

**ACADEMIC PROGRAM ARTICULATION AGREEMENT BETWEEN
CARROLL COMMUNITY COLLEGE
AND STEVENSON UNIVERSITY
A.S. ENGINEERING TO B.S. BIOMEDICAL ENGINEERING**

This Academic Program Articulation Agreement (“Agreement”) is entered into by and between **Carroll Community College** (the “Sending Institution”) and Stevenson University the “Receiving Institution”) (collectively, the “Institutions”) to facilitate the transfer of academic credits from the **A.S. in Engineering** for the completion of the **B.S. in Biomedical Engineering** (the “Program(s)”).

A. Qualifying Students

This Agreement pertains to the transfer of “Qualifying Students”, *i.e.*, those students who:

1. Have successfully completed the program at the Sending Institution;
2. Are enrolled in the Sending Institution, in good standing; and
3. Are accepted for admission to the Receiving Institution

B. Responsibilities of the Institutions

The Institutions agree to implement the transfer of Qualifying Students in accordance with applicable law and the following requirements and protocols:

1. A Qualifying Student may transfer into from the Transferring Institution into the Receiving Institution for the completion of the Program.
2. Courses that the Receiving School will accept credits for towards completion of the Program include:

Community College Degree Requirements	Stevenson Equivalency	Category	Credits Transferred
ENGR 100 – Introduction to Engineering	BME 101 Introduction to Biomedical Engineering	Program Requirement	3
CHEM 105 – Principles of General Chemistry 1/L	CHEM 115/115L General Chemistry	Program Requirement	4
CHEM 106 – Principles of General Chemistry 2/L	CHEM 116/116L General Chemistry II	Program Requirement	4
CHEM 201 – Organic Chemistry 1/L	CHEM 210 Organic Chemistry I/CHEM 210L Organic Chemistry I	Program Requirement	5
ENGL 101 – College Writing 1	ENG 151 General Education	General Elective	3
MATH 135 – Calculus of a single variable 1	MATH 220 Calculus I	Program Requirement	4
MATH 136 – Calculus of a single variable 2	MATH 221 Calculus II	Program Requirement	4
MATH 205 – Multivariable calculus	MATH 222 Calculus III	Program Requirement	4
PHYS 111 – Physics I for Scientists and Engineers	PHYS 215 General Physics I	Program Requirement	4

Community College Degree Requirements	Stevenson Equivalency	Category	Credits Transferred
PHYS 212 – Physics 2 for Scientists and Engineers	PHYS 216 General Physics II	Program Requirement	4
Electives: SU Recommends: <ul style="list-style-type: none"> • MATH 215 – Differential equations (4) • BIOL 101 – Fundamentals of Biology (4) • ENGR 102 – Statics (3) – or -- CIS 132 – Principles of programming (3) 	<ul style="list-style-type: none"> • MATH 321 Introduction to Differential Equations • BIO 113 General Biology I: Cell Biology and Genetics and Biology 113L • General Elective 	<ul style="list-style-type: none"> • Program Requirement • Program Requirement • General Elective 	11
Gen Ed requirements (2 – Arts & Humanities, 1 - Diversity, 1 - Social & behavioral Science) SU Recommends: ENGL 102 Writing about literature	ENG 152 College Writing II	General Education Requirement (Second Composition Course)	10
Total	60 Credits Please note: A minimum of 60 credits are needed for the associate's degree		

Remaining Courses to be taken at Stevenson

Students who complete the plan above including all recommended courses and earn the A.S in Engineering at Carroll Community College will take the following courses at Stevenson to meet the B.S. in Biomedical Engineering requirements. Students who transfer before completing the associate degree may have more general education and program requirements to take and fewer free electives.

