SCIENCE 237: DESCRIPTIVE ASTRONOMY

web site on LEARN
(Wed. 7:00 – 9:50, Physics 145)

Instructor: Brian McNamara
email: mcnamara@uwaterloo.ca
Office: 253 Physics
Office Hours: by appointment
Textbook: 21st Century Astronomy, Kay, Palen, Smith, Blumenthal

Grading: Assignments = 30%, Midterm = 30%, Final Exam = 40%

Assignments: In addition to weekly reading, assignments will be three short essays and a night lab, which will be described in class.

Observatory: The Observatory will be made available to SCI 237 students several times during the Term. Note that it is always open for public viewing on the first Wed of each month. If the sky is cloudy, the observatory will not open!

TELESCOPES WILL BE AVAILABLE FOR SHORT TERM LOAN FROM CHEM STORES!

MIDTERM EXAM: 23 October in class

Several films will be shown in this course. Material presented in films is part of the course and questions will be asked in the midterm and final exams on this material.
Course Outline
(3 hour lectures, with a break and an occasional film)

1) Historical development of astronomy: constellations, motions of the earth and the moon, eclipses, naked-eye viewing of the planets, time and the calendar
2) Scientific development of astronomy: gravity, physics of light, telescopes
3) Solar System
4) Stars - the Sun, observational properties, clusters of stars, the structure of a star, stellar evolution, end-points of stars (e.g. supernovae, black holes)
5) Our galaxy, the Milky Way - structure of the Galaxy, the interstellar medium, star formation
6) Extragalactic astronomy - galaxies, quasars, etc.
7) Cosmology - theories of the Universe (e.g. big bang)
8) Exoplanets

Copies of the lecture notes as .pdf files will be available on LEARN. I will place last year’s notes on LEARN; you are expected to review them prior to the lecture. I will update and replace last year’s lecture notes 1-2 hours before class.

Note on avoidance of academic offences:
All students registered in the courses of the Faculty of Science are expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for their actions. When the commission of an offence is established, disciplinary penalties will be imposed in accord with Policy #71 (Student Academic Discipline). For information on categories of offences and types of penalties, students are directed to consult Policy #71. If you need help in learning what constitutes an academic offence; how to avoid offences such as plagiarism, cheating, and double submission; how to follow appropriate rules with respect to “group work” and collaboration; or if you need clarification of aspects of the discipline policy, ask your TA and/or your course instructor for guidance. Other resources regarding the discipline policy are your academic advisor and the Undergraduate Associate Dean. (http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm)