**Spring 2018**

**ENGR 296: Freshman Engineering 101**

**Number of units: 1**

**Course Syllabus**

**1. Instructor:** Chris Mi and Barry Dorr

E-426A

Office Hours: By appointment

**2. Prerequisites:**

None

**3. Class Time:** Lecture: TBD

**4. Text and Materials:**

None

**5. Purpose of this Course:** ENGR 296 (Freshmen Engineering 101) is a first year course designed to help first year engineering students to understand what engineering is about, and what fascinates engineers. It will prepare the students for success at SDSU and beyond by teaching them important skills including the life cycle of an engineering project, learn technical communication, work on teams, understand audience and purpose, organize ideas, structure presentation, write reports, give presentations and understand ethical issues.

**Course outcomes:**

Engineering 100 is an engineering student’s first taste of what it is to be a practicing engineer. The course is designed to simulate a real-world engineering environment where teamwork, communication, and creativity are the keys to success. The course will introduce the student to:

* technical problem solving and the creative engineering design process
* preparation of written technical reports and oral presentations to communicate your great ideas to a broad audience
* teamwork and team management
* the influence of the engineer on society
* professional responsibility
* sustainable engineering
* decision-making skills

*At the completion of the course, each student will (Learning outcomes)*

1. familiarize with the University, the College of Engineering and the department of Electrical and Computer Engineering, as well as various resources on campus. A variety of faculty and staff will give guest lectures to the students, motivate the students by showing the students their accomplishments and what have been fascinating them about electrical engineering. The students will utilize a variety of university resources, such as MESA, IEEE, WIE, disability services, laboratories, and faculty and staff help, etc.
2. recognize the importance of oral, written, and general academic skills, including teamwork where appropriate. Through group projects, students will build teamwork skills. They will be asked to report on results both in writing and orally.
3. explain ethics and academic code of conduct, and can list important academic values. At the outset of the class, we will spend time talking about academic honesty and Honor Code.
4. describe the connections between engineering and the real world. Lectures on the history and future of engineering will tie the relevance of engineering to global societal issues, such as energy, health, and the environment.
5. acquire basic programming skills using Matlab/Simulink and use them to solve real life problems.

**6. Project and Presentations:**

Students will be organized into groups and will conduct a design project. They will prepare the poster board and give presentations at the final week to students, parents, community, and faculty and staff.

**8. Lecture and Lab Topics:**

1. Introduction to engineering, from electricity to microwave to space exploration
2. Introduction to BSEE or BS CompE curricula and student learning resources at SDSU
3. Tour the engineering teaching and research labs
4. Introduction to Matlab
5. Introduction to Simulink
6. Programming with Matlab/Simulink – solving a real-life problem
7. Programming with Matlab/Simulink – solving a real-life problem; course project introduction
8. Research presentation by ECE Faculty member
9. Research presentation by ECE Faculty member
10. Research presentation by COE Staff member
11. Tour a local engineering company
12. Academic dishonesty and academic code of conduct
13. Project poster and oral presentations
14. Project poster and oral presentations
15. Project poster and oral presentations

**9. Grading:**

*This is a Credit/non-Credit Course*

Class participation 14%

Class assignments 36%

Design Project, Poster, and Oral Presentation 50%

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Total 100%

Sign in to each lecture will earn 1% towards the final grade, for a total of 14%

There will be an assignment after each lecture, totaling 36% towards the final grade

The final group project is worth 50% towards the final grade

Students needs to earn 70% or more in order to get credit for this course.

**10. Statement on Cheating and Plagiarism**: Cheating is the actual or attempted practice of fraudulent or deceptive acts for the purpose of improving one’s grade or obtaining course credit; such acts also include assisting another student to do so. Typically, such acts occur in relation to examinations. However, it is the intent of this definition that the term ‘cheating’ not be limited to examination situations only, but that it includes any and all actions by a student that are intended to gain an unearned academic advantage by fraudulent or deceptive means. Plagiarism is a specific form of cheating which consists of the misuse of the published and/or unpublished works of others by misrepresenting the material (i.e., their intellectual property) so used as one’s own work. Penalties for cheating and plagiarism range from a 0 or F on a particular assignment, through an F for the course, to expulsion from the University. For more information on the University’s policy regarding cheating and plagiarism, refer to the Schedule of Courses (‘Legal Notices on Cheating and Plagiarism’) or the University Catalog (‘Policies and Regulations’).

**11. Students with Disabilities**: “Americans with Disabilities Act (DA) Accommodation: The University is committed to providing reasonable academic accommodation to students with disabilities. The Student Disability Services Office provides university academic support services and specialized assistance to students with disabilities. Individuals with physical, perceptual, or learning disabilities as addressed by the Americans with Disabilities Act should contact Student Disability Services for information regarding accommodations. Please notify your instructor so that reasonable efforts can be made to accommodate you. If you expect accommodation through the Act, contact the Student Disability Services Office (http://www.sa.sdsu.edu/dss/dss\_home.html) at (619) 594-6473.”

Religious Observances: “University Policy on Absence for Religious Observances includes the following statements: “By the end of the second week of classes, students should notify the instructors of affected courses of planned absences for religious observances. Instructors shall reasonably accommodate students who notify them in advance of planned absences for religious observances.” Please notify the instructor in a timely manner and a reasonable accommodation will be reached.

**12. Syllabus is Subject to Change**: This syllabus and schedule are subject to change in the event of extenuating circumstances. If you are absent from class, it is your responsibility to check on announcements made while you were absent.

**13. Safety Issues**: Be specific in addressing any relevant safety issues, if relevant. This could include appropriate conduct in laboratory settings, etc.