

**CECIL COLLEGE  
And  
UNIVERSITY OF DELAWARE**

**PROGRAM ARTICULATION AGREEMENT**

**Associate Degree  
A.S. Biological Sciences, Biomedical Science Concentration**

**Baccalaureate Degree  
B.S./Applied Molecular Biology & Biotechnology**

**2023 through 2027**

**Associate-Baccalaureate Program Articulation Agreement**

**between**

**Cecil College  
and  
University of Delaware  
for**

**A.S. Biological Sciences, Biomedical Science Concentration/  
B.S. Applied Molecular Biology and Biotechnology**

**AGREEMENT**

**WHEREAS** Cecil College (CC) and University of Delaware (UD) are committed to expanding educational opportunities for the citizens of the State of Delaware, and

**WHEREAS** the two institutions are committed to providing a smooth transition for students wishing to earn an associate degree and a baccalaureate degree, and

**WHEREAS** the intent of the two institutions is to avoid duplication of curricula where appropriate within articulated programs of studies, and

**WHEREAS** the two institutions better serve the educational growth of students and the economic development of the community through cooperative educational planning and optimal utilization of community resources,

**BE IT HEREWITH RESOLVED** that this agreement commits the partners to full support of an articulation process between similar academic programs offered by the two institutions.

## **PROVISIONS OF THE AGREEMENT**

- 1. The institutions agree to follow the connected degree curriculums delineated in this document for the transfer of Cecil College's Associate Degree Program in Biological Sciences/Blomedical Science Concentration and the University of Delaware's (UD) Bachelor of Science/Applied Molecular Biology and Biotechnology Degree Program (AMBB).**
- 2. Both institutions will cooperate toward developing, disseminating, and presenting the articulated program information to students.**
- 3. Graduates of the CC program who have completed the associate degree with a cumulative grade point average of 2.50 or higher will automatically be accepted into the baccalaureate program at UD. Students will be considered for admission based on the completed work at the time of the review. CC will provide confirmation of degree completion upon students' final semester of coursework. Students who do not complete the degree program as outlined in the agreement may have admission based on the articulation agreement criteria rescinded, however still may be considered for regular transfer admission based on the totality of their academic record. UD reserves the right to recalculate the CC cumulative grade point average to account for CC's grade forgiveness policy when making admission decisions.**
- 4. Students must complete the courses in the specified associate degree program herein with a grade of C or better to receive the credits for transfer. Students are expected to complete all courses outlined in the CC portion of the agreement at CC. Students who have attended a college or university other than CC and transferred credits to CC in pursuit of the associate degree program may not be admissible via the provisions of this articulation agreement. In such cases, students will be considered based on their entire academic history and not guaranteed admission to the bachelor's degree program or the course equivalencies detailed within the provisions of this agreement. Coursework taken at an institution other than CC may not transfer to UD as noted in the agreement. It is expected that students will complete all coursework in the UD portion of the agreement at UD. Students who previously attended UD are not eligible for admission via an articulation agreement and instead should apply for readmission consideration if wishing to re-enroll at UD.**
- 5. Students intending to transfer should complete the UD admissions application following the third semester of their associate degree program. Students should note on their application that they are applying as part of an articulation agreement/connected degree.**
- 6. Students are subject to all the policies and procedures of both institutions.**

7. Students are subject to all specific policies pertaining to students admitted to the Applied Molecular Biology and Biotechnology Bachelor's Degree Program.
8. This articulation agreement is based on the present curricula contained in this document and it is effective for a period of five years from the date of signing by both parties.
9. Both institutions at any time may initiate changes to this articulation agreement. Both institutions reserve the right to modify the programs as deemed necessary and agree to inform the appropriate individuals of said changes. Departments will review agreements and notify the appropriate individuals at each institution of any changes by July 1 of each year the agreement is in effect. The University of Delaware will make a good faith effort to honor this articulation agreement for any Cecil College student who enrolls in the Biological Sciences, Biomedical Science Concentration Associate Degree program during the five year period specified for this agreement, and graduates with the required associate degree within eight (8) years of the signing of this agreement by both parties. A student who meets these conditions must apply to the University of Delaware and be accepted in order to receive the benefits of this agreement.

