**College of Science, Technology, Engineering, and Mathematics (STEM) - YSU**

**Major: Bachelor of Science (BS) Degree in Biological Sciences**

**2012 GER Model**

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| **General Education Requirements (GER)** | | | | | | |
| Dept | | Catalog | | Course Description | s.h | Grade |
| Engl | | 1550 | | Writing I (Prereq. = CRPT or Engl 1539/1540) | 3 |  |
| Engl | | 1551 | | Writing II (Prereq. = Engl 1550) | 3 |  |
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| Cmst | | 1545 | | Communication Foundations (Prereq. = eligibility to take Engl 1550) | 3 |  |
|  | |  | |  |  |  |
| Math | | 1570  or 1571 | | Applied Calculus (Prereq. = Math 1513 or Level 5 on MPT)  or  Calculus 1 (Prereq. = Math 1513 or Level 7 on MPT) (Recommeneded) | 4 |  |
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| **Foreign Language** required for a BS Biological Sciences major if the major was entered before Fall, 2012. | | | | | | |
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| **Natural Sciences (NS): 2 courses + 1 GER elective**  (This requirement is satisfied by completion of the BIOL major.) | | | | | | |
| Biol | | | 2601/2601L | General Biology 1 & Lab  (Prereq. = Chem 1515/1515L) | 4/  0 | ------ |
| Biol | | | 2602/2602L | General Biology 2 & Lab  (Prereq. = Biol 2601) | 4/0 | ------ |
| Chem | | | 1515/1515L | General Chemistry 1 & Lab  (Prereq. = Math 1513) | 4/0 | ------ |
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| **Arts & Humanities (AH): 2 courses (6 sh)** | | | | | | |
|  |  | | |  | 3 |  |
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| **Social Science (SS): 2 courses (6 sh)** | | | | | | |
|  | | |  |  | 3 |  |
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| **Social and Personal Awareness (SPA): 2 courses (6 sh)** | | | | | | |
|  | | |  |  | 3 |  |
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| **GER Elective: 1 course (3 sh)** | | | | | | |
| This requirement is satisfied by completion of the Biology major. | | | | | | |
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**Department of Biological Sciences**

**Dr. Gary Walker, Chair**

**Ward Beecher Science Hall, Room 4037**

**(330) 941-3601 (330) 941-1483 fax**

**web.ysu.edu/stem/biology**

Requirements for Graduation:

\_\_\_\_ GER model complete

\_\_\_\_ Minimum 37 sh in major (\*\*see back)

\_\_\_\_ Minimum 18 sh in minor (\*\*see back)

\_\_\_\_ Support courses complete

\_\_\_\_ 48 sh of upper division (3700+)

\_\_\_\_ Minimum of 120 total sh (see back)

\_\_\_\_ Residency requirement (transfer students only)

\_\_\_\_ Min. of a 2.00 overall GPA

\_\_\_\_ After 80-85 sh are complete, request a “graduation

evaluation” from the Advising Center in Moser

Hall, Room 2325.

\_\_\_\_ Meet with your departmental chair after your

graduation evaluation is complete.

*Advisement for the Biology major:*

Students will meet with a Biology faculty member for advisement. Please come to the Biology Department, Ward Beecher Science Hall, Room 4037, to consult the listing of faculty interest areas and office hours.

It is recommended that all students meet with their advisor at least one time an academic year. The following current students are required to meet w/an advisor before registration: freshman, athletes, and students on warning or probation.

