

Course Description and Objectives

In this course we will go through the history of the universe, from the Big Bang to the ultimate fate of it all.

We will talk about meteors, red giants, comets, asteroids, neutron stars, nebulae, and more.

We will explore questions such as:

- How did the solar system form?
- Why are there black holes?
- What causes the Northern Lights?

We will handle 4.6 billion year old meteorites, the oldest objects in the solar system.

Along the way, we will explore the physical processes of Astronomy.

We will discuss current events and research in astronomy and how scientists do their work.

You will learn skills you will use the rest of your life, such as how to learn, listen, take notes, organize your thoughts, communicate effectively, seek help, and be successful.

We will also interpret and analyze charts, graphs, maps, and tables.



Ed Wehling Teaching Scientist:

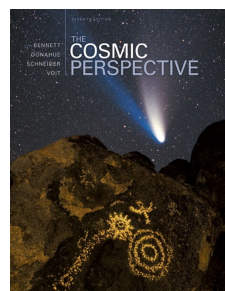
- OFFICE S208
- EMAIL:
ED.WEHLING@ANOKARAMSEY.EDU
- PHONE: 763-433-1174
- OFFICE HOURS:
MwThF 10:00—10:50
M 1:00—1:50
I AM AVAILABLE MANY OTHER TIMES.
SEE ME FOR AN APPOINTMENT.

What's in the syllabus:

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Textbook

- The Cosmic Perspective
—7th edition
- by Bennett, Donahue, Schneider, and Voit
—Pearson Education
- **Optional**—You don't need it for the course
—If you want the text, buy it cheaply online





My Teaching Philosophy

Students are adults

- No games, no busy work
- Students are responsible for their success
- Students are expected to behave and not disrupt class

Respect

- I expect that we will all respect each other
- I will respect you by:
 - starting class on time
 - ending class on time

- providing clear expectations about grading policies, exam dates, topic outlines, expected behavior

- I expect you to respect the rest of the class and me by:

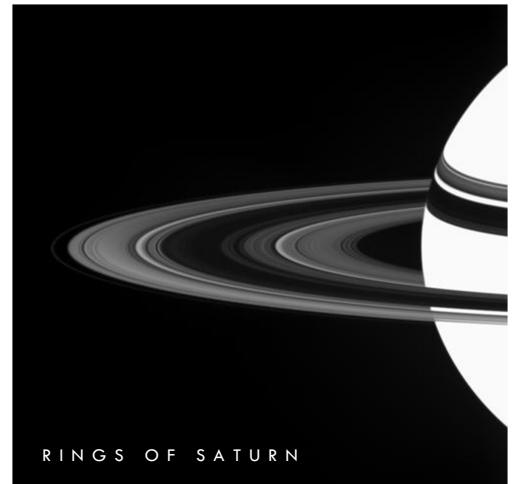
- Showing up to class on time
- Being prepared to be part of the class
- Being attentive in class
- Not being disruptive

“FOR IT IS OBVIOUS TO EVERYBODY, I THINK, THAT THIS STUDY [OF ASTRONOMY] COMPELS THE SOUL TO LOOK UPWARD AND LEADS IT AWAY FROM THINGS HERE TO HIGHER THINGS.”

—PLATO

“SPACE ISN'T REMOTE AT ALL. IT'S ONLY AN HOUR'S DRIVE AWAY IF YOUR CAR COULD GO STRAIGHT UPWARDS.”

— SIR FRED HOYLE



Appropriate Behavior in Class

Be courteous

Do not socialize in the classroom

- This means no talking!
- If this becomes a problem, you may be asked to be quiet, or kicked out of the classroom, or given a seat assignment

Do not pack up early

Try to be on time to class

- Everyone is late once in a while.
- If you are late, please do not be disruptive. Be courteous and quiet.
- If you are late more than 20% of the time (excluding exams), then you may not be allowed in lecture.



What are exams like?