# DEGREE ANALYSIS

## Matching Worksheet/Suggested Course Sequence/Bachelor's Completion

| ASSOCIATE DEGREE PROGRAM<br>A.S.<br>CECIL COLLEGE BIOLOGICAL SCIENCES/BIOMEDICAL SCIENCES CONCENTRATION   |           | BACHELOR'S DEGREE COURSE MATCH   |           | BACHELOR'S DEGREE COMPLETION<br>B.S.<br>APPLIED MOLECULAR BIOLOGY & BIOTECHNOLOGY UNIVERSITY OF DELAWARE |           |
|---|-----------|--|-----------|--|-----------|
| Course No./Name<br>First Semester (fall)  | CR<br>17  | Course No./Name  | CR<br>17  | Course No./Name<br>Fifth Semester (fall)   | CR<br>14  |
| EGL101 College Composition  | 3         | ENGL166DE: Department Elective<br>Note: Students who successfully complete and transfer credit for EGL101 and earn an associate degree from Cecil College will be granted an exemption for ENGL110 First Year Writing. This exemption will be posted to the student record upon receipt of a final, official transcript. Note: grades of C- or better are required to transfer credit to UD. | 3         | MMSC301 Introduction to Biotechnology  | 2         |
| BIO130/BIO131 Principles of Biology I lecture/lab   | 3/1       | BISC207 Intro Biology I  | 4         | MMSC415 Clinical Immunology & Medical Virology   | 3         |
| CHM103/CHM113 General Chemistry I lecture/lab   | 3/1       | CHEM103/133 Gen. Chem I lecture/lab  | 3/1       | MMSC408 Molecular Preparatory Techniques   | 2         |
| SOC SCI Social Science Elective (suggest ANT101)  | 3         | ANTH101 Intro to Social & Cultural Anthropology (m/c & HCC breadth requirement)  | 3         | MMSC425 Basic Recombinant DNA Techniques   | 4         |
| ARTS/HUM Arts & Humanities Elective   | 3         | Elective   | 3         | MMSC490 Clinical and Molecular Cell Biology  | 3         |
| <b>Second Semester (spring)</b>   | <b>15</b> |  | <b>15</b> | <b>Sixth Semester (spring)</b>   | <b>17</b> |
| EGL102 Composition & Literature   | 3         | ENGL101 Tools of Textual Analysis (UD CAH)   | 3         | MMSC426 Protein Purification & Characterization  | 3         |
| BIO132/BIO133 Principles of Biology II lecture/lab  | 3/1       | BISC208 Intro Biology II   | 4         | MMSC450 Medical Biochemistry   | 4         |
| CHM104/CHM114 General Chemistry II lecture/lab  | 3/1       | CHEM104/134 Gen Chem II lecture/lab  | 3/1       | MMSC451 Cell and Tissue Culture Techniques   | 4         |
| MAT - Elective (MAT191 or higher; MAT191 = UD's MATH117 Precalc for Scientists & Engineers; 201, 202 & 203 also will satisfy AMBB's math requirement) | 4         | MATH117 Precalculus for Scientists & Engineers; MATH241, 242 & 243, respectively   | 4         | MMSC491 Human Molecular Genetics   | 3         |
| <b>Subtotal</b>   | <b>32</b> |  | <b>32</b> | MMSC492 Application Molecular Diagnostic Tech  | 3         |
|   |           |  |           |  | <b>31</b> |

