

**PHY 3323: Electromagnetism 1**

Fall 2018

Professor Mark W. Meisel

*"in vivo"* schedule (black text: projected and tentative; purple text: past; blue text: hotlinks; red text important announcements; green text: fixed final exam)

**Note:** Schedule is "projection" and revisions will be announced in class and subsequently posted online.

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| <b>Week 1</b> | Aug 20 | No Class scheduled by registrar.  |
|               | Aug 22 | Class Starts, Introduce the Course, Preamble, Ch. 1.<br><b>NOTE: 4th edition HW Problems (X.X is 3rd edition, if different.)</b><br><b>Homework Problems Ch. 1: 1.2, 1.4, 1.7, 1.10, 1.11, 1.13, 1.15, 1.16, 1.18, 1.20 (1.19), 1.22 (1.21), 1.26 (1.25), 1.31 (1.30), 1.32 (1.31), 1.34 (1.33), 1.39 (1.38), 1.43 (1.42), 1.44 (1.43), 1.46 (1.45), 1.48 (1.47), 1.54 (1.53), 1.56 (1.55), 1.59 (1.58).</b>  |
|               | Aug 24 | Check ELS gradebook to see your entry! Appendices, Units, Continue Ch. 1.   |
| <b>Week 2</b> | Aug 27 | Ch. 1 Continued, Delta-function started.<br>Finish Ch. 1.   |
|               | Aug 29 | <b>Email questions for Quiz 1 Review by Noon.</b> Review Ch. 1.   |
|               | Aug 31 | <b>Quiz 1</b> covering Ch. 1.   |
| <b>Week 3</b> | Sep 03 | <b>No Class (Labor Day).</b>  |
|               | Sep 05 | Quiz 1 returned and discussed.<br>Start Ch. 2: Demo of charged objects attraction/repulsion.<br><b>Homework Problems Ch. 2: 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.9, 2.10, 2.11, 2.12, 2.13, 2.14, 2.15, 2.16, 2.18, 2.19, 2.20, 2.21, 2.22, 2.25, 2.27, 2.28, 2.31, 2.38 (2.35), 2.39 (2.36), 2.41 (2.37), 2.42 (2.38), 2.46 (2.42 slightly different wording but same concepts), 2.47 (2.43), 2.50 (2.46).</b>  |
|               | Sep 07 | Ch. 2 continued and cover Sec. 2.1, Sketch Prob. 2.7, discuss limits.   |
| <b>Week 4</b> | Sep 10 | Finish Prob. 2.7, note Prob. 2.3, 2.4, 2.5, 2.6 are classics. Finish Sec. 2.2.  |
|               | Sep 12 | Ch. 2 continued Sec. 2.3 to about 2.3.5. Integrals on coversheet for Quiz 2 posted online. Prob. 2.14?  |
|               | Sep 14 | Finish Ch. 2.   |
| <b>Week 5</b> | Sep 17 | <b>Email questions for Quiz 2 Review by Noon.</b> Review Ch. 2.   |
|               | Sep 19 | <b>Quiz 2</b> focusing on material in Ch. 2 covered up to end of lecture on Sep 14.   |
|               | Sep 21 | Start Ch. 3 after review of Quiz 2. Overview Ch. 3 and "images" method.<br><b>Homework Problems Ch. 3: 3.1, 3.2, 3.3, {3.5 (3.4) special}, 3.8 (3.7), 3.9 (3.8), 3.10 (3.9), 3.11 (3.10), 3.13 (3.12), 3.14 (3.13), 3.15 (3.14), 3.16 (3.15), 3.19 (3.18), 3.20 (3.19), 3.21 (3.20), 3.24 (3.23), 3.26 (3.25), 3.27 (3.26), 3.29 (3.27), 3.30 (3.28), 3.32 (3.30), 3.33 (3.31), {3.36 (3.33) experts}, 3.39 (3.35), 3.40 (3.36), 3.45 (3.39), 3.46 (3.40), 3.47 (3.41).</b> |
| <b>Week 6</b> | Sep 24 | Continue Ch. 3. Focus on wave guides, Sec. 3.3, Ex. 3.3 and 3.5.  |
|               | Sep 26 | Continue Ch. 3. Focus on wave guides, Sec. 3.3, Ex. 3.3 and 3.5.  |
|               | Sep 28 | Continue Ch. 3. Spherical and cylindrical cases to finish Sec. 3.3.   |
| <b>Week 7</b> | Oct 01 | Finish Sec. 3.3.  |
|               | Oct 03 | <b>Email questions for Quiz 3 Review by Noon.</b> Review of Ch. 3.  |
|               | Oct 05 | <b>Quiz 3</b> focusing on material since Quiz 2 to end of lecture on Oct 01.<br><b>Quiz 3 will focus on material in Sections 3.1 to 3.3, <u>inclusive</u>.</b>  |

