ENGE 360 ELECTROMAGNETIC FIELDS & WAVES
3 credits — MWF 12:40–1:30PM — EHS 217

John Natzke, PhD
Office: WMR211 Hours: M 3:40-4:30PM, W 11:40-12:30PM, 1:40-2:30PM, F 1:40-2:30PM
Phone: 503-554-2783

Texts
• The Book of Mark.

Objectives
• To review electric circuit fundamentals, phasors, and vector analysis techniques.
• To study the fundamental theories of electricity and magnetism.
• To introduce Maxwell’s equations for time-varying fields, and their application to analyzing electromagnetic systems. Included are transmission lines, wave propagation and reflection, radiation, and antennas.
• To apply numerical methods and computer simulation tools to the analysis and design of electromagnetic systems.
• Chapters to be covered in Ulaby text: 1–6, selected topics in 7–10.
• To participate in the Engineering Your Soul (EYS) reading schedule for Mark; see http://engr.georgefox.edu/EYS.

Assignments
Readings and homework will be given for each chapter. MATLAB will be used frequently as a computational and visualization tool. Homework is due at the beginning of the designated class period; no late homeworks are accepted.

Exam Schedule
Take-Home Exam 1 Feb. 18–21
Take-Home Exam 2 Apr. 8–11
Final Exam Tues., Apr. 26, 1 PM

Grading

<table>
<thead>
<tr>
<th>Percent Breakdown</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>35</td>
</tr>
<tr>
<td>Exams (2)</td>
<td>40</td>
</tr>
<tr>
<td>Final Exam</td>
<td>25</td>
</tr>
<tr>
<td>100 %</td>
<td></td>
</tr>
</tbody>
</table>

A 91-100 %   C+ 77-78
A- 89-90     C 71-76
B+ 87-88     C- 69-70
B 81-86      D+ 67-68
B- 79-80     D 61-66

Disability Services Information
If you have specific physical, psychiatric, or learning disabilities and require accommodations, please contact the Disability Services Office as early as possible so that your learning needs may be appropriately met. You will need to provide current documentation of your disability to the Disability Services Office. For more information, go to ds.georgefox.edu or contact Rick Muthiah, Dean of Learning Support Services (503-554-2314 or rmuthiah@georgefox.edu).

“If anyone wants to be first, he must be the very last, and the servant of all.” Mark 9:35