

Biological Sciences: Microbiology MICB (0404D)

effective August 2023

A minimum of 120 credits earned and a 2.0 cumulative GPA is needed to meet University graduation requirements. Major courses (Basic, Supporting, and Advanced) require a C– or better in each and a 2.0 average GPA.

1. Basic Program 15-16 credits

| Sem | Gr | Cr | Course |
|-----|----|----|---|
| | | 3 | BSCI160 Ecology and Evolution * |
| | | 1 | BSCI161 Ecology and Evolution Lab * |
| | | 3 | BSCI170 Molecular and Cellular Biology * |
| | | 1 | BSCI171 Molecular and Cellular Biology Lab * |
| | | 3 | BSCI207 Principles of Biology III * |
| | | 4 | BSCI222 Principles of Genetics * |
| | | 1 | Freshmen seminar: UNIV100 ¹ , HONR100, GEMS100, HLSC100, HACS100 ² , HDCC105 ² , HEIP143, HHUM105 ³ , BSCV181, IDEA101, BSGC100 |

¹ All Biological Sciences majors must take UNIV100 or another approved freshman seminar from the list above in their first semester.
² Two-credit course. ³ Three-credit course.
 NOTE: Students enrolled in the Integrated Life Sciences Honors program will complete the following courses in lieu of the parenthetical courses: HLSC322 (BSCI222) and HLSC374 (BSCI374).
*** These are required benchmark courses, see:**
<http://bsci.umd.edu/benchmarks>

2. Supporting Courses 32 credits

| Sem | Gr | Cr | Course |
|-----|----|----|------------------------------------|
| | | 4 | MATH135 Discrete Mathematics * |
| | | 4 | MATH136 Calculus * OR |
| | | 4 | MATH140 Calculus I * |
| | | 4 | MATH141 Calculus II * OR |
| | | 4 | MATH140 Calculus I * |
| | | 4 | MATH135 Discrete Mathematics * |
| | | 3 | CHEM131 General Chemistry I * |
| | | 1 | CHEM132 General Chemistry I Lab * |
| | | 3 | CHEM231 Organic Chemistry I * |
| | | 1 | CHEM232 Organic Chemistry I Lab * |
| | | 3 | CHEM241 Organic Chemistry II * |
| | | 1 | CHEM242 Organic Chemistry II Lab * |
| | | 2 | CHEM271 Gen Chem & Energetics * |
| | | 2 | CHEM272 Bioanalytical Chem Lab * |
| | | 4 | PHYS131 OR PHYS141 Physics I |
| | | 4 | PHYS132 OR PHYS142 Physics II |

3. General Education Requirements (at least 27 credits) (For more information on General Education, visit: www.gened.umd.edu.)

Fundamental Studies Math (MA), Analytic Reasoning (AR), Natural Sciences (NS) & Natural Sci. Lab (NL) are satisfied by major requirements. Courses may double or triple count among Distributive Studies, I-Series, and Diversity.

| Sem | Gr | Course |
|-----|----|--|
| | | Fundamental Studies |
| | | Academic Writing (AW) (ENGL101) |
| | | Professional Writing (PW) |
| | | Oral Communication (OC) |
| | | Distributive Studies |
| | | History and Social Sciences (HS) |
| | | History and Social Sciences (HS) |
| | | Humanities (HU) |
| | | Humanities (HU) |
| | | Scholarship in Practice (SP) |
| | | Scholarship in Practice (SP) outside major |
| | | I-Series |
| | | I-Series (IS) |
| | | I-Series (IS) |
| | | Diversity |
| | | Understanding Plural Societies (UP) |
| | | Understanding Plural Societies (UP) or Cultural Competence (CC) (1–3 credits) |

| Summary of credits | |
|--------------------------|-----------|
| Required | Completed |
| Basic Program (15–16) | _____ |
| Supporting Courses (32) | _____ |
| Gen. Ed. (27+) | _____ |
| Advanced Program (27) | _____ |
| Elective | _____ |
| Subtotal | _____ |
| Duplicate credits | _____ |
| (Subtract from subtotal) | |
| Total Credits | _____ |

