

ME 4238/5238

Energy Conversion

Spring, 2009

Text: Fuel Cell Fundamentals, by Ryan O'Hayre, et al, 2nd Ed., Wiley.
Solar Engineering of Thermal Processes, by Duffie & Beckman, 3rd Ed, Wiley.

Instructor: Dr. P.E. Jenkins
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Office Hrs: TBA

Course Content:

This introductory Energy Conversion course introduces the basic background, terminology, and fundamentals of various forms of energy conversion. The topics covered will include: fuel cells, batteries, photovoltaic systems, solar thermal, and wind energy.

Prerequisites:

The prerequisites for this course are undergraduate Thermodynamics I and II.

Topics Covered:

1. Fuel Cell Conversion Technologies
2. Batteries
3. Photovoltaics
4. Solar Thermal
5. Wind Energy

Course Grade: Your course grade will be based on two tests and homework. Homework will account for 30% of your final grade, and each exam will be 35% of your overall average. Each test is 100 points, and the homework is worth 100 points. The total points possible for the course is 300 points. Each pop quiz or special assignment will count as one homework assignment.

Homework: Homework is due at the beginning of class on the day that the assignment is due. Late homework will not be accepted unless you have the approval of the instructor. Each homework set will be worth 10 points. Your homework grade at the end of the semester will be the percentage of 100 that you received on all your homework sets (Example: If all the homework sets add up to a maximum of 120 points, and your total was 90 points, then your grade for homework for the semester would be $75\% = 75$ points).

Tests: For the tests, you are responsible for understanding all of the reading material covered in the sections listed in the syllabus, blackboard presentation material, and for the homework problems and any example problems discussed in class.

Final Grade: Your final grade will be based on the percentage of the total number of points you received on the two tests plus the homework.

Grade Scale: The following scale will be used to assign grades at the end of the semester:

Average	Grade
94 and above	A
90 to 93.9	A-
87 to 89.9	B+
83 to 86.9	B
80 to 82.9	B-
77 to 79.9	C+
73 to 76.9	C
70 to 72.9	C-
60 to 69.9	D
Below 60	F

Note for Military Personnel: If you are a student in the military with the potential of being called to military service and/or training during the course of the semester, you are encouraged to contact Paul Rakowski (303-556-6771) in the College of Engineering Dean's office. If you will be away for training, arrangements can be made with the instructor.

References:

1. Thermodynamics, An Engineering Approach, by Cengel and Boles, 6th Ed, McGraw-Hill.
2. Schaum's Outline, Thermodynamics for Engineers, M.C. Potter & C.W. Somerton, 2nd Ed.

**University of Colorado Denver
Downtown Denver Campus**

College of Engineering and Applied Science Spring 2009 Registration and Academic Deadlines

- ⌚ *All UCD students are required to have an official UCD email account. To activate your official email account, visit <http://www.cudenver.edu/Admissions/Registrar/> on this page, select "New Email Policy" to enroll. You will need your Student ID and PIN to activate your account.*
- ⌚ *ALL students are responsible for completing financial arrangements with financial aid, family, scholarships, etc. DO NOT ASSUME ANYTHING WHEN DEALING WITH YOUR UCD FINANCIAL OBLIGATIONS.*
- ⌚ *Students taking any Engineering course MUST FOLLOW ALL PREREQUISITE REQUIREMENTS for registered courses. If you do not have the prerequisite(s) for a course you are enrolled in, you MAY be dropped without notice. The consequences of enrolling in a course without the proper prerequisites are your responsibility both financially and academically.*
- **January 19** Last day to withdraw from all classes and receive refund of \$200.00 advanced payment
- **January 20** First day of Spring 2009 semester classes.

