CYBER-PHYSICAL SYSTEMS ENGINEERING

Bachelor of Science (B.S.)

Sample Four-Semester Plan

Semester 1

Course	Title	Credits
ENEB302	Analog Circuits	4
ENEB340	Intermediate Programming Concepts and Applications for Embedded Systems (C/C++)	3
ENEB341	Introduction to Internet of Things	3
ENEB344	Digital Logic Design for Embedded Systems	4
ENEB354	Discrete Mathematics for Information Technology	3
	Total	**17**

Semester 2

Course	Title	Credits
ENEB304	Microelectronics and Sensors	3
ENEB352	Introduction to Networks and Protocols	3
ENEB353	Computer Organization for Embedded Systems	3
ENEB355	Algorithms in Python	3
ENEB345	Probability & Statistical Inference	3
	Total	**15**

Semester 3

Course	Title	Credits
ENEB408A	Capstone Design Lab I	3
ENEB454	Embedded Systems	3
ENEB444	Operating Systems for Embedded Systems	3
ENEB346	Linear Algebra for Machine Learning Applications	3
ENGL3**	Professional Writing	3
	Total	**15**

Semester 4

Course	Title	Credits
ENEB408B	Capstone Design Lab II	3
ENEB4XX	Senior General Elective	3
ENEB4XX	Senior General Elective	3
ENEB4XX	Senior General Elective	3
ENEB4XX	Senior General Elective	3
	Total	**15**

General Elective Coursework

Students in the Cyber-Physical Systems Engineering major will take the program required courses in their junior and senior years, in addition to general elective coursework in the second semester of their senior year. The specific elective course offerings will vary each spring semester.

ENEB443	Hardware/Software Security for Embedded Systems	3
ENEB451	Network Security	3
ENEB452	Advanced Software for Connected Embedded Systems	3
ENEB453	Web-Based Application Development	3
ENEB455	Advanced FPGA System Design Using Verilog for Emb. Systs.	3
ENEB456*	Machine Learning Tools	3
ENEB457*	Foundations of Databases for Web Applications	3

*Courses available starting in the 2022-2023 Academic Year.