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## CSCU Biology Transfer Pathway 2020-2021

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#### Changes

#### Changes from 2016/2017

- (a) SCSU made changes to their LEP and foreign language requirements that do not affect the requirements for the community college pathway degree, but may affect the way the student is received at SCSU;
- (b) clarified Additional General Education I & II;
- (c) clarified BIO 2xx options in PATHWAY30; and,
- (d) added IDS 101 to COSC General Education requirements.

#### Changes made 02/12/2018

- ECSU. Page 17, line 32, receiving course number corrected for items 4,5, 7, & 8
- ECSU. Page 18, line 40, course titles corrected for BIO 420, 424, and 458
- ECSU. Page 22, line 33, receiving course number corrected for items 4. 5, 7, & 8
- ECSU. Page 23-4, line 45, course titles corrected for BIO 420, 424, & 458
- ECSU. Page 24, line 47, added BIO 344
- ECSU. Page 48, line 18, course titles corrected for BIO 420, 424, and 458
- ECSU. Page 51, line 22, course titles corrected for BIO 420, 242 & 458
- ECSU. Page 51, line 24, added BIO 344

- SCSU. Page 27, line 34, receiving course numbers corrected for items 2 & 3
- SCSU. Page 31, line 35, receiving course numbers corrected for items 2 & 3, and they are received on line 56 not 35
- SCSU. Page 27, line 27, added 3 credits for Capstone
- SCSU. Page 29, line 52, adjusted Open Elective credits
- SCSU. Page 31, line 28, added 3 credits for Capstone
- SCSU. Page 33, line 56, adjusted Open Elective credits
- SCSU. Page 53, line 10, added 3 credits for Capstone
- SCSU. Page 54, line 28, adjusted Open Elective credits
- SCSU. Page 55, line 10, added 3 credits for Capstone
- SCSU. Page 56, line 32, adjusted Open Elective credits

#### Changes made 03/26/2018:

- Added link to 2017/-2018 program sheet
- Updated watermark to AY 2018-2019

#### Changes made 03/28/2018

• Corrections made to COSC templates

#### Changes made 04/03/2018

Updated CCSU programs to reflect requirements in 2017 curriculum sheets/catalog

#### Changes made 04/17/2018

• Updated WCSU programs to reflect changes in general education requirements

#### Changes made 05/15/2018

- SCSU. p29, line 31/32; p33, line 31/32; p55, line 14/15; BIO 122 received as BIO 103 Botany
- SCSU. p30, line 37; p34,l ine 43; p55, line 18; p57, line 22: Added BIQ 296 and BIQ 236
- SCSU. p31, line 41; p35, line 47; p56, line 23; p58, line 26: Added BIO 497, HON 495, & BIO 499; corrected to 3-4 credits
- SCSU. p31, line 45. Correct to PHY 200
- SCSU. p57, line 18. BIO 103 removed

#### Changes made 07/26/2018

• COSC program removed; COSC does not offer enough of the courses for the program

#### Changes made 10/10/2018

MCC updated 200 level course offerings – added BIO 220 and BIO 262

#### Changes made 10/31/2018

Corrected errors to SCSU pages

#### Change made 11/1/2018

GCC: added Bio 262 Principles of Genetics to the list of options

No changes for AY 2020/21 3/05/2020

Changes made 5/26/2021

Added PHY 221 and PHY 222 as options to page for line 20 and 21

#### **Learning Outcomes:**

### <u>Biology Outcomes and Competencies for the CC's based on Vision and Change</u> Recommendations: Approved by Community College faculty at the April 29, 2016 C3BIOS

meeting and by the TAP Biology Pathway Group at the October 14, 2016 meeting.

## Outcomes: Students completing the CSCU Biology Pathway and earning an Associate's Degree will be able to identify:

- 1. the mechanism by which the diversity of life evolved over time.
- 2. the basic units of structure that define the function of all living things.
- **3.** how information is stored and exchanged, within and among organisms.
- **4.** how living things transform energy and matter.
- **5.** how living systems are interconnected and interacting.

## Competencies: Student completing the CSCU Biology Pathway and earning an Associate's Degree will be able to:

- **1.** Apply the process of science
- 2. Use quantitative reasoning
- **3.** Use modeling and simulation to describe living systems
- **4.** Apply concepts and knowledge from within and outside of biology in order to interpret biological phenomena
- 5. Communicate biological concepts and interpretations
- **6.** Discuss the relationship between Science and Society

### **CSCU Pathway Transfer A.A. Degree: Biology Studies**

1	FRAMEWORK30		
2	Section A: Common Designated		
	Competencies		
3	Written Communication I	ENG 101 Composition	3 credits
4	Written Communication II	General Education Elective	3 credits
5	Scientific Reasoning	BIO 121 General Biology I (C- or	4 credits
		above)	
6	Scientific Knowledge & Understanding	CHE 121 General Chemistry I	4 credits
7	Quantitative Reasoning	MAT 185 Trigonometry (NVCC)	4 credits
		MAT 186 Pre-calculus	
8	Historical Knowledge & Understanding	General Education Elective	3 credits
9	Social Phenomena	General Education Elective	3 credits
10	Aesthetic Dimensions	General Education Elective	3 credits
11	Section B: Campus Designated		
	Competencies		
12	Competency 1	General Education Elective	3 credits
13	Competency 2	General Education Elective	3 credits
14	Framework30 Total		33 credits

15	PA	THWAY30		
16	BIC	122	General Biology II (C- or above)	4 credits
17	Sel	ect two courses (See the different four-		8 credits
	yea	r programs for how each course will be		
	rec	eived.)		
	1.	BIO 208 (HCC)	Forensic Science with Lab	
	2.	BIO 211 (ACC, CCC, GCC, HCC, MCC,	Anatomy & Physiology I	
		MXCC, NVCC, NCCC, NCC, QVCC, TRCC,		
		TXCC)		
	3.	BIO 212 (ACC, CCC, GCC, HCC, MCC,	Anatomy & Physiology II	
		MXCC, NVCC, NCCC, NCC, QVCC, TRCC,		
		TXCC)		
	4.	BIO 220 (ACC, MCC (Cross listed as BIO	Biochemistry	
		220/CHE220 at MCC))	Molecular Biotechniques	

	5. BIO 222 (MXCC) 6. BIO 225 (NVCC)	Introduction to Biotechnology Biotechnology II	
	<ol> <li>BIO 227 (NVCC)</li> <li>BIO 235 (ACC, CCC, GCC, HCC, MCC,</li> </ol>	Microbiology	
	MXCC, NVCC, NCCC, NCC, QVCC, TRCC, TXCC)	Genetics and Lab	
	9. BIO 262 (GCC, MCC, NVCC, TRCC)	Molecular Genetics	
	10. BIO 263 (MXCC, NCCC) 11. BIO 264 (QVCC)	Molecular and Cellular Biology Ecology	
	12. BIO 270 (MXCC, NCCC, QVCC, TRCC)	Marine Ecology	
	13. BIO 272 (NCC)	Entomology	
10	14. BIO 275 (QVCC)		
18 19	CHE 122	General Chemistry II	4 credits
20	PHY 121	General Physics I	4 credits
	OR		. 0. 00.100
	CHE 211	Organic Chemistry I	
	OR		
	PHY 221	Calculus-Based Physics I	
21	PHY 122	General Physics II	4 credits
	OR CHE 212	Organic Chemistry II	
	OR	Organic Chemistry II	
	PHY 222	Calculus-Based Physics II	
22	MAT 254	Calculus I	3-4 credits
	OR		
	Additional General Education Elective I:	General Education Elective	
	Creativity OR		
	Additional General Education Elective II:	General Education Elective	
	Global Knowledge	General Education Elective	
		If an additional General Education	
	•	elective is chosen, it cannot be used	
		to fulfill a FRAMEWORK30	
		requirement.	
23	Unrestricted Electives		0 credits
34	Pathway30 Total		27-28 credits

25	Biology Studies Pathway Total	60-61
		credits*

<sup>\*</sup>Students who are required to complete developmental coursework or who place below the required entry level of math for their program may not be able to complete their pathway degree in 60-61 credits/contact hours.

# Transfer Pathway and Degree Program Central Connecticut State University General Biology B.S.

All biology courses must be completed with a C- or above.

1	C	ommunity Colleges:		CCSU	
2			Credits		Credits
3		Fr	amewo	rk30	
4		General Edi	ucation	Requirements	
5	Competency:			-	
6	Section A				
7	Written I	ENG*101 English Composition	3	ENG 110	3
8	Written II	Gen Ed Elective	3	Skill Area I Communication Skills	3
9	Scientific Reasoning	BIO*121 General Biology I	4	Study Area IV Natural Sciences: BIO 121 General Biology I	4
10	Scientific Knowledge	CHE*121 General Chemistry I	4	Study Area IV Natural Sciences: CHEM 161 General Chemistry and CHEM 162 General Chemistry Lab 1	4
11	Quantitative	MAT* 185 Trigonometry (NVCC) MAT*186 Precalculus	4	Skill Area II Mathematics: MATH 119 Pre-Calculus with Trigonometry	4
12	Historical Knowledge	Gen Ed Elective	3	Study Area II History Requirement	3
13	Social Phenomena	Gen Ed Elective	3	Study Area II Social Sciences	3
14	Aesthetic Dimensions	Gen Ed Elective	3	Study Area I Arts & Humanities	3
15	Section B				
16	Competency:	Gen Ed Elective	3	Skill Area IV University Requirement	3
17	Competency:	Gen Ed Elective	3	Study Area III Behavioral Sciences	3
18	Framework30 C	redits (30-31):			33
19			Pathway	/30	
20		Additional Ge	neral Ed	lucation Courses	
21	Creativity	_	3-4	<ol> <li>Will be received as</li> <li>Study Area I—Arts and Humanities (line 23)</li> <li>Study Area II—Social Sciences (line 24)</li> <li>MAT 152 Calculus (line 26)</li> </ol>	
22				Study Area I – Literature	3
23				Study Area I – Arts and Humanities	3
24				Study Area II – Social Sciences	3

25			Study Area III – Behavioral	3
26			Sciences  Skill Area II – Math/Stat/ Comp Sci  MATH 124 Applied Calculus with Trigonometry (4)  OR  MATH 115 Trigonometry (3) and MATH 125 Applied Calculus (3)  OR  MATH 152 Calculus I (4)  Skill Area III – Foreign Language Proficiency  See requirements here. If the requirement has been met in whole or in part, general	4-6
			education and open elective credits will adjust accordingly.	
28	General Education Credits:	36-37	creats will dajust accordingly.	51-52
29	Major	Progran	1 Courses	
30	BIO*122 General Biology II	4	BIO 122 General Biology II	4
	Students will complete one of the following sequences at the community college, fulfilling either lines 31/32 or lines 33/45.  PHY* 121 General Physics I PHY* 122 General Physics II OR CHE*211 Organic Chemistry II OR PHY 221 Calculus-Based Physics I PHY 222 Calculus-Based Physics II			
31			PHY 121 General Physics I	4
32			PHY 122 General Physics II	4
33			CHEM 210/211 Fdns of Organic Chem/Lab	4
34	CHE* 122 General Chemistry II	4	CHEM 200/201 Fdns of Analytical Chem/ Lab	4
35	Select two courses  1. BIO 208 (HCC) Forensic Science with Lab	8	<ol> <li>BIO 2xx, line 39</li> <li>BIO 318, line 39</li> </ol>	

	<ol> <li>BIO 211 (ACC, CCC, GCC, HCC, MCC, MXCC, NVCC, NCCC, NCC, QVCC, TRCC, TXCC) Anatomy &amp; Physiology I</li> <li>BIO 212 (ACC, CCC, GCC, HCC, MCC, MXCC, NVCC, NCCC, NCC, QVCC, TRCC, TXCC) Anatomy &amp; Physiology II</li> <li>BIO 220 (ACC, MCC (cross listed with CHE 220 at MCC)) Biochemistry</li> <li>BIO 222 (MXCC) Molecular Biotechniques</li> <li>BIO 225 (NVCC) Intro to Biotechnology</li> <li>BIO 227 (NVCC) Biotechnology II</li> <li>BIO 235 (ACC, CCC, GCC, HCC, MCC, MXCC, NVCC, NCCC, NCC, QVCC, TRCC, TXCC) Microbiology</li> <li>BIO 262 (GCC, MCC. NVCC, TRCC) Genetics and Lab</li> <li>BIO 263 (MXCC, NCCC)Molecular Genetics</li> <li>BIO 264 (QVCC) Molecular and Cellular Biology</li> <li>BIO 270 (MXCC, NCCC, QVCC, TRCC) Ecology</li> <li>BIO 272 (NCC) Marine Ecology_</li> </ol>		<ol> <li>BIO 319, line 39</li> <li>BIO 2xx, line 39</li> <li>BMS 316, line 39</li> <li>BIO 200, line 36</li> <li>BIO 200, line 36</li> <li>BIO 2xx, line 39</li> </ol>	
36	14. BIO 275 (QVCC) Entomology	)	BIO 200 Integrative Biology (May have been taken at the community college as BIO 225 Introduction to Biotechnology (NVCC) or BIO 270 Ecology (MXCC, NCCC, QVCC, TRCC). See	(4)
37			line 34) BIO 290 Biology Research	2
20			Experience I	4.5
38			BIO 390 Biology Research Experience II or 391 Internship in Biology	1-6
39			12-17 credits of BIO electives to add up to 32 total credits in BIO/BMS courses (except for BIO 211)	12-17
40	Program Course Credits:	24		52
41	Minor Course Credits:		A minor is not required for this major.	
42	Or	en Elec	tives	

43	If CHE 212 Organic Chemistry II was	0-4	CHEM 212/213 Organic	0-4
	taken at the community college		Synthesis/Lab	
44	Students who have fulfilled foreign			
	language requirements in high school			
	or who use open elective credits at the			
	community college to fulfill foreign			
	language and/or minor requirements			
	will end up with more open elective			
	credits at the CCSU.			
45	Open Elective credits:	0		16-17
49	Total Credits at the Community College	60-61	Total Credits for the 4-Year	120
			Degree	



# Transfer Pathway and Degree Program Central Connecticut State University

### Biology – Ecology, Biodiversity, and Evolutionary Biology B.S.

All biology courses must be completed with a C- or above.

