

Engineering Online Undergraduate Engineering Programs

North Carolina State University & Craven Community College - Havelock



11/30/04

Bachelor of Science in Engineering (BSE)

PROGRAM OVERVIEW

WHAT IS THE BSE DEGREE PROGRAM?

The BSE degree program is a partnership between North Carolina State University (NCSU) and Craven Community College (CCC) designed to allow you to receive a Bachelor of Science degree in Engineering (BSE) from NCSU without having to leave the Havelock area. This degree, in its final stages of approval at NCSU, is designed for the part-time, night student and the full-time, day student. In this program, you will take some classes from CCC and some courses via distance education from NCSU. Upon completion of the program, you will receive a Bachelor of Science in Engineering with a concentration in Mechanical Engineering from NCSU. The BSE degree is a general engineering degree and is currently not ABET accredited. This fact does not really matter unless you plan to go on to become a licensed professional engineer. In this case, you would need to work in engineering for four years before you would be eligible to take the first exam.

HOW LONG WILL THE DEGREE TAKE TO COMPLETE?

The BSE is a full four-year engineering degree. Depending on the math background, most people going full time take between four and six years to complete an engineering degree. Going part-time (most night students take a maximum of two classes per semester), the degree will take approximately twenty-one semesters to complete. Like any engineering program, the BSE program is rigorous and will take a strong commitment to complete.

CAN I USE CLASSES I HAVE HAD IN OTHER DEGREES?

The short answer to this is yes, but you must make sure the course is one of the required courses in the BSE program and that NCSU accepts the course from where it was taken. If a required course was taken from one of North Carolina's community colleges within the last five years, it will be accepted. If it has been longer than five years since you have had a course from a North Carolina community college or you took it from another university, you will need to have your advisor check for you. The fact that it has been a long time since you had a course does not automatically mean it will not count.

WHAT IF I CURRENTLY HAVE A TECHNOLOGY DEGREE?

A technology degree is a great foundation for an engineering degree, but it will not help you complete your engineering degree any faster. Most of the classes you took for your technology degree will not count towards your engineering degree since the math and physics courses in the technology degrees are not calculus based. You might be able to use some of your transferable general education classes.

WHAT MATH SHOULD I TAKE?

Engineering is all about math and a strong math foundation is essential. Your first math in the BSE program is Calculus I (MAT 271 at CCC). If you do not have the math background for calculus, it is imperative you take the time now to build it. If you just squeeze by in your math, you will struggle in all of your other engineering classes. To be prepared for calculus, you should have at least the equivalent of college algebra (MAT 161 at CCC) and college trigonometry (MAT 162 or MAT 175 at CCC).



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WHAT TUITION DO I PAY?

The tuition rate for CCC will be paid for all CCC courses and the NCSU tuition rate will be paid for all NCSU distance education courses.

WHAT IS REQUIRED TO GET INTO THE BSE PROGRAM?

In the BSE program, you will first attend CCC to obtain most of the freshman and sophomore level courses. You can do this simply by enrolling at CCC. After you complete these courses, you will apply for transfer into the BSE program. General requirements for transfer into the BSE program are as follows:

1. 30 credit hours or more of transferable college-level courses
2. 3.0 or higher cumulative GPA on all transferable college-level courses (will reviewed GPA between 2.5 – 2.9 on a case-by-case basis).
3. Two college-level English composition courses (ENG 111 **and** ENG 112 or ENG 113 or ENG 114)
4. College-level chemistry course with lab (CHM 151)
5. Strong performance in all NCSU distance engineering classes taken
6. Calculus I and Calculus II (MAT 271 & MAT 272) with at least a 2.5 GPA in the last two calculus or higher college mathematics classes taken.
7. Calculus-based physics-I (PHY 251)

In addition to these and your major classes, you will need to complete the following requirements before graduation:

1. Meet Humanities & Social Science Requirements → [see attached handout](#)
2. Meet Foreign Language Proficiency Requirement
 - 2 years high school of the same language with a B (85.0%) average or better each year;
 - Or 3 years high school of the same language with a C (78.0%) average or better each year;
 - Or 2 semesters of college foreign language (SPA 111/112 at CCC).
3. Meet Physical Education Requirement
 - Fitness and Wellness Elective (1 hr) -> NCSU PE 101-PE 109. At CCC: PED 110
 - Physical Education Elective (1 hr) -> NCSU PE *** Any CCC activity based PED class

HOW DO I GET STARTED?

