

TRENT UNIVERSITY
PHYSICS 1510H: Introductory Astronomy I

Peterborough Fall 2016 Course Syllabus

1. **Course Description:** A general science course accessible to all students. Topics include sky phenomena, the history of astronomy, telescopes and detectors, and an exploration of the Solar System. No prerequisite. Not to be counted towards a major in Physics.
2. **Instructor:** Prof. Dave Patton, dpatton@trentu.ca, phone: 748-1011 ext. 7462.
Office: SC 320 (Physics Building).
3. **Office Hours:** Tuesdays 13:00-13:50, Thursdays 11:00-11:50 or by appointment.
4. **Physics & Astronomy Department Office:** SC 327, physics@trentu.ca, ext. 7715.
5. **Learning System:** We will use Trent's online *LearningSystem* (also called Blackboard) in a number of ways, including access to lecture webcasts and lecture notes (see below). *LearningSystem* can be accessed by logging in at <http://www.trentu.ca/mytrent/>. An introduction to this content will be provided during the first lecture. Please note that some of the online content in this course will be located on a separate website (LaunchPad; see below).
6. **Lectures:** Thursdays 14:00-15:50 in Wenjack Theatre. Regular attendance is expected.
7. **Lecture Webcasts:** Video recordings of the lectures will be available on *LearningSystem* soon after each lecture is over. These webcasts are intended to be a useful resource for reviewing the lecture material and preparing for the exam.
8. **Lecture Notes:** Online lecture notes will be made available soon after class (normally within 24 hours) on *LearningSystem*.
9. **Observing Sessions:** There will be periodic workshops on Thursday evenings. The purpose of these optional observing sessions is to provide hands-on experience in identifying constellations and in using telescopes to view celestial objects such as planets and star clusters. Workshops will be held on Thursday evenings from 9-10 p.m., only when the sky is clear and the moon is not excessively bright. Students are strongly encouraged to attend at least one observing session during the term. Online signup for observing sessions will be available on *LearningSystem* during the 24 hours preceding each observing session.
10. **LaunchPad:** LaunchPad is an online learning facility containing the electronic textbook (e-book), study resources (such as tutorials and animations), quizzes, etc. We will be using LaunchPad for all assigned coursework (assignments and quizzes), so you are required to use LaunchPad in this course. A LaunchPad access code may be purchased with the textbook or by itself (see below). Your access code will be valid until the summer of 2017, and can therefore be used for PHYS 1520H as well. The PHYS 1510H LaunchPad is accessible online at <http://www.macmillanhigherred.com/launchpad/dtu10e/3614028>.

11. **Required Text:** *Discovering the Universe (10th Edition)* by Comins & Kaufmann. This textbook contains explanations of the concepts we will be covering in this course, as well as high-quality illustrations and photos, examples, etc. It also comes packaged with an excellent planetarium program called *Starry Night*. The textbook is available in the bookstore in both the regular bound format and in a cheaper looseleaf format. Both formats come packaged with LaunchPad, which includes the e-book. The e-book contains all of the content from the full text, and allows you to take notes, highlight and bookmark, mirroring the print-book experience. LaunchPad may be purchased by itself (i.e., without the paper version of the textbook) from the bookstore or from <http://www.macmillanhighered.com/launchpad/dtu10e/3614028>.
12. **LaunchPad Technical Support:** If you encounter any technical difficulties when using LaunchPad, please contact LaunchPad Technical Support by calling toll-free 1-800-936-6899. This is the best way to get your issue resolved quickly. LaunchPad support is also available via chat and email.
13. **LaunchPad LearningCurve Activities:**

