

**HARFORD COMMUNITY COLLEGE- Biology A.S. Degree  
TOWSON UNIVERSITY- Biological Sciences B.S. Degree – Organismal Biology and Ecology Concentration**

| HARFORD COMMUNITY COLLEGE   |                                                                                                       |      | TOWSON UNIVERSITY              |          |                                                                |                            |
|-----------------------------|-------------------------------------------------------------------------------------------------------|------|--------------------------------|----------|----------------------------------------------------------------|----------------------------|
| COURSE #                    | COURSE TITLE                                                                                          | CRS. | TU EQUIVALENCY                 | CORE     | COMMENTS                                                       | COURSE ID#                 |
| ENG 101                     | English Composition (GE) (grade of C or better)                                                       | 3    | TSEM 102 (WAIVED)              | 1.       | Towson Seminar                                                 |                            |
| MATH 109 OR<br>MATH 203 *   | Precalculus Mathematics (GM) OR<br>Calculus I (GM)                                                    | 4    | MATH 119<br>MATH 273           | 2.<br>3. | English Composition<br>Mathematics                             | 2348<br>4381<br>4407       |
| GH                          | Arts & Humanities (GH)                                                                                | 3    | Depends on choice.             | 4.       | Creativity & Creative Development                              |                            |
| GB                          | Behavioral/Social Science (GB)                                                                        | 3    | Depends on choice.             | 5.       | Arts & Humanities                                              |                            |
| CHEM 111                    | General Chemistry I (GL)                                                                              | 4    | CHEM 131/131L                  | 6.       | Social & Behavioral Sciences                                   |                            |
| CHEM 112                    | General Chemistry II A (GL)                                                                           | 4    | CHEM 132/132L                  | 7.<br>8. | Biological & Physical Science<br>Biological & Physical Science | 13097/13098<br>13099/13100 |
| GB                          | Behavioral/Social Science (GB) **                                                                     | 3    | Depends on choice.             | 9.       | Advanced Writing Seminar                                       |                            |
| GH                          | Arts & Humanities (GH) **                                                                             | 3    | Depends on choice.             | 10.      | Metropolitan Perspectives                                      |                            |
|                             |                                                                                                       |      |                                | 11.      | The United States as a Nation                                  |                            |
|                             |                                                                                                       |      |                                | 12.      | Global Perspectives                                            |                            |
|                             |                                                                                                       |      |                                | 13.      | Diversity & Difference                                         |                            |
|                             |                                                                                                       |      |                                | 14.      | Ethical Issues & Perspectives                                  |                            |
| Total CORE in Transfer      |                                                                                                       | 27   |                                |          |                                                                |                            |
| MATH 203 OR<br>BIO 202 *    | Calculus I (GM) OR<br>Biology Elective                                                                | 3-4  | MATH 273<br>Depends on choice. |          |                                                                | 4407                       |
| BIO 208                     | Genetics                                                                                              | 4    | BIO 209 (309)                  |          | Transfers as lower level credit.                               | 11379                      |
| BIO 120                     | General Biology I (GL)                                                                                | 4    | BIO 200/200L                   |          |                                                                | 13759/13760                |
| BIO 121                     | General Biology II (GL)                                                                               | 4    | BIO 202                        |          |                                                                | 667                        |
| PHYS 101 OR<br>PHYS 200/203 | Introductory Physics I (GL) OR<br>Gen Phys: Mechanics & Particle Dynamics w/LAB (GL/GS)               | 4    | PHYS 211<br>PHYS 241           |          |                                                                | 6800<br>6805               |
| PHYS 102 OR<br>PHYS 204     | Introductory Physics II (GL) OR<br>Gen Phys: Vibrations, waves, Heat, Electricity &<br>Magnetism (GL) | 4    | PHYS 212<br>PHYS 242           |          |                                                                | 6801<br>6806               |
| CHEM 207                    | Organic Chemistry I                                                                                   | 4    | CHEM T31 (331)                 |          | Transfers as lower level credit.                               | 10134                      |
| CHEM 208                    | Organic Chemistry II                                                                                  | 4    | CHEM T32 (332)                 |          | Transfers as lower level credit.                               | 10135                      |
| PHYS ED ELECT               | Physical Education Elective                                                                           | 1    | PHEA TLL                       |          |                                                                | 10564                      |
| ELECT *                     | Elective                                                                                              | 0-1  | Depends on choice.             |          |                                                                |                            |
|                             | Program Requirements at Harford                                                                       | 33   |                                |          |                                                                |                            |
|                             | Total Program Requirements at Harford                                                                 | 60   |                                |          |                                                                |                            |
|                             | Maximum Credits in Transfer                                                                           | 64   |                                |          |                                                                |                            |

**64 Credit Maximum. 15 Core Curriculum units must be completed at Towson University; 4. Creativity; 9. Advanced Writing Seminar; 10. Metropolitan Perspectives; 12. Global Perspectives; 14. Ethical Issues.**

\* See Course Selection Notes

\*\* One GB or GH course must also satisfy Diversity requirement at HCC.

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**\*Course Selection at HCC:**

Choosing your program electives will depend on whether you are calculus-ready when you enter the Biology Associate of Science program at HCC.

**Students who do NOT require pre-calculus** should take MATH 203 (Calculus I) 4 credits to satisfy the General Education math requirement and program requirement at HCC. MATH 203 will also satisfy Core 3 and the program Math requirement at TU. Please note that students intending to take the calculus-based physics sequence (PHYS 200 & 204 at HCC or PHYS 241 & 242 at TU) must take MATH 203 and MATH 204.