1	С	ommunity Colleges:		CCSU		
2			Credits		Credits	
3		Fr	amewo	rk30		
4		General Education Requirements				
5	Competency:			-		
6	Section A					
7	Written I	ENG*101 English Composition	3	ENG 110	3	
8	Written II	Gen Ed Elective	3	Skill Area I Communication Skills	3	
9	Scientific Reasoning	BIO*121 General Biology I	4	Study Area IV Natural Sciences: BIO 121 General Biology I	4	
10	Scientific Knowledge	CHE*121 General Chemistry I	4	Study Area IV Natural Sciences: CHEM 161 General Chemistry and CHEM 162 General Chemistry Lab	4	
11	Quantitative	MAT* 185 Trigonometry (NVCC) MAT*186 Precalculus	4	Skill Area II Mathematics: MATH 119 Pre-Calculus with Trigonometry	4	
12	Historical Knowledge	Gen Ed Elective	3	Study Area II History Requirement	3	
13	Social Phenomena	Gen Ed Elective	3	Study Area II Social Sciences	3	
14	Aesthetic Dimensions	Gen Ed Elective	3	Study Area I Arts & Humanities	3	
15	Section B					
16	Competency:	Gen Ed Elective	3	Skill Area IV University Requirement	3	
17	Competency:	Gen Ed Elective	3	Study Area III Behavioral Sciences	3	
18	Framework30 C	redits (30-31):				
19			Pathway	/30		
20		Additional Ge	neral Ed	ucation Courses		
21	Select one  1. Additional G	eneral Education I:	3-4	Will be received as  1. Study Area I—Arts and		
	Creativity	eneral Education II:		Humanities (line 23)  2. Study Area II—Social Sciences		
	Global Know	rledge		(line 24)		
22	3. MAT 254 Ca	iculus I		3. MAT 152 Calculus (line 26)	3	
22				Study Area I – Literature Study Area I – Arts and	3	
23				Humanities	3	
24				Study Area II – Social Sciences	3	

25			Study Area III – Behavioral	3		
23			Sciences	3		
26			Skill Area II – Math/Stat/ Comp Sci	4-6		
20			MATH 124 Applied Calculus	40		
			with Trigonometry (4)			
			OR			
			MATH 115 Trigonometry (3)			
			and			
			MATH 125 Applied Calculus			
			(3)			
			OR			
			MATH 152 Calculus I (4)			
27			Skill Area III – Foreign Language	6		
21			Proficiency	O		
			See requirements here. If the			
			requirement has been met in			
			whole or in part, general			
			education and open elective			
			credits will adjust accordingly.			
28	General Education Credits:	36-37	Constitution of the consti	51-52		
29						
30	BIO*122 General Biology II	4	BIO 122 General Biology II	4		
31	CHE* 122 General Chemistry II	4	CHEM 200/201 Fdns of Analytical	4		
			Chem/ Lab			
			OR			
			CHEM 260/201 Fdns of Inorganic			
			Chem/ Lab			
32	Students will complete one of the	8				
	following sequences at the community					
	college, fulfilling either lines 31/32 or					
	lines 33/34.					
	PHY* 121 General Physics I					
	PHY* 122 General Physics II					
	OR					
	CHE*211 Organic Chemistry I					
	CHE*212 Organic Chemistry II					
	OR					
	PHY 221 Calculus-Based Physics I					
	PHY 222 Calculus-Based Physics II					
33			PHY 121 General Physics I	4		
34			PHY 122 General Physics II	4		
35			CHEM 210/211 Fdns of Organic	4		
			Chem/Lab			
36		1	CUEN 1212 /212 Organia	(4)		
30			CHEM 212/213 Organic Synthesis/Lab	(4)		

			This course is not required in the	
			•	
			program and will be received as	
			an open/unrestricted elective line	
37	Select two courses	8	Will be received as	
	1. BIO 208 (HCC) Forensic Science with		1. BIO 2xx, line 50	
	Lab			
	2. BIO 211 (ACC, CCC, GCC, HCC, MCC,		2. BIO 318, line 50	
	MXCC, NVCC, NCCC, NCC, QVCC,			
	TRCC, TXCC) Anatomy & Physiology I			
	3. BIO 212 (ACC, CCC, GCC, HCC, MCC,		3. BIO 319, line 50	
	MXCC, NVCC, NCCC, NCC, QVCC,			
	TRCC, TXCC) Anatomy & Physiology			
	II			
	4. BIO 220 (ACC, MCC (Cross listed with		4. BIO 2xx, line 50	
	CHE 220 at MCC)) Biochemistry			
	5. BIO 222 (MXCC) Molecular			
	Biotechniques		5. BIO 2XX, line 50	
	6. BIO 225 (NVCC) Intro to			
	Biotechnology		6. BIQ 200, line 38	
	7. BIO 227 (NVCC) Biotechnology II		or voice 200 mile 30	
	8. BIO 235 (ACC, CCC, GCC, HCC, MCC,		7. BIO 200, line 38	
	MXCC, NVCC, NCCC, NCC, QVCC,		8. BIO 2xx, line 50	
	TRCC, TXCC) Microbiology		bio zxx, inic 30	
	9. BIO 262 (GCC, MCC, NVCC, TRCC)			
	Genetics and Lab	<b>\</b> \	9. BIO 2xx, line 50	
	10. BIO 263 (MXCC, NCCC)Molecular		3. Bio 2xx, iiie 30	
	Genetics		10. BIO 2xx, line 50	
	11. BIO 264 (QVCC) Molecular and		11. BIO 2xx, line 50	
	Cellular Biology		11. BIO 2XX, IIIIe 30	
	12. BIO 270 (MXCC, NCCC, QVCC, TRCC)		12 PIO 2vy lino 29	
			12. BIO 2xx, line 38	
	Ecology		13. BIO 3vv. line 50	
	13. BIO 272 (NCC) Marine Ecology		13. BIO 2xx, line 50	
20	14. BIO 275 (QVCC) Entomology		14. BIO 2xx, line 50	(4)
38			BIO 200 Integrative Biology (May	(4)
			have been taken at the	
			community college as BIO 225	
			Introduction to Biotechnology	
			(NVCC) or BIO 270 Ecology	
			(MXCC, NCCC, QVCC, TRCC). See	
			line 34)	
39			BIO 290 Biology Research	2
			Experience I	
40			Biodiversity Elective – Choose	3-4
			from:	
			BIO 315 Microbial Ecology	
			BIO 322 Vertebrate Zoology	
			BIO 326 Mushrooms, Mosses, &	
			More	
		i		

		BIO 327 Vascular Plants	
		BIO 420 Ornithology	
		BIO 421 Marine Invertebrate	
		Biology	
		BIO 425 Biology of Marine and	
		Freshwater Algae	
		BIO 444 Plant Taxonomy	
		BIO 469 Entomology	
41		Ecology/Evolution Elective –	3-4
		Choose from:	
		BIO 402 Population Genetics	
		BIO 405 Ecology	
		BIO 434 Ecology of Inland Waters	
		BIO 440 Evolution	
42		BIO 480 Animal Behavior	2.4
42		EBE Specialization Elective –	2-4
		Choose from:	
		BIO 230 Natural History	
		BIO 402 Population Genetics	
		BIO 315 Microbial Ecology	
		BIO 322 Vertebrate Zoology	
		BIO 326 Mushrooms, Mosses &	
		More	
		BIO 327 Vascular Plants	
		BIO 405 Ecology	
		BIO 410 Ecological Physiology	
		BIO 420 Ornithology	
		BIO 421 Marine Invertebrate	
		Biology	
		BIO 425 Biology of Marine &	
		Freshwater Algae	
	•	BIO 434 Ecology of Inland Waters	
		BIO 438 Aquatic Pollution	
		BIO 440 Evolution	
		BIO 444 Plant Taxonomy	
		BIO 470 Field Studies in Biology	
		BIO 480 Animal Behavior	
		BIO 489 Vertebrate Dissection	
		*BIO 490 Topics in Biology	
		*BIO 491 Advanced Problems in	
		Biology	
		*BIO 499 Undergraduate Thesis in	
		Biology	
		*To be considered in the E/B/E	
		group, these courses must have a	
		topic approved by the E/B/E	
		faculty advisor.	

43			BIO 390 Biology Research	1-6
			Experience II	
			or 391 Internship in Biology	
44				
45	Program Course Credits:	24		43-51
46	Minor Course Credits:		A minor is not required for this	
			major.	
47	O <sub>l</sub>	pen Elec	tives	
48	CHEM 212 Organic Chemistry II – if	0-4	CHEM 212/213 Organic	
	taken at the community college		Synthesis/Lab	
49	Students who have fulfilled foreign			
	language requirements in high school			
	or who use open elective credits at the			
	community college to fulfill foreign			
	language and/or minor requirements			
	will end up with more open elective			
	credits at the CCSU.			
50	Open Elective credits:	0	6 14	13-26
51	Total Credits at the Community College	60-61	Total Credits for the 4-Year Degree	120

### Transfer Pathway and Degree Program Central Connecticut State University Biology – Environmental Science B.S.

All biology courses must be completed with a C- or above.

1	С	ommunity Colleges:		CCSU	
2			Credits		Credits
3		Fr	amewo	rk30	
4		General Edi	ucation	Requirements	
5	Competency:				
6	Section A				
7	Written I	ENG*101 English	3	ENG 110	3
		Composition			
8	Written II	Gen Ed Elective	3	Skill Area I Communication Skills	3
9	Scientific Reasoning	BIO*121 General	4	Study Area IV Natural Sciences:	4
		Biology I		BIO 121 General Biology I	
10	Scientific Knowledge	CHE*121 General	4	Study Area IV Natural Sciences:	4
		Chemistry I		CHEM 161 General Chemistry and	
				CHEM 162 General Chemistry Lab	
				1	
11	Quantitative	MAT* 185	4	Skill Area II Mathematics: MATH	4
		Trigonometry (NVCC)	/	119 Pre-Calculus with	
	Historical	MAT*186 Precalculus		Trigonometry	
12	Historical Knowledge	Gen Ed Elective	3	Study Area II History Requirement	3
13	Social Phenomena	Gen Ed Elective	3	Study Area II Social Sciences	3
14	Aesthetic Dimensions	Gen Ed Elective	3	Study Area I Arts & Humanities	3
15	Section B				
16	Competency:	Gen Ed Elective	3	Skill Area IV University	3
				Requirement	
17	Competency:	Gen Ed Elective	3	Study Area III Behavioral Sciences	3
18	Framework30 C	redits (30-31):			
19			Pathway	/30	
20		Additional Ge	neral Ed	lucation Courses	
21	Select one		3-4	Will be received as	
	1. Additional G	eneral Education I:		1. Study Area I—Arts and	
	Creativity			Humanities (line 23)	
	2. Additional G	eneral Education II:		2. Study Area II—Social Sciences	
	Global Know	rledge		(line 24)	
	3. MAT 254 Ca	lculus I		3. MAT 152 Calculus (line 26)	
22				Study Area I – Literature	3
23				Study Area I – Arts and	3
				Humanities	
24				Study Area II – Social Sciences	3

25			Study Area III – Behavioral	3
			Sciences	
26			Skill Area II – Math/Stat/ Comp Sci	4-6
			<ul> <li>MATH 124 Applied Calculus</li> </ul>	
			with Trigonometry (4)	
			OR	
			<ul> <li>MATH 115 Trigonometry (3)</li> </ul>	
			and	
			MATH 125 Applied Calculus	
			(3)	
			OR	
			<ul> <li>MATH 152 Calculus I (4)</li> </ul>	
27			Skill Area III – Foreign Language	6
			Proficiency	
			See requirements here. If the	
			requirement has been met in	
			whole or in part, general	
			education and open elective	
			credits will adjust accordingly.	
28	General Education Credits:	36-37		51-52
29	Major	Progran	i Courses	
30	BIO*122 General Biology II	4	BIO 122 General Biology II	4
31	CHE* 122 General Chemistry II	4	CHEM200/201 Fdns of Analytical	4
		<b>\</b> \	Chem/ Lab	
32	Students will complete one of the	8		
	following sequences at the community			
	college, fulfilling either lines 33/34 or			
	lines 35/36.			
	PHY* 121 General Physics I			
	PHY* 122 General Physics II			
	OR			
	CHE*211 Organic Chemistry I			
	CHE*212 Organic Chemistry II			
	OR			
	PHY 221 Calculus-Based Physics I			
	PHY 222 Calculus-Based Physics II			
33			PHY 121 General Physics I	4
34			PHY 122 General Physics II	4
35			CHEM 210/211 Fdns of Organic	4
			Chem/Lab	
36			CHEM 212/213 Organic	4
			Synthesis/Lab	
			OR	
			CHEM 456 Toxicology	
37	Select two courses	8	Will be received as	
	1. BIO 208 (HCC) Forensic Science with		1. BIO 2xx, line 53	
	Lab			

	2. BIO 211 (ACC, CCC, GCC, HCC, MCC,	2 PIO 219 line 52	
		2. BIO 318, line 53	
	MXCC, NVCC, NCCC, NCC, QVCC,		
	TRCC, TXCC) Anatomy & Physiology		
	3. BIO 212 (ACC, CCC, GCC, HCC, MCC,	3. BIO 319, line 53	
	MXCC, NVCC, NCCC, NCC, QVCC,		
	TRCC, TXCC) Anatomy & Physiology		
	ll II		
	4. BIO 220 (ACC, MCC (cross listed wit	4. BIO 2xx, line 53	
	CHE 220 at MCC)) Biochemistry		
	5. BIO 222 (MXCC) Molecular	5. BMS 316, line 53	
	Biotechniques		
	6. BIO 225 (NVCC) Intro to	6. BIO 200, line 35	
	Biotechnology		
	7. BIO 227 (NVCC) Biotechnology II	7. BIO 200, line 53	
	8. BIO 235 (ACC, CCC, GCC, HCC, MCC,	8. BIO 2xx, line 53	
	MXCC, NVCC, NCCC, NCC, QVCC,		
	TRCC, TXCC) Microbiology		
	9. BIO 262 (GCC, MCC, NVCC, TRCC)	9. BIO 2xx, line 53	
	Genetics and Lab		
	10. BIO 263 (MXCC, NCCC)Molecular	10. BIO 2xx, line 53	
	Genetics	11. BIO 2xx, line 53	
	11. BIO 264 (QVCC) Molecular and	12. 515 2AA, III C 55	
	Cellular Biology	12. BIO 2xx, line 35	
	12. BIO 270 (MXCC, NCCC, QVCC, TRCC		
	Ecology	13. BIO 2xx, line 53	
	13. BIO 272 (NCC) Marine Ecology_	13. BIO 2xx, line 53	
	14. BIO 275 (QVCC) Entomology	14. Bio 2xx, fille 33	
20	14. BIO 273 (QVCC) ETICOTHOLOGY	PIO 200 Integrative Rielegy (MA	av 4
38		BIO 200 Integrative Biology (Manage been taken at the	ay 4
		community college as BIO 225	
		Introduction to Biotechnology	
		(NVCC) or BIO 270 Ecology	_
		(MXCC, NCCC, QVCC, TRCC). Se	e
		line 34)	
39		BIO 290 Biology Research	2
		Experience I	
40		BIO 390 Biology Research	1-6
		Experience II	
		or 391 Internship in Biology	
41		BIO 436 Environmental Resourc	es 3-4
		and Management (3)	
		OR	
		BIO 438 Aquatic Pollution (4)	
42		Choose one:	3-4
		BIO 315 Microbial Ecology	
		BIO 322 Vertebrate Zoology	
		BIO 326 Mushrooms, Mosses, &	
	1	510 520 14105111 001113, 14103363, 0	`

