



EAST TENNESSEE STATE
UNIVERSITY

College of Arts and Sciences

Department of Physics and Astronomy

ASTR 1010- ASTRONOMY I

Course Syllabus – Spring 2020

Lecture at 12:45 to 2:05, Brown 261, Tuesday and Thursday

Instructor:	Richard Ignace Department of Physics & Astronomy
Email:	ignace at etsu dot edu
Web:	d2l, also faculty.etsu.edu/ignace/astro/astroI.html
Office:	274 Brown Hall
Office Hours:	11:00-12:00 Tues/Thurs, 11:30-12:30 Wed; or by appointment
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Objectives:

To learn about the nature and properties of the Sun, planets, and other bodies in the Solar System. To learn about the physical principles operating in this context. To think critically about interpreting physical measurements and about testing physical theories. To develop an appreciation for how the Earth and its inhabitants are affected by phenomena occurring external to its confines.

ETSU Syllabus Attachment

A great deal of useful information can be found in the "Syllabus Attachment" provided by ETSU and found at: www.etsu.edu/reg/academics/syllabus.aspx

Course Materials:

The text for the course is *Astro4U: An Introduction to the Science of the Cosmos*, revised 2nd ed. by Ignace. Each student must have the ASTR-1010 Astronomy I Laboratory Manual. A scientific calculator will be needed for exams and labs. No phones will be allowed for use as a calculator during exams.

Grading:

The course is for 4 credit hours, composed of 3 credits for lecture and 1 credit for lab. The total grade will be based 75% on the lecture score and 25% on the lab score. Scores will be assessed as follows:

- 25% – Lab (MUST attend a minimum of 8 labs!)
- 45% – Three Multiple Choice Exams
- 10% – Three Homework Sets
- 20% – Comprehensive Multiple Choice Final Exam

Textbook Notes – Astro4u: An Introduction to the Science of the Cosmos, revised 2nd ed., by Ignace.

OFFICIAL SYLLABUS WILL BE PROVIDED IN THE COURSE

Homework Notes – Multiple choice homeworks will be provided. Students must turn in answers on a scantron that they purchase themselves.

Exam Notes – The exams will be multiple choice. The instructor will provide scantrons for the exams. Anyone missing an exam for an officially excused reason will take a short answer make-up version.

Lab Notes – There will be ten regularly-scheduled evening labs, plus two extra-credit labs. Students must attend and submit their work for at least 8 labs to avoid an automatic “F”.

Schedule:

There are 16 weeks in the semester, including finals week and spring break. The following is a *loose* schedule of material that will be covered in the course on a lecture-by-lecture basis. (Chapters refer to the textbook.) A given topic may overrun into the lecture following or begin in the lecture prior. To be safe, attend every lecture!

Week	Date	Topic	Chapter	Homeworks	Lab
1	01/21	Introduction and Astromaths	1		No Lab in Week 1
	01/23	The Sky	2		No Lab in Week 1
2	01/28	Ancient Astronomy	2, 3		Lab meets
	01/30	Renaissance Astronomy	4		Lab meets
3	02/04	The Newtonian Revolution	5		Lab meets
	02/06	Properties of Light	5		Lab meets
4	02/11	Modern Astronomy	3, 5		Lab meets
	02/13	Properties of Radiation	5		Lab meets
5	02/18	Properties of Gases	5	HW #1 Due	Lab meets
	02/20	EXAM #1			Lab meets
6	02/25	Solar System Overview	6		Lab meets
	02/27	The Sun	7		Lab meets
7	03/03	The Earth I.	8		Lab meets
	03/05	The Earth II.	8		Lab meets
8	03/10	Space Exploration	10.5		Lab meets
	03/12	The Moon I.	9		Lab meets
9	03/17	Spring Break			No Lab in Week 9
	03/19	Spring Break			No Lab in Week 9
10	03/24	The Moon II., Mercury	9, 10		Lab meets
	03/26	Venus, Mars	10	HW #2 Due	Lab meets
11	03/31	EXAM #2			Lab meets
	04/02	Jupiter & Saturn	11		Lab meets
12	04/07	Uranus & Neptune	11		Lab meets
	04/09	Dwarf Planets	12		Lab meets
13	04/14	Moons of the Solar System	13		No Lab in Week 13
	04/16	Solar System Debris	14		No Lab in Week 13
14	04/21	Exoplanets	24		Lab meets
	04/23	Search for Life	25	HW #3 Due	Lab meets
15	04/28	EXAM #3			Lab meets
	04/30	Review for Final Exam			Lab meets
16	05/07	FINAL EXAM (Thurs, 1:20-3:20, Mult. Choice)			No Lab in Week 16

Students with Disabilities: I need to hear from anyone who has a disability which may require some modification of seating, testing, or other class requirements so that appropriate arrangements may be made. Please see me after class or during my office hours.