| ASSOCIATE DEGREE PROGRAM<br>A.S.<br>CECIL COLLEGE BIOLOGICAL SCIENCES/BIO MEDICAL SCIENCES CONCENTRATION |     | BACHELOR'S DEGREE COURSE MATCH   |     | BACHELOR'S DEGREE COMPLETION<br>B.S.<br>APPLIED MOLECULAR BIOLOGY & BIOTECHNOLOGY UNIVERSITY OF DELAWARE |     |
|--|-----|--|-----|--|-----|
| Course No./Name<br>Third Semester (fall)   | CR  | Course No./Name  | CR  | Course No./Name<br>Seventh Semester (fall)   | CR  |
| SPH121 Interpersonal Communication OR<br>SPH141 Public Speaking  | 3   | COMM166DE Dept Elective OR<br>COMM350 Public Speaking, respectively                      | 3   | MMSC200 The Language of Medicine   | 3   |
| SOC SCI Social Science Elective (Options; PSY101,<br>SOC101 or POS201)                                   | 3   | PSYC100 General Psych, SOCI201 Intro Soc<br>OR POSC150 Intro Amer Politics (SBS breadth) | 3   | MMSC375 Stats & Research for Med Lab<br>Scientists   | 2   |
| Concentration Requirement (BIO208/218 Human<br>Anatomy & Physiology I lecture/lab)                       | 3/1 | KAAP309 Human Anatomy & Physiology   | 4   | MMSC435Intro to Genomics, Proteomics &<br>Bioinformatics   | 3   |
| Concentration Requirement (CHM203 Organic<br>Chemistry I with lab)                                       | 4   | CHEM321/325 Organic Chemistry I lecture/lab  | 3/1 | MMSC441 Biotechnology Practicum I  | 3   |
|  |     |  |     | MMSC442 Biotechnology Practicum II   | 3   |
|  |     |  |     | MMSC461 Laboratory Practice & Leadership I   | 1   |
|  | 14  |  | 14  |  | 16  |
| Concentration Requirement (BIO209/219 Human<br>Anatomy & Physiology II lecture/lab)                      | 3/1 | KAAP310 Human Anatomy & Physiology II  | 4   | ANFS449 Food Biotechnology   | 4   |
| Concentration Requirement (CHM204 Organic<br>Chemistry II with lab)                                      | 4   | CHEM322/326 Organic Chemistry II lecture/lab   | 3/1 | HLTH241 Ethical Aspects of Healthcare (CAH<br>breadth)   | 3   |
| Concentration Requirement (BIO200 Microbiology)  | 3   | BISC366 Department Elective  | 3   | MMSC427 Flow Cytometry   | 2   |
| ARTS/HUM Arts & Humanities Elective  | 3   | Elective   | 3   | MMSC443 Biotechnology Practicum III  | 3   |
|  |     |  |     | MMSC444 Biotechnology Practicum IV   | 3   |
|  |     |  |     | MMSC471 Laboratory Practice & Leadership II  | 1   |
| Subtotal   | 28  |  | 28  |  | 31  |
| TOTAL  | 60  |  | 60  | GRAND TOTAL  | 122 |

