Astronomy 4X03:
Astrophysical Data Analysis Project Course

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Lectures: Tuesday 2:30-4:20 and Friday 9:30-11:20 in BSB 238

We may not meet for every class time (to allow time to work on your projects), but this will be announced in advance

Text Book: None required. Useful websites will be posted on the course avenue page

Marking Scheme:
Projects: 4 x 20% each
Other assignments & small presentations: 20%

Course Goals:

Exposure to the tools of astronomical data acquisition, data analysis and archival data mining, including hands-on experience with electronic imaging devices (CCDs) and software for image reduction and analysis.

Projects:

Observing Project: Proposal for observing time with peer evaluation; observing.

Fundamentals of Image Analysis: IRAF software to 'reduce' optical images

Photometry Project with Archival Data: Learn how to locate objects in an archival image and then measure the properties of observed objects.

Spectroscopy Project with Archival Data: Learn how spectrographs work and then reduce and analyse archival spectra to extract redshifts.

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.

In this course we may use a web-based service (Turnitin.com) to reveal plagiarism. Students will be expected to submit their work electronically on avenue so that it can be checked for academic dishonesty. Students who do not wish to submit their work to Turnitin.com must still submit a copy to the instructor. No penalty will be assigned to a student who does not submit work to Turnitin.com. All submitted work is subject to normal verification that standards of academic integrity have been upheld (e.g., on-line search, etc.). To see the Turnitin.com Policy, please go to www.mcmaster.ca/academicintegrity

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You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity.

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty please refer to the Academic Integrity Policy, located at http://www.mcmaster.ca/academicintegrity

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations.