

USC Viterbi School of Engineering

AME 526 – Engineering Analytical Methods

Units: 3

Summer 2019—Tue, Thu—2:30-5:40 pm

Location: OHE 100B

Instructor: Dr. Inna Abramova

Office: OHE 430M

Office Hours: Tuesday, Thursday, 11:00 am -1:00 pm (on-campus students);

Web-conferencing time for DEN students - TBD

Contact Info: abramova@usc.edu

The best way to reach me outside of the office hours is by posting your question on D2L board or by email. I try to answer emails/ D2L posts quickly, typically within 24 hours. All questions must be specific, or I cannot answer them. If you have a homework question, please, include a scan of your work (please, check that it's readable before you send it).

IT Help: USC Information Technology Services

<http://itservices.usc.edu/>

Hours of Service: Monday-Thursday: 8:00 am-7:00 pm,
Friday: 8:00 am-5:00 pm,

Saturday-Sunday: 1:00 pm-5:00 pm

Contact Info: consult@usc.edu, (213) 740-555

Course Description

Typical engineering problems discussed on a physical basis. Ordinary differential equations; Fourier series; Fourier integrals; Laplace transform; partial differential equations; Bessel functions.

Required Textbook:

Peter V. O'Neil, "*Advanced Engineering Mathematics*", 8th edition, Cengage Learning, May 2017, ISBN: 978-1-305-63515-9

Description and Assessment of Assignments

One midterm exam (take-home exam), 4 sets of weekly homework problems, and the final exam will be assigned and graded during the semester. The accumulated points that a student earned from all the assignments will be used to assign a grade for the student. The grading is curved.

All examinations are open book (required text only), notes, homework and handouts. No other sources are allowed. No cellphones, computers, tablets, or anything with wireless or internet access may be used.

Grading Breakdown

Assignment	Points	% of Grade
4 Homeworks, 25 pts. each	100	25
Midterm	120	30
Final Exam	180	45
TOTAL	400	100

Assignment Submission Policy

Weekly homework assigned, and due the following week. The assignments are posted online, and hand-written homeworks must be scanned and submitted online by midnight of the due date. Please, make sure that your scanned work is readable before submitting.

No late work is accepted.

Course Schedule: Tentative Weekly Breakdown

	Topics/Daily Activities	Readings and Homework	Deliverable/ Due Dates
Week 1 6/26-6/28	Ordinary Differential Equations	Chapter 1	
Week 2 7/01-7/05	Ordinary Differential Equations Laplace Transform	Chapter 1, 2 HW1 assigned	
Week 3 7/08-7/12	Laplace Transform Series Solution	Chapter 3, 4 HW2 assigned	HW1 due 7/11
Week 4 7/15-7/19	Fourier Series Fourier Transform Midterm Exam, 07/18	Chapter 13, 14	HW2 due 7/18
Week 5 7/22-7/26	Partial Differential Equations	Chapter 16, 17, and 18 HW3 assigned	
Week 6 7/29-8/02	Partial Differential Equations Separation of Variables Similarity Solutions Transform Methods	Chapter 15,16, 17, and 18 HW4 assigned	HW3 due 7/30
Week 7 8/05-8/08	Final Exam		HW4 due 8/08
FINAL	Final Exam		8/08 2:30 – 5:40 pm

Statement on Academic Conduct and Support Systems

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 Part B, Section 11, “Behavior Violating University Standards” policy.usc.edu/scampus-part-b. 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>.

Support Systems:

Student Counseling Services (SCS) – (213) 740-7711 – 24/7 on call

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention. engemannshc.usc.edu/counseling

National Suicide Prevention Lifeline – 1 (800) 273-8255

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. www.suicidepreventionlifeline.org

Relationship and Sexual Violence Prevention Services (RSVP) – (213) 740-4900 – 24/7 on call

Free and confidential therapy services, workshops, and training for situations related to gender-based harm. <https://studenthealth.usc.edu/sexual-assault/>

Sexual Assault Resource Center

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: sarc.usc.edu

Office of Equity and Diversity (OED)/Title IX Compliance – (213) 740-5086

Works with faculty, staff, visitors, applicants, and students around issues of protected class. equity.usc.edu

Bias Assessment Response and Support

Incidents of bias, hate crimes, and micro-aggressions need to be reported allowing for appropriate investigation and response. <https://studentaffairs.usc.edu/trojans-care/>

The Office of Disability Services and Programs

Provides certification for students with disabilities and helps arrange relevant accommodations. dsp.usc.edu

USC Support and Advocacy (USCSA) – (213) 821-4710

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. studentaffairs.usc.edu/sssa

Diversity at USC

Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. diversity.usc.edu

USC Emergency Information

Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible. emergency.usc.edu

USC Department of Public Safety – UPC: (213) 740-4321 – HSC: (323) 442-1000 – 24-hour emergency or to report a crime.

Provides overall safety to USC community. dps.usc.edu