Some of the details for the upper division courses are still being finalized, but the first two years for the BSE degree are almost identical to the first two years of the 2+2 Mechanical Engineering degree shown on the next page. You can start by taking these classes. Pay particular attention to Calculus I & II and Physics I. You will need these before taking the NCSU engineering classes. To start taking your CCC classes, contact the CCC-Havelock campus (252-444-6005) for details on applying to the college and registering for classes.

WHERE CAN I GET HELP?

If you have questions or just want to talk to someone about the program, contact Bill Fortney at 252-444-3357 (wbfortne@ncsu.edu).

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Course List For 2+2 Mechanical Engineering Showing Initial Curriculum To Follow For BSE Degree



11/30/2004

FIRST YEAR - FALL

NCSU Class	CC Class	SUBJECT	
1/2 of ENG 101	ENG 111	English	3
MA141	MAT 271	Calculus I	4
CH 101 & 102	CHM 151	General Chemistry I	4
E101	EGR 150	Intro To Engineering	1
* See Note		HSS Elective	3
PE ***	PED ***	Any Activity PE	1
TOTAL HOURS			16

FIRST YEAR - SPRING

NCSU Class	CC Class	SUBJECT	
1/2 of ENG 101	ENG 112/114	English	3
PY 205	PHY 251	Physics I	4
MA 241	MAT 272	Calculus II	4
CSC 112	CSC 136	FORTRAN	3
PE 101-109	PED 110	Fit and Well for Life	2
TOTAL HOURS			16

SECOND YEAR - FALL

NCSU Class	CC Class	SUBJECT	
MA 242	MAT 273	Calculus III	4
PY 208	PHY 252	Physics II	4
MAE 206	Distance	Statics	3
MSE 200	Dist MSE 201	Materials Science & Engr	3
* See Note		HSS Elective	3
TOTAL HOURS			17

SECOND YEAR - SPRING

NCSU Class	CC Class	SUBJECT	
MAE 208	DISTANCE	Dynamics	3
MAE 314	DISTANCE	Solid Mechanics	3
MA 341	MAT 285	Differential Equations	3
* See Note		HSS Elective	3
* See Note		HSS Elective	3
E 115	Distance	Intro To Computing Envr	1
GC 211	NONE	Intro To Graphics	
TOTAL HOURS			16

*1 All HSS electives must be selected from approved College Of Engineering list. See attached.

Part-Time Night Student Sequence

Year	Term	NCSU Class	CCC Class	Description	Credit Hours
1	SU		MAT 175	PreCalc	3
	F	MA141	MAT 271	Calculus I	4
		E101	EGR 150	Intro To Engr	1
	SP	MA 241	MAT 272	Calculus II	4
2	SU	PY 205	PHY 251	Physics I	4
	F	MA 242	MAT 273	Calculus III	4
		PY 208	PHY 252	Physics II	4
	SP	CSC 112	CSC 136	FORTRAN	3
			MAT 280	Linear Algebra	3
3	SU	MA 341	MAT 285	Differential Equations	3
	F	MAE 206	Distance	Statics	3
	SP	MAE 208	Distance	Dynamics	3
4	SU	CH 101 & 102	CHM 151	General Chemistry I	4
	F	MSE 200	Distance	Materials	3
	SP	MAE 314	Distance	Solids	3

