NC STATE

Havelock Engineering Program
Degree: Bachelor of Science in Engineering
Concentration: Electrical Engineering Systems - Fall 2024

FRESHMAN YEAR

Fall Semester		Credits	Spring Semester		Credits
CH 101	Chemistry – A Molecular Science [B, 2]	3	MA 241	Analytic Geometry & Calculus II [A, 2]	4
CH 102	General Chemistry Laboratory [B, 2]	1	PY 205	Physics for Engineers. & Sci. I [B, 2]	3
E 101	Intro. to Engineering & Prob. Solving[1]	1	PY 206	Physics for Engineers. & Sci. I Lab [2]	1
ENG 101	Academic Writing and Research[1, H]	4		Physical Education/Healthy Living Elective [E]	1
MA 141	Analytic Geometry & Calculus I [A, J, 2]	4	PE 1XX	Fitness and Wellness Course [E]	1
GC 120	Foundations of Graphics	3	EC 205	Fundamentals. of Economics [D]	3
		16	*** ***	GEP – Ethics [C]	3
					16

SOPHOMORE YEAR

Fall Semester		Credits	Spring Semester		Credits
*** ***	GEP Humanities	3	ECE 109	Introduction to Computer Systems[1]	3
ECE 200	Intro to Signals, Circuits, Systems[1]	4	ECE 211	Electric Circuits[1]	4
MA 242	Calculus III	4	ECE 220	Analytical Foundations of ECE[1]	3
PY 208	Physics Engr. & Sci. II [B]	3	MES 201	Engineering Systems Lab 1	2
PY 209	Physics Engr. & Sci. II Lab	1	MA 305	Linear Algebra	3
MES 200	Intro to Engineering Systems	2			
		17			15

JUNIOR YEAR

Fall Semester		Credits	Spring Semester		Credits
ECE 209	Computer Systems Programming	3	MES 300	Systems Engineering	3
ECE 301	Linear Systems	3	ECE 212	Fundamentals of Logic Design	3
ECE 302	Microelectronics	4	ECE	ECE Foundation Elective[3]	3
MES 301	Engineering Systems Junior Design Lab	2	MES 304	Electrical Engineering Systems Lab 1	2
ENG 331	Communication for Engr & Tech	3	*** **	GEP USDEI	3
		15			14

SENIOR YEAR

Fall Semester		Credits	Spring Semester		Credits
MES 401	Capstone Design I	3	MES 403	Capstone Design II	3
ECE 303	Electromagnetic Fields	3	ECE	ECE Elective[4]	3
ECE	ECE Elective[4]	3	ECE	ECE Elective or ECE Foundation Elective[3,4]	3
ECE	ECE Foundation Elective[3]	3	*** ***	GEP Interdisciplinary Perspectives	3
MES 404	Electrical Engineering Systems Lab 2	2	*** ***	GEP Interdisciplinary Perspectives	2 or 3
*** **	GEP Social Science	3			14
		17			

Minimum Credit Hours Required for Graduation* [I,J,K] = 124

Major/Program requirements and footnotes:

[1]Minimum grade of C- required
[2]Minimum grade of C required
[3]Choose from the following courses: **ECE 305, ECE 306, ECE 308, ECE 310**
[4]Choose from the following courses: **ECE 403, ECE 407, ECE 434, ECE 436**

*General Education Program (GEP) requirements and GEP footnotes:
To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at
http://www.ncsu.edu/uap/academicstandards/gep/courselists/index.html.

A. **Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)
Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **MA 141,241**

B. **Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)
Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **CH 101, 102, 201, 202, PY 205, 208**

C. **Humanities** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **PHI 214, PHI 221, PHI 375**

D. **Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)
Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **EC 205**

E. **Physical Education/Healthy Living** (2 credit hours – at least one 100-level Fitness and Wellness Course)
Choose from the University approved GEP Physical Education/Healthy Living course list.

F. **Additional Breadth** - (3 credit hours to be selected from the following checked University approved GEP course lists)
__X__ Humanities/Social Sciences/Visual and Performing Arts or ___Mathematical Sciences/Natural Sciences/Engineering

G. **Interdisciplinary Perspectives** (5-6 credit hours)
Choose from University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: **None**

H. **Introduction to Writing** (4 credit hours satisfied by completing **ENG 101** with a C- or better)

<u>The following Co-Requisites must be satisfied to complete the General Education Program requirements:</u>

I. **U.S. Diversity**
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite. The following course(s) if completed as part of the Major requirements may fulfill this requirement: **None**

J. **Global Knowledge**
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite. The following course(s) if completed as part of the Major requirements may fulfill this requirement: **None**

K. **Foreign Language proficiency** - Proficiency at the **FL_102** level is required for graduation.