Faculty of Engineering

Department of Mechanical Engineering

COURSE OUTLINE

MECH 601 – ENGINEERING ANALYSIS

Term – Fall 2016 (201609)

Instructor	Office Hours
Dr. Daniela Constantinescu	Days: W
Phone: 250.721.6040	Time: 9:30 am – 10:30 am
E-mail: danielac@uvic.ca	Location: EOW 541

LECTURE DATE(S)

Section: A01 /CRN12317	Days: MR	Time: 1:00 pm – 2:20 pm	Location: CLE D134

TA Name	E-mail	Office hours ELW B260
Razzi Movassaghi - Marking	razzim@uvic.ca	M, R 1:00pm – 2:00pm

Reference Materials:

E. Kreyszig, *"Advanced Engineering Mathematics"*

R. Courant and D. Hilbert *"Methods of mathematical Physics"*

D.W. Jordan and P. Smith, *"Mathematical Techniques"*

C.R. Wylie, L.C. Barrett *"Advanced Engineering Mathematics"*

COURSE OBJECTIVES: This course seeks to provide a graduate level introduction to advanced mathematical methods used in engineering analysis. The course focuses on the application of mathematics to engineering rather than on the rigorous proof of mathematical concepts. It covers integral transformations with applications, complex analysis and calculus of variations.

LEARNING OUTCOMES: Students who successfully complete this course, students will be able to use the concepts presented in class in their graduate research.

Weight & Date(s) of Assessments:	Weight	Date
Assignments (6):	25%	09.29; 10.13; 10.27; 11:17; 12.01; 12.08.
Mid-term	25%	Date: 4:00 pm – 6:00 pm on October 28 in ECS 104.
Final Exam	50%	TBA.

ASSIGNMENTS (Description & Method of Delivery)

1. Six problem sets will be distributed over the course of the term via the MECH 601 Course Space site. Assignment problems will require both proofs and calculations to complete.

2. The assignments must be submitted to the box marked "MECH 601" opposite ELW A136. **Late Assignments will not be accepted.**

Assignment #	Modules	Start	Due (5 pm)
1	Laplace transformations.	09.15	09.29
2	Laplace transformations.	09.29	10.13

3	Fourier transformations.	10.13	10.27
4	Fourier transformations.	10.27	11.17
5	Complex analysis.	11.17	12.01
6	Calculus of variations.	12.01	12.08

NOTE:

Failure to pass the final exam will result in a failing grade for the course.

The final grade obtained from the above marking scheme for the purpose of GPA calculation will be based on the percentage-to-grade point conversion table as listed in the current Undergraduate Calendar.

COURSE LECTURE NOTES

Unless otherwise noted, all course materials supplied to students in this course have been prepared by the instructor and are intended for use in this course only. These materials are NOT to be re-circulated digitally, whether by email or by uploading or copying to websites, or to others not enrolled in this course. Violation of this policy may in some cases constitute a breach of academic integrity as defined in the UVic Calendar.

GENERAL INFORMATION

Note to Students:

Students who have issues with the conduct of the course should discuss them with the instructor first. If these discussions do not resolve the issue, then students should feel free to contact the Chair of the Department by email or the Chair's Secretary to set up an appointment.

"**Attendance**

Students are expected to attend all classes in which they are enrolled. An academic unit may require a student to withdraw from a course if the student is registered in another course that occurs at the same time….

An instructor may refuse a student admission to a lecture, laboratory, online course discussion or learning activity, tutorial or other learning activity set out in the course outline because of lateness, misconduct, inattention or failure to meet the responsibilities of the course set out in the course outline. Students who neglect their academic work may be assigned a final grade of N or debarred from final examinations.

Students who do not attend classes must not assume that they have been dropped from a course by an academic unit or an instructor. Courses that are not formally dropped will be given a failing grade, students may be required to withdraw and will be required to pay the tuition fee for the course." UVic Calendar, (2016) http://web.uvic.ca/calendar2016-09/grad/academic-regulations/attendance.html

Accommodation of Religious Observance (AC1210)
http://web.uvic.ca/calendar2016-09/general/policies.html

Discrimination and Harassment Policy (GV0205)
http://web.uvic.ca/calendar2016-09/general/policies.html

Faculty of Engineering, University of Victoria
Standards for Professional Behaviour

"*It is the responsibility of all members of the Faculty of Engineering, students, staff and faculty, to adhere to and promote standards of professional behaviour that support an effective learning environment that prepares graduates for careers as professionals….*"

You are advised to read the Faculty of Engineering document Standards for Professional Behaviour which contains important information regarding conduct in courses, labs, and in the general use of facilities.
http://www.uvic.ca/engineering/current/undergrad/index.php#section0-23

Cheating, plagiarism and other forms of academic fraud are taken very seriously by both the University and the Department. You should consult the Undergraduate Calendar for the UVic policy on academic integrity.

Policy on Academic Integrity
http://web.uvic.ca/calendar2016-09/grad/academic-regulations/academic-integrity.html

Course Schedule (see the MECH 330 Course Plan for more details)

Module	Topics	Date/Week
1	Integral transformations: Laplace transformation; Fourier transformation.	09.08 – 11.03
2	Complex analysis: analytic functions; theory of residues; conformal mapping.	11.03 – 11.17
3	Calculus of variations: variations; constraints.	11.17 – 12.01