Complaint Procedures: In the event of a complaint, the first step would be to speak with the Instructor. Alternatively one could speak with the Chair of Physics & Astronomy in 277 Brown Hall.

ASTR 1010 – Spring 2020 – Lab Synopsis

- There are 10 regularly scheduled labs. There are also 2 optional extra-credit labs. Because this course is for lab credit, you must attend a minimum of 8 of the possible 12 lab meetings or you will receive

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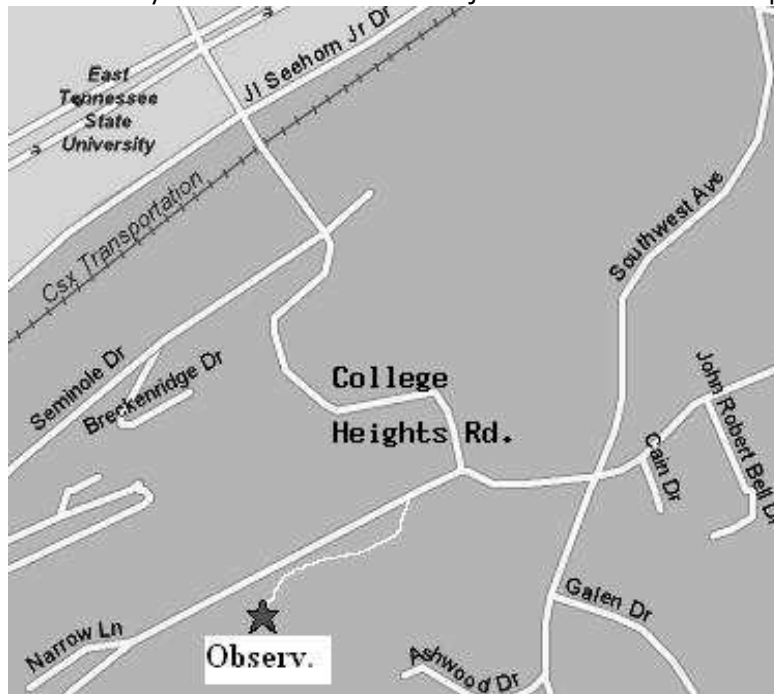
a grade of “F” for the entire course! (Attending just the minimum 8 labs means that your maximum lab score cannot exceed 80%.)

- Lab sections are TWR evenings, from 7:30 to 9:30 pm. To switch lab nights, you must in fact drop the course and add the section that better suits your schedule. (We cannot guarantee that after dropping the course, your slot will be reserved for adding a different section. Neither the Instructor nor the Department can be responsible for reserving or otherwise ensuring you a space in the course if you choose to attempt drop-and-add.)
- The Astronomy I Lab Manual is required. Be sure to purchase the edition for the correct year! You will need a calculator; the Star/Planet Finder is optional.
- Labs are to be completed and write-ups returned by the end of the lab sessions. Lab results must be recorded on the lab sheets. Only proper lab sheets will be scored. No late lab write-ups will be accepted. You cannot make-up a missed lab.
- Outdoor labs will be held at the observatory, regardless of the weather. Remember to dress WARMLY (coat, hat, gloves). Night temperatures can be quite cold still into March.
- Maps to the Planetarium and Observatory are provided overleaf. The Planetarium is top floor of Hutchieson Hall. The address for the Observatory is 1101 Narrow Lane.
- Below is the Lab Schedule, indicating the meeting place. for the different weeks. For outdoor labs, alternate indoor labs are indicated in the event of bad weather. Always bring your entire lab manual.

Week	Dates	Meeting Location
1	Jan 21–23	No Lab
2	Jan 28–30	Observatory
3	Feb 4–6	Planetarium
4	Feb 11–13	Observatory
5	Feb 18–20	Brown
6	Feb 25–27	Observatory
7	Mar 3–5	Brown
8	Mar 10–12	Observatory
9	Mar 17–19	No Lab
10	Mar 24–26	Planetarium
11	Mar 31–Apr 2	Observatory
12	Apr 7–9	Brown
13	Apr 14–16	No Lab
14	Apr 21–23	Planetarium
15	Apr 28–30	Brown
16	May 5–7	No Lab

Observatory Directions

The observatory is located off Narrow Lane just south of the main campus.



Planetarium Directions

The planetarium is located on the 3rd floor of Hutcheson Hall.