4. Advanced Program courses: Please see reverse page.

NOTES:

Student name _____ UID _____

Advisor's signature _____ Date of audit _____

NOTE: The curriculum in Biological Sciences changes as faculty review and improve the program. The curriculum descriptions provided here are the latest versions. Your curriculum may look slightly different depending on when you declared the Biological Sciences major. Your academic advisor can provide you with the most accurate information on which curriculum you are under. Any questions can be referred to the Undergraduate Academic Programs Office, 301-405-6892.

Updated 3/2024

Microbiology MICB (0404D) Advanced Program

27 credits minimum ♦ At least two courses designated as **Lab** must be taken

1. Required courses: 17 credits

| Sem | Gr | Cr | |
|-----|----|----|---|
| | | 4 | BSCI283 Principles of Microbiology ¹ |
| | | 4 | BSCI412 Microbial Genetics w/ Lab |
| | | 3 | BSCI443 Microbial Physiology |
| | | | Biochemistry |
| | | 3 | BCHM461 Biochemistry I and |
| | | 3 | BCHM462 Biochemistry II |
| | | | OR |
| | | 3 | BCHM463 Biochemistry of Physiology and |
| | | 3 | BCHM465 Biochemistry III |

¹or BSCI223 with permission of the Undergraduate Program Director
Students cannot get credit for both BSCI223 and BSCI283.

2. MICB Area courses: 7 credits

- Must include a 300- or 400-level laboratory course

| Sem | Gr | Cr | | Sem | Gr | Cr | |
|-----|----|----|--|-----|----|----|---|
| | | 4 | BSCI411 Bioinformatics and Integrated Genomics w/ Lab | | | 3 | BSCI437 General Virology |
| | | 3 | BSCI417 Microbial Pathogenesis | | | 3 | BSCI348J Medical Microbiology ³ |
| | | 3 | BSCI422 Principles of Immunology | | | 3 | BSCI348M Epidemiology of Microbial Pathogens |
| | | 2 | BSCI423 Immunology Lab ² | | | 3 | BSCI464 Microbial Ecology |
| | | 4 | BSCI424 Pathogenic Microbiology w/ Lab ³ | | | | Special Topics Courses ⁴ BSCI338, BSCI339, BSCI348, or BSCI439 |
| | | | | | | 1 | Departmental Honors Seminars ⁵ BSCI378H and BSCI398H |

Total MICB Area credits _____

² Requires a "C-" or better in the pre-/co-requisite lecture to count as a **Lab**.

³ Credit will be given for either BSCI424 OR BSCI348J.

⁴ Special Topics courses (BSCI338, BSCI339, BSCI348, or BSCI439) are allowed if specifically approved for Advanced Program in MICB. See Testudo for the applicability of specific courses.

⁵ One credit of Departmental Honors seminar may be applied to major requirements. Additional Departmental Honors seminar credits count as non-major electives.

3. Enrichment 3 credits Enrichment Course: _____ Credits: _____ Semester: _____ Grade: _____

Minimum 3 credits from any 300- or 400-level BSCI, CHEM, or BCHM course.

Independent study or research courses from other departments can be used with the permission of your advisor.

Courses listed in the Advanced Program above can be used if they are not used to satisfy any category above.

Courses counted as Enrichment do not satisfy the 300- or 400-level laboratory requirement.

Independent study or research credits, including H and L versions, are acceptable up to a maximum of 3 credits overall in the Advanced Program.

Multiple semesters in research courses can possibly count for one of the two required lab courses. See your advisor for more details or

ter.ps/reslabcredit

A maximum of 8 credits of any version of BSCI399 (BSCI399, BSCI399H, and BSCI399L) can be applied to one or more undergraduate degrees.

Any research credits completed beyond the first 8 will be included in the total earned credits and factored into the GPA but **not applied to any undergraduate degree.**

Total credits in Advanced Program: _____