

**MECH 5335 Aerospace Propulsion**  
Course Syllabus  
Fall 2019

**COURSE OBJECTIVES:**

The goal of this course is to provide the student with a foundation in aerospace propulsion. The objectives are to develop the student's ability to:

- Understand basic principles of various rocket and air-breathing propulsion systems;
- Analyze the performance of aerospace propulsion systems and their components;
- Understand and apply main principles of propulsion system design.

**TIME:** TR 9:00 am – 10:20 am

**LOCATION:** LART 107

**INSTRUCTOR:** Dr. Evgeny Shafirovich

**E-MAIL:** [eshafirovich2@utep.edu](mailto:eshafirovich2@utep.edu)

**OFFICE:** A112

**OFFICE HOURS:** MTWR 11 am – 12 pm

**TEXTBOOK:** Thomas A. Ward, *Aerospace Propulsion Systems*, Wiley, 2010, ISBN 978-0-470-82497-9

**BLACKBOARD:** Instructor will use Blackboard for uploading lectures, updating the syllabus (if necessary), and communicating with students via “Announcements” and email.

**EXAMINATIONS:** There are two exams. All exams are open book and closed notes.

**DESIGN PROJECT:** Students will work on design projects individually or in pairs. Each student or pair will create a conceptual design of a specific aerospace propulsion system. Progress reports are due every 2 weeks throughout the semester. Each student/pair will make two oral presentations of their progress during the semester and the final oral presentation of the project at the end of the semester. A final report is due at the end of the semester.

**GRADING:**

Exam 1	25%
Exam 2	25%
Design Project	50%

**ACCOMODATIONS:** If you have a disability and need classroom accommodations, please contact the Center for Accommodations and Support Services (CASS) at 747-5148, or by email to [cass@utep.edu](mailto:cass@utep.edu), or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at [www.sa.utep.edu/cass](http://www.sa.utep.edu/cass).

## COURSE CALENDAR

Week	Day	Date	Topic	Sections
1	T	8/27	Introduction and Fundamentals	1.1
1	R	8/29	Fundamentals	1.2 – 1.4
2	T	9/3	Fundamentals	1.5 – 1.6
2	R	9/5	Fundamentals	1.6 – 1.7
3	T	9/10	Rocket engines. <b>Project topic assigned.</b>	2.1 – 2.2
3	R	9/12	Rocket engines	2.2
4	T	9/17	Rocket engines	2.3
4	R	9/19	Rocket engines	2.4
5	T	9/24	Rocket engines	2.5 – 2.8
5	R	9/26	Rocket engines	2.9 – 2.12
6	T	10/1	<b>Project progress presentations 1</b>	
6	R	10/3	<b>Project progress presentations 1</b>	
7	T	10/8	Review	Chs. 1 and 2
7	R	10/10	<b>Exam 1</b>	Chs. 1 and 2
8	T	10/15	Gas turbine engines	4.1 – 4.3
8	R	10/17	Gas turbine engines	4.4
9	T	10/22	Gas turbine engines	4.5
9	R	10/24	Gas turbine engines	4.6 – 4.7
10	T	10/29	Gas turbine engines	4.8
10	R	10/31	Gas turbine engines	4.8 – 4.10
11	T	11/5	<b>Project progress presentations 2</b>	
11	R	11/7	<b>Project progress presentations 2</b>	
12	T	11/12	Ramjet engines	5.1 – 5.2
12	R	11/14	Ramjet engines	5.2
13	T	11/19	Ramjet engines	5.3 – 5.4
13	R	11/21	Review	Chs. 4 and 5
14	T	11/26	<b>Exam 2</b>	Chs. 4 and 5
14	R	11/28	<i>Thanksgiving Day</i>	
15	T	12/3	<b>Project presentations. Final report is due.</b>	
15	R	12/5	<b>Project presentations</b>	

No Final Exam

## **Department's Policies**

### **Academic Honesty**

During exams and quizzes, you are not allowed to use any form of wifi enabled electronic device, including cell phones or other electronic communication devices or methods (wrist watches, earbuds, etc.). No wrist watch or other electronic device may be worn.

No electronic version of the book, loose paper print-outs of the book or extra sheets of paper of any kind are allowed unless explicitly mentioned in writing by the instructor. As a part of the zero-tolerance policy, if you have a cellphone or other electronic device capable of communication on your person; or if any proctor sees or hears any electronic device during the exam or if you share your work with someone else, you will be reported to the proper authorities and you may receive a zero on the exam and an F in the class. Other actions including suspension may also be pursued.

If anyone leaves the exam room during an exam they must be accompanied by a proctor. This includes restroom breaks.

University approved recording devices may also be located at various locations in the room and may be out of sight of the students. These recordings will be managed according to the UTEP approved regulations for such media.

If you are suspected of scholastic dishonesty, you may not be directly confronted about your conduct by the instructor or proctor. You will, however, be reported to the Office of Student Conduct and Conflict Resolution (OSCCR) and your exam will not be admissible. Your grade in the class may not be available until OSCCR makes a final ruling, this may adversely impact your ability to enroll in other classes.

If you arrive more than 15 minutes late to an exam, you will not be allowed to take the examination.

There will be no makeup exams administered. If you have a university approved excuse, your instructor will have a process for determining how to handle the missing grade outlined in the syllabus. However, no makeup exams will be given.

If you miss more than one exam, the instructor may choose to administratively drop you from the class. This may adversely impact a visa and financial aid.

Any food or drink brought into the examination room is subject to careful inspection by a proctor.

Departmental policy allows for the use of assigned seats. All students must present their UTEP issued ID prior to and during every exam and may be required to sign in. Not having a UTEP issued ID when asked will result in forfeiture of the exam.

Scholastic dishonesty on homework, lab assignments and all other class assignments will be held to the same standards and requirements of academic honesty as quizzes and exams.

## **Class Attendance Policy**

Attendance is mandatory. Anyone with 5 or more absences will be dropped from the class. A drop for not attending will count toward the State Allowed Six Drop Limit. If you are failing the class at the time of the drop you may also be given a WF designation. Be advised that a drop could adversely impact visa status, financial aid and other programs.

As per UTEP rules, you may be asked to show a UTEP ID at any time during class. Anyone who is present and not registered in the class will be subject to disciplinary action unless the instructor gives prior approval.

## **Excused Absence for Exams**

The UTEP catalog allows Exam Absence to be excused ONLY for University-Recognized Activities and very specific other situations. Medical absence is NOT allowed in the UTEP catalog. For consistency with the catalog, students will NOT be excused from exams due to illness.

## **Harassment Policy**

The department has a zero-tolerance policy for harassment. Engagement in any behavior considered harassment will be reported to the proper authorities. In addition to generally understood forms of harassment, the department also treats the following behavior as harassment:

- Repeated emails and/or calls regarding subjects that have already been addressed. Once a decision has been made or a question answered, a student who continues to ask the same question will be given a warning by the recipient of the email/call. If the student continues, the behavior will be reported. Questions that seek understanding of course material are not harassment; but repeated questions about a grade or an administrative decision are.
- Grades are NOT negotiable, ever. If you believe a grading mistake has been made, you must follow the process described in the UTEP catalog. Any request for a grade elevation that is NOT based on a mistake is considered harassment and will be reported immediately.
- Remaining in an office after the occupant requests you leave is considered harassment and potentially threatening. You will be reported immediately without warning and depending on the severity, may be reported to law enforcement.
- Similar behavior towards department staff, and student advisors will also be treated as harassment, including persistent phone calls, emails, and badgering. Department staff and student advisors are there to help students, and should be treated with due respect.