



AST 1002

Universe: Infinite Frontier

Time/location: Tu/Th 9:30 AM – 10:45 AM SC232 Natural Science

Class Website: <https://mycourses.spcollege.edu/>

Instructor: Dr. Craig L. Joseph

Office/phone: SC218 Natural Science 341-4320

Email: joseph.craig@spcollege.edu

Office Hours: M/W 10:00 AM – 11:00 AM; 12:15 PM – 3:00 PM
T/Th 10:45 AM – 3:00 PM

Academic Department

Dean: John Chapin, Ph.D.
Office Location: UP337B (Seminole campus)
Office Number: 394-6995

Academic Chair: Stephen Andrasik
Office Location: SC133B Natural Science
Office Number: 341-4306

Course Information

Description: This course is a basic survey of astronomy that includes an introduction to the characteristics, origin, & evolution of the solar system, our sun and other stars, the Milky Way galaxy, other galaxies, & the Universe. It will include a consideration and perspective from the time of ancient astronomers to that developed from the latest astronomical research and theories.

Goals: One of the purposes of a general education curriculum is to expand your horizons, to help you think and communicate intelligently in many different fields of human endeavor. As you might expect, this course has very broad horizons indeed. Our exploration of the Universe will focus on four major goals or objectives:

- **Sky Awareness:** The sky above you is as much a part of your world as the Earth beneath your feet. A major goal of this course is to instill in you a greater awareness of what goes on above your heads, and what can be gleaned from simple naked eye observations of the night sky.
- **Our Astronomical Heritage:** Much of what you take for granted in your everyday life can be traced to ancient astronomical practices or traditions. You will come to understand how our perception of the Universe, and our daily lives, have been shaped by people, ideas and events of the past.
- **The Nature of Science:** Most of you are non-science majors, taking this course to satisfy your general education science requirement. Accordingly, the study of astronomy will serve as a vehicle with which to introduce you to the methodology, scope and limitations of scientific inquiry, with particular emphasis on how astronomers learn about the Universe.
- **Our Place in the Universe:** Armed with the tools of science, we will attempt to answer questions that humans have been pondering for centuries: Are there other planetary systems? Is the Universe infinite in extent? Did it have a beginning? Will it come to an end? Our ultimate goal is to look at the Earth from a cosmic perspective, and hopefully come to a better understanding of our place in the Universe.

Textbook

None (We will use online handouts & other internet resources)

Course Webpage: <https://mycourses.spcollege.edu/>

Library: <http://www.spcollege.edu/central/libonline/>

Grading Criteria

Your grade will be based on 4 midterm examinations, a comprehensive final exam (in two parts), several short homework assignments, and class participation. These components will *tentatively* be weighted as follows:

Midterm Exam #1	100 points
Midterm Exam #2	100 points
Midterm Exam #3	100 points
Midterm Exam #4	100 points
Final Exam Part I	100 points
Final Exam Part II	100 points
Homework	100 points*
Class Participation	50 points

TOTAL 650 points**

Grade Cutoffs*

- A** 585 points (90%)
- B** 520 points (80%)
- C** 422 points (65%)
- D** 325 points (50%)

* Estimated. Homework may total slightly more or less than 100 points. Grade cutoffs will be adjusted accordingly.

** The lowest exam score will be dropped

Examinations

Format: Exams in this course will be based primarily on lecture notes and class handouts. In general, exam questions will be a mixture of multiple choice, matching, short answer and short essay. The multiple choice questions are scored by an optical scanner, so you will need to bring a scantron (form 882-E) to every exam, as well as a sharpened No.2 pencil with a clean eraser.

Exam Procedures: Make sure you visit the restroom *before* the exam – you will not be permitted to complete the exam if you leave the classroom for any reason. During exams, you will be asked to remove all head gear, and place backpacks, notebooks, cell phones, and any other electronic devices or personal possessions on the floor. If a cell phone is seen anywhere on your person or in plain view, *you will receive a zero on the exam*. The only thing that should be on the desktop is a pen or pencil. Extra pencils and Kleenex will be available, so just raise your hand if you need something...*do not* reach into your backpack during a test to retrieve these items. These are all just common-sense precautions to keep the criminal element among us in check.