			More	
			BIO 327 Vascular Plants	
			BIO 420 Ornithology	
			BIO 421 Marine Invertebrate	
			Biology	
			BIO 425 Biology of Marine and	
			Freshwater Algae	
			BIO 444 Plant Taxonomy	
43			Choose one:	3-4
			BIO 331 Neurobiology	
			BIO 410 Ecological Physiology	
			BIO 412 Human Physiology	
			(BIO 413 Human Physiology	
			Laboratory is optional)	
			BIO 449 Plant Physiology	
44			Choose one:	4
			BIO 405 Ecology	
			BIO 434 Ecology of Inland Waters	
45			CHEM 406 Environmental	3
			Chemistry	
46			Choose one:	3-4
		,	ESCI 121 Physical Geology	
		~ /	ESCI 450 Environmental Geology	
47	Program Course Credits:	24		55-58
48	Minor Course Credits:		A minor is not required for this	
			major.	
49	Or	en Elec	tives	
50	Students who have fulfilled foreign			
	language requirements in high school			
	or who use open elective credits at the			
	community college to fulfill foreign			
	language and/or minor requirements			
	will end up with more open elective			
	credits at the CCSU.			
51	Open Elective credits:	0		10-14
52	<b>Total Credits at the Community College</b>	60-61	Total Credits for the 4-Year	120
			Degree	

## Transfer Pathway and Degree Program Eastern Connecticut State University

Complete four-year degree with articulation of community college degree to four-year degree **Biology B.A.** 

Both BIO 120 and BIO 130 must be successfully completed with a grade of C- or better prior to starting BIO 220 or BIO 230. Both BIO 220 and BIO 230 must be successfully completed with a grade of C- or better before starting on the required upper-level courses.

1		Community Colleges:		ECSU	
2		John Mariney Concession	Credits	1555	Credits
3		Fra	amewor	k30	
4		General Edu	cation F	Requirements	
5	Competency:			•	
6	Section A				
7	Written I	ENG*101 English Composition	3	T1: College Writing	3
8	Written II	Gen Education Elective	3	T1: Lit &Thought	3
9	Scientific Reasoning	BIO*121 General Biology I	4	T1: Natural Sciences – BIO 120 Organismal Biology w/Lab	4
10	Scientific Knowledge	CHE*121 General Chemistry I	4	T2: Natural Sciences – CHE 210/212 General Chemistry I w/Lab	4
11	Quantitative	MAT* 185 Trigonometry (NVCC) MAT*186 Precalculus	4	T1: Math – MAT 130 Precalculus	4
12	Historical Knowledge	Gen Ed Elective	3	T1: Historical Perspectives	3
13	Social Phenomena	Gen Ed Elective	3	T1SS: Social Sciences	3
14	Aesthetic Dimensions	Gen Ed Elective	3	T1A: Arts in Context	3
15	Section B				
16	Competency:	Gen Ed Elective	3	FYI 100	3
17	Competency:	Gen Ed Elective	3	Health and Wellness	3
18	Framework30 C	redits (30-31):		1	33
19		Р	athway	30	
20		Additional Ger	neral Ed	ucation Courses	
21	Creativity	•	3-4	<ul> <li>Will be received as</li> <li>1. T2 Creative Expressions (line 2</li> <li>2. T2 Individuals and Society (line 3</li> <li>3. MAT 243 fulfilling T2 Applied Information Technologies requirements (line 25)</li> </ul>	

22			T2 Cultural Perspectives	3
23			T2 Individuals and Societies	3
24			T2 Creative Expressions	3
25			T2 Applied Information	3 or 4
			Technologies (Fulfilled by either	
			MAT 216 Statistical Data Analysis	
			OR MAT 254 line 21 within the	
			Transfer Ticket degree)	
26			Tier 3 Capstone – BIO 466 Senior	3
			Seminar	
27			Foreign Language Proficiency:	6
			See requirements <u>here</u> . If the	
			requirement has been met in	
			whole or in part, general	
			education and open elective	
			credits will adjust accordingly.	
28	General Education Credits:	36-37		54-55
29	Major F	Program	Courses	
30	BIO*122 General Biology II	4	BIO 130 Ecology with Lab	4
31	CHE* 122 General Chemistry II	4	CHEM 211 General Chemistry II	4
			(3)	
			And	
			CHEM 213 General Chemistry II	
		Y	Lab (1)	
32	PHY* 121 General Physics I / PHY 221	4	PHY 204 General Physics I with	
	Calculus Based Physics I		Lab (line 35)	
			OR	
	OR		CHE 216 Organic Chemistry I	
22	CHE*211 Organic Chemistry I		with lab (line 46)	
33	Select two courses	8	Will be received as	
	1. BIO 208 (HCC) Forensic Science with		1. BIO 2xx, line 48	
	Lab		2 UCC 240 line 40	
	2. BIO 211 (ACC, CCC, GCC, HCC, MCC,		2. HSC 318, line 48	
	MXCC, NVCC, NCCC, NCC, QVCC,			
	TRCC, TXCC) Anatomy & Physiology I  3. BIO 212 (ACC, CCC, GCC, HCC, MCC,		2 USC 210 line 49	
	MXCC, NVCC, NCCC, NCC, QVCC,		3. HSC 319, line 48	
	TRCC, TXCC) Anatomy & Physiology II			
	4. BIO 220 (ACC, MCC (Cross listed with		4. BIO 422, line 48	
	CHE 220 at MCC)) Biochemistry		7. DIO 722, IIIIC 40	
	5. BIO 222 (MXCC) Molecular		5. BIO 450, line 33	
	Biotechniques		5. 510 450, mic 55	
	6. BIO 225 (NVCC) Intro to		6. BIO 2xx, line 48	
	Biotechnology		5. 5.6 2.00,c 10	
	7. BIO 227 (NVCC) Biotechnology II		7. BIO 450, line 48	
		1		·

		1	T	1
	8. BIO 235 (ACC, CCC, GCC, HCC, MCC,		8. BIO 334, line 48	
	MXCC, NVCC, NCCC, NCC, QVCC,			
	TRCC, TXCC) Microbiology			
	9. BIO 262 (GCC, MCC, NVCC, TRCC)		9. BIO 2xx, line 48	
	Genetics and Lab		,	
	10. BIO 263 (MXCC, NCCC)Molecular		10. BIO 304 + 314, line 43	
	Genetics			
			11. BIO 2xx, line 48	
	11. BIO 264 (QVCC) Molecular and			
	Cellular Biology		12. BIO 308, line 43	
	12. BIO 270 (MXCC, NCCC, QVCC, TRCC)			
	Ecology		13. BIO 2xx, line 48	
	13. BIO 272 (NCC) Marine Ecology		14. BIO 324, line 42	
	14. BIO 275 (QVCC) Entomology			
34			BIO 334 General Microbiology	4
			(from line 32)	
35	PHY* 122 General Physics II / PHY 222		See line 47	
	Calculus Base Physics II		300 mic 47	
	Calculus base Filysics II			
	OR			
	CHE*212 Organic Chemistry II			
36			PHY 204 General Physics I with	4
			Lab	
37		<b>N</b> /	BIO 220 Cell Biology	4
38			BIO 230 Genetics	4
39		1.		
40				
41	<u> </u>		300's or 400's level <b>Cell and</b>	4
7.1			Molecular Biology elective from	-
			the following:	
			BIO 330 Cell Biology w/Lab	
			BIO 420 Microscopy w/Lab	
			BIO 422 Research Methods	
			Molecular Bio w/Lab	
			BIO 424 Biological Chemistry	
			w/lab	
			BIO 426 Biology of Cancer	
			BIO 428 Virology w/Lab	
			BIO 430 Endocrinology w/Lab	
			BIO 432 Histology w/Lab	
			BIO 434 Developmental Biology	
			w/Lab	
			BIO 436 Molecular Genetics	
			w/Lab	
			BIO 438 Plant Physiology w/Lab	
			BIO 450 Biotechnology w/Lab	
1		]	BIO 458 Regenerative Medicine	
			DIO 430 Regenerative Medicine	

43		300's or 400's level Population Biology and Ecology elective from the following: BIO 320/360 Tropical Biology and Tropical Ecosystems BIO 319/320 Oceanic Island Ecology and Tropical Biology BIO 440 Aquatic Biology w/Lab BIO 442 Plant Ecology w/Lab BIO 444 Population/Community Ecology w/Lab BIO 446 Terrestrial Ecology w/Lab BIO 452 Conservation Biology w/Lab BIO 454 Biological Invasions w/Lab BIO 456 Marine Ecology w/Lab 300's or 400's level Organismal Biology elective from the following: BIO 324 Entomology w/Lab (see line 32) BIO 332 Biology of Plants w/Lab BIO 334 General Microbiology w/Lab BIO 338 Vertebrate Biology w/Lab BIO 338 Vertebrate Biology w/Lab BIO 340 Parasitology w/Lab 4 BIO 346 Animal Behavior w/Lab BIO 348 Functional Human Anatomy w/Lab BIO 350 Human Physiology w/Lab BIO 350 Human Physiology w/Lab	4
44		300's or 400's level Biology Elective (see line 32)	8
45	Program Course Credits:		44
46	-	en Electives	
47		CHE 216 Organic Chemistry I	0-4
		with Lab	
48		PHY 205 General Physics II With Lab OR	4

			CHE 217 Organic Chemistry II	
			with Lab	
			Neither is required in the	
			program	
49			From line 32	0-8
50	Students who have fulfilled foreign			
	language requirements in high school or			
	who use open elective credits at the			
	community college to fulfill foreign			
	language requirements will end up with			
	more open elective credits at the ECSU			
51	Open Elective credits:			5-18
52	Total Credits at the Community College	60-61	Total Credits for the 4-Year	120
			Degree	



## Transfer Pathway and Degree Program Eastern Connecticut State University

Complete four-year degree with articulation of community college degree to four-year degree **Biology B.S.** 

Both BIO 120 and BIO 130 must be successfully completed with a grade of C- or better prior to starting BIO 220 or BIO 230. Both BIO 220 and BIO 230 must be successfully completed with a grade of C- or better before starting on the required upper-level courses.

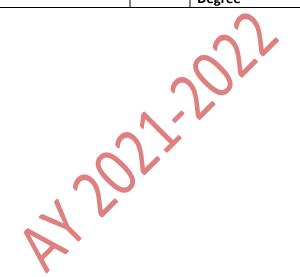
1	C	Community Colleges:		ECSU	
2			Credits		Credits
3		Fr	amewo	rk30	
4		General Edu	ucation I	Requirements	
5	Competency:				
6	Section A				
7	Written I	ENG*101 English Composition	3	T1: College Writing	3
8	Written II	Gen Education Elective	3	T1: Lit &Thought	3
9	Scientific Reasoning	BIO*121 General Biology I	4	T1: Natural Sciences – BIO 120 Organismal Biology w/Lab	4
10	Scientific Knowledge	CHE*121 General Chemistry I	4	T2: Natural Sciences – CHE 210/212 General Chemistry I w/Lab	4
11	Quantitative	MAT* 185 Trigonometry (NVCC) MAT*186 Precalculus	4	T1: Math – MAT 130 Precalculus	4
12	Historical Knowledge	Gen Ed Elective	3	T1: Historical Perspectives	3
13	Social Phenomena	Gen Ed Elective	3	T1SS: Social Sciences	3
14	Aesthetic Dimensions	Gen Ed Elective	3	T1A: Arts in Context	3
15	Section B				
16	Competency:	Gen Ed Elective	3	FYI 100	3
17	Competency:	Gen Ed Elective	3	Health and Wellness	3
18	Framework30 C	redits (30-31):	1		33
19		F	Pathway	<sup>2</sup> 30	
20		Additional Ge	neral Ed	ucation Courses	
21	Creativity	_	3-4	Will be received as  1. T2 Creative Expressions (line 24)  2. T2 Individuals and Society (line 23)  3. MAT 243 fulfilling T2 Applied Information Technologies requirements (line 25)	
22				T2 Cultural Perspectives	3

23			T2 Individuals and Societies	3
24			T2 Creative Expressions	3
25			T2 Applied Information	3
			Technologies (Fulfilled by either	
			ECSU's MAT 216 Statistical Data	
			Analysis OR MAT 254 at a	
			community college within the	
			Transfer Ticket degree)	
26			Tier 3 Capstone – BIO 466 Senior	3
			Seminar	
27			Foreign Language Proficiency:	6
			See requirements <u>here</u> . If the	
			requirement has been met in	
			whole or in part, general	
			education and open elective	
			credits will adjust accordingly.	
28	General Education Credits:	36-37		54-55
29	Major I	Program	Courses	
30	BIO*122 General Biology II	4	BIO 130 Ecology with Lab	4
31	CHE* 122 General Chemistry II	4	CHEM 211 General Chemistry II	4
			(3) and CHEM 213 General	
			Chemistry II Lab(1)	
32	PHY* 121 General Physics I / PHY 221	4	PHY 204 General Physics I with	4
	Calculus Based Physics I or CHE*211	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Lab Or CHE 216 Organic	
	Organic Chemistry I	V	Chemistry I with Lab	
33	Select two courses	8	Will be received as	
	1. BIO 208 (HCC) Forensic Science with		1. BIO 2xx, line 52	
	Lab		2 UCC 240 line 52	
	2. BIO 211 (ACC, CCC, GCC, HCC, MCC,		2. HSC 318, line 52	
	MXCC, NVCC, NCC, NCC, QVCC,			
	TRCC, TXCC) Anatomy & Physiology I  3. BIO 212 (ACC, CCC, GCC, HCC, MCC,		3. HSC 319, line 52	
	MXCC, NVCC, NCCC, NCC, QVCC,		5. H3C 319, IIIIe 32	
	TRCC, TXCC) Anatomy & Physiology II			
	4. BIO 220 (ACC, MCC (Cross listed with		4. BIO 424, line 52	
	CHE 220 at MCC)) Biochemistry		4. BIO 424, IIIIC 32	
	5. BIO 222 (MXCC) Molecular		5. BIO 450, line 48	
	Biotechniques		3. Bio 430, iiie 40	
	6. BIO 225 (NVCC) Intro to		6. BIO 2xx, line 52	
	Biotechnology			
	7. BIO 227 (NVCC) Biotechnology II		7. BIO 450, line 52	
	8. BIO 235 (ACC, CCC, GCC, HCC, MCC,		8. BIO 334, line 34	
	MXCC, NVCC, NCCC, NCC, QVCC,			
	TRCC, TXCC) Microbiology			
	9. BIO 262 (GCC, MCC, NVCC, TRCC)		9. BIO 2xx, line 52	
	Genetics and Lab		,	
			10. BIO 304 + 314, line 48	

