DEPARTMENT OF PHYSICS, ENGINEERING AND ASTRONOMY

COURSE OUTLINE

ASTR 111
INTRODUCTORY ASTRONOMY:
The Solar System

INSTRUCTOR: Greg Arkos
OFFICE: Building 315, Room 209
OFFICE HOURS: T, R 1:00 pm - 2:30 pm *or by appointment*
PHONE: (250) 753-3245 Local 2207
EMAIL: gregory.arkos@viu.ca
COURSE WEBSITE: https://wordpress.viu.ca/arkosg/

OBJECTIVES: Astronomy 111 and its companion course Astronomy 112 provide a comprehensive introduction to astronomy. Astronomy 111 covers the development of modern astronomy, navigating the night sky, and the formation and properties of the Earth and our neighbours in the solar system. It includes a detailed look at each of the planets and objects such as asteroids and comets. Astronomy 112 explores the nature of light, telescopes, our Sun, stars, stellar development, black holes, and galaxies. Both courses aim to provide students with an appreciation of the universe and our place within it, stressing conceptual understanding with minimal mathematical derivation. Quizzes, the midterm exam and final exam emphasize descriptive material and an understanding of concepts. The observing project and observing sessions allow students to apply classroom concepts and become familiar with the night sky.

PREREQUISITES: Principles of Physics 12 or min "C+" in Principles of Physics 11 or Applications of Physics 12; min "C+" in Principles of Math 12 or Math 152.

LECTURE:	TR	2:30 pm – 4:00 pm	Bldg 315, Rm 216
LAB:	R (bi-weekly)	7:00 pm – 9:00 pm	Bldg 315, Rm 216/113

TEXT: Universe: The Solar System by R. Freedman & W.J. Kaufmann (5th Ed, WH Freeman & Co.) is *optional*. Includes planetarium software.

STUDENT RESPONSIBILITIES: Read the course outline *carefully*; it is assumed that you are **fully aware** of its contents with regards to dates & deadlines, evaluation and policies. You are responsible for keeping up with material presented in lecture and monitoring your progress in the course. Please speak with me **immediately** if you are having difficulties which might impact your grade in the course.

ACADEMIC REGULATIONS: Academic dishonesty can have serious repercussions on your academic career and is taken very seriously at VIU. Read Policy 96.01 found on www2.viu.ca/policies/policies-index.asp under section "9600 Appeals and Withdrawals" which is under section "9000 Senate".

ASTR 111 VANCOUVER ISLAND UNIVERSITY FALL 2018

EVALUATION:
Final Exam (3 hrs)……...40%
Midterm Exam (in class)…….20%
Quizzes (best 4 of 5)……10%
Observing Project……10%
Laboratory (5)……..20%

LABS/OBSERVING: The science of astronomy has grown as a result of theoretical reasoning constantly tested by the results of observations performed in the real world. Students in astronomy will be expected to perform several laboratory experiments over the course of the term; some of these will be computer based. Observing sessions take place (weather permitting) during the semester. Dates and time for observing sessions are TBD.

OBSERVING PROJECT: The observing project is done individually and utilizes computer simulations & TBD VIU rooftop observation sessions. Details are available on the course website. ** **Late projects will NOT be accepted**. **

GRADES: Final grades are assigned *approximately* as follows:

A+	(90 - 100)
A	(85 - 89)
A-	(80 - 84)
B+	(76 - 79)
B	(72 - 75)
B-	(68 - 71)
C+	(64 - 67)
C	(60 - 63)
C-	(55 - 59)
D	(50 - 54)
F	(0 - 49)

FAILING GRADES: Students worried about poor grades should see me as soon as possible. Do not drop out before speaking with me! **Grades on labs, quizzes and exams must be discussed within a week of their return and will not be reassessed after that time**. Please see the online Vancouver Island University Calendar regarding policies on registration. ** The last day for academic penalty-free withdrawal from courses is listed below. **

**** IMPORTANT course policies – READ CAREFULLY ****

1. Concerns regarding graded material MUST be raised within a week of its return.
2. Late submissions will NOT be accepted for grading WITHOUT prior approval.
3. Requests for exam deferments REQUIRE official supporting documentation.
4. There will be NO "extra" or "make-up" work for this course.
5. Students MUST be available for the entire term, eg. the entire final exam period.
6. There will be NO accommodation of non-university related travel, eg. vacations.
7. There are NO deferred or make-up quizzes for this course.

TENTATIVE QUIZ, EXAM & OBSERVING PROJECT DATES:

Quiz 1	**Sept 13**
Quiz 2	**Sept 27**
Quiz 3	**Oct 11**
Midterm	**Oct 25**
Quiz 4	**Nov 8**
Observing Project	**Nov 9**
Quiz 5	**Nov 22**

TENTATIVE LAB DATES:

Lab 1: Skycharts	**Sept 13**
Lab 2: Gravitation & planetary motion	**Sept 27**
Lab 3: Moon Phases & eclipses	**Oct 11**
Lab 4: Landing on Mars	**Nov 8**
Lab 5: Moons of Jupiter	**Nov 22**

IMPORTANT DATES:

FIRST DAY OF CLASSES: September 4, 2018
WITHDRAWAL DEADLINE: October 29, 2018
LAST DAY OF CLASSES: December 7, 2018
FINAL EXAMINATIONS: December 10 – 19, 2018

HOLIDAYS: (No classes, labs or exams)

THANKSGIVING: October 8, 2018
STUDY DAYS: November 12 – 16, 2018
REMEMBRANCE DAY: November 12, 2018

TOPICS: The following is a *tentative* list of topics that will be covered in this course.

Subject	**Chapter(s) in text**
Introduction	1
History	2, 4
Kepler, Newton & Gravitation	4
The Sky, constellations, star motions, seasons	2
Navigating the sky	2
Moon phases, eclipses	3
Solar system formation	7, 8
Earth, Earth-Moon system	9, 10
Moon	10
Mercury, Venus & Mars	11
Jupiter & Saturn	12, 13
Uranus, Neptune & Pluto	14
Asteroids, Meteors & Comets	15

**** NOTE: Circumstances may require modifications to the dates & topics in this outline. ****