Final Exam: The final exam will be in two parts, with each part recorded as a separate score. Part I (100 points) will be equivalent to a 5th midterm exam, and will cover material in the last two weeks of the course. Part II (100 points) will be comprehensive, and will test your understanding of the major themes addressed in the course. Both parts will be taken together during final exam week.

Make-up Exams: *There will be no make-up exams.* Of 6 possible exam scores (including both parts of the final exam), only the 5 highest scores will count in your final grade. Consequently, you can miss one midterm exam without penalty. *If you miss an exam for any reason, please do not ask me for a make-up exam. This is the reason I have a “drop the lowest score” policy!*

You should not, however, interpret this policy as an *invitation* to skip an exam. If you miss an exam for a frivolous reason (late night partying) and then subsequently miss an exam for a valid reason, you will be out of luck. If you miss two exams, you will have to provide valid documented reasons for missing *both* exams before any accommodation will be considered. Otherwise, one of the two exams will be counted as a zero in your final grade.

Homework

Format & Grading: There will be several short homework assignments totaling *approximately* 100 points. Homework is to be turned in at the beginning of class on the due date. Unless told otherwise, all assignments must be completed using the original form provided for that purpose (do not write answers on a separate sheet of paper). Unless instructed otherwise, it is acceptable to provide handwritten responses; however, *completed homework assignments should reflect the standards expected of college-level work* (including proper grammar and spelling). Excessively messy/illegible work or folded/crumpled papers will receive a reduced score, or may be returned ungraded.

Late Homework: Late homework will be accepted, but 20% will be deducted from your score each day it is late (*calendar* day, not *class* day!). It is a good idea to read the assignment as soon as possible to see what it entails. If you start early, you will have time to ask for help or deal with unforeseen circumstances. If you wait until the last minute and your printer runs out of ink, you will be out of luck. Running out of printer ink or paper falls under “the dog ate my homework” category of excuses!

Collaboration: Homework assignments are not group projects. In theory, working together in a small group on a homework assignment can lead to a better understanding of the material. However, this rarely turns out to be a genuine collaboration. Instead, it often deteriorates into a “follow-the-leader” scenario, with one person doing most of the work, and the others blindly nodding in agreement and writing down whatever the leader suggests. That's cheating! Therefore, while you may enlist the help of classmates (or your instructor) in completing an assignment, the work that you turn in must be your own, based on your own understanding of the material. It is OK to ask a classmate how to do this or that, as long as you then go and do it yourself. It is OK for you and a classmate to compare answers **after** you have individually done the exercise and, if there is a disagreement, put your heads together to figure out which of you made a mistake. It is **not** OK to sit down, side-by-side, looking at each other's papers as you are writing down answers. If I were to ask you how you got this answer or that answer on a homework assignment, would you be able to explain your reasoning? If I have good reason to believe that a student has basically just copied another student's work, *both* papers will receive a zero, so do not let a classmate copy your homework! Be sure to read the section on academic honesty in the syllabus addendum.

Class Participation

Class participation simply means being involved (in a positive sense) in what is going on in the classroom. Examples of positive contributions to the class include asking or responding to questions, contributing news items relevant to the course, seeking help during office hours (if needed), coming to class on time, simply paying attention during class, and displaying a good attitude in general. Examples of negative contributions include habitually arriving late to class or leaving early, poor attendance, constantly talking to your neighbor when you should be listening, sleeping in class, or other rude behavior.

Class participation is also used as a subjective criterion in borderline situations. It is not uncommon for a student to fall short of a grade cut-off by just a few points. In such cases, students who have obviously made an effort to involve themselves in classroom dynamics will get the benefit of the doubt.