	40 810 363 (84)/66 51000/54 1		44 810 2 11 2 52	1
	10. BIO 263 (MXCC, NCCC)Molecular		11. BIO 2xx, line 52	
	Genetics			
	11. BIO 264 (QVCC) Molecular and		12. BIO 308, line 48	
	Cellular Biology			
	12. BIO 270 (MXCC, NCCC, QVCC, TRCC)		13. BIO 2xx, line 52	
	Ecology		14. BIO 324, line 48	
	13. BIO 272 (NCC) Marine Ecology			
	14. BIO 275 (QVCC) Entomology			
34			BIO 334 General Microbiology	4
			(line 33)	
35				
36			CHE 216 Organic Chemistry I	4
			w/Lab	
37			PHY 204 General Physics I with	4
			Lab	
38	1			
39			BIO 220 Cell Biology	4
40			BIO 230 Genetics	4
41			BIO 230 Genetics	4
42			One of the following:	0.2014
42				0, 3 or 4
			MAT 244 Calculus II	
			w/Technology	
		\	MAT 216 Statistical Data	
			Analysis – counts as T2	
			Applied Information	
			Technologies – see line 25	
			BIO 378 Biology Research and	
			Data Analysis	
43				
44				
45			300's or 400's level <b>Cell and</b>	4
			Molecular Biology elective from	
			the following (if BIO*235 was	
			not taken at CC) or any 300's or	
			400's level Biology Elective:	
			BIO 330 Cell Biology w/Lab	
			BIO 420 Microscopy w/Lab	
			BIO 422 Research Methods	
			Molecular Bio w/Lab	
			BIO 424 Biological Chemistry	
			w/Lab	
			BIO 426 Biology of Cancer	
			BIO 428 Virology w/Lab	
			BIO 430 Endocrinology w/Lab	
			BIO 430 Endocrinology W/Lab	
			BIO 434 Developmental Biology	

BIO 436 Molecular Genetics w/Lab BIO 438 Plant Physiology w/Lab BIO 438 Plant Physiology w/Lab BIO 458 Regenerative Medicine  300's or 400's level Population Biology and Ecology elective from the following: BIO 320/360 Tropical Biology and Tropical Biology and Tropical Ecosystems BIO 319/320 Oceanic Island Ecology and Tropical Biology W/Lab BIO 442 Plant Ecology w/Lab BIO 442 Plant Ecology w/Lab BIO 444 Population/Community Ecology w/Lab BIO 446 Terrestrial Ecology w/Lab BIO 456 Conservation Biology w/Lab BIO 456 Marine Ecology w/Lab BIO 330's or 400's level Organismal Biology elective from the following: BIO 324 Entomology w/Lab BIO 332 Biology of Plants w/Lab BIO 334 General Microbiology w/Lab BIO 336 General Microbiology w/Lab BIO 338 Vertebrate Biology w/Lab BIO 338 Vertebrate Biology w/Lab BIO 346 Animal Behavior w/Lab BIO 346 Animal Behavior w/Lab BIO 346 Fanimal Behavior w/Lab BIO 346 Fanimal Behavior w/Lab BIO 348 Functional Human Anatomy w/Lab BIO 346 Physiological Ecology w/Lab BIO 348 Physiological Ecology w/Lab BIO 448 Physiological Ecology w/Lab BIO 500 or 400's level Biology 8		
w/Lab BIO 438 Plant Physiology w/Lab BIO 438 Regenerative Medicine  300's or 400's level Population Biology and Ecology elective from the following: BIO 320/360 Tropical Biology and Tropical Ecosystems BIO 319/320 Oceanic Island Ecology and Tropical Biology BIO 440 Aquatic Biology w/Lab BIO 442 Plant Ecology w/Lab BIO 444 Population/Community Ecology w/Lab BIO 445 Population/Community Ecology w/Lab BIO 455 Conservation Biology w/Lab BIO 456 Marine Ecology w/Lab BIO 456 Marine Ecology w/Lab BIO 456 Marine Ecology w/Lab BIO 330's or 400's level Organismal Biology elective from the following: BIO 332 Biology of Plants w/Lab BIO 334 General Microbiology w/Lab BIO 336 Invertebrate Biology w/Lab BIO 338 Vertebrate Biology w/Lab BIO 338 Vertebrate Biology w/Lab BIO 338 Vertebrate Biology w/Lab BIO 346 Animal Behavior w/Lab BIO 348 Functional Human Anatomy w/Lab BIO 348 Physiological Ecology w/Lab BIO 448 Physiological Ecology		w/Lab
BIO 438 Plant Physiology w/Lab BIO 450 Biotechnology w/Lab BIO 450 Biotechnology w/Lab BIO 450 Regenerative Medicine  300's or 400's level Population Biology and Ecology elective from the following: BIO 320/360 Tropical Biology and Tropical Ecosystems BIO 319/320 Oceanic Island Ecology and Tropical Biology BIO 440 Aquatic Biology w/Lab BIO 442 Plant Ecology w/Lab BIO 444 Population/Community Ecology w/Lab BIO 4452 Conservation Biology w/Lab BIO 456 Marine Ecology w/Lab BIO 456 Marine Ecology w/Lab BIO 456 Marine Ecology w/Lab BIO 330's or 400's level Organismal Biology elective from the following: BIO 324 Entomology w/Lab BIO 334 General Microbiology w/Lab BIO 334 General Microbiology w/Lab BIO 336 Invertebrate Biology w/Lab BIO 336 Parasitology w/Lab BIO 330 Parasitology w/Lab BIO 340 Parasitology w/Lab BIO 340 Parasitology w/Lab BIO 346 Animal Behavior w/Lab BIO 346 Animal Behavior w/Lab BIO 348 Functional Human Anatomy w/Lab BIO 348 Physiological Ecology w/Lab BIO 348 Physiological Ecology w/Lab BIO 348 Physiological Ecology w/Lab BIO 448 Physiological Ecology w/Lab BIO 300's or 400's level Biology		
BIO 450 Biotechnology w/Lab BIO 458 Regenerative Medicine 3300's or 400's level Population Biology and Ecology elective from the following: BIO 320/360 Tropical Biology and Tropical Ecosystems BIO 319/320 Oceanic Island Ecology and Tropical Biology BIO 440 Aquatic Biology w/Lab BIO 442 Plant Ecology w/Lab BIO 444 Population/Community Ecology w/Lab BIO 444 Population/Community Ecology w/Lab BIO 454 Biological Invasions w/Lab BIO 330's or 400's level Organismal Biology elective from the following: BIO 332 Biology of Plants w/Lab BIO 334 General Microbiology w/Lab BIO 334 General Microbiology w/Lab BIO 338 Vertebrate Biology w/Lab BIO 338 Vertebrate Biology w/Lab BIO 334 General Mycology w/Lab BIO 344 General Mycology w/Lab BIO 345 Animal Behavior w/Lab BIO 346 Animal Behavior w/Lab BIO 348 Functional Human Anatomy w/Lab BIO 348 Functional Human Anatomy w/Lab BIO 350 Human Physiology w/Lab BIO 350 Human Physiological Ecology w/Lab BIO 350 Human Physiological Ecology w/Lab BIO 348 Physiological Ecology		
BIO 458 Regenerative Medicine  300's or 400's level Population Biology and Ecology elective from the following: BIO 320/360 Tropical Biology and Tropical Ecosystems BIO 319/320 Oceanic Island Ecology and Tropical Biology BIO 440 Aquatic Biology w/Lab BIO 442 Plant Ecology w/Lab BIO 444 Population/Community Ecology w/Lab BIO 445 Terrestrial Ecology w/Lab BIO 456 Marine Ecology w/Lab BIO 456 Marine Ecology w/Lab BIO 456 Marine Ecology w/Lab BIO 320 Biological Invasions w/Lab BIO 320 Biology elective from the following: BIO 324 Entomology w/Lab BIO 328 Biology of Plants w/Lab BIO 328 General Microbiology w/Lab BIO 338 Vertebrate Biology w/Lab BIO 338 Vertebrate Biology w/Lab BIO 338 Vertebrate Biology w/Lab BIO 340 Parasitology w/Lab 4 BIO 340 Parasitology w/Lab BIO 344 General Mycology w/Lab BIO 345 Functional Human Anatomy w/Lab BIO 348 Functional Human Anatomy w/Lab BIO 340 Parasitology w/Lab BIO 348 Functional Human Anatomy w/Lab BIO 349 Functional Human Anatomy w/Lab BIO 349 Functional Human Anatomy w/Lab BIO 340 Functional Human Anatomy w/Lab		BIO 438 Plant Physiology w/Lab
300's or 400's level Population Biology and Ecology elective from the following: BIO 320/360 Tropical Biology and Tropical Ecosystems BIO 319/320 Oceanic Island Ecology and Tropical Biology BIO 440 Aquatic Biology w/Lab BIO 442 Plant Ecology w/Lab BIO 444 Population/Community Ecology w/Lab BIO 445 Terrestrial Ecology w/Lab BIO 454 Biological Invasions w/Lab BIO 454 Biological Invasions w/Lab BIO 454 Biological Invasions w/Lab BIO 330's or 400's level Organismal Biology elective from the following: BIO 324 Entomology w/Lab BIO 332 Biology of Plants w/Lab BIO 334 General Microbiology w/Lab BIO 334 General Microbiology w/Lab BIO 336 Invertebrate Biology w/Lab BIO 336 Invertebrate Biology w/Lab BIO 346 Parasitology w/Lab BIO 346 Parasitology w/Lab BIO 346 Animal Behavior w/Lab BIO 346 Animal Behavior w/Lab BIO 346 Animal Behavior w/Lab BIO 346 Punctional Human Anatomy w/Lab BIO 350 Human Physiology		BIO 450 Biotechnology w/Lab
Biology and Ecology elective from the following: BIO 320/360 Tropical Biology and Tropical Ecosystems BIO 319/320 Oceanic Island Ecology and Tropical Biology BIO 440 Aquatic Biology W/Lab BIO 442 Plant Ecology w/Lab BIO 442 Plant Ecology w/Lab BIO 444 Farrestrial Ecology w/Lab BIO 445 Conservation Biology w/Lab BIO 452 Conservation Biology w/Lab BIO 454 Biological Invasions w/Lab BIO 456 Marine Ecology w/Lab BIO 456 Marine Ecology w/Lab BIO 330's or 400's level Organismal Biology elective from the following: BIO 334 Entomology w/Lab BIO 332 Biology of Plants w/Lab BIO 332 Biology of Plants w/Lab BIO 334 General Microbiology w/Lab BIO 338 Vertebrate Biology w/Lab BIO 338 Ivertebrate Biology w/Lab BIO 340 Parasitology w/Lab BIO 340 Parasitology w/Lab BIO 340 Parasitology w/Lab BIO 346 Animal Behavior w/Lab BIO 348 Functional Human Anatomy w/Lab BIO 350 Human Physiology w/Lab BIO 348 Physiological Ecology w/Lab BIO 484 Physiological Ecology w/Lab BIO 448 Physiological Ecology w/Lab BIO 300's or 400's level Biology 8		BIO 458 Regenerative Medicine
from the following: BIO 320/360 Tropical Biology and Tropical Ecosystems BIO 319/320 Oceanic Island Ecology and Tropical Biology W/Lab BIO 440 Aquatic Biology w/Lab BIO 442 Plant Ecology w/Lab BIO 444 Population/Community Ecology w/Lab BIO 454 Ecology w/Lab BIO 452 Conservation Biology w/Lab BIO 454 Biological Invasions w/Lab BIO 456 Marine Ecology w/Lab BIO 346 Marine Ecology w/Lab BIO 330 sor 400's level Organismal Biology elective from the following: BIO 334 Entomology w/Lab BIO 334 General Microbiology w/Lab BIO 336 Invertebrate Biology w/Lab BIO 336 Invertebrate Biology w/Lab BIO 340 Parasitology w/Lab BIO 340 Parasitology w/Lab BIO 346 Animal Behavior w/Lab BIO 348 Functional Human Anatomy w/Lab BIO 348 Functional Human Anatomy w/Lab BIO 350 Human Physiology w/Lab BIO 350 Human Physiology w/Lab BIO 448 Physiological Ecology w/Lab BIO 448 Physiological Ecology w/Lab BIO 448 Physiological Ecology w/Lab	46	300's or 400's level <b>Population</b> 4
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48 300's or 400's level Biology 8		BIO 448 Physiological Ecology
		w/Lab
Elective	48	300's or 400's level Biology 8
		Elective

49	Program Course Credits:			52-56	
50	Open Electives				
51	PHY* 122 General Physics II / PHY 222 Calculus Based Physics II or CHE*212 Organic Chemistry II	4	PHY 205 General Physics II with Lab Or CHE 217 Organic Chemistry II with Lab	4	
52			From line 33	0-8	
53	Students who have fulfilled foreign language requirements in high school or who use open elective credits at the community college to fulfill foreign language requirements will end up with more open elective credits at the ECSU.				
54	Open Elective credits:	4		0-10	
55	Total Credits at the Community College	60-61	Total Credits for the 4-Year Degree	120-122	