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| <b>Week 8</b>  | Oct 08 | Return Quiz 3. Section 3.4 (Multipole Expansion) to Finish Ch. 3.<br>Start Ch. 4. <b>Homework Problems Ch. 4: 4.4, 4.5, 4.6, 4.10, 4.11, 4.13, 4.15, 4.18, 4.21, 4.22, 4.28, 4.33, 4.39 (4.36).</b>  |
|                | Oct 10 | Continue Ch. 4.  |
|                | Oct 12 | Continue Ch. 4.  |
| <b>Week 9</b>  | Oct 15 | Finish Ch. 4.  |
|                | Oct 17 | <b>Email questions for Quiz 4 review by Noon.</b> Review of Ch. 4.   |
|                | Oct 19 | <b>Quiz 4</b> focusing on material since Quiz 3 to end of lecture on Oct 15.   |
| <b>Week 10</b> | Oct 22 | Review Quiz 4. Start Ch. 5.<br><b>Homework Problems Ch. 5: 5.4, 5.5, 5.6, 5.8, 5.9, 5.10, 5.11, 5.16 (5.15), 5.17, (5.16), 5.22 (5.21), 5.23 (5.22), [5.34 (5.33), you should understand the notation], 5.49 (5.48), 5.58 (5.56), 5.60 (5.58).</b> |
|                | Oct 24 | Continue Ch. 5. <u>Extra-Credit Exercise 1</u> described and posted.   |
|                | Oct 26 | Continue Ch. 5. Completed the “triad”, Fig. 5.48 plus <b>B</b> to <b>A</b> .   |
| <b>Week 11</b> | Oct 29 | Continue Ch. 5. Magnetic monopole. Start some “classics”.  |
|                | Oct 31 | Finish Ch. 5 by completing “classics” discussion.  |
|                | Nov 02 | <b>No Class (UF Homecoming).</b>   |
| <b>Week 12</b> | Nov 05 | <b>Email questions for Quiz 5 Review by Noon.</b> Review of Ch. 5.   |
|                | Nov 07 | <b>Quiz 5</b> focusing on material since Quiz 4 to end of lecture on Oct 31.   |
|                | Nov 09 | No formal class meeting. <b>Reading Day</b> for <u>Extra-Credit Exercise 1</u> .<br>Start reading/working Ch. 6.<br><b>Homework Problems Ch. 6: 6.7, 6.8, 6.9, 6.14, 6.15, 6.25 (6.23).</b>  |
| <b>Week 14</b> | Nov 12 | <b>No Class (Veterans Day Holiday observed by UF).</b>   |
|                | Nov 14 | In-class 10 pt exercise on material in Ch. 5. Open book and notes.   |
|                | Nov 16 | Review Quiz 5 and in-class exercise.   |
| <b>Week 15</b> | Nov 19 | Finish Ch. 6.  |
|                | Nov 21 | <b>No Class (Thanksgiving Holiday).</b>  |
|                | Nov 23 | <b>No Class (Thanksgiving Holiday).</b>  |
| <b>Week 16</b> | Nov 26 | <b>Email questions for Quiz 6 Review by Noon.</b> Review Ch. 6.<br><u>Extra-Credit Exercise 1</u> due by Noon.   |
|                | Nov 28 | <b>Quiz 6</b> focusing on material since Quiz 5 to end of lecture on Nov 19.   |
|                | Nov 30 | Return Quiz 6. Finish Ch. 6 if needed. Review entire course.   |
| <b>Week 17</b> | Dec 03 | <b>Email questions for Final Review by Noon.</b><br>Review entire course and prepare for final.  |
|                | Dec 05 | <b>Last Day of Class.</b> Overview material for Final Exam continues.<br><b>Last Day for resolving any questions about graded material.</b>  |
|                | Dec 07 | <b>No Class (Reading Day).</b>   |

**Final Exam:** Monday, 10 December 2018, 10:00 to 12:00 hrs (Noon), in NPB 1220 (classroom for course). Final Exam covers material from the entire course.