Extra Credit

At the end of the session, you will be assigned a *tentative* course grade based upon the total number of points you have accumulated on in-class exams, homework, etc. Before recording a *final* course grade, I will consider several additional criteria:

- **Videos:** A number of astronomy-related films will be available for viewing throughout the course. Although attendance at these films is strictly optional, you will receive 3 points extra-credit for each film you view, for a maximum of 42 points.
- **Planetarium:** The SPC planetarium is open to the public on Friday evenings at 7:00 and 8:15 PM. Attendance at a planetarium show and telescope viewing afterwards will result in 5 points extra credit.

Keep in mind that extra credit is a privilege, *not an entitlement*. Consequently, your instructor reserves the right to abrogate any or all extra credit privileges, at his discretion, if he believes the student is abusing that privilege. If you are found sleeping during videos, texting on your cell, etc...*you will forfeit all extra credit privileges!*

Furthermore, *extra credit is not to be used as a substitute for coursework*. It is intended to relieve some of the burden from students who are making a genuine effort but still falling short of their expectations. Students who make little or no effort to complete homework assignments, routinely sleep in class, are habitually absent from class, or otherwise exhibit poor classroom demeanor *will not be afforded extra credit privileges*.

Attendance Policy

This is a traditional “face-to-face” class, *not* an online course. Consequently, you are expected to be physically present in class. I recognize, however, that circumstances may cause you to miss class from time to time. In keeping with college guidelines, you are permitted up to 4 absences without penalty. Each additional absence will result in 5 points being deducted from your overall score. Attendance sheets will be available near each classroom entrance. It is *your responsibility* to sign one of these attendance sheets. If your signature is not on the attendance sheet after the class is over, it will count as an absence. Under no circumstances should you stop by the classroom just long enough to sign the attendance sheet and then leave before class begins. Nor should you have a friend sign your name in your place. Such behavior will immediately earn you a zero for class participation and forfeiture of all extra credit privileges!

College policy requires instructors to verify which students are actively participating in class as of the 60% point of the term (October 22). The college-wide attendance policy is included in the [Syllabus Addendum](#). The policy notes that each instructor is to exercise professional judgment and define “active participation” in class (and therefore “attendance”), and publish that definition in each syllabus. For this class, you will be reported as ***not actively participating*** if you have missed two of the first three exams, ***or*** if you have nine or more absences prior to the withdrawal deadline.

If you are classified as not meeting the criteria for active class participation, you will be administratively withdrawn with a "WF." You may withdraw yourself at any time prior to the drop deadline with a grade of "W".

Classroom Etiquette

I place a high premium on simple, common-sense courtesy in the classroom. To help establish and maintain a courteous, distraction-free learning environment in our classroom, I ask that all students please observe the following rules of behavior during lectures and exams.

You are expected to be in class on time, *and to stay for the entire class period*. If necessary, make a restroom stop *before* class begins. It is very distracting and disruptive if students are constantly coming and going during a lecture. I normally won't make a fuss if you are occasionally a few minutes late to class. However, all late arrivals will be recorded, and if I find a pattern of **habitual tardiness** this will be reflected in your class participation score.



When in class, all cell phones and pagers *must be silenced*. Unless it is an emergency, leaving class to make a cell phone call is a no-no and will cost you class participation points. If you are a paramedic on call, or if you expect your wife to go into labor at any minute, or if you are on a waiting list for a kidney transplant, or if there is any other legitimate reason why you might need to leave the classroom in the middle of a lecture to take a cell phone call, then please inform me in advance! Otherwise, I will assume you are leaving the classroom to return a call from your sweetheart about what to have for dinner that evening, and you will lose points for class participation. I have no objection if you occasionally text message during class, but if you spend a good chunk of the class period playing with your cell phone it will cost you points.

The use of wireless laptops or tablets is permitted with the understanding that they are to be used only for classroom purposes. If you plan to use a laptop or tablet during class, please send me an email stating your reasons and your assurance that it will not be used for purposes unrelated to the class.

