

Astronomy

Stars, Galaxies, and the Big Bang

PHYS108 - Spring 2021

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Overview and basic info

Course info

Classroom: Zoom

Time: 1:10-2:00 MWF, 2:10-4:00 M

Instructor

Dr. Stephanie Douglas

Please call me “Professor Douglas” or “Doctor Douglas” or “Professor”

My pronouns are she/her/hers

Email: douglste@lafayette.edu

Course Policies

Attendance

This class will be taught fully online. All class and lab sessions will proceed assuming everyone is participating synchronously, and you will be graded on your participation in class activities. If you must miss class or lab sessions, please let me know as soon as possible. You are responsible for completing the day’s work to receive participation credit for that day.

Absences

Your health is always paramount, but even more so this semester. For minor illnesses or other events, let me know and I will waive participation for that day. You will also have a set of free extensions to use on assignments; see the time bank section for more information.

If you will miss multiple classes due to COVID-19 or another serious illness, let me know ASAP and work with your local health provider (if applicable) and Bailey Health Center to obtain a Dean’s Excuse. Dean’s Excuses are also available for other disruptive life events. If you have a Dean’s Excuse, you will not be required to use the time bank, and participation grades will be waived for the time you were out.

If you will miss class or an assignment deadline due to a religious holiday, please contact me by the add/drop deadline so that we can make plans for you to complete the relevant work. I’ve done my best to make sure that project deadlines don’t conflict with religious holidays; let me know if I’ve missed one.

Contact and office hours

Open drop-in “contact” or “office” hours are ____

I will also set up blocks of available time each week for one-on-one meetings; if these blocks don't work for you, please email me and we can schedule a meeting at another time.

I will generally check email between 9-5 on weekdays (MTWRF), and will do my best to respond by the end of the next weekday. I will sometimes check email at other times, but this is not guaranteed.

I expect you to check email (and read any course announcements) at least once between each class.

Accommodations: flexible, let me know as early as possible

My policy: Your success in this class is important to me. If you need accommodations for any reason, please speak with me privately ASAP to discuss reasonable accommodations. I am happy to consider creative solutions as long as they do not compromise the learning goals of the activity.

Mandatory statement for any Lafayette course with a disability policy: Lafayette College is committed to creating a learning environment that meets the needs of its diverse student body. If you anticipate or experience any barriers to learning in this course, you are welcome to discuss your concerns with me. If you have a disability, or think you may have a disability, please meet with the [Office of Accessibility Services](#), to begin this conversation or request an official accommodation. If you have already been approved for accommodations through the Office of Accessibility Services, please meet with me so we can develop an implementation plan together.

Collaboration and Plagiarism

You are expected to abide by the principles of intellectual honesty outlined in the Lafayette College Student Handbook (available from <http://conduct.lafayette.edu>). All answers must be given in your own words, not copied from the textbook or any other resources. Copying solutions from another source, including Chegg, Bartleby, CourseHero, or similar websites, is a violation of the Academic Honesty Policy.

Science is a social enterprise, and I encourage you to collaborate with your peers on homework, in-class activities, labs, studying, etc. "Collaboration" does not mean "copying." You must understand and individually write out your own answers, and you must turn in your own copy of each assignment.

You may not work collaboratively on projects, unless otherwise noted.

Evidence of plagiarism will yield a reduced or zero grade for the assignment at the discretion of the instructor, and may be reported to the College.

Commitment to Inclusion and Equity

Lafayette College is committed to creating a diverse community: one that is inclusive and responsive, and is supportive of each and all of its faculty, students, and staff. The College seeks to promote diversity in its many manifestations. These include but are not limited to race, ethnicity, socioeconomic status, gender, gender identity, sexual orientation, religion, disability, and place of origin. The College recognizes that we live in an increasingly interconnected, globalized world, and that students benefit from learning in educational and social contexts in which there are participants from all manner of backgrounds. The goal is to encourage students to consider diverse experiences and perspectives throughout their lives. All

members of the College community share a responsibility for creating, maintaining, and developing a learning environment in which difference is valued, equity is sought, and inclusiveness is practiced.

If you are experiencing discrimination or harassment in this class, please do not hesitate to reach out to me so that I can help resolve the issue.

Do not repost learning materials, do not create your own class recordings

All course materials are proprietary and for class purposes only. This includes posted recordings of lectures, worksheets, discussion prompts, and other course items. Such materials should not be reposted, and should be deleted at the end of the semester. Online discussions should also remain private and not be shared outside of the course. If you have any questions about proper usage of course materials feel free to ask me. You may not record classes yourself.

Moodle privacy statement

Moodle contains student information that is protected by the Family Educational Right to Privacy Act (FERPA). Disclosure to unauthorized parties violates federal privacy laws. Courses using Moodle will make student information visible to other students in this class. Please remember that this information is protected by these federal privacy laws and must not be shared with anyone outside the class. Questions can be referred to the Registrar's Office.

