

**PHYS 215 - Introduction To Astronomy - First Semester 2014 - 2015 (141)**

**Course Schedule And Description And Grading Policy**

Revised: October 21, 2014

1) **COURSE DESCRIPTION** (UNDERGRADUATE BULLETIN 2006-2009)

An Elementary Introduction to Astronomy. Topics Covered Include: Astronomy and Astrology; Light and Telescopes; Time and Calendar; Celestial Mechanics; Solar System; Stellar Measurements, Stellar Motions, Magnitudes, Spectra, Distances, Parallaxes, and Formation; Early and Modern History of Astronomy; Contribution of Arab and Muslim Scientists to Astronomy. ( Prerequisite : Phys 102 )

2) **TEXTBOOK**

**The Cosmos: Astronomy in the New Millennium 4<sup>th</sup> Ed. By Jay M. Pasachoff & Alex Filippenko, Cambridge University Press, Thomson-Brooke Cole 2013.**

3) **SUPPLEMENTARY (OPTIONAL) READINGS**

- Foundations of Astronomy 12<sup>th</sup> Ed, Michael A. Seeds & Dana Backman, Cengage Learning 2012.
- Explorations: An Introduction to Astronomy 7<sup>th</sup> Ed., Thomas Arny & Stephen Schneider, McGraw-Hill 2013.
- Astronomy Today 8<sup>th</sup> Ed., Eric Chaisson &, Steve McMillan, Addison-Wesley 2013.
- Discovering the Universe 9<sup>th</sup> Ed., Neil F. Comins & William J. Kaufmann, W. H. Freeman 2011.
- Astronomy: The Solar System and Beyond 6<sup>th</sup> Ed, Michael A. Seeds & Dana Backman, Cengage Learning 2007.
- Astronomy: From The Earth To The Universe, Jay M. Pasachoff, Sixth Edition, Saunders College Publishing 2002.
- Astronomy: The Evolving Universe, 9<sup>th</sup> Ed, Michael Zeilik, Cambridge University Press 2002.
- Frontiers of Astronomy 2<sup>nd</sup> Ed., David Morrison & Cidney C. Wolff, Saunders College Publishing 1994.
- Abell's Exploration of The Universe 7<sup>th</sup> Ed., David Morrison , Sidney Wolff, & Andrew Fraknoi, Harcourt College Pub 1995.
- Sky and Telescope Magazine (Monthly).
- Astronomy Magazine (Monthly).
- Al-Oloom Al-Bahtah Fi Alhadharah Alarabiah Waleslamiah, Ali A. Al-Dafaa, Al-Risalah Est, Lebanon, 1981. (Arabic)  
العلوم البحتة في الحضارة العربية والإسلامية؛ أ.د. علي عبدالله الدفاع؛ مؤسسة الرسالة - بيروت ١٩٨١ م.
- Al-Falal Eind Al-Arab (Astronomy and Arabs), Abdulaheem Badir, Al-Masri Est., Lebanon, 1985. (Arabic)  
الفلك عند العرب؛ عبد الرحيم بدر؛ مؤسسة المصري - بيروت ١٩٨٥ م.
- Elm Al-Falak (Arab and Muslim Contributions to Astronomy), Yahya Shami, Dar Al-Fikr Al-Arabi Pub., Lebanon, 1997. (Arabic)  
علم الفلك صفحات من التراث العلمي العربي والإسلامي؛ د. يحيى شامي؛ دار الفكر العربي - بيروت ١٩٩٧ م.
- Al-Gegrafiah Al-Falakyiah (Astronomical Geography), Ameen Tarboosh, Dar Al-Fikr Est., Syria, 1997. (Arabic)  
الجغرافية الفلكية والطرق العملية في مراقبة الأجرام السماوية؛ د. أمين طربوش؛ دار الفكر - دمشق ١٩٩٧ م.

4) **INSTRUCTOR** (PHYS215 Website: [http://faculty.kfupm.edu.sa/PHYS/alshukri/PHYS215/Phys215\\_Main\\_page2a.htm](http://faculty.kfupm.edu.sa/PHYS/alshukri/PHYS215/Phys215_Main_page2a.htm))

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5) **GRADING POLICY**

(a) **COURSE GRADE**

The Course Grade Will be Evaluated as Follows:

Class Work and Observing Sessions.	16%
First Major Exam .	23%
Second Major Exam.	23%
Final Exam (Comprehensive).	38%

(b) **CLASS AND OBSERVING SESSION WORK**

The class and observing sessions work shall comprise of quizzes, homework, projects, presentations, attendance, reports, papers, ... etc. and any other assignments the instructor wishes to give.

(c) **MAJOR AND FINAL EXAMINATIONS**

(Major And Final Exams Are Of Problem-Solving, Multiple Choice, T/F, And/Or Discussion Type Exams)

MAJOR AND FINAL EXAMINATIONS ARE SCHEDULED AS FOLLOWS:

First Major Exam	Monday 27 October 2014	(Chaps 01, 02, 05, 18 + Hand-Outs + Class Discussions)
Second Major Exam	Monday 01 December 2014	(Chaps 03, 04, 06, 07, 08 + Hand-Outs + Class Discussions)
Final Exams	Tuesday 30 December 2014	(Chaps 01 To 18 + Hand-Outs + Class Discussions)

6) **ATTENDANCE**

Attendance will be evaluated according to current university regulations. Official excuse for an absence should be presented within a week of resuming the class. A **DN** grade will be issued if the total number of unexcused absences exceeds **9** absences.

