

# Junior Seminar (Phys 345)

## Syllabus

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### 1 Basics

The best way to reach me is **e-mail**, [edis@truman.edu](mailto:edis@truman.edu). My office phone is 785-4583, but I don't check messages often.

My office is MG 3004, and my office hours are: Tuesdays and Thursdays: 10:30–13:20; Wednesdays: 13:30–15:20. If you want to see me then, come knock on my office door, which I will keep closed. Don't worry, you won't interrupt anything important. Then go and hang around the blackboard immediately outside my office door. I will put my mask on and come out, and talk with you outside my office, using the blackboard.

I'm available remotely at a lot of other times as well. Check my **calendar** ([edis.sites.truman.edu/schedule/](https://edis.sites.truman.edu/schedule/))—any time in which I am not actually teaching or have another meeting scheduled, I might be able to talk to you on Zoom as well. Emailing me ahead of time is best: we can set up a time that is good for both of us, and I'll put it on my calendar so that others can see that it's not available. In any case, my Zoom meeting ID is 711 943 0930.

If campus shuts down and everything becomes remote due to the virus getting out of hand, all my office hours will become remote office hours.

I have posted some course-related documents online. Bookmark the **Junior Seminar page** ([edis.sites.truman.edu/physics-junior-seminar-345/](https://edis.sites.truman.edu/physics-junior-seminar-345/)).

## 2 Course Description

Junior Seminar is for reviewing the knowledge base common to physics majors and to shake some of the rust off of physics you have half-forgotten. Furthermore, we will look toward your future, developing some of the skills you need as graduation approaches.

### 2.1 Career skills

Our first four weeks, up to and including our meeting on February 3, will be devoted to several activities relating to graduate school and career development. You will work on a résumé, and either a personal statement for graduate school applications or a cover letter for a job application. You will learn about career and graduate school options, and how to locate resources for learning more. You will learn how to pursue letters of recommendation.

If you are applying for REU's during this time, you may submit materials you have put together for an REU application.

### 2.2 GRE practice

Starting on February 12, the rest of our time will be spent reviewing and discussing physics. Our approach to the physics review will be organized according to the various subfields that make up the standard physics curriculum: Classical Mechanics, Electricity & Magnetism, Circuits, Quantum Mechanics, Relativity, Optics, Modern Physics, Thermodynamics, etc. We will practice by solving relevant sample problems extracted from past GRE exams that will then become the basis for further discussion and review.

Please note that the review of physics that we undertake in Physics 345 is relevant to all of you, regardless of your future plans. Obviously, the focus on the GRE in this class is especially beneficial to those students who expect to continue their physics studies in a graduate program, but others also need the review.

### 2.3 Colloquia substitute

The second hour of class overlaps with the regular Physics Colloquium time. Due to the pandemic, we won't be having colloquia. Instead, I will show

parts of some videos by Sabine Hossenfelder, who explores some controversies concerning the state of physics today, and we will discuss these.

If you want to influence what we will see, search for "Sabine Hossenfelder" on YouTube and see which of the topics she addresses grabs your attention.

### 3 Grades

Grades for this course should not be a major concern. They are not connected to how well you do on the GRE practice exams. If you complete all assignments on time, participate actively in class discussions, spend half an hour per week outside of class working on the practice exams, and show up for the colloquia, you will earn a good grade.

Grades will be based on:

- **Participatory Attendance – 45%:** You are expected to participate in class discussions and demonstrate that you are reading and working on the assigned materials. In addition, there will be one 3-hour session at the end of the course for you to practice taking a full GRE physics sample test. Participation includes presence and asking questions in colloquia.
- **Résumé – 10%:** You have to submit a "kitchen sink" version, a first draft, and a revised final draft.
- **Personal Statement or Cover Letter – 10%:** You have to submit a first draft and a revised final draft.
- **Letter of recommendation exercise – 5%:** You have to talk to a faculty member about a letter of recommendation.
- **Practice Exams – 30%:** You will receive a number of practice GRE segments as homework assignments. Your grade will be based on how seriously you take the practice exams, *not* the scores you receive. (The idea is to review and identify your strengths and weaknesses.)

