



Baccalaureate Degree Plan

NCCCS Associate in Arts *or* Associate in Science
transfer to
East Carolina University, **BS BIOCHEMISTRY**

The purpose of the Biochemistry, BS program is to: prepare our students with the knowledge and confidence to apply the scientific method in biochemical research; train our students to communicate scientific discoveries in standard scientific formats; educate our students so they understand, and are able to apply, foundational biochemical concepts necessary for graduate education or a career in the biochemical sciences.

- As a transfer student, it is important to contact an ECU Academic Advisor, thcasadvising@ecu.edu, as soon as possible.

An example of how to plan your first 2 years of the traditional 4 years of study is included at the end of this document.

Recommended courses to take at a North Carolina Community College

BIO 111
BIO 112

CHM 151
CHM 152
CHM 251

ENG 111
ENG 112

HEA 110

MAT 171
MAT 172

- Other courses to complete an AA or AS are student's choice; no other current department recommendations. Other equivalent courses are listed in the degree requirements. Due to the amount of science courses required for this degree, you may not be able to take all of them before transferring. *That is okay!*
- Completion of an approved NCCCS AA or AS waives the General Education requirement. For more information about the waiver, [click here](#).
- For more information about General Education Core Requirements at ECU, and a list of specific course options, click [here](#).
- You do not have to complete all NCCCS equivalents or recommended courses before transferring. However, taking minimal recommendations may prolong your time to degree at ECU.

Degree Requirements

General Education Core Requirements

40 semester hours credit required; completion of an approved NCCCS AA or AS waives this requirement.

Competency	Semester Hour Credits Required	Notes
Written Communication	6	<i>ENG 111 and ENG 112 should be taken at the community college to satisfy this competency.</i>
Humanities & Fine Arts	9	<i>At least one class should be labeled as Humanities (HU) and one should be labeled as Fine Arts (FA).</i>
Social Sciences	9	<i>NCCCS HIS courses are not considered a social science at ECU.</i>
Natural Sciences	7	<i>One course must include a lab.</i>
Mathematics	3	<i>Choose MAT 171.</i>
Health Promotion and Health-Related Physical Activity	3	<i>HEA 110 should be taken at the community college to satisfy this competency.</i>

GENERAL EDUCATION SPECIFIC REQUIREMENTS	As part of the General Education Core, please complete: CHEM 1150 & 1151: General Chemistry I with Lab MATH 1065: College Algebra or approved GE Calculus course	<i>NCCCS Equivalents:</i> CHM 151 MAT 171
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CORE	Complete 32 semester hour credits of Biology and Chemistry courses.	
Biology	Complete 15 semester hour credits. BIOL 1110 & 1101: Principles of Biology I with Lab BIOL 1200 & 1201: Principles of Biology II with Lab BIOL 4880: Principles of Biochemistry I BIOL 4890 & 4891: Principles of Biochemistry II with Lab	<i>NCCCS Equivalents:</i> BIO 111 BIO 112
Chemistry	Complete 17 semester hour credits. CHEM 1160 & 1161: General Chemistry II with Lab CHEM 2750 & 2753: Organic Chemistry I with Lab CHEM 2760 & 2763: Organic Chemistry II with Lab CHEM 3250 & 3251: Quantitative and Instrumental Analysis with Lab	<i>NCCCS Equivalents:</i> CHM 152 CHM 251 CHM 252