# Transfer Pathway and Degree Program Southern Connecticut State University Biology B.A.

1	Co	mmunity Colleges:		SCSU	
2		minutinely confeder	Credits	3555	Credits
3			Framev	vork30	0.00.00
4		General E	ducatio	n Requirements	
5	Competency:				
6	Section A				
7	Written I	English 101	3	FYE	3
8	Written II	Gen Ed	3	Written Communication	3
9	Scientific Reasoning	BIO*121 General Biology I	4	BIO 102 Zoology	4
10	Scientific Knowledge	CHE*121 General	4	Natural World I – Physical Realm –	4
		Chemistry I		CHE 120 General Chemistry I	
11	Quantitative	MAT* 185 Trigonometry (NVCC) MAT*186 Precalculus	4	Quantitative Reasoning – MAT 122 Precalculus	4
12	Historical Knowledge	Gen Ed*	3	Time and Place	3
13	Social Phenomena	Gen Ed	3	Social structure, Conflict, Consensus	3
14	Aesthetic Dimensions	Gen Ed	3	Cultural Expressions	3
15	Section B				
16	Competency:	Gen Ed	3	Critical Thinking	3
17	Competency:	Gen Ed	3	Tech Fluency	3
18	Framework30 C	redits	33		33
19		•	<b>Pathw</b>	ay30	
20		Additional G	Seneral	Education Courses	
21	Select one		3-4	Will be received as	
	Creativity	~		<ol> <li>Creative Drive (line 22)</li> <li>Global Awareness (line 25)</li> <li>MAT 150 Calculus I (line 47)</li> </ol>	
22				Complete 3 of the 4 remaining areas (lines 23-25)	9
23				American Experience	
24				Creative Drive	
25				Global Awareness	
26				Mind and Body	
27				Must be taken at SCSU:	
28				Tier 3 Connections Capstone	3

29	General Education Credits:			45
30	Majo	r Progr	am Courses	
31	BIO*122 General Biology II	4	Natural World II: BIO 103 – Botany	4
32	<u> </u>		·	
33			BIO 220 Genetics (see line 34, items	4
			9 and 10)	
34	Select two courses	8	Will be received as	
	1. BIO 208 (HCC) Forensic Science		1. BIO 205, line 37	
	with Lab			
	2. BIO 211 (ACC, CCC, GCC, HCC,		2. BIO 200, line 48	
	MCC, MXCC, NVCC, NCCC, NCC,			
	QVCC, TRCC, TXCC) Anatomy & Physiology I			
	3. BIO 212 (ACC, CCC, GCC, HCC,		3. BIO 201, line 48	
	MCC, MXCC, NVCC, NCCC, NCC,		3. Bio 201, iiile 40	
	QVCC, TRCC, TXCC) Anatomy &			
	Physiology II			
	4. BIO 220 (ACC, MCC (Cross listed		4. BIO 2xx, line 48	
	with CHE 220 at MCC)			
	Biochemistry			
	5. BIO 222 (MXCC) Molecular		5. BIO 2xx, line 37	
	Biotechniques		6. BIO 2xx, line 37	
	6. BIO 225 (NVCC) Intro to Biotechnology	<b>\</b> '\	6. BIO 2xx, line 37	
	7. BIO 227 (NVCC) Biotechnology II		7. BIO 2xx, line 48	
	8. BIO 235 (ACC, CCC, GCC, HCC,		8. BIO 233, line 37	
	MCC, MXCC, NVCC, NCCC, NCC,		,	
	QVCC, TRCC, TXCC) Microbiology			
	9. BIO 262 (GCC, MCC, NVCC, TRCC)		9. BIO 220, line 33	
	Genetics and Lab			
	10. BIO 263 (MXCC, NCCC) Molecular		10. BIO 220, line 33	
	Genetics		11 PIO 2vv lino 27	
	11. BIO 264 (QVCC) Molecular and Cellular Biology		11. BIO 2xx, line 37	
	12. BIO 270 (MXCC, NCCC, QVCC,		12. BIO 202, line 39	
	TRCC) Ecology		12. 5.6 202, 33	
	13. BIO 272 (NCC) Marine Ecology		13. BIO 2xx, line 39	
	14. BIO 275 (QVCC) Entomology		14. BIO 2xx, line 39	
35			Select one Entry Level Anatomy/	4
			<u>Physiology</u>	
			BIO 230 – Plant Anatomy and	
			Morphology	
			BIO 231 – Comparative Vertebrate	
			Anatomy	
36			BIO 235 - Histology Select one Upper Level	4
30			Anatomy/Physiology	4
		<u> </u>	/ matority/ i mysiology	

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			BIO 301 – Physiology	
			BIO 401 – Animal Physiology	
			BIO 420 – Plant Physiology	
			BIO 454 – Brain Anatomy and	
			Transmission	
37			Select one Entry Level	(3-4)
			Cell/Molecular Biology	
			BIO 205 – Forensic Biology	
			BIO 233 – General Microbiology	
			BIO 236 – Cell Biology	
			BIO 240 – Human Heredity (3 cr)	
			BIO 296 – Genomics I	
			This requirement may have been met	
			at the community college. See line	
			34.	
38			Select one Upper Level	4
			Cell/Molecular Biology	<b>⊣r</b>
			BIO 335 – Pathogenic Microbiology	
			BIO 360- Plant Growth and	
			Development	
		(	BIO 435 – Developmental Biology	
			BIO 436 – Molecular Biology	
			BIO 451 – Tissue Culture	
		$\bigcirc$	BIO 466 – Advanced Molecular and	
			Cell Biology	
		7	BIO 467 – Laboratory Course in	
		)	Biotechnology	
39		4	Select one Entry Level Biodiversity/	3-4
			Ecology/ Organismal	
			BIO 202 – Ecology or	
			BIO 210 – Environmental Biology and	
	•		Conservation (3 cr) or	
			BIO 228- Vertebrate Zoology or	
			BIO229 – Invertebrate Zoology or	
			BIO 250 – Plant Taxonomy and	
			Systematics	
			This requirement may have been met	
			at the community college. See line	
			34.	
40			Select one Upper Level Biodiversity/	3-4
			Ecology/ Organismal	
			BIO 334 – Microbial Ecology or	
			BIO 337 – Medically Important	
			Arthropods (3 cr) or	
			BIO 427 – Entomology or	
			BIO 429 – Limnology or	
			BIO 430 – Marine Ecology or	
			BIO 432 – Mycology or	

			BIO 438 – Aquatic Entomology or	
			BIO 440 – Parasitic Infections (3 cr)	
			or	
			BIO 460 – Paleontology	
41			One other upper level BIO course	3-4
41			1	3-4
			from upper level lists above OR	
			BIO 497 – In-service Training in	
			Biology	
			BIO 495 – Senior Thesis	
			BIO 499 – Independent Study and	
			Research	
42	CHE* 122 General Chemistry II	4	CHE 122 General Chemistry II	4
43	Program Course Credits:			38-44
44	Unre	estricte	d Electives	
45	PHY* 121 General Physics I / PHY 221	4	PHY 200 General Physics I Or CHE	4
	Calculus Based Physics I or CHE*211		260 Organic Chemistry I	
	Organic Chemistry I			
46	PHY* 122 General Physics II / PHY 222	4	PHY 201 General Physics II Or CHE	4
	Calculus Based Physics II or CHE*212		261 Organic Chemistry II	
	Organic Chemistry II			
47			MAT 150 Calculus I	0-4
48		$\bigcirc$	Non-program electives	0-8
49		V		
50		<b>)</b> '		
51				
52	Open Elective credits:	0		22-32
53	Total Credits at the Community	60-61	Total Credits for the 4-Year Degree	120
1	College			1

# Transfer Pathway and Degree Program Southern Connecticut State University Biology B.S.

1	(	Community Colleges:		SCSU	
2	•	contractive concess.	Credits	3636	Credits
3		Fra	mewor	k30	0.00.00
4		General Educ	cation F	Requirements	
5	Competency:				
6	Section A				
7	Written I	English 101	3	FYE	3
8	Written II	Gen Ed	3	Written Communication	3
9	Scientific Reasoning	BIO*121 General Biology	4	Biology 102 Zoology	4
10	Scientific Knowledge	CHE*121 General Chemistry I	4	Natural World I – Physical Realm – CHE 120 General Chemistry I	4
11	Quantitative	MAT* 185 Trigonometry (NVCC) MAT*186 Precalculus	4	Quantitative Reasoning – MAT 122 Precalculus	4
12	Historical Knowledge	Gen Ed*	3 /	Time and Place	3
13	Social Phenomena	Gen Ed	3	Social structure, Conflict, Consensus	3
14	Aesthetic Dimensions	Gen Ed	3	Cultural Expressions	3
15	Section B				
16	Competency:	Gen Ed	3	Critical Thinking	3
17	Competency:	Gen Ed	3	Tech Fluency	3
18	Framework30 C	redits: 33			33
19		Pa	athway	30	-
20		Additional Gen	eral Ed	ucation Courses	
21	Select one		3-4	Will be received as	
	1. Additional G	eneral Education I:		1. Creative Drive (line 24)	
	Creativity				
	2. Additional G	eneral Education II:		2. Global Awareness (line 25)	
	Global Know	_			
	3. MAT 254 Ca	lculus I		3. MAT 150 Calculus I (line 56)	
22				Complete 3 of the 4 remaining	9
				areas (lines 23-25)	
23				American Experience	
24				Creative Drive	
25				Global Awareness	
26				Mind and Body	
27				Must be taken at SCSU:	

28			Tier 3 Connections Capstone	3
29	General Education Credits:	36		45
30	Major P	rogram	Courses	
31	BIO*122 General Biology II	4	Natural World II: Life and Environment: BIO 103 - Botany	4
32	CHE* 122 General Chemistry II	4	CHE 121 General Chemistry II	4
33	PHY* 121 General Physics I / PHY 221 Calculus Based Physics I  OR CHE*211 Organic Chemistry I	4	PHY 200 General Physics I (line 36) OR CHE 260 Organic Chemistry I (line 38)	
34	PHY* 122 General Physics II / PHY 222 Calculus Based Physics II  OR CHE*212 Organic Chemistry II	4	PHY 201 General Physics II (line 37) OR CHE 261 Organic Chemistry II (line 54)	4
35	<ol> <li>Select two courses</li> <li>BIO 208 (HCC) Forensic Science with Lab</li> <li>BIO 211 (ACC, CCC, GCC, HCC, MCC, MXCC, NVCC, NCCC, NCC, QVCC, TRCC, TXCC) Anatomy &amp; Physiology I</li> <li>BIO 212 (ACC, CCC, GCC, HCC, MCC, MXCC, NVCC, NCCC, NCC, QVCC, TRCC, TXCC) Anatomy &amp; Physiology II</li> <li>BIO 220 (ACC, MCC (Cross listed with CHE 220 at MCC)) Biochemistry</li> <li>BIO 222 (MXCC) Molecular Biotechniques</li> <li>BIO 225 (NVCC) Intro to Biotechnology</li> <li>BIO 227 (NVCC) Biotechnology II</li> <li>BIO 235 (ACC, CCC, GCC, HCC, MCC, MXCC, NVCC, NCCC, NCC, QVCC, TRCC, TXCC) Microbiology</li> <li>BIO 262 (GCC, MCC, NVCC, TRCC) Genetics and Lab</li> <li>BIO 263 (MXCC, NCCC)Molecular Genetics</li> <li>BIO 264 (QVCC) Molecular and Cellular Biology</li> <li>BIO 270 (MXCC, NCCC, QVCC, TRCC) Ecology</li> <li>BIO 272 (NCC) Marine Ecology</li> <li>BIO 275 (QVCC) Entomology</li> </ol>	8	Will be received as 1. BIO 205, line 43 2. BIO 200, line 56 3. BIO 201, line 56 4. BIO 2xx, line 56 5. BIO 2xx, line 43 6. BIO 2xx, line 43 7. BIO 2xx, line 56 8. BIO 233, line 43 9. BIO 220, line 40 10. BIO 2xx, line 40 11. BIO 2xx, line 45 13. BIO 2xx, line 45 14. BIO 2xx, line 45	
35	2 Sid 273 (Q700) Entomology		PHY 200 General Physics I	4

36	PHY 201 General Phys	sics II 4
37		
38		,
39	BIO 103 – Botany	4
40		e line 35. 4
	items 9 & 10)	
41		l 4
	Anatomy/Physiology	-
	BIO 230 – Plant Anato	my and
	Morphology or	•
	BIO 231 – Comparativ	e
	Vertebrate Anatomy o	
	BIO 235 - Histology	
42		el 4
	Anatomy/Physiology	_
	BIO 301 – Physiology	or
	BIO 401 – Animal Phy	siology or
	BIO 420 – Plant Physi	ology or
	BIO 454 – Brain Anato	omy and
	Transmission	
43	Select one Entry Leve	<u>l</u> 3-4
	Cell/Molecular Biolog	Υ
	BIO 205 – Forensic Bio	ology or
	BIO 233 – General Mi	crobiology
	BIO 236 – Cell Biology	
	BIO 240 – Human Her	edity (3 cr)
	BIO 296 – Genomics I	
	This requirement may	
	met at the community	rollege.
	See line 35.	
44		
	Cell/Molecular Biolog	Υ
	BIO 335 – Pathogenic	
	Microbiology or	
	BIO 360- Plant Growth	n and
	Development or	
	BIO 435 – Developme	ntai
	Biology or	Piology or
	BIO 436 – Molecular B	· ·
	BIO 451 – Tissue Cultu BIO 466 – Advanced N	
		noieculai
	and Cell Biology or	Course in
	BIO 467 – Laboratory Biotechnology	Course III
45		l 3-4
45	Biodiversity/Ecology/	
	BIO 202 – Ecology or	Organismal
	DIO 202 – ECOlogy Of	

47		<b>\</b>	BIO 460 – Paleontology One other upper level BIO course	3-4	
	$O_{\alpha}$	\'	from upper level lists above OR BIO 497 – In-service Training in Biology		
			BIO 495 – Senior Thesis		
			BIO 499 – Independent Study		
40			and Research		
48			MAT 221 – Intermediate Applied Statistics	4	
49					
50	Program Course Credits:	(16)- 24		57-64	
51	Open Electives				
52					
53			MAT 150 Calculus I	0-4	
54			CHE 261 Organic Chemistry II	0-4	
56			Non-program electives	0-8	
55			The program electives	3 3	
56	Open Elective credits:	0		0-18	
90			T		
57	Total Credits at the Community College	60-61	Total Credits for the 4-Year	120	

