ASTRONOMY 311: EXPLORING THE UNIVERSE II FIRST TERM 1997/98

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Monday, Wednesday, Friday, 12:30 pm – 1:20 pm, 202 Hennings Building

The TAs for this course are Scott Chapman (Room 323 Geophysics & Astronomy Building), and Alex Razoumov (Room 307); their office hours will be announced later. This course will provide an overview of modern astronomy: the study of the objects in our sky. It will concentrate on objects *beyond* our Solar System (closer things are covered in ASTR 310). We will be discussing stars, galaxies, the stuff in between, and the Universe as a whole. The emphasis will be on understanding the general principles, and on the basic idea of astronomy as a physical science.

The textbook is: **'Voyages through The Universe – Volume II', by Fraknoi, Morrison & Wolff.** Other textbooks may be useful (e.g. Volume I) for additional reading enjoyment! There are also several magazines which regularly carry articles on recent astronomical discoveries: *Sky & Telescope, Astronomy, New Scientist, Discover, Scientific American, Mercury.* These are all available in campus libraries.

Copies of the transparencies, handouts, homework solutions, interesting articles etc., will be left in a folder in the Geophysics & Astronomy Reading Room, which is Room 260, access limited to early afternoon (exact times announced later).

Course Evaluation: Assignments (2) 35%; Mid-term test 25%; Final exam 40%. *Late assignments will be penalized, and very late assignments will not be accepted.*

In addition there are tutorial sessions every two weeks. These are intended to stimulate discussion and increase contact with instructors. There will be *no* graded work involved with the tutorials, but to encourage attendance 2% of the final grade will be allocated for each tutorial attended (i.e. 12% maximum). Tutorials are all held in Room 360, Geophysics & Astronomy Building.

Much of the tutorial work will revolve around use of the class web-pages. These will contain such things as access to pictures and movies, exciting new astronomical results, and what is happening in the sky, as well as course problem sets and solutions, course notes etc. For those who currently have no internet access, there are machines in Buchanan that run NETSCAPE. These are located in: Buchanan c170 (open 24 hours, windows system); Buchanan c178 (open 9–5, Mac based system); and in the basement of the Lam Building (behind Trekkers, open 9–5, windows system). Room 360 in the Geophysics & Astronomy Building may also be available when not otherwise being used. For those who have never accessed information on the Web before, here is the incentive to try it! The URL for the ASTR 311 home page is `http://www.astro.ubc.ca/~scharein/a311.html`.

ASTR 311 SCHEDULE

0. ASTRONOMY & THE UNIVERSE	Sept 3, 5
1. THE SUN: A NUCLEAR POWERHOUSE	Sept 8, 10, 12
2. ANALYZING STARLIGHT	Sept 15, 17, 19
3. THE STARS: A CELESTIAL CENSUS	Sept 22, 24
4. CELESTIAL DISTANCES	Sept 26, 29
5. BETWEEN THE STARS: GAS AND DUST IN SPACE	Oct 1, 3
6. THE BIRTH OF STARS AND THE SEARCH FOR PLANETS	Oct 6, 8
7. STARS: FROM ADOLESCENCE TO OLD AGE	Oct 10, 15
8. THE DEATH OF STARS	Oct 17, 20
9. BLACK HOLES AND CURVED SPACETIME	Oct 22, 24
MID-TERM EXAM (1 hour in class)	Oct 27
10. THE MILKY WAY GALAXY	Oct 29, 31
11. GALAXIES	Nov 3, 5, 7
12. QUASARS AND ACTIVE GALAXIES	Nov 10, 12
13. THE ORGANIZATION OF THE UNIVERSE	Nov 14, 17, 19
14. THE BIG BANG	Nov 21, 24, 26
15. COSMIC EVOLUTION AND LIFE ELSEWHERE	Nov 28
FINAL EXAM	2nd week of Dec?