COGNATES	Complete 25 semester hour credits. MATH 1083: Introduction to Functions MATH 2171: Calculus I MATH 2172: Calculus II MATH 2173: Calculus III PHYS 1251: General Physics Lab I PHYS 1261: General Physics Lab II PHYS 2350: University Physics I PHYS 2360: University Physics II	<i>NCCCS Equivalents:</i> MAT 172 MAT 271 MAT 272 MAT 273 PHY 151 PHY 152 PHY 251 PHY 252
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CONCENTRATIONS	Complete 20-22 semester hour credits. Choose Biology or Chemistry.	
Biology	<p>Required: BIOL 2300: Principles of Genetics BIOL 3260: Cell and Development Biology</p> <p>Choose 16 semester hour credits:</p> <p>Electives BIOL 2100 & 2101: Biotechnology I with Lab I BIOL 3110: Biotechnology II BIOL 3220 & 3221: Microbiology with Lab BIOL 3310 & 3311: Cellular Physiology with Discussion BIOL 4030: Principles of Toxicology BIOL 4320: Concepts in Cell Biology BIOL 4260: Cell Biology BIOL 4420: Microbial Biotechnology BIOL 4650: Biology of Cancer BIOL 5870: Molecular Biology of the Gene BIOL 5900 & 5901: Biotechniques with Lab CHEM 4522: Pharmaceutical Industry Skills Laboratory: Good Manufacturing Processes MATH 4331: Introduction to Ordinary Differential Equations</p> <p>3 hours of research in biology or chemistry: <i>BIOL 3504, BIOL 3550, CHEM 4505, CHEM 4506, CHEM 4507, CHEM 4515, CHEM 4516, or CHEM 4517</i></p>	<p><i>NCCCS Equivalents:</i></p> <p><i>BIO 250</i></p> <p><i>BIO 280</i> <i>BIO 275</i></p> <p><i>MAT 285</i></p>
Chemistry	<p>Required: CHEM 3950 & 3951: Physical Chemistry I with Lab CHEM 3960 & 3961: Physical Chemistry II with Lab</p> <p>Choose 10 semester hour credits:</p> <p>Electives BIOL 2300: Principles of Genetics CHEM 3450 & 3451: Elementary Inorganic Chemistry with Lab CHEM 4350 & 4351: Instrumental Analysis with Lab CHEM 4522: Pharmaceutical Industry Skills Lab: Good Manufacturing Practices CHEM 4550: Advanced Inorganic Chemistry CHEM 5760: Organic Structure Elucidation MATH 4331: Introduction to Ordinary Differential Equations</p> <p>3 hours of research in biology or chemistry: <i>BIOL 3504, BIOL 3550, CHEM 4505, CHEM 4506, CHEM 4507, CHEM 4515, CHEM 4516, or CHEM 4517</i></p>	<p><i>NCCCS Equivalents:</i></p> <p><i>BIO 250</i></p> <p><i>MAT 285</i></p>
General Electives to complete requirements for graduation	Semester Hour Credits needed vary.	

Potential 2 Year Map for BS Biochemistry

An example of courses to take at your community college.

First Semester at NCCCS Institution

NCCCS Course	ECU Transfer Equivalent
ENG 111	ENGL 1100
Humanities/Fine Arts Course	
Social Science Course	
MAT 171	MATH 1065
HEA 110	HLTH 1000/KINE 1000
ACA 122	COAD 1XXX (elective credit)

Second Semester at NCCCS Institution

NCCCS Course	ECU Transfer Equivalent
Humanities/Fine Arts Course	
MAT 172	MATH 1083
CHM 151	CHEM 1150, 1151
BIO 111	BIOL 1100, 1101

Third Semester at a NCCCS Institution

NCCCS Course	ECU Transfer Equivalent
ENG 112	ENGL 2201
Social Science Course	
CHM 152	CHEM 1160, 1161
BIO 112	BIOL 1200, 1201

Fourth Semester at a NCCCS Institution

NCCCS Course	ECU Transfer Equivalent
CHM 251	CHEM 2750, 2753
Social Science Course or Additional General Education Course	
Humanities/Fine Arts Course or Additional General Education Course	
PHY 151 or MAT 273 or MAT 285	PHYS 1251,1261 or MATH 2173 or MATH 4331

- Schedule at ECU will depend on courses completed at the community college and semester of entry (fall or spring).
- You should email thcasadvising@ecu.edu as soon as possible for more specialized advising.
- This schedule is dependent on taking full-time course loads; however, it may not be realistic to take a full-time course load if you are working full-time or part-time, are a caregiver, or have other obligations.
Ask your advisor how you can be most successful.