PHYS 1523 N2: Astronomy 2 – Stars, Galaxies & the Universe

Syllabus

Course Description

This course is the second part of a general introduction to astronomy. It emphasizes the night sky and objects in our solar system. The instructor discusses space science, telescopes, cameras and other instruments used in the study of astronomy.

This course is the continuation of Astronomy 1 (Phys 1513). The course will offer a brief but concise coverage of a wide range of topics that balances core physics concepts with exciting topics both within and inspired by modern physics research. Starting with the study of the sun, our nearest star, the course ventures into the realm of exploding stars, pulsars, black holes and other exotic phenomena in the universe. Other topics include star formation, nuclear fusion, nucleosynthesis and stellar evolution. The central theme will be origins: the origins of our Universe, matter, galaxies, stars, planets, and life.

The major goals of the course are to expand horizons, apply the scientific method, teach critical and logical thinking, and practice problem solving skills. Students are expected to develop the ability to search for, verify, interpret, and communicate scientific information.

Instructor

Dr. S. Barkanova is a Latvian-born nuclear physicist. She has been working at Acadia since 2003, doing research on the internal structure on the nucleons and environmental radioactivity and teaching a wide variety of courses like Subatomic Physics, Advanced Quantum Mechanics, Electricity and Magnetism, and Astronomy. Her personal interests include travel, photography, scuba-diving and alpine skiing.

Contact Information:

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Course Materials

Textbook:

Astronomy Today with MasteringAstronomy®, 8/E™, Chaisson & McMillan ©2014 | Addison-Wesley | Published: 09/19/2013 ISBN-10: 0321897617 | ISBN-13: 9780321897619.

Or

Astronomy Today with MasteringAstronomy®, 9/E™, Chaisson & McMillan ©2017 ISBN 9780134558219

A scientific calculator (can use for exams).

See the student handbook for ordering information.

Web-references (required):

Your homework will be assigned through www.masteringastronomy.com. Students receive a Student Access Kit with their purchase of a new textbook. The kit contains instructions and a unique access code for registering for use of the site. Students without a Student Access Kit can purchase access online at www.masteringastronomy.com/site/register/new-students.html. The course code for the 8th edition of the text is - name= 'Acadia Astronomy II 2019'; Course ID= 'PHYSICS15232019'.

Web-references (optional):

Hubble Space Telescope Image Gallery, http://hubblesite.org/gallery/

Sky and Telescope Magazine, http://www.skyandtelescope.com/

Astronomy Picture of the Day, http://antwrp.gsfc.nasa.gov/apod/astropix.html

The Particle Adventure, http://www.particleadventure.org/

Necessary software:

We will use SkyChart III, a program intended to help you locate and observe objects in the night sky. You can download a free demo version from http://www.southernstars.com/skychart.

Evaluation

13 Assignments (3.5% each)	45%
1 Course Paper	5%
1 Exam	50%

The assignments are completed via Mastering Astronomy website, www.masteringastronomy.com. The course paper is submitted via ACORN. Please remember to keep a copy in the event the original is lost.

The last assignment should be received at least 4 weeks prior to the date you wish to write the exam. This will allow adequate processing time for the request, and for setting the exam.

The course paper can be written on any course-related topic. The required length is about 10 pages (with double line spacing) or 2800 – 3100 words.

Exam

How to apply: Complete the Application for Examination

Proctored at Acadia

- The final exam in an online course must be passed to successfully pass the course unless otherwise stated in the assessment section of the course syllabus. There are no rewrites or supplemental examinations at Acadia University.
- Examination requests must be received one month prior to the date you wish to write your examination.
- Course requirements must be completed to the satisfaction of your instructor.
- ***Graduating Students Note:*** If you are graduating in Spring Convocation you must write by April 15th. If you are graduating in Fall Convocation you must write by September 15th.

