

Ch En 593R: Soft Materials Theory

Spring 2023

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| Location | 383 Clyde Building |
| Time | 1:00-2:50 PM, T |
| Prerequisites | Chemical Engineering graduate student or instructor consent |
| Instructor | Douglas R. Tree, 330I Engineering Building Phone: (801) 422-5162 Email: tree.doug@byu.edu Zoom: https://byu.zoom.us/my/treedoug |
| TAs | None |
| Office Hours | Upon request |
| Course Website | Content: http://www.et.byu.edu/~treedoug/teaching/ChEn263 Grades, Keys, Copyrighted Material, Assignment Submission: Learning Suite |
| Course Description | This course provides an introduction to various aspects of soft materials theory including: polymer physics, nonequilibrium statistical mechanics, high performance computing, parallel/GPU programming, stochastic processes, statistical field theory, etc. This course is designed to be modular and rotates topics every year. As such, students may take it can be taken multiple times. |
| Textbook | There is no textbook for this class, but the course website has links to reference material. |
| Course Organization & Schedule | <p>Our class will follow a “flipped classroom” format with online lectures and <i>in-person</i> interactive labs during class time. Each period will follow the following format:</p> <ul style="list-style-type: none">• Before Class: Watch the online lecture, review the example problems, and take the lecture quiz• During Class: Participate in the in-class quiz and complete the in-class lab• After Class: Complete the homework assignment <p>More details about each of these class elements are given in the next sections.</p> |
| Course Organization: | Class will consist of lectures and homework. There are no exams in the course. Homework is meant to help the student practice the material being discussed in class. |
| Podcast: How Science Happens | Several BYU professors and I have created a podcast called “How Science Happens”. The podcast is about the experience of different engineers and scientists got their start and what they do now in their jobs in both academia and industry. You can find it here: https://anchor.fm/howscience or on Spotify/Google Podcasts, etc. You can also follow the podcast on Twitter at: https://twitter.com/HappenScience |

Grading

Grades for the course will be based on the following distribution:

- Homework: 100%

I will determine the grade scale at the end of the semester. However, I will guarantee that it will be no harder than:

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| | | B+ | 87% | C+ | 77% | D+ | 67% |
| A | 93% | B | 83% | C | 73% | D | 63% |
| A- | 90% | B- | 80% | C- | 70% | D- | 60% |

BYU Policy Statements

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| Academic Honesty | The first injunction of the BYU Honor Code is the call to “be honest”. Students come to the university not only to improve their minds, gain knowledge, and develop skills that will assist them in their life’s work, but also to build character. President David O. McKay taught that “character is the highest aim of education” (The Aims of a BYU Education, p. 6). It is the purpose of the BYU Academic Honesty Policy to assist in fulfilling that aim. BYU students should seek to be totally honest in their dealings with others. They should complete their own work and be evaluated based upon that work. They should avoid academic dishonesty and misconduct in all its forms, including but not limited to plagiarism, fabrication or falsification, cheating, and other academic misconduct. |
| Honor Code | In keeping with the principles of the BYU Honor Code, students are expected to be honest in all of their academic work. Academic honesty means, most fundamentally, that any work you present as your own must in fact be your own work and not that of another. Violations of this principle may result in a failing grade in the course and additional disciplinary action by the university. Students are also expected to adhere to the Dress and Grooming Standards. Adherence demonstrates respect for yourself and others and ensures an effective learning and working environment. It is the university's expectation, and every instructor's expectation in class, that each student will abide by all Honor Code standards. Please call the Honor Code Office at 422-2847 if you have questions about those standards. |
| Preventing Sexual Misconduct | <p>As required by Title IX of the Education Amendments of 1972, the university prohibits sex discrimination against any participant in its education programs or activities. Title IX also prohibits sexual harassment-including sexual violence-committed by or against students, university employees, and visitors to campus. As outlined in university policy, sexual harassment, dating violence, domestic violence, sexual assault, and stalking are considered forms of "Sexual Misconduct" prohibited by the university.</p> <p>University policy requires any university employee in a teaching, managerial, or supervisory role to report incidents of sexual misconduct that come to their attention through various forms including face-to-face conversation, a written class assignment or paper, class discussion, email, text, or social media post. If you encounter Sexual Misconduct, please contact the Title IX Coordinator at t9coordinator@byu.edu or 801-422-2130 or Ethics Point at https://titleix.byu.edu/report or 1-888-238-1062 (24-hours). Additional information about Title IX and resources available to you can be found at http://titleix.byu.edu.</p> |
| Students Disability | Brigham Young University is committed to providing a working and learning atmosphere that reasonably accommodates qualified persons with disabilities. If you have any disability which may impair your ability to complete this course successfully, please contact the University Accessibility Center (UAC), 2170 WSC or 422-2767. Reasonable academic accommodations are reviewed for all students who have qualified, documented disabilities. The UAC can also assess students for learning, attention, and emotional concerns. Services are coordinated with the student and instructor by the UAC. If you need assistance or if you feel you have been |

unlawfully discriminated against on the basis of disability, you may seek resolution through established grievance policy and procedures by contacting the Equal Employment Office at 422-5895, D-285 ASB

Inappropriate Use Of Course Materials All course materials (e.g., outlines, handouts, syllabi, exams, quizzes, PowerPoint presentations, lectures, audio and video recordings, etc.) are proprietary. Students are prohibited from posting or selling any such course materials without the express written permission of the professor teaching this course. To do so is a violation of the Brigham Young University Honor Code.