### Transfer Pathway and Degree Program Western Connecticut State University Biology – Professional Option B.A.

1	Community Colleges		WCSU					
2			Credits		Credits			
3	Framework30							
4	General Education Requirements							
5	Competency:							
6	Section A							
7	Written I	ENG*101 English Composition	3	Writing I	3			
8	Written II	Gen Ed Elective	3	Writing II	3			
9	Scientific Reasoning	BIO*121 General Biology	4	Scientific Inquiry: BIO 103 General Biology I	4			
10	Scientific Knowledge	CHE*121 General Chemistry I	4	General Education Elective / Second Exposure to Scientific Inquiry: CHE 110 General Chemistry I	4			
11	Quantitative	MAT* 185 Trigonometry (NVCC) MAT*186 Precalculus	4	Quantitative Reasoning: MAT 133 Precalculus	4			
12	Historical Knowledge	Gen Ed Elective	3	Critical Thinking	3			
13	Social Phenomena	Gen Ed Elective	3	Information Literacy	3			
14	Aesthetic Dimensions	Gen Ed Elective	3	Creative Process				
15	Section B							
16	Competency:	Gen Ed Elective	3	Oral Communication	3			
17	Competency:	Gen Ed Elective		General Education Elective / Exploration	3			
18	Framework30 Credits (30-31): 33							
19		Pa	athway	30				
20		Additional Gen	eral Ed	ucation Courses				
21	Students complete a two-part general education curriculum: Part I (Foundations) addresses lifelong learning in and through 10 competencies. Part II (Explorations) requires students to complete a minimum of 40 credits outside their major. Students must also repeat three different competencies, excluding writing and first-year navigation.  In the Framework30 portion of the transfer degree, students who complete a TAP degree will receive credit for having met 9 competencies in Foundations, including at least one repeat (Scientific Inquiry), and 30 of the 40 credits of Explorations.							
22	Select one	y,, and 30 of the 40 credits (	3-4	Will be received as	3-4			

	Additional General Education I:		1. General Education Elective /	
	Creativity		Second Exposure to Creative	
	2. Additional General Education II:		Process; if outside the major,	
	Global Knowledge		will also count toward the	
	3. MAT 254 Calculus I		Explorations requirement	
			2. Intercultural Competence; if	
			outside the major, will also	
			count toward the	
			Explorations requirement	
			3. MAT 181 Calculus I (line 43)	
23			General Education Elective /	3
			Second Exposure – must	3
			complete 3 in total.	
24			Intercultural Competence	3
25			Health and Wellness	3
26			A foreign language is required	3
			for this major. Follow this link	
			and click on the program sheet	
			for requirements. Three credits	
			of foreign language may count as	
			fulfilling Intercultural	
			Competence.	
27		1	Must be taken at WCSU:	
28		Y	Written Communication III—	0
			embedded in a major course	
29			Culminating Gen Ed Experience –	0
			may be satisfied by a major	
			capstone	
30	General Education Credits:	40-41		49-50
31	Major P	rogram	Courses	
32	BIO*122 General Biology II	4	BIO 104 General Biology II	4
33	CHE*122 General Chemistry II	4	CHE 111 General Chemistry II	4
34	,		BIO 205 Animal Physiology	4
34			BIO 200 Ecology	4
35	Select two courses	8	Will be received as	-
	1. BIO 208 (HCC) Forensic Science with		1. BIO 205, line 43	
	Lab			
	2. BIO 211 (ACC, CCC, GCC, HCC, MCC,		2. BIO 110, line 43	
	MXCC, NVCC, NCCC, NCC, QVCC,		2. 510 110, mic 43	
	TRCC, TXCC) Anatomy & Physiology I			
	, , ,		2 BIO 111 line 42	
	3. BIO 212 (ACC, CCC, GCC, HCC, MCC,		3. BIO 111, line 43	
	MXCC, NVCC, NCCC, NCC, QVCC,			
	TRCC, TXCC) Anatomy & Physiology II		4 DIO 2004 line 42	
1		ı	4. BIO 2xx, line 43	
	4. BIO 220 (ACC, MCC (Cross listed with		,	
	CHE 220 at MCC) Biochemistry		·	
			5. BIO 2xx, line 43	

	6. BIO 225 (NVCC) Intro to		6. BIO 2xx, line 43	
	Biotechnology		0. Bio 2xx, iiile 43	
	7. BIO 227 (NVCC) Biotechnology II		7. BIO 2xx, line 43	
	8. BIO 235 (ACC, CCC, GCC, HCC, MCC,		8. BIO 215, line 43	
			6. BIO 215, IIIIe 45	
	MXCC, NVCC, NCCC, NCC, QVCC,			
	TRCC, TXCC) Microbiology		0 BIO 220 line 42	
	9. BIO 262 (GCC, MCC, NVCC, TRCC) Genetics and Lab		9. BIO 220, line 43	
	10. BIO 263 (MXCC, NCCC)Molecular		10. BIO 2xx, line 43	
	Genetics		11. BIO 2xx, line 43	
			11. BIO 2xx, IIIIe 45	
	11. BIO 264 (QVCC) Molecular and		12 PIO 200 line 24	
	Cellular Biology 12. BIO 270 (MXCC, NCCC, QVCC, TRCC)		12. BIO 200, line 34	
	· · · · · · · · · · · · · · · · · · ·		12 BIO 200 line 42	
	Ecology 13. BIO 272 (NCC) Marine Ecology		13. BIO 2xx, line 43 BIO 2xx, line 43	
	. ,		BIO 2xx, lifle 43	
26	BIO 275 (QVCC) Entomology		DIO 200 Call Biology	4
36 37			BIO 300 Cell Biology BIO 312 Genetics	4
38			BIO 325 Evolutionary Biology	3
39			BIO 360 Scientific	2
40			Communication	2
40			BIO 480 Group Senior	3
			Research <i>or</i> BIO 490 Senior	
44	DUNA 424 Consist Bloods I / DUN 224	<b>X</b>	Research	
41	PHY* 121 General Physics I / PHY 221		PHY 110 General Physics I with	
	Calculus Based Physics I	4	Calculus (line 43)	
	0.0		OR	4
	OR		CHE 210 Organic I	4
42	CHE*211 Organic Chemistry I PHY* 122 General Physics II / PHY 222		DUV 111 Con and Dhysica II with	
42			PHY 111 General Physics II with	
	Calculus Based Physics II	4	calculus (line 43)	
	OR	4	OR	4
	CHE*212 Organic Chemistry II		CHE 211 Organic II	4
43	CHE 212 Organic Chemistry II		Science/Math Approved	14
45			Electives, chosen with	14
			department approval.	
44			acparament approval.	
45	Program Course Credits:	20		62
46		en Elect	ivas	
	•	EII EIECL	IVES	
47	Students who have fulfilled foreign			
	language requirements in high school or			
	who use open elective credits at the			
	community college to fulfill foreign			
	language requirements will end up with			
48	more open elective credits at WCSU.			0.0
48	Open Elective credits:			8-9

49	Total Credits at the Community College	60-61	Total Credits for the 4-Year	120
			Degree	

#### Transfer Pathway and Degree Program Western Connecticut State University Biology – Ecological Option, B.A.

1	(	Community Colleges:		WCSU			
2			Credits		Credits		
3		Fra	mewor	k30			
4		General Education Requirements					
5	Competency:						
6	Section A						
7	Written I	ENG*101 English	3	Writing	3		
		Composition					
8	Written II	Gen Ed Elective	3	Writing II	3		
9	Scientific Reasoning	BIO*121 General Biology	4	Scientific Inquiry: BIO 103	4		
		I		General Biology I			
10	Scientific Knowledge	CHE*121 General	4	General Education Elective /	4		
		Chemistry I		Second Exposure to Scientific			
			<b>Y</b>	Inquiry: CHE 110 General			
				Chemistry I			
11	Quantitative	MAT* 185 Trigonometry	4	Quantitative Reasoning: MAT	4		
		(NVCC)		133 Precalculus			
		MAT*186 Precalculus					
12	Historical Knowledge	Gen Ed Elective	3	Critical Thinking	3		
13	Social Phenomena	Gen Ed Elective	3	Information Literacy	3		
14	Aesthetic Dimensions	Gen Ed Elective	3	Creative Process			
15	Section B						
16	Competency:	Gen Ed Elective	3	Oral Communication	3		
17	Competency:	Gen Ed Elective	3	General Education Elective /	3		
				Exploration			
18	Framework30 C	redits (30-31):			33		
19		Pa	athway	30			
20		Additional Gen	eral Ed	ucation Courses			
21	Students comple	rte a two-part general educe	ation curr	iculum: Part I (Foundations) addres.	ses life-		
				(Explorations) requires students to			
	0			r. Students must also repeat three	different		
		xcluding writing and first-ye	•	·			
		<u> </u>					

	In the Framework30 portion of the transfer degree, students who complete a TAP degree will			
	receive credit for having met 9 competencies in Foundations, including at least one repeat			
	(Scientific Inquiry), and 30 of the 40 credits of			
22	Select one	3-4	Will be received as	
	Additional General Education I:		1. General Education Elective /	
	Creativity		Second Exposure to Creative	
	2. Additional General Education II:		Process; if outside the major,	
	Global Knowledge		will also count toward the	
	3. MAT 254 Calculus I		Explorations requirement	
			2. Intercultural Competence; if	
			outside the major, will also	
			count toward the	
			Explorations requirement	
			3. MAT 181 Calculus I (line 43)	
23			General Education Elective /	3
			Second Exposure – must	
			complete 3 in total.	
24			Intercultural Competence	3
25			Health and Wellness	3
26			A foreign language is required	3
			for this major. Follow this <u>link</u>	
		/	and click on the program sheet	
			for requirements. Three credits	
			of foreign language may count as	
			fulfilling Intercultural	
			Competence.	
27			Must be taken at WCSU:	_
29			Written Communication III—	0
			embedded in a major course	
30			Culminating Gen Ed Experience –	0
			may be satisfied by a major	
24	Consul Education Condition	40.44	capstone	40
31	General Education Credits:	40-41	Courses	49
	<u> </u>		Courses	<b>A</b>
33	BIO*122 General Biology II	4	BIO 104 General Biology II	4
34	CHE* 122 General Chemistry II	4	CHE 111 General Chemistry I	4
35	Calanthus		BIO 205 Animal Physiology	4
36	Select two courses	8	Will be received as	
	1. BIO 208 (HCC) Forensic Science with		1. BIO 205, line 43	
	Lab		3 PIO 110 line 43	
	2. BIO 211 (ACC, CCC, GCC, HCC, MCC,		2. BIO 110, line 43	
	MXCC, NVCC, NCCC, NCC, QVCC,			
	TRCC, TXCC) Anatomy & Physiology I		3 PIO 111 line 42	
	3. BIO 212 (ACC, CCC, GCC, HCC, MCC,		3. BIO 111, line 43	
	MXCC, NVCC, NCCC, NCC, QVCC,			
	TRCC, TXCC) Anatomy & Physiology II			

	MXCC, NVCC, NCCC, NCC, QVCC, TRCC, TXCC) Microbiology			
9	BIO 262 (GCC, MCC, NVCC, TRCC)		9. BIO 220, line 43	
1	Genetics and Lab  LO. BIO 263 (MXCC, NCCC)Molecular		10. BIO 2xx, line 43	
	Genetics		11. BIO 2xx, line 43	
	11. BIO 264 (QVCC) Molecular and		42 PIO 200 line 24	
1	Cellular Biology 12. BIO 270 (MXCC, NCCC, QVCC, TRCC)		12. BIO 200, line 34	
	Ecology		13. BIO 2xx, line 43	
	13. BIO 272 (NCC) Marine Ecology		14. BIO 2xx, line 43	
	L4. BIO 275 (QVCC) Entomology			_
37		-	BIO 216 Microbiology	4
38			BIO 200 Ecology	4
37			11-12 credits of Biology Major Electives, 200-level or above.	11-12
39		<b>&gt;</b>	BIO 312 Genetics	4
40	$\overline{}$		BIO 325 Evolutionary Biology	3
41	$\sim$		BIO 360 Scientific	2
			Communication	_
42			BIO 320 Conservation Ecology or	3-4
			BIO 450 Population	
			Ecology or BIO 475 Climate	
	<u> </u>		Ecology	
43			BIO 480 Group Senior	3
			Research <i>or</i> BIO 490 Senior	
			Research	
	PHY* 121 General Physics I / PHY 221 Calculus Based Physics I or CHE*211 Propose Chamistry I	8	Physical Science / Math Electives	12
	Organic Chemistry I PHY* 122 General Physics II / PHY 222			
	Calculus Based Physics II or CHE*212			
	Organic Chemistry II			
45			MAT 115 Biostatistics	3
1 1			OR	
				1
			MAT 120 Elementary Statistics	
46 <b>P</b>	Program Course Credits:	20	MAT 120 Elementary Statistics	57-59

48	Students who have fulfilled foreign language requirements in high school or who use open elective credits at the community college to fulfill foreign language requirements will end up with more open elective credits at WCSU.			
49	Open Elective credits:	0		11-14
50	Total Credits at the Community College	60-61	Total Credits for the 4-Year	120
			Degree	



## Credits Remaining in the four-year degree General Biology B.S.

All biology courses must be completed with a C- or above.

1	Central Connecticut State University	
2	Remaining General Education Courses	
3	Course	Credits
4	One of the requirements in lines 5, 6, and 7 will have been met at the community	
	college.	
5	Study Area I – Arts and Humanities – If not met at the community college	0-3
6	Study Area II – Social Sciences – If not met at the community college	0-3
7	Skill Area II – Math/Stat/ Comp Sci – MATH 152 Calculus I – If not met at the	0-4
	community college	
8	Study Area III – Behavioral Sciences	3
9	Study Area I – Literature	3
10	Skill Area III – Foreign Language Proficiency. See requirements here. If the	6
	requirement has been met in whole or in part, general education and open elective	
	credits will adjust accordingly.	
11	General Education Credits	18-19
12	Remaining Major Program Requirements	
13	Course	Credits
14	PHY 121 General Physics For Fdns of Organic Chemistry/Lab (CHEM 210/211);	4
	whichever was not taken at CC	
15	PHY 122 General Physics II (if not taken at CC)	(4)
16	BIO 200 Integrative Biology (If BIO 225 Introduction to Biotechnology (NVCC) or BIO	(4)
	270 Ecology (MXCC, NCCC, QVCC, TRCC) was not taken at the community college.)	
17	BIO 290 Biology Research Experience I	2
18	8-13 credits of BIO electives to add up to 32 total credits in BIO/BMS courses (except	8-13
	for BIO 211)	
19	BIO 390 Biology Research Experience II	1-6
	or 391 Internship in Biology	
20	Program Course Credits	20-28
21	Minor – A minor is not required for this major.	
22	Remaining Open Electives	
23	Courses	Credits
24	Open Elective credits	13-22
25	Students who have fulfilled the foreign language requirement in high school or who	
	use open elective credits at the community college to fulfill foreign language and/or	
	minor requirements will end up with more open elective credits at the CCSU.	