Proctored at Another Location

If it isn't practical to take your exam at Acadia, off-campus exams can be written at another university or college. Arrangements for an examination may be made through the Registrar's Office or the Continuing Education office of most universities and colleges. If it is not possible to write your exam at an approved institution, please contact us for assistance.

- ***All fees associated with examinations written at other locations are your responsibility.***
- Some courses may require specific software or internet accessibility at the off-campus examination location.

The 3-hour exam will consist of 60 multiple-choice questions.

Course Schedule

Click to download the suggested schedule for this course: PHYS 1523 N2 - Suggested Schedule

Print out this schedule and fill in your start date to use the recommended timeline to plan out when you will do readings and assignments. This is a tool to help you plan and time manage this course. If you get off-track, make sure to revisit your schedule and re-evaluate the dates you've set for yourself.

You have 6 months to complete this course. You may set your own schedule, but if you intend to complete the course in less than 3 months, you should let me know so that we can arrange a schedule.

Please do not leave all of your course work until a few weeks before your completion date. Although I will make every effort to accommodate your schedule within reason, I need time to grade assignments and mark exams..

Quick Overview: Recommended Schedule

Week 1	Chapter 16: The Sun - Our Parent Star	Complete Assignment #1 on Mastering Astronomy
Week 2	Chapter 17: The Stars	Complete Assignment #2 on Mastering Astronomy Choose a topic for your course paper. Start research
Week 3	Chapter 18: The Interstellar Medium	Complete Assignment #3 on Mastering Astronomy Continue researching references for your course paper
Week 4	Chapter 19: Star Formation	Complete Assignment #4 on Mastering Astronomy Submit the title and the abstract of your paper via ACORN
Week 5	Chapter 20: Star Evolution	Complete Assignment #5 on Mastering Astronomy
Week 6	Chapter 21: Stellar Explosions	Complete Assignment #6 on Mastering Astronomy
Week 7	Chapter 22: Neutron Stars and Black Holes	Complete Assignment #7 on Mastering Astronomy Review Chapters 16 to 21
Week 8	Chapter 23: The Milky Way Galaxy	Complete Assignment #8 on Mastering Astronomy
Week 9	Chapter 24: Galaxies	Complete Assignment #9 on Mastering Astronomy
Week 10	Chapter 25: Galaxies and Dark Matter	Complete Assignment #10 on Mastering Astronomy
Week 11	Chapter 26: Cosmology	Complete Assignment #11 on Mastering Astronomy Submit your Course Paper on ACORN
Week 12	Chapter 27: The Early Universe	Complete Assignment #12 on Mastering Astronomy
Week 13	Chapter 28: Life in the Universe	Complete Assignment #13 on Mastering Astronomy Review Chapters 22 to 27

Student Handbook

You are responsible for becoming familiar with the contents of the Student Handbook. It contains important information about scheduling examinations (if applicable), applying for extensions, withdrawing from your course, ordering books, and computer and library services available to you. If you have questions about the policies outlined in the handbook, contact:

Open Acadia
21 University Avenue (Rhodes Hall)
Wolfville, NS B4P 2R6
Phone: 1-800-565-6568
Fax: 902-585-1068
Email: openacadia@acadiau.ca

Academic Integrity

Academic integrity demands responsible use of the work of other scholars. It is compromised by academic dishonesty such as cheating and plagiarism. A student who is uncertain whether or not a course of action might constitute cheating or plagiarism should seek in advance the advice of the instructor involved.

- Cheating is copying or the use of unauthorized aids or the intentional falsification or invention of information in any academic exercise
- Plagiarism is the act of presenting the ideas or words of another as one's own. Students are required to acknowledge and document the sources of ideas that they use in their written work.
- Self plagiarism is also a form of plagiarism. It is the presentation of the same work in more than one course without the permission of the instructors involved.
- A student who knowingly helps another to commit an act of academic dishonesty is equally guilty.
- Penalties are levied in relation to the degree of the relevant infraction. They range from requiring the student to re-do the piece of work, through failure on that piece of work, to failure in the course, and to dismissal from the university.