ME753 –Advanced Fluid Mechanics

Course Outline

Instructor:  Professor Mohamed S. Hamed
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http://mech.mcmaster.ca/~hamedm/

Course Website:  Go to  http://mech.mcmaster.ca/~hamedm  then click on Courses, then click on ME753 course site.

Important Announcements:  Check important announcements on course website. It is the student's responsibility to check the "Important Announcements" section on a regular basis.

Suggested Textbooks:

Lectures:  There will be a weekly three-hour lecture On Thursdays 9:00-12:00 PM in JHE-219. The first lecture is on Sept 18.

Grading:  The following distribution of marks will be used

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Assignments</td>
<td>25%</td>
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<tr>
<td>Mid-term</td>
<td>25%</td>
</tr>
<tr>
<td>Final exam</td>
<td>50%</td>
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Assignments:  Regular (roughly every week) assignments will be given. Assignments will be due in class on the date indicated on each assignment sheet. Late assignments will not be accepted. Although the students might discuss the problems among themselves, each student must turn in his/her own solution. Students may be asked to defend their papers orally.

The Mid-term Test:  The mid-term test is an open-book, in-class test. Date and time TBA

Final Examination:  The final exam is an open-book, in-class examination that will cover all lecture material. Student must pass the final exam to pass the course. The date and time of the final exam TBA.
Course Topics:

1. Cartesian Tensors.
2. Kinematics.
4. Vorticity Dynamics.
5. Scaling and Dynamic Similarity.
8. Introduction to Turbulence- time permit

Policy Reminders:

“The Faculty of Engineering is concerned with ensuring an Environment that is free of all adverse discrimination. If there is a problem, that cannot be resolved by discussion among the persons concerned, individuals are reminded that they should contact the Department Chair, the Sexual Harassment Officer or the Human Rights Consultant, as soon as possible”.

While interaction with your fellow students is expected in learning, assignments and projects submitted for academic credit must be your own work. "Academic dishonesty consists of misrepresentation by deception or by other fraudulent means and can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various kinds of academic dishonesty please refer to the Academic Integrity Policy, specifically Appendix 3, located at http://www.mcmaster.ca/senate/academic/ac_integrity.htm

The following illustrates only three forms of academic dishonesty:
1. Plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations.