

	Date	Initials
Prepared by Instructor	Jan 6, 2017	pdy
Approved by Head	Jan. 6, 2017	RWB

1. Calendar Information

ENME 619.74 Fracture Mechanics in the Pipeline Industry

Overview of fracture mechanics. Linear elastic fracture, Elastic plastic fracture, Dynamic fracture, Fracture mechanisms in metals, Fracture toughness tests, Fatigue

Course Hours: H(3)

Calendar Reference: <http://www.ucalgary.ca/pubs/calendar/current/mechanical-engineering.html#7899>

2. Learning Outcomes and Graduate Attributes

At the end of this course, you will be able to:

1. understand phenomena and theories of fracture mechanics.
2. have a good foundation for industrial fracture and a basis for continued studies
3. understand briefly current research trends in the area

3. Timetable

Section	Days of the Week	Start Time	Duration (Minutes)	Location
ENME 619.74	Wednesday	5:30	180	TCPL

4. Course Instructors

Course Coordinator

Section	Name	Phone	Office	Email
ENME 619.74	Dong-Yeob Park	403-292-7098	3303-33 St NW	dong-yeob.park@canada.ca

Other Instructors

Section	Name	Phone	Office	Email

Teaching Assistants

Section	Name	Phone	Office	Email

5. Examinations

The following examinations will be held in this course:

- Midterm: March 1, 2017 (Tentative)
- Presentation (Project): March 29 and April 12, 2017 (Tentative)
- Final: scheduled by the Registrar

Note: The timetable for Registrar Scheduled exams can be found at the University's Enrolment website, <http://www.ucalgary.ca/registrar/>

6. Use of Calculators in Examinations

No

7. Final Grade Determination

The final grade in this course will be based on the following components:

Component	Learning Outcome(s) Evaluated	Weight
Assignments		25 %
Project/Presentation		10 %
Midterm Examination (2 hrs)		30 %
Final Examination (2 hrs)		35 %

Total: 100 %

Notes:

- It is not necessary to earn a passing grade on the final exam in order to pass the course as a whole.
- Conversion from a score out of 100 to a letter grade will be done using a scale determined after the final examination has been marked. This allows the creation of a scale appropriate to the relative difficulty or easiness of the term work and the final exam.
- A supplemental final exam will not be permitted.

8. Textbook

The following textbook is required for this course:

Title	Fracture Mechanics Fundamentals and Applications
Author(s)	Anderson, T.L.
Edition, Year	3 rd Edition, 2005
Publisher	Taylor & Francis

9. Course Policies

Advising Syllabus

All Schulich School of Engineering students and instructors have a responsibility to familiarize themselves with the policies described in the Schulich School of Engineering Advising Syllabus available at:

<http://schulich.ucalgary.ca/undergraduate/advising>

Emergency Evacuation/Assembly Points

In the event of an alarm sounding, all classrooms and labs must be evacuated immediately. Please respond to alarms promptly by leaving the building by the closest available exit. Faculty and students must remain outside the building until the 'all clear' has been given by a Fire Marshall. In case of emergency, call 220-5333.

Assembly Points have been identified across campus. These areas have been selected as they are large enough to hold a significant number of people and will provide an evacuated population access to washroom facilities and protection from the elements. More information on assembly points can be found at <http://www.ucalgary.ca/emergencyplan/assemblypoints>.

10. Additional Course Information

Prerequisites:

ENME 421 Materials I

ENME 479 Mechanics of Materials I

Course topics to be covered:

1. Linear elastic fracture
2. Elastic plastic fracture
3. Dynamic fracture
4. Fracture mechanisms in metals
5. Fracture toughness tests
6. Fatigue

Note: The course will aim to make it practical but it is inevitable to cover fundamental aspects.

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