### 4 Academic Integrity

I care about maintaining academic integrity, and I will apply all Truman policies concerning **academic dishonesty**. I expect you to be familiar with the **Student Conduct Code**.

Do not present something that is not your own work as your own, whether you get it from another student or online. In any case, I do not expect academic dishonesty, nor will I go out of my way to look for it.

## 5 Lawyer Avoidance

Consistent with guidance for higher education institutions from the Centers for Disease Control and to help us reduce the possible spread of COVID-19, when this class meets, or you attend office hours, you will be required to wear a face covering that completely covers your nose and mouth. You will be expected to keep the covering on at all times while we are meeting. In the event you arrive to class without a face covering, you will be asked leave until you are able to obtain one and return. Thank you for your help in containing this virus and helping to protect your peers.

The minimum investment of time by the average Truman student necessary to achieve the learning goals in this course are not less than one hour (50 minutes) of classroom instruction and a minimum of two hours of out of class student work each week per credit hour awarded or at least the equivalent of three hours (2:50) of laboratory work, internships, practica, and other academic work each week per credit hour awarded. This average time per week for an average student may have weekly variations.

To obtain disability-related academic accommodations students with documented disabilities must contact the course instructor and the [Office of Student Access and Disability Services \(OSA\)](#) as soon as possible. Truman complies with ADA requirements. You may also contact OSA by phone at (660) 785-4478 or email [studentaccess@truman.edu](mailto:studentaccess@truman.edu).

In each classroom on campus, there is a [poster of emergency procedures](#) explaining best practices in the event of an active shooter/hostile intruder, fire, severe weather, bomb threat, power outage, and medical emergency. Students should be aware of the classroom environment and note the exits for the room and building. For more detailed information, please consult the [Emergency Guide for Academic Buildings](#). A [six-minute video](#) provides some basic information on how to react in the event there is an active shooter in your location.

Truman students, faculty, and staff can sign up for the TruAlert emergency text messaging service via TruView. TruAlert sends a text message to all enrolled cell phones in the event of an emergency at the University. To register, sign in to TruView and click on the “Truman” tab. Click on the registration link in the lower right of the page under the “Update and View My Personal Information” channel on the “Emergency Text Messaging” or “Update Emergency Text Messaging Information” link. During a campus emergency, information will also be posted on the [TruAlert website](#).

Truman State University, in compliance with applicable laws and recognizing its deeper commitment to equity, diversity and inclusion which enhances accessibility and promotes excellence in all aspects of the Truman Experience, does not discriminate on the basis of age, color, disability, national origin, race, religion, retaliation, sex (including pregnancy), sexual orientation, or protected veteran status in its programs and activities, including employment, admissions, and educational programs and activities. Faculty and staff are considered “mandated reporters” and therefore are required to report potential violations of the University’s Anti-Discrimination Policies to the Institutional Compliance Officer.

Title IX prohibits sex harassment, sexual assault, intimate partner violence, stalking and retaliation. Truman State University encourages individuals who believe they may have been impacted by sexual or gender-based discrimination to consult with the Title IX Coordinator who is available to speak in depth about the resources and options. Faculty and staff are considered “mandated reporters” and therefore are required to report potential incidents of sexual misconduct that they become aware of to the Title IX Coordinator.

For more information on discrimination or Title IX, or to file a complaint contact Dr. Lauri Millot, Institutional Compliance Officer, Title IX and Section 504 Coordinator, Office of Institutional Compliance, Violette Hall, Room 1308, 100 E. Normal Ave, Kirksville, MO 63501, Phone: (660) 785-4354, [titleix@truman.edu](mailto:titleix@truman.edu). You can also view the [institution’s complaint procedure](#) and the [complaint form](#).

Education records are protected by the Family Education Right to Privacy Act ([FERPA](#)). As a result, course grades, assignments, advising records, etc. cannot be released to third parties without your permission. There are, however, several exceptions about which you should be aware. For example, education records can be disclosed to employees or offices at Truman who have an “educational need to know.” These employees and offices may include your academic advisor, the Institutional Compliance Officer, the Registrar’s Office, or Student Affairs depending on the type of information.