Blatant sleeping in class (eyes closed, head on table, drool seeping from your mouth) is rude and disrespectful and will negatively impact your grade. During my student days, I often had trouble keeping my eyes open in class. But not once in 10 years of higher education did I ever put my head on the desk and drift off into slumberland in full view of the professor. If you need to catch up on your sleep, learn to do it sitting upright, as I did!

Course Website



You can access the webpage for this class by logging into [MyCourses](#) on the college server. All class handouts and assignments can be accessed from the course webpage. Most of the course materials will be in PDF format. You will need the free *Adobe Reader* to view these files. It can be downloaded at: <http://www.adobe.com/products/reader/>

Welcome to AST1002...I hope you enjoy the course!

TENTATIVE CLASS SCHEDULE

WEEK OF	TUESDAY	THURSDAY
Aug 17	Introduction to AST1002 The Celestial Sphere	Daily Motion of the Celestial Sphere
Aug 24	Motion of the Sun and the Seasons	Motions of the Moon and Planets
Aug 31	Early Views of the Universe; Ptolemy's Geocentric Model	The Astronomical Revolution: Copernicus' Heliocentric Model
Sep 7	EXAM #1	The Astronomical Revolution: Tycho, Kepler & Galileo
Sep 14	The Physics of Motion: Newtonian Mechanics	The Physics of Motion: Gravitation
Sep 21	The Nature of Light	Light and Atoms
Sep 28	EXAM #2	CSI: Astronomy
Oct 5	Overview of the Solar System	Earth as a Planet; The Moon & Mercury
Oct 12	Our Planetary Neighbors: Venus & Mars	The Outer Planets: Jupiter, Saturn, Uranus & Neptune
Oct 19	COLLEGE DAY	EXAM #3
Oct 26	Moons and Dwarf Planets	Solar System Debris
Nov 2	Measuring the Stars	Anatomy of a Star
Nov 9	Lives of the Stars: The Lightweights	EXAM #4
Nov 16	Lives of the Stars: The Heavyweights	The Stellar Graveyard
Nov 23	Galaxies of Stars	THANKSGIVING
Nov 30	A Universe of Galaxies	Origin & Evolution Of the Universe

Last day to drop, receive refund, and/or change to audit: Friday, August 21

Last day to withdraw with a grade of "W": Thursday, October 22

Final Exam: Tuesday December 8 (10:00 am)

OFFICE SCHEDULE

Dr. Craig L. Joseph
 SC 218 Natural Science
 Phone: 341-4320
 Email: joseph.craig@spcollege.edu

Feel free to drop by without an appointment at the hours indicated below. Keep in mind that these are the times that I am guaranteed to be in (or near) my office; I am likely to be there at other times as well. If I am not in my office but somewhere nearby, I will leave a note on my door or the adjacent bulletin board letting you know where to find me or when I will be back

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:00 - 9:00					
9:00 - 10:00					
10:00 - 11:00	Office	AST1002	Office	AST1002	
11:00 - 12:00	AST1003	Office	AST1003	Office	
12:00 - 1:00	Office	Office by Appointment	Office	Office by Appointment	
1:00 - 2:00					
2:00 - 3:00		Office		Office	
3:00 - 4:00					
4:00 - 5:00					
5:00 - 6:00					
6:00 - 7:00				Lab Prep	Show Prep
7:00 - 8:00				AST1022L	Planetarium
8:00 - 9:00					
9:00 - 9:40					

Astronomy 1002 Syllabus Signature Sheet

Your first assignment is to read the full-length class syllabus posted on the course website and to sign and return this page. Please turn this in no later than Thursday, August 27.

Print your name _____

Student # _____

I have read the complete AST1002 course syllabus, and have a clear understanding of the class policies, including

- a) how my grade will be determined
- b) exam procedures & make-up policy
- c) homework policies and late penalties
- d) extra credit policies and restrictions
- e) attendance policy
- f) classroom etiquette
- g) cell phone & laptop use during class

Signature

Date

In the space below please tell me something about yourself (hobbies, interests, career goals, or anything else you would like to share):