**Vector Analysis**  
MA 4/544–OR, Summer 2019

**Instructor:** Dr. Y. Zeng, CH 496A, 934-2154, ynzeng@uab.edu

**Time & Location:** MWF, 1pm – 2:20pm, HB 236

**Office Hours:** Tuesday and Thursday, 2:00 p.m. – 2:50 p.m. (or by appointment)

**Pre-requisite:** MA227 with a grade of C or better.


**Grading Policy:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Attendance</td>
<td>5 %</td>
</tr>
<tr>
<td>Weekly Homework Assignments</td>
<td>30 %</td>
</tr>
<tr>
<td>Mid-Term Exam (80 minutes)</td>
<td>25 %</td>
</tr>
<tr>
<td>Final exam (150 minutes)</td>
<td>40 %</td>
</tr>
</tbody>
</table>

- Some questions on the exams are for MA544 students only.
- Your final grade is determined according to the following table:

<table>
<thead>
<tr>
<th>Course performance</th>
<th>88-100</th>
<th>75-87</th>
<th>62-74</th>
<th>50-61</th>
<th>below 50</th>
<th>Final Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>F</td>
<td></td>
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</tbody>
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**Syllabus:**

- Review of vectors and vector functions
- Scalar and vector fields
- Divergence and Curl
- Line integrals
- Conservative fields
- Vector potentials
- Oriented surfaces
- Surface integrals
• Volume integrals
• Divergence theorem
• Greens formulae etc.
• Greens theorem
• Stokess theorem
• Fluid Mechanics and the Navier-Stokes Equations

Important dates:
• First day of classes: June 3, 2019
• Last day to drop without paying full tuition: June 10, 2019
• Mid-term exam: Friday, June 28, 2019
• Independence Day Holiday: July 4, 2019
• Last day to withdraw with a “W” : July 5, 2019
• Last day of class: Aug 2, 2019
• Final exam: Monday, August 5, 1:30 PM – 4:00 PM