General Education Requirements (0 credits)

Total Major Requirements (52-54 credits)

SCI 215 Writing in the Sciences, 3 credits

BME 205 Problem Solving and Design, 4 credits

BME 210 Thermodynamics, 3 credits

BME 230 Biofluids, 3 credits

BME 314 Biostatistics, 3 credits

BME 315 Biomaterials, 4 credits

BME 320 Clinical Immersion, 3 credits

BME 335 Instrumentation, 3 credits

BME 340 Systems Physiology, 4 credits

BME 380 Biomechanics, 4 credits

BME 470/475 Biomedical Engineering Design Capstone I & II*, 6 credits

Basic Science Electives (2 courses), choose from: (6-8 credits)

BIO 217 Principles of Biochemistry

BIO 222 Human Anatomy

BIO 230 Genetics

BIO 310 Cell Biology

BIO 322 Human Physiology

BIO 330 Molecular Genetics

BIOCH 327 Biochemistry

BICH 427 Advanced Biochemistry
 CHEM 211 Organic Chemistry II/CHEM 211L Organic Chemistry II Laboratory
 CHEM 340 Medicinal and Drug Chemistry

BME electives. Take two courses, choose from: (6 credits)

BME 325 Transport Systems*

BME 330 Bioelectric Systems*

BME 365 Independent Research in Biomedical Engineering*

BME 425 Synthetic Biology*

BME 440 Topics in Biomedical Engineering *

*Courses currently under development. Suitable substitutes will be identified as needed.

Additional Credits Needed: (up to 8 credits)

Up to 8 credits of general electives if needed to meet the 120 credit minimum for the B.S. Degree

Total credits to be taken at SU: 60

Suggested Course Sequence

YEAR 3				
SEMESTER	FALL		SPRING	
RECOMMENDED COURSES	BME 205 Problem Solving and Design	4	Science Elective (2 of 2)	3-4
	BME 314 Biostatistics	3	BME 210 Thermodynamics	3
	BME 380 Biomechanics	4	BME 230 Biofluids	3
	Science Elective (1 of 2)	3-4	BME 320 Clinical Immersion	3
	General Elective	3	SCI 215 Writing in the Sciences	3
CREDITS	17-18 CREDITS		15-16 CREDITS	
YEAR 4				
SEMESTER	FALL		SPRING	
RECOMMENDED COURSES	BME 335 Instrumentation	3	BME 315 Biomaterials	4
	BME 340 Systems Physiology	4	BME 475 BME Design Capstone II	3
	BME Elective (1 of 2)	3-4	BME Elective (2 of 2)	3-4
	BME 470 BME Design Capstone I	3	General elective (if needed)	3
	General elective (if needed)	3		
CREDITS	16-17 CREDITS		13-14 CREDITS	

3. Additional Provisions

- Courses that fulfill program requirements are only eligible for transfer if students have earned a grade of “C” or better. Courses used to fulfill only general education requirements are eligible for transfer if students have earned a grade of “D” or better, with the exception of college composition, which must be passed with a C- or better.
- Students must have a 2.5 cumulative grade point average at time of application.

- Stevenson participates in general education block transfer. Students entering Stevenson with an A.A., A.S., or A.A.T. degree from a Maryland community college will have met all of Stevenson’s general education requirements, with the exception of a second composition course if not already taken. The equivalencies above detail the coursework students would take under the block transfer program. Not all programs are eligible for block transfer.
 - Stevenson University will accept up to 70 credits from 2-year institutions. Up to 90 credits can be applied to degree requirements from a combination of 2-year institutions, 4-year institutions, and non-direct classroom instruction (including CLEP, AP, and other nationally recognized standardized examination scores). For additional information about credit transfer, please see: <http://www.stevenson.edu/admissions-aid/getting-started/transfer-students/transfer-credit-evaluation/>
 - For non-direct classroom instruction, an appropriate score is determined by Stevenson University, and student must submit original test scores/results to Stevenson University. Tech Prep credits will not transfer. Credit awarded for prior learning (“life experience”) is not recognized by, and is not transferable to, Stevenson University.
 - Students intending to transfer should complete the admission application for Stevenson University once they complete 45 credits of the Associate Degree program. Students should contact the Financial Aid Office at Stevenson University as soon as possible in regard to college deadlines for financial aid. Students who have completed an associate degree at a Maryland community college are guaranteed admissions to Stevenson.
4. The Receiving Institution shall designate, and shall provide to the Sending Institution, the contact information for a staff person at the Receiving Institution who is responsible for the oversight of the transfer of Qualifying Students. The Sending Institution shall designate, and shall provide to the Receiving Institution, the contact information for a staff person at the Sending Institution who is responsible for the oversight of the transfer of Qualifying Students.