Other Classes To Be Worked In

ENG 111	English
ENG 112/114	English
PED ***	Any Activity PE
PED 110	Fit and Well for Life
	HSS Elective
	HSS Elective
	HSS Elective
	HSS Elective
	Intro To Graphics

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NCSU COLLEGE OF ENGINEERING

HUMANITIES & SOCIAL SCIENCES REQUIREMENTS WITH COMMUNITY COLLEGE (CC) COURSE #S
 One course from each of the seven categories below must be taken before finishing at NCSU. Some of these courses will be taken after you transfer. All of the courses must be completed for a letter grade; none of the seven courses may be taken as pass/fail or credit only grading. To satisfy the last requirement, take one course marked with a *

LITERATURE <u>CC's ENG. 231, 232, 233, 241, 242, 243</u> Select one course from the approved list of "Literature."	_____ (3cr.)
HISTORY, PHILOSOPHY, OR RELIGION <u>CC's HIS 121*, 122*, 131, 132, 236, 252, PHI 215 OR REL 110*, 211*, 212*</u> Select one course from the approved lists: "History," "Philosophy," or "Religion."	_____ (3cr.)
VISUAL & PERFORMING ARTS OR HISTORY <u>CC's ART 114*, 115*, 116, MUS 110, 112 OR HIS 121*, 122*, 131, 132, 236, 252</u> Select one course from the approved lists: "Visual & Performing Arts" or history" <i>NOTE: BME, CEM, ENE & TE majors must choose GC 120. → Take at NC State</i>	_____ (3cr.)
SOCIAL SCIENCES <u>CC's POL 120, 130, 210, SOC 210, 213, 220, 230, 252, GEO 111, PSY 150, 241, 237, 263, ANT 240, BUS 115</u> Select one course from the approved list of "Social Sciences" (anthropology, politics & government, sociology, cultural geography, psychology, or linguistics). <i>NOTE: ENE majors must choose PS 336 or PS 320. . → Take at NC State</i>	_____ (3cr.)
INTRODUCTORY ECONOMICS <u>CC's ECO 251 AS FIRST CHOICE; ECO 252 AS 2ND CHOICE FOR ANY MAJOR EXCEPT CEM.</u> Select an introductory economics course: EC 205 (recommended), EC 201, or ARE 201. <i>Transfer or AP credit for EC 202 can count here.</i>	_____ (3cr.)
SCIENCE, TECHNOLOGY, & SOCIETY <u>CC's HUM 110</u> Select one course from the approved list of "Science, Technology, and Society." <i>NOTE: BE majors must choose from MDS 201, 302, 304, 320; PHI 322 → Take at NC State</i> <i>IE & IEF majors must choose from MDS 201, 214, 302, 303, 304, 320, 322, 325 → Take at NC State</i>	_____ (3cr.)
OTHER HUMANITIES & SOCIAL SCIENCES Select an additional course from any of the <i>Approved COE Humanities & Social Sciences</i> to complete the <i>total of seven courses</i> . <i>NOTE: AE, ME & BSE majors choose from MDS 302, 304, 320, PHI 275, 314 =====>TAKE</i> <i>MSE majors choose from MDS 201, 302, 304, 320, 325, PHI 275, 314, or 321=====>CC PHI 240</i> <i>ENE majors choose from ARE 309, 336, MDS 201, 303, 410 or PHI 322</i> <i>CEM majors choose from EC 301, 304, 336, 348, 372</i>	_____ (3cr.)
The following requirement must also be satisfied:	Total = 21 credit hours
NON-ENGLISH SPEAKING CULTURE At least one of the seven courses selected above must focus on a <i>non-English speaking culture (denoted by an asterisk)</i> -- OR - Select an additional course to satisfy this requirement.	<u>course from above</u> (3cr.) -- OR -- _____ (3cr.)

NOTE: Foreign Language Proficiency is also required for graduation from all departmental degree programs.