- **January 25** Last day to Waitlist and/or add courses using SMART web registration. If your name does not appear on the official class roster, **YOU ARE NOT ENROLLED IN THE COURSE.**
- **January 26** No adds permitted on this day.
- **January 26** Last day to drop a course without a drop charge of \$100.00.
- **January 26** Students are responsible for verifying an accurate Spring 2009 registration via SMART.
- **January 27 thru February 4** Course adds using a Schedule Adjustment Form permitted with instructor approval. Drops via SMART system permitted. **Drop charges apply.***
- **February 4 (5:00pm)** Last day to apply for Spring 2009 graduation!!! **Treated as an absolute deadline.** Students **MUST APPLY ONLINE** at <https://admin.cudenver.edu/reg/> Complete the online "INTENT TO GRADUATE FORM".
- **February 4 (5:00pm)** Last day to drop full-term courses with tuition adjustment. **Drop charges apply.***
- **February 4 (5:00 pm)** Last day to add structured courses. **Treated as an absolute deadline.** The February 4 deadline does not apply to independent study, internships, and late-starting modular courses.
- **February 4** Graduate students must submit Application for Admission to Candidacy to Department.
- **March 23-29** Spring Break (no classes; campus open).
- **March 24** Last day to submit Thesis copies to Graduate School for Format Review. Submit to LSC 300.
- **April 6** Last day to drop a Spring 2009 course for Engineering students **without** an approved petition.
- **May 1** Last day to Submit **FINAL** copies of thesis to Graduate School (LSC 300). **FINAL THESIS COPIES MUST INCLUDE ALL REQUIRED SIGNATURES.**
- **May 2** Last day for Engineering students to drop a course **with** an approved petition. **Treated as an absolute deadline.**
- **May 11-16** Finals week
- **May 16** End of Semester. Graduation ceremonies held.
- **May 25** Spring 2009 grades available on SMART.

*A complete description of the UCDHSC Enrollment and Billing Policy can be obtained online at <http://www.ucdhsc.edu/admin/bursar/billandenroll/>

All Engineering students are solely responsible for obtaining important date and deadline information. Failure to meet deadline dates may interfere with your satisfactory academic progress, Financial Aid eligibility, or your ability to graduate on time. Be responsible, be informed.

For questions or further information, contact Engineering Student Services at 303-556-4768.

**University of Colorado Denver - Downtown Campus
Schedule of Deadlines for MASTERS CANDIDATES
Expecting to Graduate DURING 2008-2009
(revised April 2008)**

Admission to the Graduate School does not constitute admission to candidacy. Completion of hours of course work does not mean a student is automatically eligible for an advanced degree. Students must have filled appropriate requirements, as established by their major departments and the Graduate School. The Application for Admission to Candidacy must be approved and submitted as indicated below. STUDENTS, YOU MUST CONTACT YOUR DEPARTMENT PRIOR TO THE FOLLOWING DEADLINES! DECEMBER 2008	MAY 2009	
GRADUATION	GRADUATION	
Submit Application for Admission to Candidacy to your school/college. Applications received after this date may not be processed in time for that semester's graduation. Applications must have departmental approval when submitted.	September 3 <i>(census date)</i>	February 4 <i>(census date)</i>
Submit "Intent to Graduate" online at: http://www.cudenver.edu/Admissions/Registrar/Graduation+Information/default.htm	September 3	February 4
Submit thesis to Graduate School Office (LSC-300)	October 21	March 24

ASAP for format review no later than:		
Submit Request for Examination to your school/college, for final exam, report, project or thesis defense, <i>1 week before exam</i> , but no later than:	November 4	April 7
Last day for taking final comprehensive exam or defending thesis, report or project.	November 11	April 14
Last day to submit final copy of thesis (Plan I) to the Graduate School (LSC-300) ASAP. Thesis must be complete and in final form, <u>including all signatures (one copy must have original signatures)</u> . Two copies on thesis bond and one copy on regular paper are kept by UCD. You may order additional copies if you wish. Students whose theses are received after the deadline will graduate the following semester.	November 24	May 1
Grade changes should be submitted for any incomplete courses taken during previous semesters.	December 5	May 8
END OF TERM	December 13	May 16