- Exams are based primarily on material presented in lecture.
- Exams consist primarily of multiple choice questions.
- The lowest score among the first 4 exams is not included in your exam average. Everyone counts the 5th exam.
- There are no makeup exams.**
- The exam dates for this semester are:
 - Exam 1 Monday, Feb 4
 - Exam 2 Friday, March 1
 - Exam 3 Friday, March 29
 - Exam 4 Friday, April 19
 - Exam 5 Monday, May 13 9:40-11:40 AM S245 (same room)
 The final is not cumulative.

How are grades determined?

Your grade in the course is based on your performance on the exams.

| Exam average | Course grade |
|--------------|--------------|
| >75% | A |
| 65-75% | B |
| 55-65% | C |
| <55% | F |

What are classes like?

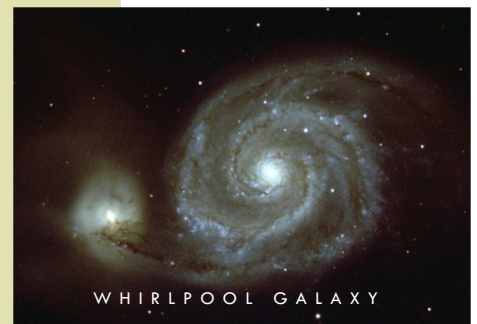
- During most of the class time I will be explaining the physical processes of Astronomy.
- I will be writing on the board.
- I will be showing several hundred images. These images are available on D2L.
- You are responsible for the images with *.
- I expect you to regularly go online and VIEW and LEARN and UNDERSTAND these images.**
- I will be doing demonstrations and showing animations.
- The material covered in the course is outlined in the Topic Outlines.
- I expect you to regularly go online and USE the Topic Outlines.**
- We will cover current events in Astronomy.
- Attendance is *not* required for lecture.
- Lectures MWF 10:00-10:50 S245

“ED LOOKS

SCARY, BUT HE WANTS TO HELP YOU LEARN. SO DO NOT BE AFRAID TO ASK.”
—FORMER STUDENT

How to be successful in this course

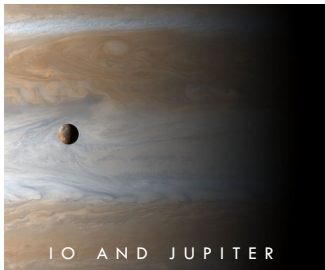
- ATTEND CLASS
- PAY ATTENTION IN CLASS
- TAKE GOOD NOTES
- WRITE DOWN MORE THAN WHAT IS WRITTEN ON THE BOARD
- KNOW WHAT IS AVAILABLE ONLINE
- USE THE TOPIC OUTLINES CONSTANTLY
- READ THE D2L EXPLANATIONS
- BRING * IMAGES TO CLASS
- STUDY MORE THAN THE DAY OR TWO BEFORE THE EXAM
- DO MORE THAN GO OVER YOUR NOTES WHEN YOU STUDY



"THE UNIVERSE
IS A BIG PLACE,
PERHAPS THE
BIGGEST"

— PHILIP JOSE
FARMER

"AT NIGHT THE
STARS PUT ON A
SHOW FOR FREE,
AND, DARLING,
YOU CAN SHARE
IT ALL WITH ME"
—GOFFIN AND
KING, *UP ON THE
ROOF*



Odds and Ends

- No **electronics** (laptops, recorders, etc.) without the instructor's permission.
- If you do not meaningfully participate during the first two weeks you may be dropped from the course.

Academic Honesty

All students are expected to adhere to standards of academic honesty as specified in the Student Conduct Code.

I take academic honesty issues very, very seriously.

Cheating on exams or assigned tasks may result in consequences in this course as severe as failing the course.

Violations of the Student Conduct Code can result in penalties as severe as expulsion from the college.

Topics of the course

Intro to Astronomy

The basic science behind Astronomy

— Motion and Light

A history of the universe

— The Big Bang

— Galaxies

— The Sun

— Star and Planet Formation

— The Planets

— The Rest of the Solar System

— Stars

— The Fate of the Universe

The Sky: Eclipses, Star motions, Moon phases

