

## ASTR 4201/5201 – Stellar Astrophysics & Radiation

## Fall 2020 Syllabus

Course webpage: [http://inpp.ohio.edu/~meisel/ASTR4201/ast4201\\_home.html](http://inpp.ohio.edu/~meisel/ASTR4201/ast4201_home.html)

Instructor: [Assoc. Prof. Zach Meisel](#) Office: 204 Edwards Accelerator Laboratory

Email: [meisel@ohio.edu](mailto:meisel@ohio.edu) Office hour: 12:00-1:00pm Tuesday, or by appointment

Class location: Microsoft Teams Class times: 10:30-11:50am, Tuesday & Thursday

Course Textbook: "[To Build a Star](#)" by E. F. Brown

### Overview:

The purpose of this course is to learn the astrophysics of stars at an introductory level. This will include covering of the relevant aspects of electromagnetism, gravity, the interaction of radiation with matter, heat transfer, atomic physics, nuclear physics, and stellar evolution. Assumed knowledge includes basic concepts in astronomy, introductory physics, calculus, and differential equations, though the most pertinent details from these subjects will be briefly reviewed. The course content should be accessible to an undergraduate student in the Physics & Astronomy Department who is following the typical curriculum and is in their 3<sup>rd</sup> year or beyond.

The course will consist of two discussion sessions each week, which will primarily focus on solving problems together, as well as discussing assigned readings and mini-lectures. Out-of-class activities will include mini-lectures and reading assignments. Additional learning tools will include group homework assignments and projects. Exams will be one-on-one oral exams.

A **course schedule** is available at: <https://inpp.ohio.edu/~meisel/ASTR4201/Schedule.html>.

### Grading:

This class will follow the philosophy of "[ungrading](#)", meaning assignments will not be given a grade. I will qualitatively assess your assignments and your progress in the course. Of course, I still need to assign a final grade. This is determined based on [these guidelines](#). We will individually check in at regular intervals to discuss how the course is going. Effort will be emphasized over achievement. I want you to enjoy what you're learning and work hard because you're enjoying it.

### Comments on Homework:

Students will be grouped into teams. Each team will be assigned a set of problems, with a particular student assigned to be the leader of a given problem. We will discuss the problems in class. You will not be expected to present a completed, correct solution the first time you present a problem. In class we will discuss your progress and suggest how to move forward if you are stuck. Essentially, I am asking you to not google the solution. Doing the work yourself is how you will learn. If you didn't do it, you didn't learn it. In that case, why take the class?

**Attendance:**

Come to class! Attendance is expected, but not strictly required. This means if you had to miss class for a good reason (e.g. internet outage, personal issue, unique opportunity [e.g. an academic conference]), you will not be penalized. But, you need to let me know once you can. If you do not show up and do not provide an adequate reason, your grade will suffer. Please keep absences to a minimum.

**Exams:**

There will be a midterm exam and a final exam. These will be oral exams, approximately 15-30 minutes in length. The final exam will not be cumulative, strictly speaking; however, it may necessarily draw on information from earlier in the semester which provides the foundation for later course content.

**Academic Honesty:**

I trust you will act in an academically honest fashion. If you have any questions about what does or does not constitute academic misconduct, please let me know.

Academic Misconduct is a Code A violation of the Ohio University Code of Student Conduct. If you are found to be involved in academic misconduct regarding this course, you will receive a zero on the pertinent work and possibly for the entire course and/or referral to the [Office of Community Standards and Student Responsibility](#). University Judiciaries may impose additional sanctions.

**Inclusion and Expected Conduct:**

Everyone is expected to behave professionally and respectfully. We will maintain a professional environment that encourages the free expression and exchange of scientific ideas and is characterized by an atmosphere of tolerance, equity, and mutual respect, regardless of personal attributes. We will keep in mind that behaviors and language acceptable to one person may not be acceptable to another and will ensure that our words and actions communicate respect for others. We will avoid offending others by exercising restraint and will maintain awareness that statements or actions not intended to be offensive to another person may be perceived as such. We will commit to being open minded and growing in our understanding of what it means to be inclusive. Harassment or bullying of any kind will not be tolerated.

If something has happened that is preventing you from learning in our environment, please either let me know so I can help find the best resources to support you on campus or in our community, or, if you are uncomfortable speaking with me, utilize the resources on campus like [Counseling and Psychological Services](#), the [Division of Diversity and Inclusion](#), and [Equity and Civil Rights Compliance](#). Please also see the [list of resources](#) (both internal and external to the university) maintained by the Department of Physics & Astronomy.

**Resources for Victims of Sexual Assault and Misconduct:**

I am committed to supporting you by creating an educational environment free from discrimination, sexual harassment, sexual assault, domestic and dating violence, and stalking. If you or someone you know has any of these experiences, know that you are not alone. Ohio University has [policies in place](#) to protect students, faculty, and staff and provides resources and support for those impacted. I encourage you to reach out for help. If you would like to report what happened, the [Survivor Advocacy Program](#) is a confidential resource that can help you determine what next steps, if any, you would like to take. Reports, which can be submitted anonymously, can be directly made at [this website](#). I am also here to support you, but note that as a faculty member I am a “mandatory reporter”. This means that I must report any instances of sexual harassment, sexual violence, and other forms of prohibited discrimination to the [Office of University Equity and Civil Rights Compliance \(ECRC\)](#).