26	Total Credits Remaining for the 4-Year Degree	60
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### Credits Remaining in the four-year degree Biology – Ecology, Biodiversity, and Evolutionary Biology B.S.

All biology courses must be completed with a C- or above.

1	Central Connecticut State University	
2	Remaining General Education Courses	
3	Course	Credits
4	One of the requirements in lines 5, 6, and 7 will have been met at the community	
	college.	
5	Study Area I – Arts and Humanities – If not met at the community college	0-3
6	Study Area II – Social Sciences – If not met at the community college	0-3
7	Skill Area II – Math/Stat/ Comp Sci – MATH 152 Calculus I – If not met at the	0-4
	community college	
8	Study Area III – Behavioral Sciences	3
9	Study Area I – Literature	3
10	Skill Area III – Foreign Language Proficiency. See requirements here. If the	6
	requirement has been met in whole or in part, general education and open elective	
	credits will adjust accordingly.	
11	General Education Credits	18-19
12	Remaining Major Program Requirements	
13	Course	Credits
14	PHY 121 General Physics I or CHEM 210/211 Fdns of Organic Chemistry/Lab (whichever	4
	was not taken at CC)	
15	PHY 122 General Physics II (if not taken at CCC)	(4)
16	BIO 200 Integrative Biology (If BIO 225 Introduction to Biotechnology (NVCC) or BIO	(4)
	270 Ecology (MXCC, NCCC, QVCC, TRCC) was not taken at the community college.)	
17	BIO 290 Biology Research Experience I	2
18	Biodiversity Elective – Choose from:	3-4
	BIO 315 Microbial Ecology	
	BIO 322 Vertebrate Zoology	
	BIO 326 Mushrooms, Mosses, &	
	More	
	BIO 327 Vascular Plants	
	BIO 420 Ornithology	
	BIO 421 Marine Invertebrate	
	Biology	
	BIO 425 Biology of Marine and	
	Freshwater Algae	
	BIO 444 Plant Taxonomy	
40	BIO 468	2.4
19	Ecology/Evolution Elective – Choose from:	3-4
	BIO 402 Population Genetics	
	BIO 405 Ecology	
	BIO 434 Ecology of Inland Waters	
	BIO 440 Evolution	

	BIO 480 Animal Behavior	
20	EBE Specialization Electives – Choose from the following to add up to a total of 32	6-11
	credits in BIO courses, not including community college BIO courses that do not	
	transfer as a designated major requirement:	
	BIO 230 Natural History	
	BIO 402 Population Genetics	
	BIO 315 Microbial Ecology	
	BIO 322 Vertebrate Zoology	
	BIO 326 Mushrooms, Mosses &	
	More	
	BIO 327 Vascular Plants	
	BIO 405 Ecology	
	BIO 410 Ecological Physiology	
	BIO 420 Ornithology	
	BIO 421 Marine Invertebrate	
	Biology	
	BIO 425 Biology of Marine &	
	Freshwater Algae	
	BIO 434 Ecology of Inland Waters	
	BIO 438 Aquatic Pollution	
	BIO 440 Evolution	
	BIO 444 Plant Taxonomy	
	BIO 470 Field Studies in Biology	
	BIO 480 Animal Behavior	
	BIO 489 Vertebrate Dissection	
	*BIO 490 Topics in Biology	
	*BIO 491 Advanced Problems in	
	Biology	
	*BIO 499 Undergraduate Thesis in	
	Biology	
	*To be considered in the E/B/E group, these courses must have a topic approved by the	
	E/B/E faculty advisor.	
21	BIO 390 Biology Research Experience II	1-6
	or 391 Internship in Biology	
22		
23	Program Course Credits	19-24
24	Minor – A minor is not required for this major.	
25	Remaining Open Electives	1
26	Courses	Credits
27	Open Elective credits	17-23
28	Students who have fulfilled the foreign language requirement in high school or who	
	use open elective credits at the community college to fulfill foreign language and/or	
	minor requirements will end up with more open elective credits at the CCSU.	
29	Total Credits Remaining for the 4-Year Degree	60

## **Credits Remaining in the four-year degree Biology – Environmental Science B.S.**

All biology courses must be completed with a C- or above.

1	Central Connecticut State University	
2	Remaining General Education Courses	
3	Course	Credits
4	One of the requirements in lines 5, 6, and 7 will have been met at the community	
	college.	
5	Study Area I – Arts and Humanities – If not met at the community college	0-3
6	Study Area II – Social Sciences – If not met at the community college	0-3
7	Skill Area II – Math/Stat/ Comp Sci – MATH 152 Calculus I – If not met at the	0-4
	community college	
8	Study Area III – Behavioral Sciences	3
9	Study Area I – Literature	3
10	Skill Area III – Foreign Language Proficiency. See requirements here. If the	6
	requirement has been met in whole or in part, general education and open elective	
	credits will adjust accordingly.	
11	General Education Credits	18-19
12	Remaining Major Program Requirements	
13	Course	Credits
14	Students will have completed one of the following sequences at the community	7-8
	college, fulfilling either lines 15/16 or 17/18.	
15	PHY 121 General Physics I if PHY 121 General Physics I was not taken at the community	(4)
	college	
16	PHY 122 General Physics II if PHY 122 General Physics II was not taken at the	(4)
	community college	
17	CHEM 210 Foundations of Organic Chemistry and	(4)
	CHEM 211 Foundations of Organic Chemistry Laboratory if CHE 211 Organic Chemistry I	
	was not taken at the community college	
18	IF CHE 212 Organic Chemistry is not taken at the community college:	(3-4)
	CHEM 212 Organic Synthesis and	
	CHEM 213 Organic Synthesis Laboratory	
	OR	
	CHEM 456 Toxicology	(4)
19	BIO 200 Integrative Biology (If BIO 225 Introduction to Biotechnology (NVCC) or BIO	(4)
20	270 Ecology (MXCC, NCCC, QVCC, TRCC) was not taken at the community college.)	2
20	BIO 290 Biology Research Experience I	2
21	BIO 390 Biology Research Experience II	1-6
22	or 391 Internship in Biology	2.4
22	BIO 436 Environmental Resources and Management (3)	3-4
	OR PIO 438 Aquatic Pollution (4)	
23	BIO 438 Aquatic Pollution (4) Choose one:	3-4
23		3-4
	BIO 315 Microbial Ecology	1

	BIO 322 Vertebrate Zoology	
	BIO 326 Mushrooms, Mosses, &	
	More	
	BIO 327 Vascular Plants	
	BIO 420 Ornithology	
	BIO 421 Marine Invertebrate	
	Biology	
	BIO 425 Biology of Marine and	
	Freshwater Algae	
	BIO 444 Plant Taxonomy	
24	Choose one:	3-4
	BIO 331 Neurobiology	
	BIO 410 Ecological Physiology	
	BIO 412 Human Physiology	
	(BIO 413 Human Physiology Laboratory is optional)	
	BIO 449 Plant Physiology	
25	Choose one:	4
	BIO 405 Ecology	
	BIO 434 Ecology of Inland Waters	
26	CHEM 406 Environmental Chemistry	3
27	Choose one:	3-4
	ESCI 121 Physical Geology	
	ESCI 450 Environmental Geology	
28		
29	Program Course Credits	29-43
30	<b>Minor</b> – A minor is not required for this major.	
31	Remaining Open Electives	
32	Courses	Credits
33	Open Elective credits	0-13
34	Students who have fulfilled the foreign language requirement in high school or who	
	use open elective credits at the community college to fulfill foreign language and/or	
	minor requirements will end up with more open elective credits at the CCSU.	
35	Total Credits Remaining for the 4-Year Degree	60-62

### Credits Remaining in the four-year degree Biology B.A.

Both BIO 220 and BIO 230 must be successfully completed with a grade of C- or better before starting on the required upper-level courses.

1	Eastern Connecticut State University	
2	Remaining General Education Courses	
3	Course	Credits
4	Two of the first four below must be completed at ECSU. One of the T2 requirements	
	may have been completed at the community college.	
5	T2 Cultural Perspectives	3
6	T2 Individuals and Societies	3
7	T2 Creative Expressions	3
8	T2 Applied Information Technologies – must be MAT 216 Statistical Data Analysis if	3
	Calculus I was not taken at the community college	
9	T3 Capstone – BIO 466 Senior Seminar	3
10	Foreign Language Proficiency:	6
	See requirements here. If the requirement has been met in whole or in part, general	
	education and open elective credits will adjust accordingly.	
11	General Education Credits	18-21
12	Remaining Major Program Requirements	•
13	Course	Credits
14	PHY 204 General Physics I with Lab	(4)
	(if PHY was not taken at CC)	
15	BIO 220 Cell Biology	4
16	BIO 230 Genetics	4
17	EES 104 Dynamic Earth	4
18	300's or 400's level <b>Cell and Molecular Biology</b> elective from the following (if	4
	BIO*235 was not taken at CC) or any 300's or 400's level Biology Elective:	
	BIO 330 Cell Biology w/Lab	
	BIO 420 Microscopy w/Lab	
	BIO 422 Research Methods Molecular Bio w/Lab	
	BIO 424 Biological Chemistry w/Lab	
	BIO 426 Biology of Cancer	
	BIO 428 Virology w/Lab	
	BIO 430 Endocrinology w/Lab	
	BIO 432 Histology w/Lab	
	BIO 434 Developmental Biology w/Lab	
	BIO 436 Molecular Genetics w/Lab	
	BIO 438 Plant Physiology w/Lab	
	BIO 450 Biotechnology w/Lab	
	BIO 458 Regenerative Medicine w/Lab	
19	300's or 400's level <b>Population Biology and Ecology</b> elective from the following:	4
	BIO 320/360 Tropical Biology and	
	Tropical Ecosystems	

	BIO 319/320 Oceanic Island Ecology and Tropical Biology	
	BIO 440 Aquatic Biology w/Lab	
	BIO 442 Plant Ecology w/Lab	
	BIO 444 Population/Community Ecology w/Lab	
	BIO 446 Terrestrial Ecology w/Lab	
	BIO 452 Conservation Biology w/Lab	
	BIO 454 Biological Invasions w/Lab	
	BIO 456 Marine Ecology w/Lab	
20	300's or 400's level <b>Organismal Biology</b> elective from the following:	4
	BIO 324 Entomology w/Lab	
	BIO 332 Biology of Plants w/Lab	
	BIO 334 General Microbiology w/Lab	
	BIO 336 Invertebrate Biology	
	BIO 338 Vertebrate Biology w/Lab	
	BIO 340 Parasitology w/Lab 4	
	BIO 346 Animal Behavior w/Lab	
	BIO 348 Functional Human Anatomy w/Lab	
	BIO 350 Human Physiology w/Lab	
	BIO 448 Physiological Ecology w/Lab	
21	300's or 400's level Biology Elective	8
22	Program Course Credits	32-36
23	Remaining Open Electives	
24	Courses	Credits
25	Open Elective credits	3-10
26	Students who have fulfilled foreign language requirements in high school or who	
	use open elective credits at the community college to fulfill foreign language	
	requirements will end up with more open elective credits at ECSU.	
27	Total Credits Remaining for the 4-Year Degree	60

### Credits Remaining in the four-year degree Biology B.S.

Both BIO 220 and BIO 230 must be successfully completed with a grade of C- or better before starting on the required upper-level courses.

1	Eastern Connecticut State University	
2	Remaining General Education Courses	
3	Course	Credits
4	Two of the first four below must be completed at ECSU. One of the T2 requirements	
	may have been completed at the community college.	
5	T2 Cultural Perspectives	3
6	T2 Individuals and Societies	3
7	T2 Creative Expressions	3
8	T2 Applied Information Technologies – MAT 216 Statistical Data Analysis if taken for line 20	3
9	T3 Capstone – BIO 466 Senior Seminar	3
10	Foreign Language Proficiency (Can be met with three years of the same foreign	6
	language in high school or the completion of a second semester at the college level.	
	Credits will adjust accordingly.)	
11	General Education Credits	18-21
12	Remaining Major Program Requirements	
13	Course	Credits
14	CHE 216 Organic Chemistry I w/Lab (if not taken at the CC)	(4)
15	PHY 204 General Physics I with Lab	(4)
	OR OR	
	PHY 208 Physics I with Calculus w/Lab	
	(if PHY was not taken at CC)	
16	Lines 14 and 15 will add up to 4-8 credits.	4
17	BIO 220 Cell Biology	4
18	BIO 230 Genetics	4
19	MAT 243 Calculus I w/Technology (if not taken at the CC)	0-4
20	One of the following:	0, 3 or
	MAT 244 Calculus II w/Technology	4
	MAT 216 Statistical Data Analysis – if chosen, counts as T2 Applied Information	
	Technologies – see line 8	
	BIO 378 Biology Research and Data Analysis	
21		
22	300's or 400's level <b>Cell and Molecular Biology</b> elective from the following (if BIO*235	4
	was not taken at CC) or any 300's or 400's level Biology Elective:	
	BIO 330 Cell Biology w/Lab	
	BIO 420 Microscopy w/Lab	
	BIO 422 Research Methods Molecular Bio w/Lab	
	BIO 424 Biological Chemistry w/Lab	
	BIO 426 Biology of Cancer	
	BIO 428 Virology w/Lab	

	DIO 420 Fu de suite al a mondi al la	
	BIO 430 Endocrinology w/Lab	
	BIO 432 Histology w/Lab	
	BIO 434 Developmental Biology w/Lab	
	BIO 436 Molecular Genetics w/Lab	
	BIO 438 Plant Physiology w/Lab	
	BIO 450 Biotechnology w/Lab	
	BIO 458 Regenerative Medicine	
23	300's or 400's level <b>Population Biology and Ecology</b> elective from the following:	4
	BIO 320/360 Tropical Biology and Tropical Ecosystems	
	BIO 319/320 Oceanic Island Ecology and Tropical Biology	
	BIO 440 Aquatic Biology w/Lab	
	BIO 442 Plant Ecology w/Lab	
	BIO 444 Population/Community Ecology w/Lab	
	BIO 446 Terrestrial Ecology w/Lab	
	BIO 452 Conservation Biology w/Lab	
	BIO 454 Biological Invasions w/Lab	
	BIO 456 Marine Ecology w/Lab	
24	300's or 400's level <b>Organismal Biology</b> elective from the following:	4
	BIO 324 Entomology w/Lab	
	BIO 332 Biology of Plants w/Lab	
	BIO 334 General Microbiology w/Lab	
	BIO 336 Invertebrate Biology w/Lab	
	BIO 338 Vertebrate Biology w/Lab	
	BIO 340 Parasitology w/Lab	
	BIO 344 General Mycology w/Lab	
	BIO 346 Animal Behavior w/Lab	
	BIO 348 Functional Human Anatomy w/Lab	
	BIO 350 Human Physiology w/Lab	
	BIO 448 Physiological Ecology w/Lab	
25	300's or 400's level Biology Elective	8
26	Program Course Credits	32-40
27	Remaining Open Electives	
28	Courses	Credits
29	Open Elective credits	0-10
30	Students who have fulfilled foreign language requirements in high school or who use	
	open elective credits at the community college to fulfill foreign language	
	requirements will end up with more open elective credits at ECSU.	
31	Total Credits Remaining for the 4-Year Degree	60-61

# Credits Remaining in the four-year degree Biology B.A.

Students must complete 2 "W" courses at SCSU.

