:00 pm, SGM 226

**TA's office hours:** TBD

**Course Description:**

We cover the first six chapters of the textbook plus some material from Chapter 7 if time permits. We will introduce the main concepts of Mathematical Analysis, including functions, limits, continuity, differentiability, sequences and series. These concepts are abstract versions of the corresponding concepts in Calculus. The course has a strong theoretical slant. Both homework and tests will consist of mostly theoretical exercises, and success in solving those requires, in the first place, thorough understanding of the material covered in lectures, in particular the ideas involved in the proofs of the fundamental theorems.

**Textbook:** W. Rudin, Principles of Mathematical Analysis (International Series in Pure and Applied Mathematics) (International Series in Pure & Applied Mathematics), McGraw-Hill Education; 3rd edition, 1976.

**Recommended bibliography:**

**Important dates**:

Midterm 1: Friday, October 6th, in lecture room

Midterm 2: Monday, November 20th, in lecture room

Last day to drop a class with a mark of W: Friday, November 10

Last class: Friday, December 1st

Final Exam: Wednesday, December 6, 11 am – 1 pm, room TBD

**Course schedule:**

A tentative week by week schedule of lectures is given in the table below.

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| --- | --- | --- |
| **Week** | **Dates** | **Textbook Sections** |
| 1 | August 21- 25 | Chapter 1 |
| 2 | August 28 – Sept. 1 | Chapter 1 – Chapter 2 |
| 3 | Sept. 6 – Sept 8 | Chapter 2 |
| 4 | Sept. 11 – Sept 15 | Chapter 2 |
| 5 | Sept. 18 – Sept 22 | Chapter 2 - Chapter 3 |
| 6 | Sept. 25 – Sept 29 | Chapter 3 |
| 7 | Oct. 2 – Oct. 6 | Chapter 3 – Midterm 1 |
| 8 | Oct. 9 – Oct. 13 | Chapter 4 |
| 9 | Oct. 16 – Oct. 20 | Chapter 4 |
| 10 | Oct. 23 – Oct. 27 | Chapter 4 - Chapter 5 |
| 11 | Oct. 30 – Nov 3 | Chapter 5 |
| 12 | Nov 6 – Nov 10 | Chapter 5 – Chapter 6 |
| 13 | Nov 13 – Nov 17 | Chapter 6 |
| 14 | Nov 20 - | Midterm 2 – Thanksgiving Break |
| 15 | Nov 27 – Dec 1 | Chapter 7 |

**Grading:**

Homework will be given essentially weekly and will be posted on BB. Assignment for each week will correspond to material covered the week before or by Monday the same week so you have time to practice. Homework will be turned in every Thursday in discussion session, except for Thursday, August 24th.

Quizzes will be given in discussion sessions every week, except on the first week.

There will be two midterm exams (50 min. each) during lectures and one final exam (2h). See the dates above.

All exams and quizzes are **closed-book** and **closed-notes**.

There will be no make-up exams or quizzes and no late submissions of homework will be accepted, unless special, documented circumstances are presented to the instructor.

Grades for midterms and final may be curved, depending on the results.

**Grade distribution:**

Quizzes = 15%. The lowest three grades will be dropped.

Homework = 15%. The lowest three grades will be dropped.

Each midterm = 20%

Final Exam = 30%

**Students Requiring Special Accommodation**

Any student requesting academic accommodations based on special needs is required to register with DSP each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to TA) as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

**Academic Integrity**

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one’s own academic work from misuse by others as well as to avoid using another’s work as one’s own. All students are expected to understand and abide by these principles. Scampus, the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: http://www.usc.edu/dept/publications/SCAMPUS/gov/. Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: http://www.usc.edu/student-affairs/SJACS/.

**Other comments:**

Official announcements, homework assignments, grades, etc. will be posted on Blackboard. You are expected to **check Blackboard on a regular basis.**

If for some reason you cannot take a midterm exam, or the final, please let me know in advance to find a solution.

Do not hesitate to ask questions. Walk-ins are welcome during office hours, and you can also make appointments to see me at other time. Your TA is also ready to help you.

There are tutors available to help you at the Math Center. The Math Center is located in KAP 263, and is open Monday to Thursday from 8am to 7pm and Friday from 8am to 5pm.

Here is a link to the Math Center if you need further information: https://dornsife.usc.edu/mathcenter