EAS 6138 - Gasdynamics
S. Roy, Professor, 336 MAE-B  roy@ufl.edu

Prerequisites
EAS 4103 or EML 5714 or any course in one-dimensional compressible flow.

Course Objective
The objective of this course is to explore concepts related to Gasdynamics and compressible flows. The course will use the basic understanding of one dimensional isentropic flow as the starting point and expand into more advance concepts of compressible flows. The skills developed in this class are important to a variety of mechanical and aerospace engineering applications.

Topics
Below is an approximate list of the topics that will be covered in this class.

Review of 1-D isentropic concepts
Wave propagation
Shock Tubes
Oblique shocks and wedge flows
Thin airfoil theory
Multi-dimensional compressible flow
Linearized flow equations
Transonic flows
Method of characteristics
Potential Flow
Compressible Boundary Layers
Special Topics Numerical Methods

Text and Other Resources

- **Class Text:** Elements of Gasdynamics, by H. Liepman and A. Roshko, Dover Publications.
- **Supplemental Text:**

Course web page
- Maintained through UF and can be found by signing into Sakai at lss.at.ufl.edu

Grade Determination

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Homework</td>
<td>Assigned, Not Graded</td>
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<tr>
<td>Paper Reviews (assigned)</td>
<td>20%</td>
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<tr>
<td>Exams (take-home)</td>
<td>40%</td>
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<tr>
<td>Project (see note below)</td>
<td>40%</td>
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<td>Total</td>
<td>100%</td>
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**Project:** Discuss any project idea that you may have that is suitable for this course. This should be finalized by the middle of the semester. Topics may be relevant to your research, you may write your own code to design a nozzle or use CFD software to solve a problem of your interest.
Instructor Information
Dr. Subrata Roy
Professor, Department of Mechanical and Aerospace Engineering
MAE 336
Office Hours: TBD
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Personal Responsibility
You are personally responsible for all information disseminated during the lectures. This means knowing homework due dates, what material they will cover, knowing when the project is due, and knowing all material, handouts, and announcements made in the lectures, whether or not you were present. Importantly, this is a graduate course. DO NOT expect the lecture to cover everything. Some parts of your homework and project may cover materials on the subject that are available in published literature and on the internet.

Late / Makeup Work
Students are permitted one late HW submission, provided the HW is handed in prior to the posting of the solution. The request for this extension must be made to the instructor before the due date of the assignment.

Academic Honesty
All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a student at the University of Florida and to be honest in all work submitted and exams taken in this class and all others.

Accommodations for Disabilities
Students with disabilities who are requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodations.

Other Student Resources
University Counseling Center - (352) 392-1575 - http://www.counsel.ufl.edu/default.asp
Mental Health Services - (352) 392-1171 - http://www.health.ufl.edu/shcc/smhs.htm
Alachua County Crisis Center - (352) 264-6789
ASME web site on ethics - http://www.asme.org/ethics/