1	Southern Connecticut State University	
2	Remaining General Education Courses	
3	Course	Credits
4	One additional general education requirement may be fulfilled at the community	
	college. Students will need to complete 3 of these four areas	
5	American Experience	0-3
6	Creative Drive	0-3
7	Global Awareness	0-3
8	Mind and Body	0-3
9		
10	Tier 3 Connections Capstone	3
11	General Education Credits	9-12
12	Remaining Major Program Requirements	
13	Course	Credits
14		
15	BIO 220 Genetics (If BIO 262 Genetics and Lab or BIO 263 Molecular Genetics was not	(4)
	taken at the community college.)	
16	Select one Entry Level Anatomy/Physiology	4
	BIO 230 – Plant Anatomy and Morphology or	
	BIO 231 – Comparative Vertebrate Anatomy or	
	BIO 235 - Histology	
17	Select one Upper Level Anatomy/Physiology	4
	BIO 301 – Physiology or	
	BIO 401 – Animal Physiology or	
	BIO 420 – Plant Physiology or	
40	BIO 454 – Brain Anatomy and Transmission	(2.4)
18	Select one Entry Level Cell/Molecular Biology – if one of the following was not taken at	(3-4)
	the community college:	
	BIO 208 Forensic Science with Lab	
	BIO 222 Molecular Biotechniques	
	BIO 225 Introduction to Biotechnology BIO 235 Microbiology	
	BIO 264 Molecular and Cellular Biology	
	BIO 204 Molecular and Central Biology	
	Then take	
	BIO 205 – Forensic Biology	
	BIO 233 – General Microbiology	
	BIO 236 – Cell Biology	
	BIO 240 – Human Heredity (3 cr)	
	BIO 296 – Genomics I	
19	Select one Upper Level Cell/Molecular Biology	4

		1
	BIO 335 – Pathogenic Microbiology or	
	BIO 360- Plant Growth and Development or	
	BIO 435 – Developmental Biology or	
	BIO 436 – Molecular Biology or	
	BIO 451 – Tissue Culture or	
	BIO 466 – Advanced Molecular and Cell Biology or	
	BIO 467 – Laboratory Course in Biotechnology	
20	Select one Entry Level Biodiversity/ Ecology/ Organismal – If one of the following was	(3-4)
	not taken at the community college:	
	BIO 270 Ecology	
	BIO 272 Marine Ecology	
	BIO 275 Entomology	
	Then take	
	BIO 202 – Ecology or	
	BIO 210 – Environmental Biology and Conservation (3 cr) or	
	BIO 228- Vertebrate Zoology or	
	BIO 229 – Invertebrate Zoology or	
	BIO 250 – Plant Taxonomy and Systematics	
21	Select one Upper Level Biodiversity/ Ecology/ Organismal	3-4
	BIO 334 – Microbial Ecology or	
	BIO 337 – Medically Important Arthropods (3 cr) or	
	BIO 427 – Entomology or	
	BIO 429 – Limnology or	
	BIO 430 – Marine Ecology or	
	BIO 432 – Mycology or	
	BIO 438 – Aquatic Entomology or	
	BIO 440 – Parasitic Infections (3 cr) or	
	BIO 460 – Paleontology	
22	One other upper level BIO course from upper level lists above OR	3-4
	BIO 497 – In-service Training in Biology	
	HON 495 – Senior Thesis	
	BIO 499 – Independent Study and Research	
23		
24	Program Course Credits	26-32
25	Remaining Open Electives	ı
26	Courses	Credits
27	Open Elective credits	16-25
28		

# Credits Remaining in the four-year degree Biology B.S.

Students must complete 2 "W" courses at SCSU.

1	Southern Connecticut State University	
2	Remaining General Education Courses	
3	Course	Credits
4	One additional general education requirement may be fulfilled at the community	
	college. Students will need to complete 3 of these 4 areas	
5	American Experience	0-3
6	Creative Drive	0-3
7	Global Awareness	0-3
8	Mind and Body	0-3
9		
10	Tier 3 Connections Capstone	3
11	General Education Credits	9-12
12	Remaining Major Program Requirements	
13	Course	Credits
14	PHY 200 General Physics I if not taken at the community college	(4)
15	PHY 201 General Physics II if not taken at the community college	(4)
16	CHEM 260 Organic Chemistry I if not taken at the community college	(4)
17	Lines 13-15 will add up to 4-8 credits	4-8
18		
19	BIO 220 Genetics (If BIO 262 Genetics and Lab or BIO 263 Molecular Biology was not	(4)
	taken at the community college.)	
20	Select one Entry Level Anatomy/Physiology	4
	BIO 230 – Plant Anatomy and Morphology or	
	BIO 231 – Comparative Vertebrate Anatomy or	
	BIO 235 - Histology	
21	Select one Upper Level Anatomy/Physiology	4
	BIO 301 – Physiology or	
	BIO 401 – Animal Physiology or	
	BIO 420 – Plant Physiology or	
	BIO 454 – Brain Anatomy and Transmission	
22	Select one Entry Level Cell/Molecular Biology— if one of the following was not taken at	(3-4)
	the community college:	
	BIO 208 Forensic Science with Lab	
	BIO 222 Molecular Biotechniques	
	BIO 225 Introduction to Biotechnology	
	BIO 235 Microbiology	
	BIO 264 Molecular and Cellular Biology	
	Then take one of	
	BIO 205 – Forensic Biology	
	BIO 233 – General Microbiology	

	BIO 236 – Cell Biology	
	BIO 240 – Human Heredity (3 cr)	
	BIO 296 – Genomics I	
23	Select one Upper Level Cell/Molecular Biology	4
	BIO 335 – Pathogenic Microbiology or	
	BIO 360- Plant Growth and Development or	
	BIO 435 – Developmental Biology or	
	BIO 436 – Molecular Biology or	
	BIO 451 – Tissue Culture or	
	BIO 466 – Advanced Molecular and Cell Biology or	
	BIO 467 – Laboratory Course in Biotechnology	
24	Select one Entry Level Biodiversity/ Ecology/ Organismal – If one of the following was	(3-4)
	not taken at the community college:	(3 1)
	BIO 270 Ecology	
	BIO 272 Marine Ecology	
	BIO 275 Entomology	
	BIO 273 Efficialiology	
	Then take	
	BIO 202 – Ecology or	
	BIO 210 – Environmental Biology and Conservation (3 cr) or	
	BIO 228- Vertebrate Zoology or	
	BIO 229 – Invertebrate Zoology or	
	BIO 250 – Plant Taxonomy and Systematics	
25	Select one Upper Level Biodiversity/ Ecology/ Organismal	3-4
	BIO 334 – Microbial Ecology or	
	BIO 337 – Medically Important Arthropods (3 cr) or	
	BIO 427 – Entomology or	
	BIO 429 – Limnology or	
	BIO 430 – Marine Ecology or	
	BIO 432 – Mycology or	
	BIO 438 – Aquatic Entomology or	
	BIO 440 – Parasitic Infections (3 cr) or	
	BIO 460 – Paleontology	
26	One other upper level BIO course from upper level lists above OR	3-4
	BIO 497 – In-service Training in Biology	
	HON 495 – Senior Thesis	
	BIO 499 – Independent Study and Research	
27	MAT 221 – Intermediate Applied Statistics	4
28		
29	Program Course Credits	31-48
30	Remaining Open Electives	
31	Courses	Credits
32	Open Elective credits	0-20
33		
34	Total Credits Remaining for the 4-Year Degree	60-69

# Credits Remaining in the four-year degree Biology – Professional Option B.A.

1	Western Connecticut State University	
2	Remaining General Education Courses	
3	Course	Credits
4	If not already met, the student must complete enough additional credits to add up to a total of 40 credits outside the major to meet the Explorations requirement. The Framework30 portion of the community college degree meets 30 of the 40 credits.	
	For this program, the student may have completed one additional general education requirement in General Education Elective / Second Exposure to Creative Process or in Intercultural Competence. Either will contribute to the Explorations requirement. See lines 6 and 7.	
5	Health and Wellness	3
6	Intercultural Competency	(3)
7	General Education Elective / Second Exposure (If completed at the community college, then add three credits to Open Electives.) See line 4.	(3)
8	Up to 10 credits for Explorations requirement. See line 4. Lines 5-7 and 9 may contribute to this requirement.	0-10
9	A foreign language is required for this major. Follow this <u>link</u> and click on the program sheet for requirements. Three credits of foreign language may count as fulfilling the Intercultural Competence. Students will receive extra open elective credit at WCSU for any portion of this requirement completed before transferring.	3
10	The following must be taken at WCSU:	
11	Written Comm III – embedded in a major course	0
12	Culminating Gen Ed Experience – may be satisfied by a major capstone	0
13	General Education Credits	9-22
14	Remaining Major Program Requirements	
	Course	Credits
15	BIO 205 Animal Physiology	4
16		
17	BIO 200 Ecology if not taken at the community college	(4)
	Biology Elective – 200-level or above – if Ecology was taken at the community college	(4)
18	A total of 4 credits will be required from lines 17-18.	4
19		
20	BIO 300 Cell Biology	4
21	BIO 312 Genetics	4
22	BIO 325 Evolutionary Biology	3
	BIO 360 Scientific Communication	2
23	BIO 480 Group Senior Research <i>or</i> BIO 490 Senior Research	3
24	CUE 240 Organia Life not taken at the annual transfer and the	/ 4 \
25	CHE 210 Organic I if not taken at the community college	(4)
26	CHE 211 Organic II if not taken at the community college	(4)
27	Science/Math Approved Electives, chosen with department approval.	(2-6)

28	Lines 25-27 will add up to 22 credits; 11 of these credits will have been completed at	11
	the community college, 8 with either the Organic Chemistry sequence or the Physics	
	sequence and 3 with Precalculus, which also fulfills a general education requirement.	
35		
36	Program Course Credits	35
37	Remaining Open Electives	
38	Courses	Credits
39	Open Elective credits	3-26
40	Students who have fulfilled foreign language requirements in high school or who use	
	open elective credits at the community college to fulfill foreign language	
	requirements will end up with more open elective credits at WCSU.	



# Credits Remaining in the four-year degree Biology – Ecological Option B.A.

1	Western Connecticut State University	
2	Remaining General Education Courses	
3	Course	Credits
4	If not already met, the student must complete enough additional credits to add up to a total of 40 credits outside the major to meet the Explorations requirement. The Framework30 portion of the community college degree meets 30 of the 40 credits.	
	For this program, the student may have completed one additional general education requirement in General Education Elective / Second Exposure to Creative Process or in Intercultural Competence. Either will contribute to the Explorations requirement. See lines 6 and 7.	
5	Health and Wellness	3
6	Intercultural Competency	(3)
7	General Education Elective / Second Exposure (If completed at the community college, then add three credits to Open Electives.) See line 4.	(3)
8	Up to 10 credits for Explorations requirement. See line 4. Lines 5-7 and 9 may contribute to this requirement.	0-10
9	A foreign language is required for this major. Follow this <u>link</u> and click on the program sheet for requirements. Three credits of foreign language may count as fulfilling the Intercultural Competence. Students will receive extra open elective credit at WCSU for any portion of this requirement completed before transferring.	3
10	The following must be taken at WCSU:	
11	Written Comm III – embedded in a major course	0
12	Culminating Gen Ed Experience – may be satisfied by a major capstone	0
13	General Education Credits	9-22
14	Remaining Major Program Requirements	
15	Course	Credits
16	BIO 205 Animal Physiology	4
17	BIO 216 Microbiology if not taken at the community college	(4)
18	BIO 200 Ecology if not taken at the community college	(4)
19	11-12 credits of Biology Major Electives, 200-level or above. 4-8 of these credits may have been taken at the community college.	(3-12)
20	Students will have 11-12 credits of lines 16-18 remaining. Courses will depend upon the choices made at the community college.	11-12
21	BIO 312 Genetics	4
22	BIO 325 Evolutionary Biology	3
23	BIO 360 Scientific Communication	2
24	BIO 320 Conservation Ecology or BIO 450 Population Ecology or BIO 475 Climate Ecology	3-4
25	BIO 480 Group Senior Research or BIO 490 Senior Research	3
26	3-4 credits in Physical Sciences/Math Courses, chosen from: All BIO courses 200 level or above	3-4

33	Total Credits Remaining for the 4-Year Degree	60-61
	requirements will end up with more open elective credits at WCSU.	
	open elective credits at the community college to fulfill foreign language	
32	Students who have fulfilled foreign language requirements in high school or who use	
31	Open Elective credits	0-15
30	Courses	Credits
29	Remaining Open Electives	
28	Program Course Credits	36-39
	MAT 120 Elementary Statistics	
	OR	
27	MAT 115 Biostatistics	3
	CS 143 Visual BASIC (3)	
	CS 140 Introduction to Programming	
	ES 110 Physical Geography	
	MTR 150 Meteorology	
	AST 150 General Astronomy	
	PHY 121 General Physics II	
	PHY 120 General Physics I	
	PHY 111 General Physics II w/Calculus	
	PHY 110 General Physics I w/Calculus	
	MAT 181 Calculus I – if not taken at the community college  MAT 182 Calculus II	
	MAT 171 Calculus I with Review	
	MAT 170 Calculus of Polynomials (3)	
	All CHE courses 200 level or above	