Consult the GER website or your advisor for the list of courses

meeting GER requirements: [**web.ysu.edu/ger/**](http://www.ysu.edu/ger/)

* Engl. 1550 & 1551 must be completed by 62 SH.
* Placement exam in English and Math required before registration of classes. (Foreign Language placement test is optional.)
* MATH 1500, 1501, 1502, 1503, 1504, 1507, ENGL 1509, 1512, 1539, 1540, RSS 1510A, B & C and will not count toward graduation total hours.
* A grade of “C” or better is required in the Major and Minor and support courses. Credit/NC Option not permitted in Major/Minor
* Upper division courses have a catalog number of 3700 and above.
* Classes taken and/ or repeated out of sequence will **not** count toward graduation. **Check prerequisites.**
* Residency rule states that the last 30 SH must be completed at YSU; 16 SH in major and 21 SH in Upper Division at YSU.
* Request for ***graduation evaluation form must be filed by 85 SH.***

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| **Required Biology courses (37 sh)** | | | | |
| Biol | 2601/2601L | General Biology 1: Molecules & Cells & Lab | 4+0 |  |
| Biol | 2602/260L | General Biology 2: Organisms & Ecology & Lab (Biol 2601) | 4+0 |  |
| Biol | 3721 or  3759 | Genetics (Biol 2601) OR 3721  Evolution (Biol 2602) 3759 | 3 |  |
| Biol | 4861 | Senior Biology Capstone Experience (Senior Status; completion of at least one 3700 and one 4800 level lab course) | 2 |  |
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| **Electives in Biology**  **24** sh of BIOL courses at the 3000-5000 level. At least **two** of these courses **must have a laboratory component, with at least one at the 4800-5800 level.** BIOL courses may be found in the Undergraduate Bulletin at [**www.ysu.edu/ebulletin/**](http://www.ysu.edu/ebulletin/) | | | | |
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| **Required Support Courses**  (See note regarding minor in Chemistry under required minor courses.) | | | | |
| **Mathematics - take one of the following courses (4 sh) :** | | | | |
| Math | 1570 | Applied Calculus 1 (Math 1513 or level 5 on MPT) | 4 |  |
| Math | 1571 | Calculus 1 (Math 1513 or Level 7 on MPT) | 4 |  |
| **Statistics (one of the following 3-4 sh):** | | | |  |
| Biol | 5853 | Biometry (20 sh of Biological Sciences) | 3 |  |
| Stat | 3717 | Statistical Methods (Math 1549 or 1570 or 1571 or 1585H) | 4 |  |
| **Physics - take one of the following sequences (9-10 sh):** | | | |  |
| Phys  Phys | 1501/1501L  1502/1502L | Fundamentals of Physics 1 & Lab (Math 1504 or Level 4 on MPT)  Fundamentals of Physics 2 & Lab (Phys 1501) | 4+1  3+1 |  |
| Phys  Phys | 2610/2610L  2611/2611L | General Physics 1 (HS Physics or Phys 1501; Math 1571 (prereq. or concurrent)  General Physics 2 (Phys 2610; (perereq. or concurrent: Math 1572 ) | 4+1  4+1 |  |
| **Chemistry (16 sh):** | | | | |
| Chem | 1515/1515L | General Chemistry 1 & Lab (Chem 1501 or one unit HS Chem.; Math 1513 or three units of HS algebra & geometry) | 4+0 |  |
| Chem | 1516/1516L | General Chemistry 2 & Lab (Chem 1515) | 4+0 |  |
| Chem | 3719/3719L | Organic Chemistry 1 & Lab (Chem 1516) | 4+0 |  |
| Chem | 3720/3720L | Organic Chemistry 2 & Lab (Chem 3719) | 4+0 |  |
| Enrollment in the recitation sections are recommended for Phys 1501 & the above Chemistry courses. Recitation Chemistry courses may not count toward the Chemistry minor. | | | | |

**Biology (BS) – 37 sh**

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| **Required Minor Courses \*\*** | | | | |
| Minors are listed in the Undergraduate Bulletin and all must be a minimum of **18 sh,** with at least 6 sh at the 3000-level or higher. | | | | |
| ALL STUDENTS MUST HAVE A MINOR | | | | |
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| **Electives (needed to meet the minimum of 120 sh total, not to include remedial coursework)** | | | | |
| Dept | Cat. # | Course Description | sh | gr |
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Notes:

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