# Course Outline Winter 2010

# Course code: PHY 2390

Title: Astronomy

#### **Instructor:**

Name: Robert Dick Office: GNN Room 081 Phone: (613) 562-5800, ext: TBD Email: Use WebCT Office hours: After class

Teaching Assistant: Shane Scott, <a href="mailto:sscot017@uottawa.ca">sscot017@uottawa.ca</a>, 613-562-5800, ext. 2817

# **Class Schedule:**

Wednesdays: 10:00-11:30, Classroom MCD 146 Fridays: 8:30-10:00, Classroom MCD 146

Class	Chapters	Date	Торіс
1	_	Jan. 6	Course Introduction
2	1, 2	8	Observing the Sky
3	3, 4	13	The Heliocentric Model
4	3, 4	15	Gravity and Motion
5	5	20	Electromagnetic Radiation
6	6	22	Optical Telescopes
7	_	27	Remote Sensing
8	8,9	29	The Earth as a Planet
9	9	Feb. 3	Terrestrial Planets
10	10, 11	5	Jovian Planets
11	11	10	Formation of the Solar System
12	8, 9, 10, 11	12	Extrasolar Planets
		15-19	Study Break
13	1 to 11 plus lectures	24	Mid Term Exam
14	12	26	The Sun
15	13	Mar. 3	Properties of Stars
16	14, 15	5	Stellar Evolution
17	16	10	The Fates of Stars
18	17	12	The Milky Way
19	18, 17	17	Galaxies
20	19	19	Extragalactic Distance Scale
21	7, 19	24	Super Massive Black Holes
22	20	26	Cosmology
23	20	31	Dark Matter and Dark Energy
24		Apr. 2	Extraterrestrial Life
25		4	Humans in Space, Review
	1 to 20 plus lectures	TBD	Final Exam

#### **Course Materials**

Textbook: Zeilik, "Astronomy: The Evolving Universe (Paperback)", Ed. 9
Star map: 17" X 8.5" Laminated, Starlight Theatre, (UO and Carleton U. Bookstores, Focus Scientific)
DVD – The Celestial Sphere – optional (UO and Carleton U. bookstores, Focus Scientific)

# **Course Website:**

Contains news, email, copies of exercises and images from lectures. Accessible via Blackboard.

## **Communication:**

Emails about the course (exam info, class changes, assignment info, etc) will use the Blackboard email. It is your responsibility to ensure you receive these messages.

## **Course Description:**

The celestial sphere and the heliocentric model. Gravity and motion. Telescopes and detectors. Planets and the origin of the Solar System. The Sun, stars, the Milky Way and other galaxies. Black holes, cosmology, dark matter and dark energy.

## **Prerequisites:**

PHY1121 or PHY1122 or PHY1321 or PHY1331 or PHY1124.

## Corequisites: N/A

#### **Exercises:**

Distributed alternate Thursdays at end of class (to be confirmed). These problems will cover material from the latest classes. Should be handed in for grading at the following Thursday class. These problem sets are used for assessment and are important to learn the course material. Preliminary dates for exercises to be handed out are class5, class9, class14, class18, and class22.

#### Assessment:

Term Exercises and Reports - 40%

Mid-term Exam - 20% Date: TBD (in class) Chapters 1 to 11 and Lectures

Final Exam - 40% Chapters 1 to 20 and Lectures. Date and location TBA by the University.

Note: A satisfactory term mark is required for to pass this course.

To earn a satisfactory term mark you must earn a total of more than 30% on the final mark based on the sum of the Term Exercises, Reports and the Mid Term Exam.