# ARTICULATED DEGREE CURRICULUM

## Suggested Course Sequence

| ASSOCIATE DEGREE PROGRAM<br>A.S.<br>CECIL COLLEGE BIOLOGICAL SCIENCES/BIOMEDICAL<br>SCIENCES CONCENTRATION |                  |  |           | BACHELOR'S DEGREE COMPLETION<br>B.S.<br>APPLIED MOLECULAR BIOLOGY & BIOTECHNOLOGY<br>UNIVERSITY OF DELAWARE |     |   |           |
|--|------------------|--|-----------|---|-----|---|-----------|
| Semester 1 (Fall)  |                  |  | CR        | Semester 5 (Fall)   |     |   | CR        |
| EGL  | 101              | College Composition  | 3         | MMSC  | 301 | Introduction to Biotechnology                     | 2         |
| BIO  | 130/<br>131      | Principles of Biology I lecture/lab                                      | 3/1       | MMSC  | 415 | Clinical Immunology & Medical Virology            | 3         |
| CHM  | 103/<br>113      | General Chemistry I lecture/lab  | 3/1       | MMSC  | 408 | Molecular Preparatory Techniques                  | 2         |
| XXX  | XXX              | Social Science Elective  | 3         | MMSC  | 426 | Basic Recombinant DNA Techniques                  | 4         |
| XXX  | XXX              | Arts & Humanities Elective   | 3         | MMSC  | 490 | Clinical and Molecular Cell Biology               | 3         |
| Semester 2 (Spring)  |                  |  | 15        | Semester 6 (Spring)   |     |   | 17        |
| ENG  | 102              | Composition & Literature   | 3         | MMSC  | 426 | Protein Purification and Characterization         | 3         |
| BIO  | 132/<br>133      | Principles of Biology II lecture/lab                                     | 3/1       | MMSC  | 450 | Medical Biochemistry                              | 4         |
| CHM  | 104/<br>114      | General Chemistry II lecture/lab   | 3/1       | MMSC  | 451 | Cell and Tissue Culture Techniques                | 4         |
| MAT  | XXX              | Elective (MAT191 or higher)  | 4         | MMSC  | 491 | Human Molecular Genetics                          | 3         |
|  |                  |  |           | MMSC  | 492 | Application of Molecular Diagnostic Technique     | 3         |
| Semester 3 (Fall)  |                  |  | 14        | Semester 7 (Fall)   |     |   | 15        |
| SPH<br>SPH   | 121<br>or<br>141 | Interpersonal Communication or<br>Public Speaking                        | 3         | MMSC  | 200 | Language of Medicine                              | 3         |
| XXX  | XXX              | Social Science Elective  | 3         | MMSC  | 375 | Stats and Research for Med Lab Scientists         | 2         |
| BIO  | 208/<br>218      | Human Anatomy & Physiology I lecture/lab<br>(Concentration Requirement)  | 3/1       | MMSC  | 435 | Intro to Genomics, Proteomics &<br>Bioinformatics | 3         |
| CHM  | 203              | Organic Chemistry I with lab (Concentration<br>Requirement)              | 4         | MMSC  | 441 | Biotechnology Practicum I                         | 3         |
|  |                  |  |           | MMSC  | 442 | Biotechnology Practicum II                        | 3         |
|  |                  |  |           | MMSC  | 461 | Laboratory Practice & Leadership I                | 1         |
| Semester 4 (Spring)  |                  |  | 14        | Semester 8 (Spring)   |     |   | 16        |
| BIO  | 209/<br>219      | Human Anatomy & Physiology II lecture/lab<br>(Concentration Requirement) | 3/1       | ANFS  | 449 | Food Biotechnology                                | 4         |
| CHM  | 204              | Organic Chemistry II with lab (Concentration<br>Requirement)             | 3/1       | HLTH  | 241 | Ethical Aspects of Healthcare                     | 3         |
| BIO  | 200              | Microbiology (Concentration Requirement)                                 | 3         | MMSC  | 427 | Flow Cytometry                                    | 2         |
| XXX  | XXX              | Arts & Humanities Elective   | 3         | MMSC  | 443 | Biotechnology Practicum III                       | 3         |
|  |                  |  |           | MMSC  | 444 | Biotechnology Practicum IV                        | 3         |
|  |                  |  |           | MMSC  | 471 | Laboratory Practice & Leadership II               | 1         |
| <b>Total Credits</b>   |                  |  | <b>60</b> |   |     |   | <b>62</b> |

- The Bachelor of Science program in Applied Molecular Biology & Biotechnology requires a minimum of 122 credits.
- Course sequencing may vary by semester. See your advisor.
- MMSC100 is waived from the AMBB curriculum for students of the articulation agreement.
- Choose from Cecil Social Sciences electives: POS201, PSY101 OR SOC101
- Choose from Cecil Arts & Humanities electives: ART101, ART130, ART140, ART180; EGL102; MUC122; PHI101, PHI201, PHI206
- If CC students complete BIO210 Microbiology Lab (1 credit) with BIO200 Microbiology, these transfer to UD as BISC300 Intro to Microbiology (4 cr)

For more information contact:

### Cecil College

Christine Warwick, MS

Chair of Science & Technology Department

### University of Delaware

Esther Biswas-Floss, PhD

Chair, Medical & Molecular Sciences Department

The articulation agreement is subject to change based on Cecil College and senior institution curriculum changes 10/2022


**APPROVAL**

This program articulation agreement is between Cecil College's Associate of Science Degree in Biology/Biomedical Sciences Concentration and UD's Bachelor of Science Applied Molecular Biology and Biotechnology.

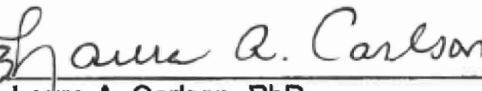
Approval is granted for a period of five years effective on the date both parties have signed this agreement.

**CECIL COLLEGE**

**UNIVERSITY OF DELAWARE**

  
Mary Way Bolt, EdD  
President  
Cecil College


9/13/2023  
Date

  
Laura A. Carlson, PhD  
Provost  
University of Delaware


10/20/2023  
Date

  
Christy Dryer, DNP  
Vice President for Academic Programs


9/13/2023  
Date

  
William Farquhar, PhD  
Dean  
College of Health Sciences

9/21/23  
Date

  
Christine Warwick, MS  
Chair  
Science & Technology Department

9/13/23  
Date

  
Esther E. Biswas-Fiss, PhD  
Chair  
Medical & Molecular Sciences Department

9/13/2023  
Date