**Attendance is compulsory in lectures and observing sessions. You should be in class on time. Half a point will be taken from your grade for each absence. DN grade will be given for more than 9 absences**

**PHYS 215** (Introduction To Astronomy) - **TERM: 141** (First Semester 2014 - 2015)

Week	Date	Topic	Chapter	Homework
1.	Sun 31 Aug 2014	Course Organization and Policy	First Day of Classes	
	Tue 02 Sep	Peering Through the Universe	01	<b>Sets of questions will be distributed to the students at the end of each chapter</b>
	Thu 04	Finding Constellations in the Sky	01	
<b><u>Wednesday 3 September - Last Day for Late Registration and adding courses</u></b>				
2.	Sun 07 Sep	Distances to the Stars and Origins	01	
	Tue 09 Sep	Cosmology and the Big Bang Theory (General Review)	18	
	Thu 11	Ancient Astronomy, Geocentric Hypothesis, Muslim Contributions	05	
<b><u>Thursday 11 September - Last Day for Dropping Courses without Permanent Record</u></b>				
3.	Sun 14 Sep	Modern Astronomy, Heliocentric Hypothesis	05	
	Tue 16	Kepler's Laws, orbital Speed	05	
	Thu 18	Gravitational Force, Galileo, Newton	05	
4.	Sun 21 Sep	The Nature of Light and the Spectrum	02	
	Thu 25	Black-Body Radiation (Wien's & Stefan-Boltzmann Laws)	02	
<b><u>Tuesday 23 September - National Day Holiday</u></b>				
<b><u>Thursday 25 September - Last Day of Classes Before Eid Al-Adha Vacation</u></b>				
5.	Sun 12 Oct	Continuum spectrum and Spectral Lines, Doppler Effect and Motion	02	
	Tue 14	How Telescopes Work	03	
	Thu 16	Optical, Modern and Wide-field Telescopes	03	
<b><u>Sunday 12 October - Classes resumes after Eid Al-Adha Vacation</u></b>				
6.	Sun 19 Oct	Telescopes and Dishes that See Invisible EM	03	
	Tue 21	Space Telescopes	03	
	Thu 23	The Phases of the Moon and the Planets	04	
<b><u>Thursday 23 October - Last Day for Dropping Course(s) with a Grade of 'W' Thru Internet (Reg. Web)</u></b>				
7.	Sun 26 Oct	Review	---	
	Tue 28	Solar and Lunar Eclipses	04	
	Thu 30	Twinkling, Magnitudes, Rising and setting	04	
<b><u>Monday 27 October First Major Exam (Chapters 01, 02, 05 and 18 + Class Discussions + Hand-Outs)</u></b>				
8.	Sun 02 Nov	Celestial Coordinate Systems and Sidereal Time	04	
	Tue 04	Time and Calendars	04	
	Thu 06	Solar and Lunar Calendars (Hejriah & Gregprian)	04	
9.	Sun 09 Nov	Terrestrial Planets	06	
	Tue 11	The Earth	06	
	Thu 13	The Moon	06	
10.	Sun 16 Nov	Jovian Planets	07	
	Tue 18	Jovian Planets	07	
	Thu 20	Asteroids, Dwarf Planets	08	
<b><u>Thursday 20 November - Last Day for Withdrawal from ALL Courses with a Grade of 'W' Thru the Registrar Office</u></b>				
11.	Sun 23 Nov	Comets, Meteoroids, Meteor, Meteorites	08	
	Tue 25	Formation of the Solar System	09	
	Thu 27	Extra-Solar Planets (Exoplanets), Brown Dwarfs	09	
12.	Sun 30 Nov	Review	---	
	Tue 02 Dec	General Properties of Solar Planets	09	
	Thu 04	Sun's photosphere, Chromosphere, Corona	10	
<b><u>Monday 1 December Second Major Exam (Chapters 03, 04, 06, 07, and 08 + Class Discussions + Hand-Outs)</u></b>				
<b><u>Sunday 30 November – Beginning of Early Registration for term: 142</u></b>				
13.	Sun 07 Dec	Sun Spots, Solar Wind, Other Solar Activities	10	
	Tue 09	Solar Spectra, , Hydrogen, Helium	10	
	Thu 11	Stellar Color, Temperature, Spectra	11	
14.	Sun 14 Dec	Stellar Types	11	
	Tue 16	The Formation of Stars	12	
	Thu 18	The Evolution of Stars	13	
<b><u>Thursday 18 December - Last Day for Withdrawal from ALL Courses with Grade of 'WP/WF' , Last Day for Major Exams</u></b>				
15.	Sun 21 Dec	Black Holes	14	
	Tue 23	Milky Way Galaxy	15	
	Thu 25	Galaxies	16	
16.	Sun 28 Dec	Review	---	

**Final Exam on Tuesday 30 December 2014 @ 7:00 pm - (Final Exams Period: 30 Dec. 2014 – 11 Jan. 2015)**

Website: [http://faculty.kfupm.edu.sa/PHYS/alshukri/PHYS215/Phys215\\_Main\\_page2a.htm](http://faculty.kfupm.edu.sa/PHYS/alshukri/PHYS215/Phys215_Main_page2a.htm)