Students who do not require pre-calculus will have 4 credits of program electives to take at HCC. The following options are suggested for satisfying the program elective:

- BIO 202 (Biodiversity). This course transfers as BIOL 208 and will satisfy a Breadth requirement for the major at TU. Students choosing BIO 202 may need to take additional elective credit to meet the required 60 credits for degree at HCC.
- BIO 107 (General Zoology) and BIO 110 (Introduction to Plant Sciences). These courses transfer to TU as BIOL 207 and BIOL 205 respectively and will satisfy a Breadth requirement for the major at TU. Please note that BOTH courses must be completed to satisfy the Breadth requirement. Students transferring with only BIO 107 or BIO 110 will need to complete either BIOL 205 or BIOL 207 at TU to satisfy the Breadth requirement. Students who take both courses at HCC will graduate with more than 60 credits, but will still be able to earn the baccalaureate degree in 120 credits. A maximum of 64 credits will be transferred to TU.

**Students who REQUIRE pre-calculus** should take MATH 109 (Pre-Calculus) to satisfy the General Education math requirement and MATH 203 (Calculus I) as the program elective at HCC. Calculus is required to complete the A.S. degree at HCC and will satisfy the Ancillary Math requirement of the major at TU.

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**CORE REQUIREMENTS TO BE COMPLETED AT TOWSON 15 UNITS**

|          |                                     |         |
|----------|-------------------------------------|---------|
| CORE 4:  | Creativity and Creative Development | 3 Units |
| CORE 9:  | Advanced Writing Seminar            | 3 Units |
| CORE 10: | Metropolitan Studies                | 3 Units |
| CORE 12: | Global Perspectives                 | 3 Units |
| CORE 14: | Ethical Issues and Perspectives     | 3 Units |

**PROGRAM REQUIREMENTS TO BE COMPLETED AT TOWSON 26-41 UNITS**

**FOUNDATION COURSES: 1 UNIT**

BIOL 204 EDUCATIONAL AND CAREER PLANNING FOR THE BIOLOGIST

**BREADTH COURSES: 8-20 UNITS**

- **SELECT ONE OF THE FOLLOWING (if BIO202 or BIO 107 AND BIO 110 were not taken at HCC): (0-8 UNITS)**

BIOL 205 & GENERAL BOTANY AND  
 BIOL 207 GENERAL ZOOLOGY

OR

BIOL 208 BIODIVERSITY

- **SELECT ONE OF THE FOLLOWING: (4 UNITS)**

BIOL 405 MOLECULAR ECOLOGY, EVOLUTION & CONSERVATION  
 BIOL 408 CELL BIOLOGY  
 BIOL409 MOLECULAR BIOLOGY

- **SELECT ONE OF THE FOLLOWING: (4-8 UNITS)**

BIOL 221/221L & HUMAN ANATOMY & PHYSIOLOGY I W/LAB AND  
 BIOL 222/222L HUMAN ANATOMY & PHYSIOLOGY II W/LAB

OR

BIOL 325 ANIMAL PHYSIOLOGY

OR

BIOL 436 PLANT PHYSIOLOGY

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**ELECTIVE COURSES:**

• **PRINCIPLES OF ECOLOGY ELECTIVE:**

**SELECT ONE OF THE FOLLOWING:**

BIOL 310 CONSERVATIVE BIOLOGY  
 BIOL 402 GENERAL ECOLOGY  
 BIOL 406 LIMNOLOGY  
 BIOL 435 PLANT ECOLOGY

• **DIVERSITY ELECTIVE:**

BIOL 334 HUMANS, SCIENCE AND THE CHESAPEAKE BAY  
 BIOL 347 MARINE BIOLOGY  
 BIOL 353 INVERT ZOOLOGY  
 BIOL 371 ANIMAL BEHAVIOR  
 BIOL 413 EVOLUTION  
 BIOL 432 VASCULAR PLANT TAXONOMY  
 BIOL 444 WILDLIFE MANAGEMENT  
 BIOL 446 TROPICAL ECOLOGY AND CONSERVATION  
 BIOL 447 TROPICAL FIELD ECOLOGY  
 BIOL 452 WETLAND ECOLOGY  
 BIOL 455 FISH BIOLOGY  
 BIOL 456 ORNITHOLOGY  
 BIOL 458 MAMMALOLOGY  
 BIOL 461 ENTOMOLOGY  
 BIOL 467 HERPETOLOGY  
 GEOG 221 INTRO TO GEOSPATIAL TECHNOLOGY

• **ORGANISMAL ELECTIVES:**

**SELECT TWO ELECTIVES FROM THE LIST OF PRINCIPLES OF ECOLOGY OR DIVERSITY ELECTIVES ABOVE.**

**(BIOL 491 – ELECTIVE IN INDEPENDENT RESEARCH – MAY BE USED AS ONE OF THE ELECTIVES.)**

**(6-8 UNITS)**

**13-16 UNITS**

**(4 UNITS)**

**(3-4 UNITS)**

**ANCILLARY COURSES:**

**SELECT ONE OF THE FOLLOWING:**

MATH 237 ELEMENTARY BIOSTATISTICS  
 PSYC 212 BEHAVIORAL STATISTICS

**4 UNITS**

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**Additional Bachelor Degree Requirements**

- A C (2.0) or higher is required in all major and minor courses
- A cumulative grade point average (GPA) of 2.0 is required
- 32 units of the bachelor's degree must be completed at the upper level (courses numbered 300 or above)

|                                               |              |
|-----------------------------------------------|--------------|
| <b><u>Total Credits to B.S. Degree</u></b>    | <b>(120)</b> |
| <b>Harford Biology A.S. Degree</b>            | <b>60</b>    |
| <b>Completion of Core at TU</b>               | <b>15</b>    |
| <b>Completion of Major Requirements at TU</b> | <b>26-41</b> |
| <b>Elective Credits at TU</b>                 | <b>4-19</b>  |