Assignments and grading

Unless otherwise noted, all assignments must either be completed entirely within Moodle or MasteringAstronomy. Submissions to Moodle must be uploaded as PDF files or Kaltura video submissions. Work that is uploaded as an image straight from your camera will not be graded.

Course Grade Components

Reading quizzes and pre-class work (completion): 10%
Participation: 10%
Labs: 20%
Homework: 20%
Midterms projects 1 and 2: 20% (10% each)
Final project: 20%

Three 48-hour free passes to extend deadlines

Over the course of the semester, you will have three 48-hour passes that you can use to extend deadlines for homework, labs, or essays, no questions asked. You may combine 2 or 3 of these passes on a single assignment, but you may not subdivide the 48-hour increments. The only exception is the final project - you may only use 1 pass on the final. When you turn the assignment in, email me or write a note across the top of your assignment submission, indicating the number of passes you would like to use.

Late work policy: 3.33% off per 24 hours late

I will accept late homeworks and labs until the solutions and grades for that assignment are posted (typically one week after they're turned in). Once solutions and grades are posted, no late assignments will be accepted without prior approval. If you do not use the time bank, late assignments will be penalized by 3.33 percentage points per 24 hours after the assigned deadline (10 percentage points per 3 days late).

Reading quizzes and pre-class work (10%)

Reading and pre-class assignments will be assigned ahead of each lecture, generally at least 1 week in advance. These assignments may include watching videos or exploring interactive apps ahead of the class. The goal of the pre-class work is to increase the amount of interaction during our synchronous class time, and minimize the time you're spending watching me talk on Zoom.

Expect to spend 3-4 hours actively reading and/or interacting with other pre-class work per week. Use the listed learning goals to guide your reading. As part of these assignments, you will take small quizzes and/or submit short reflections on the content. These will be graded for completion, but the class-wide results may guide the content we cover in lecture.

Participation (10%)

We will often have small-group or other interactive activities during synchronous class periods. Your participation in these activities, including productive group work where applicable, will be graded. You can also improve your participation score by asking or answering questions in class or in office hours.

Labs (20%)

Lab periods will generally involve extended activities intended to help you uncover challenging concepts and to meet the Natural Science requirements of the Common Course of Study. We will typically use both Monday sessions (1:10-2:00 and 2:10-4:00) for labs each week. Lab grades will be based on a worksheet or brief report turned in at the end of the lab period.

25% of your lab grade each week will be based on completion.

Homework (20%)

Each week you will be assigned 1.5-2 hours of homework consisting of conceptual questions, sketches, diagrams, math problems, and other tasks that suit the content from the previous week. I encourage you to work together on homework, though you must turn in your own copies of each assignment. It must be clear that short answer/essay questions were written in your own words.

Homeworks will be due on Wednesdays at 11:59 AM, via Mastering Astronomy. Some of the questions will not be automatically grade - for those questions, I will generally grade them and post solutions within one week. I will drop your lowest homework grade.

Midterm and final projects (10%, 10%, 20%)

There will be three projects in this class: two midterm projects and one final project. Each project will consist of

- An essay, video, or other product. You will have several choices for prompts on each project.
- A reflection on your project, what you've learned in the course so far, and a self-assessment of your progress
- You can receive up to 5% extra credit points on that assignment if you submit your project for review 9 days before the due date (Midterm projects will be due on Wednesdays; you'll need to turn in a draft for feedback on the previous Monday to get the extra credit points)

You may consult your book, other class material, and me for your projects. You may consult some outside sources as long as you cite them and paraphrase all material in your own words - as a reminder, using solutions from Chegg, CourseHero, Bartleby, etc, is a violation of the Academic Honesty Policy. You may not work with other students on projects unless you talk to me first.

Course Outcomes

After completing this course, you will be able to...

- understand the scientific method and how it can be applied to the universe as a whole;
- understand that the universe evolves along with everything in it;
- gain perspective on the place of humankind in the cosmos;
- discuss, in general terms, the nature and evolution of stars;
- discuss, in general terms, the nature and evolution of galaxies;
- discuss, in general terms, the conditions that prevailed at much earlier times in the expansion of the observable universe;
- understand that the goal of physics is to comprehend phenomena in the physical world;
- demonstrate the ability to formulate a testable hypothesis based upon acquired physical data;
- collect and analyze experimental data relevant to testing a hypothesis;
- evaluate whether the evidence supports, refutes, or leads to the revision of the hypothesis;
- create, interpret, and critically evaluate graphs, tables and models of physical data;
- understand scientific uncertainty and how it is reduced with additional data acquisition and hypothesis testing;
- distinguish between scientifically testable ideas and opinion.

Specific learning goals for each unit will be distributed weekly.

Mandatory credit hour statement

The student work in this course is in full compliance with the federal definition of a four credit hour course.