

ASTRONOMY 005, SPRING '21 – (REM) SYLLABUS

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In Person Office Hours – email for appointment (sad, but true)

Email Office Hours – Mon-Fri, 1-4 pm

Keep checking UVM Blackboard (Bb) for course materials, including the Detailed Course Outline, links to Online Lectures, Weekly Assignments, a schedule of Help Sessions, a Discussion Board and answers to common questions.

Purpose: This course will introduce you to the concepts of astronomy and astrophysics now and in the past. Topics are presented in a non-mathematical format, suitable for non-technical students.

Brief Course Outline – (Gen Ed. Req's N1, and N2 with lab)

<u># classes</u>	<u>Subjects</u>
1	Course Introduction
1	Definitions of basic terms in physics
2	Optical and radio telescopes
1	Gravity and orbits
2	Earth motions, time, calendar, seasons and celestial Coordinates
2	Moon motions, eclipses, tides, surface and formation
1	Light and atomic structure, basic spectroscopy
3	Planets and their moons
2	Comets, meteors, solar wind, northern lights, solar system formation
1	Relativity and space-time
2	Stellar measurements, distance, magnitudes, H-R diagram
1	Stellar models and evolution: birth and prime of life
2	Death of low mass stars: white dwarfs and pulsars
2	Death of the high mass stars: stellar, galactic and cosmic black holes
1	Galaxies, spiral structure and Hubble's law; quasars
3	Cosmology: nature of our universe, dark matter, dark energy

Remote Course Format: This course will be organized on UVM Blackboard more than MS Teams. Lectures will be recorded on Teams ahead of class time, and the links posted on Bb at each scheduled start time. They will then remain accessible all semester, including all the class slides. Your questions should either be emailed to John or brought up in a Help Session. They will be answered quickly either way. The more common answers will also be posted on Bb.

Weekly assignments will be posted on Wednesdays, due before the following Tuesday at noon, posted back to Bb. Scores will be available on Bb shortly after that. Help sessions with TAs will be held on Teams on Fridays, Mondays and Tuesday mornings. They will be in touch with you directly for that the schedule and procedure. Those are completely voluntary. Join if you need help.

We will also use the Bb Discussion Board. One or two questions will be posted each week, to which you are invited to submit comments or answers. I will be reading those entries, but with no grading. It is purely voluntary too.

TAs: Vayl Sorensen & Hannah Ace

Recommended Text: Neil F. Comins, Discovering the Essential Universe, Edition 5 or 6. Sections are noted on the Detailed Course Outline on Bb. It is **Not Required** - there are no assigned readings or problems drawn from it. But you may need a text for help in the course. Your choice, and used copies are fine.

Grade Structure:

13 weekly assignments worth 6% each plus a longer cumulative final assignment worth 22%. All assignment scores will be added together and totals applied to a curve for the whole class to determine final letter grades. Approximate letter grades for each assignment will also be derived from curves and posted on Bb the day after each due date. Every assignment is counted this year.

Each weekly assignment will have 14 multiple choice questions from the 2 classes that week, plus 2 from the website Astronomy Picture of the Day (APOD) that week. You'll have to work out some answers, while others are explicitly stated in the lectures. These are all "open book". You may use the class materials, texts, the web, and discuss questions with other students. But you cannot copy answers. With curved letter grades, giving away answers can hurt your own grade. Badly, in fact. Copied answers are often wrong anyway.

The final assignment will be in the same format but with 50 multiple choice questions plus the usual 2 APODs.

If we get any indication of copying answers, it will be reported to the Center of Student Ethics and Standards. This often results in failing the course.