	Sending Institution	Receiving Institution
Name of staff person responsible for oversight	April Herring	Dave Copenhaver
Title of staff person	Director of Advising and Transfer	Assistant Director of Transfer Admissions
Email address	aherring@carrollcc.edu	wcopenhaver@stevenson.edu
Telephone Number	410-386-8444	(443)352-4409

Should the staff person or position change, the institution will promptly provide new contact information to the partner institution and inform the Maryland Higher Education Commission of the change.

Additional contact information:

[Role & Responsibilities of persons listed here]	Sending Institution	Receiving Institution
Name of person	Tricia Crossett	Amanda Hostalka

Title of person	Program Director, Engineering	Vice Provost, Outreach
Email address	tcrossett@carrollcc.edu	ahostalka@stevenson.edu
Telephone Number	410-386-8529	443-394-9549

5. If the Qualifying Student is using federal Title 38 VA Education Benefits (GI Bill® Education Benefits), the Institutions shall adhere to all applicable U.S. Department of Veterans Affairs' regulations, including the regulations governing the awarding prior credit, as regulated under Title 38, Code of Federal Regulations, Sections 21.4253(d)(3) and 21.4254(c)(4).
 - For scholarship information please see the "Paying for College" page on: <http://www.stevenson.edu/transfer>
6. Each Institution shall adhere to all applicable transfer requirements set forth in the Annotated Code of Maryland and the Code of Maryland Regulations.
7. Each Institution shall advise students regarding transfer opportunities under this Agreement, and shall advise students of financial aid opportunities and implications associated with the transfer.
8. Should either Institution make changes to program requirements, the institution will inform the partner institution immediately. The articulation agreement should be updated to reflect the changes and forwarded to the Maryland Higher Education Commission.

C. Term and Termination

1. This agreement shall be effective on the date that it is signed by the appropriate and authorized representatives of each Institution.
2. Either Institution may, at its sole discretion, terminate this Agreement upon delivering 60 days written notice to the other Institution and the Maryland Higher Education Commission.
3. Both Institutions agree to meet once every 2 year(s) to review the terms of this agreement.

D. Amendment

1. This Agreement constitutes the entire understanding and agreement of the Institutions with respect to their rights and obligations in carrying out the terms of the Agreement, and supersedes any prior or contemporaneous agreements or understandings.
2. This Agreement may be modified only by written amendment executed by both Institutions.

E. Governing Law

This Agreement shall be governed by, and construed in accordance with, the laws of the State of Maryland.

F. Counterparts

This Agreement may be executed in counterparts, each of which shall be deemed to be an original, but all of which, taken together, shall constitute one and the same agreement.

G. Notice of Agreement

1. The Institutions agree to provide a copy of this Agreement, with any amendments, to the Maryland Higher Education Commission.
2. The Institutions agree to provide copies of this Agreement to all relevant individuals and departments of the Institutions, including but not limited to students, academic department chairs participating in the transfer, offices of the president, registrar’s offices, and financial aid offices.

H. No Third-Party Beneficiaries

There are no third-party beneficiaries to this Agreement.

I. Representations and Warranties of the Parties

Both Institutions represent and warrant that the following shall be true and correct as of the Effective Date of this Agreement, and shall continue to be true and correct during the term of this Agreement:

1. The Institutions are and shall remain in compliance with all applicable federal, state, and local statutes, laws, ordinances, and regulations relating to this Agreement, as amended from time to time.
2. Each Institution has taken all action necessary for the approval and execution of this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized representatives.

<p>Carroll Community College</p> <p>By: _____ Dr. Rosalie Mince Vice President of Academic Services and Student Affairs Carroll Community College</p> <p>_____ Date</p>	<p>Stevenson University</p> <p>By: _____ Susan Thompson Gorman, PhD EVP Academic Affairs and Provost</p> <p>_____ Date</p>
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Date of next review (2 years from date of last signature).