There will be a weekly online LearningCurve activity. LearningCurve is an adaptive, formative quizzing facility within LaunchPad, and is designed to help you solidify your understanding of the required reading material from the textbook. You are required to read each chapter and complete the associated LearningCurve activity *before* the material is covered during class, with the normal deadline being Thursdays at noon. LearningCurve activities are completed and submitted online. There will be 9 LearningCurve activities in total, with your best 8 counting towards your grade in this course.
14. **LaunchPad Assignments:** There will be a weekly online assignment consisting of LaunchPad content such as tutorials and interactive exercises. These assignments are designed to help you understand concepts covered in the preceding lecture and the corresponding chapter of the textbook. Assignments are to be completed and submitted online before the deadline (normally Tuesdays at 2 p.m.) There will be 9 assignments in total, with your best 8 assignments counting towards your grade in this course.
15. **LaunchPad Quizzes:** There will also be a weekly online multiple choice quiz on LaunchPad. Each quiz will test your understanding of the material covered during the previous lecture and the corresponding chapter of the textbook. In order to encourage you to master this material, you will be allowed several attempts on each weekly quiz (though each quiz will contain a different set of randomly-selected questions), with only your highest mark counting towards your grade on that quiz. Quizzes are to be completed and submitted online before the deadline (normally Tuesdays at 2 p.m.) There will be 9 quizzes in total, with your best 8 quizzes counting towards your grade in this course.
16. **Late Policy:** All online work is to be completed by the posted deadline. Late submissions will not normally be possible. If you forget to complete an assigned item before the deadline, you will not be granted an extension, but please note that your lowest LearningCurve activity, assignment and quiz do not count towards your grade. In exceptional circumstances (such as a medical problem), alternative arrangements can be made with the instructor, provided that a note from a doctor (or equivalent) is provided.
17. **Final Exam:** There will be an exam during the December exam period. This exam will count for 45% of your final grade, and will consist of multiple choice questions.

18. Grading Scheme:

- 10% LaunchPad LearningCurve Activities
- 15% LaunchPad Assignments
- 30% LaunchPad Quizzes
- 45% Final Exam (mandatory)

Note: A minimum mark of 35% (35/100) on the final exam is required in order to pass this course. If not, a course grade of 45% is the maximum that can be assigned.

19. **Academic Calendar:** Please see the Trent University academic calendar for University Diary dates, Academic Information and Regulations, and University and departmental degree requirements. The last date to withdraw from Fall term half courses without academic penalty in 2016-17 is November 8, 2016.

20. **Academic Integrity:** Academic dishonesty, which includes plagiarism and cheating, is an extremely serious academic offence and carries penalties varying from a 0 grade on an assignment to expulsion from the University. Definitions, penalties, and procedures for dealing with plagiarism and cheating are set out in Trent University's Academic Integrity Policy. Note that all graded online work that you complete in this course must be carried out by you alone; collaboration with others on graded material is a clear example of academic dishonesty and will be treated as such. In addition, online quizzes are to be completed without the assistance of the textbook or other resources (such as google, etc.). You have a responsibility to educate yourself - unfamiliarity with the policy is not an excuse. Visit Trent's Academic Integrity website to learn more: www.trentu.ca/academicintegrity.

21. **Access to Instruction:** It is Trent University's intent to create an inclusive learning environment. If a student has a disability and documentation from a regulated health care practitioner and feels that he/she may need accommodations to succeed in a course, the student should contact the Student Accessibility Services Office (SAS) at the respective campus as soon as possible.

22. Topics Covered and Required Reading from the Textbook

Topic	Required Reading
Discovering the Night Sky	Chapter 1
Gravitation and the Motion of the Planets	Chapter 2
Light and Telescopes	Chapter 3
Atomic Physics and Spectra	Chapter 4
The Solar System and Other Planetary Systems	Chapter 5
Earth and Moon	Chapter 6
The Other Terrestrial Planets	Chapter 7
The Outer Planets	Chapter 8
Vagabonds of the Solar System	Chapter 9

23. How to Get the Most Out of This Course

Here are a few suggestions to help you to enjoy this course more, develop a greater appreciation and understanding of astronomy, and achieve a good grade.

- Attend lectures regularly. I will do my best to explain the material clearly, often using images, animations, and videos. And I am always happy to answer questions during class. Many of the concepts will be more difficult (and more time consuming) to figure out on your own at home.
- Make a weekly study plan, setting aside time to read the textbook, complete the LearningCurve activity (before class), attend class, and then complete the assignment and quiz.
- If you have questions about material we have covered in class or online, or if you are having difficulty in the course, please feel free to contact me for help.