

ELECTRICAL ENGINEERING (EENG-SHU)

EENG-SHU 251 Circuits (4 Credits)

Typically offered Spring

This course covers Passive DC circuit elements, Kirchoff's laws, electric power calculations, analysis of DC circuits, Nodal and Loop analysis techniques, voltage and current division, Thevenin's and Norton's theorems, and source-free and forced responses of RL, RC and RLC circuits. Prerequisite: MATH-SHU 131 or MATH-SHU 201. Fulfillment: CE required; EE required; Core Curriculum Science Experimental Discovery in the Natural World.

Grading: Ugrd Shanghai Graded

Repeatable for additional credit: No

- SB Crse Attr: NYU Shanghai: Computer Systems Engineering Required
- SB Crse Attr: NYU Shanghai: Electrical and Systems Engineering Required
- SB Crse Attr: NYU Shanghai: Experimental Discovery in the Natural World

EENG-SHU 400 Senior Capstone Design Project I (4 Credits)

Typically offered Fall and Spring

The goal of The Capstone Design Project is to provide students with a major design experience that leverages the knowledge and skills acquired through their undergraduate studies and co-curricular experiences. Its structure includes a process of design with measurable metrics, and incorporation of appropriate engineering standards and multiple realistic constraints. Emphasis is placed on clearly framing the design problem and following the design process to result in an optimized design solution. Students are encouraged to build prototypes of their designs and seek validation of their solutions through simulations and experiments, as appropriate. The Capstone Project aims to be collaborative and trans-disciplinary across several engineering streams. The emphasis is on students applying the design process to solve real-world problems in a 21st century, global context. The projects address engineering and technology topics that overlap with the sciences, social sciences, liberal arts or business. The Capstone provides an opportunity to integrate technical, human, aesthetic, business and ethical concerns with engineering design. Students practice critical skills in communication, team-building, and project management. There is a mid-semester review of the projects. Students complete their design, as well as build and test their prototypes, if applicable, in spring semester. The senior year culminates in a comprehensive project report and design review by a committee of faculty and other professionals. Senior Capstone Design Project I (ENGR-AD-400) and Senior Capstone Design Project II (ENGR-AD-401) both consist of two, seven-week modules. Module I, in the fall semester, has a lecture and a project component focusing on the design process, problem definition, project management and Ethics. Module II in the fall is focused on creating the design solution, which is implemented in Module III and tested and validated in Module IV. Prerequisite: Senior Standing and major in Electrical & Syst Engineering or Computer Systems Engineering. Fulfillment: CE/EE Required.

Grading: Ugrd Shanghai Graded

Repeatable for additional credit: No

- SB Crse Attr: NYU Shanghai: Computer Systems Engineering Required
- SB Crse Attr: NYU Shanghai: Electrical and Systems Engineering Required

EENG-SHU 401 Senior Capstone Design Project II (4 Credits)

Typically offered occasionally

The goal of The Capstone Design Project is to provide students with a major design experience that leverages the knowledge and skills acquired through their undergraduate studies and co-curricular experiences. Its structure includes a process of design with measurable metrics, and incorporation of appropriate engineering standards and multiple realistic constraints. Emphasis is placed on clearly framing the design problem and following the design process to result in an optimized design solution. Students are encouraged to build prototypes of their designs and seek validation of their solutions through simulations and experiments, as appropriate. The Capstone Project aims to be collaborative and trans-disciplinary across several engineering streams. The emphasis is on students applying the design process to solve real-world problems in a 21st century, global context. The projects address engineering and technology topics that overlap with the sciences, social sciences, liberal arts or business. The Capstone provides an opportunity to integrate technical, human, aesthetic, business and ethical concerns with engineering design. Students practice critical skills in communication, team-building, and project management. There is a mid-semester review of the projects. Students complete their design, as well as build and test their prototypes, if applicable, in spring semester. The senior year culminates in a comprehensive project report and design review by a committee of faculty and other professionals. Senior Capstone Design Project I (ENGR-AD-400) and Senior Capstone Design Project II (ENGR-AD-401) both consist of two, seven-week modules. Module I, in the fall semester, has a lecture and a project component focusing on the design process, problem definition, project management and Ethics. Module II in the fall is focused on creating the design solution, which is implemented in Module III and tested and validated in Module IV. Prerequisite: EENG-SHU 400.

Grading: Ugrd Shanghai Graded

Repeatable for additional credit: No

EENG-SHU 997 Electrical and Systems Engineering Independent Study (2-4 Credits)

Typically offered APP

Prerequisite: permission of the department. Fulfillment: EE Additional Elective.

Grading: Ugrd Shanghai Graded

Repeatable for additional credit: Yes

- SB Crse Attr: NYU Shanghai: Electrical and Systems Engineering Elective