

*In the name of Allah, Most Gracious, Most Merciful.*  
**KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS**  
 Electrical Engineering Department



**EE340-1 (SMW 59-2018, 11:00-11:50 am)**  
**Introduction to Electromagnetics, Fall 2009/2010 (091) Schedule**  
**Text Book: Elements of Electromagnetics, M. Sadiku, 4th Edition**

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Wk	Date	Topics	Text	Quizzes
1	3-7 Oct.	Introduction, Vector Algebra, Coordinate Systems	1.1-1.8, 2.1-2.5	
2	10-14 Oct.	Vector Calculus	3.1-3.3	
3	17-21 Oct.	Vector Calculus, Coulomb's Law	3.4-3.9, 4.1-4.2	<b>Q1 (Material: W 1-2)</b>
4	24-28 Oct.	Coulomb's Law, Flux Density	4.3-4.4	
5	31-4 Nov.	Gauss' Law, Electric Potential	4.5-4.8	
<b>First Major Exam, Sunday 8th of November, 2009 6:00-7:30 pm</b>				
6	7-11 Nov.*	Elec. Dipole, Energy density, Currents, Polarization, Continuity Eq.	4.9- 4.11, 5.1-5.6,5.8	<b>Exam 1 (Material: W 1-5)</b>
7	14-18 Nov.	Boundary Conditions, Poisson's & Laplace's Equations	5.10, 6.1-6.4	
<b>Eid Al-Adha Vacation, Sat. 21 Nov.- Wed. 2 Dec., 2009</b>				
8	5-9 Dec.	Resistance and Capacitance, Biot-Savart's and Ampere's Laws	6.5, 6.7, 7.1-7.3	<b>Q2 (Material: W 6-7)</b>
9	12-16 Dec.	Appl. Ampere's L., Mag. Flux Density, Mag. Potential	7.4-7.7	
10	19-23 Dec.	Magnetic Forces and Magnetization, Boundary Conditions	8.1, 8.2, 8.5, 8.7	<b>Q3 (Material: W 8-9)</b>
11	26-30 Dec.	Inductors and Inductance, Faraday's Law, emf	8.8, 8.9,8.12, 9.1-9.3	
<b>Second Major Exam, Monday 4th of January, 2009, 6:00-7:30 pm</b>				
12	2-6 Jan.	Displac. Current, Maxwell's Eqs., EM Waves and Wave Prop.	9.4,9.5,10.1-10.2	<b>Exam 2 (Material: W 6-11)</b>
13	9-13 Jan.	WP in lossy, lossless, free space and good Conductor, Power	10.3-10.7	
14	16-20 Jan.	Reflection at normal incidence, Reflection at oblique incidence	10.8-10.10	<b>Q4 (Material: W 12-13)</b>
15	23-27 Jan.	Supplements**, Review		
<b>30 January - 9 February, Final Examination</b>				

\* Last day for dropping the course with grade of W is Wednesday 11<sup>th</sup> of November 2009.

\*\* Chapter 10 will be supplemented with: Wave Polarization, Group velocity and total internal reflection.

Chapter	5	6	7	8	9
Sections Excluded	5.5 (except Eqs. 5.31 and 5.32), 5.7	6.3, 6.6	7.8	8.3, 8.4, 8.5 (except Eqs. 8.33,8.34, 8.35, 8.36 and 8.37), 8.6, 8.10 and 8.11	9.6

**Grade Distribution:**

Major Exams	30%	(Each 15%)
Class Work	20%	(Quizzes 10%, Each Quiz is 2.5 % + Project 10%)
Laboratory	20%	
Final Exam	30%	(Comprehensive)

**Homework List**

Please Note: The first part (the vector calculus of Chapters 1, 2 and 3) will be supplemented by three problem sessions during lab period. PS # 1, PS # 2 and PS #3.

<b>CH # 1:</b> 1.1, 1.3, 1.5, 1.10 + PS # 1	<b>CH # 6:</b> 6.1, 6.2, 6.3, 6.7
<b>CH # 2:</b> 2.1, 2.2, 2.3 + PS # 1	<b>CH # 7:</b> 7.1, 7.2, 7.4, 7.6, 7.8
<b>CH # 3:</b> 3.2, 3.4, 3.6, 3.8 + PS # 2 + PS # 3	<b>CH # 8:</b> 8.3, 8.4, 8.8, 8.9
<b>CH # 4:</b> 4.2, 4.5, 4.7, 4.8	<b>CH # 9:</b> 9.2, 9.3, 9.8
<b>CH # 5:</b> 5.1, 5.2, 5.6, 5.8	<b>CH #10:</b> 10.1, 10.2, 10.3, 10.4, 10.7, 10.8, 10.10

**Project:** Will be discussed later in separate documents.

**Important Points to Remember**

- Homework:** Homework is to be solved completely by the students. However, homework solution will not be collected. Instead, a quiz will be given on Wednesdays according to the above table. Homework solutions will be posted on WebCT.
- WebCT:** All course related material, assignments, announcements, and communications will be posted through WebCT. Students are advised to check the site on regular bases for information
- Lab. Makeup:** No lab. makeup will be allowed without an official excuse.
- Attendance:** According to the university regulations, any student that exceeds 20% of the scheduled class meeting without an official excuse will receive a grade of DN in the course.
- Official excuses:** All official excuses must be submitted to the instructor no later than one week of the date of the official excuse. A late excuse may not be accepted by the instructor.
- Work:** This course is one of the most important courses of the Electrical Engineering Dep. and requires hard work and continuous attention. Therefore, it is advisable that students do extra efforts to understand it.