## Additional Requirements

If you do not have an engineering B.S., you will need to meet some additional requirements. These additional requirements are in place to ensure that you are well prepared for lasting success in the program. The courses provide you with foundational knowledge that will serve you in the program and beyond. The prerequisites listed below will need to be completed before applying. Then, during the graduate program, you can make up the deficiencies listed below.

### Prerequisites

Prerequisites are courses that must be taken in order to apply. Students who do not have an undergraduate degree in engineering are expected to have passed with letter grades the following UC Davis equivalent science and mathematics courses:

i. Differential and Integral Calculus (Calculus - MATH 21 A, B & C; Vector Calculus - MATH 21 D; Linear Algebra - MATH 22 A; Differential Equations - MATH 22B).
ii. Physics (Classical Physics - PHY 9A & B; Electricity and Magnetism - PHY 9C)
iii. Chemistry (General Chemistry - CHE 2A & B)

### Deficiencies

Deficiencies are courses that must be passed before graduation, but do not need to have been passed in order to apply. Students who do not have an undergraduate degree in engineering must pass with a letter grade any missing UC Davis equivalent engineering core specified by Graduate Advisor. In addition, students must take upper division engineering courses during their graduate program to meet the following requirement.

Students must take the four (4) courses listed below:

i. Statics: ENG 35
ii. Circuits: ENG 17 or ENG 100
iii. Fluid Mechanics: ENG 103
iv. Thermodynamics: ENG 105, and

In addition, students must take three (3) courses from the courses listed below:

i. Circuits: ENG100
ii. Dynamics: ENG102
iii. Mechanics of Materials: ENG104
iv. Heat Transfer: EBS125
v. Kinetics and Mass Transfer: EBS127
vi. Modeling of Biological Systems: EBS130
vii. Bioinstrumentation and Control: EBS165