**SYLLABUS**

**Math 445 - Spring 2017 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Instructor**: Guillermo Reyes

**Office:** KAP 444B

**Phone:** 213-740-7285

**Email**: guillermo.reyes@usc.edu

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

**Lecture hours and location** : MWF, 1:00 – 1:50 pm, KAP 140

**Office hours**: MWF 3:00 - 5:00 pm or by appointment, KAP 444B

**TA**: Maxwell Siegel

**Email**: maxwelcs@usc.edu

**TA Discussion hours and location:** TTh 12:00 pm and 1:00 pm, GFS 113

**TA's office hours:** TBD

**Course Description:** The course is a natural continuation of Math 245, covering some of the fundamental tools of Applied Mathematics, Physics and Engineering. It starts with the main concepts and theorems from Vector Calculus (familiar to those who have taken Math 226 previously), followed by the fundamentals of Complex Analysis. Next, the Fourier series and transform are introduced as an important tool for the analysis of Partial Differential Equations, which is the next topic of the course. The last two weeks will be devoted to the study of power series methods for ODEs and their application to some relevant equations often arising in applications (Bessel’s, Legendre’s, etc.)

**Textbook:** E. Kreyszig. *Advanced Engineering Mathematics,* 10thEd. Wiley, 2011.

**Important dates**:

Midterm 1: Wednesday, March 1st, lecture room

Midterm 2: Wednesday, April 19th, lecture room

Last day to drop the class without a mark of W: February 24th

Last day to drop the class with a mark of W: April 7th

#### Last class: Friday, April 28th

Final Exam: Wednesday, May 3rd, 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  | January 9 – 13 | Chapter 9, Sections 7-9 |
| 2 | January 18 - 20 | Chapter10, Sections 1-2 |
| 3 | January 23 – January 27 | Chapter10, Sections 3-5 |
| 4 | January 30 – February 3 | Chapter10, Sections 6-8 |
| 5 | February 6 – February 10 | Chapter10, Section 9 Chapter13, Sections 1-2 |
| 6 | February 13 – February 17 | Chapter13, Sections 3-4 |
| 7 | February 22 – February 24 | Chapter13, Sections 5-6 |
| 8 | February 27 – March 3 | Review – Midterm I – Chapter 11, Section 1 |
| 9 | March 6 – March 10 | Chapter 11, Section 1-2 |
| 10 | March 13 - March 17 | **Spring Break** |
| 11 | March 20 – March 24 | Chapter 11, Sections 4,7,9 |
| 12 | March 27 – March 31 | Chapter 12, Sections 1-4 |
| 13 | April 3 - April 7 | Chapter 12, Sections 5-7 |
| 14 | April 10 – April 14 | Chapter 12, Sections 9-10 |
| 15 | April 17 – April 21 | Review – Midterm 2 – Chapter 5, Section 1 |
| 16 | April 24 - April 28 | Chapter 5, Sections 2-4 |

**Grading:**

Homework will be assigned at the end of each week. It will not be collected or graded, but working on it is key to succeed on quizzes/midterms/final and should be attempted right after the corresponding material is covered in the lecture.

Quizzes will be given in discussion sessions every week.

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

All exams and quizzes are **closed-book** and **closed-notes**. **No calculators** may be used during the exams unless otherwise stated before the day of the exam.

As a rule, there will be no make-up exams or quizzes unless special documented circumstances are presented to the instructor.

**Grade distribution:**

Quizzes = 30%. 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 the 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