**Required Biology Core Courses:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
<th>Prerequisite(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 115N</td>
<td>4</td>
<td>BIOL 116N</td>
</tr>
<tr>
<td>BIOL 116N</td>
<td>4</td>
<td>BIOL 115N</td>
</tr>
</tbody>
</table>

BIOL 115N-116N must be passed with a C (2.0) or better to continue. Upon completion of Biology 116N, students must complete the following core of biology courses, some of which are pre-requisites or co-requisites for upper level biology courses (see catalog descriptions for individual courses). Biology 293 (Cell Biology) and 303 (Genetics) have Math 162 (Pre-calculus) and Chemistry 211 (Organic Chemistry) as pre- or co-requisites; STAT 130M (Elementary Statistics) is a pre-requisite for Biology 303. All core courses must be passed with a C (2.0) or better.

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
<th>Prerequisite(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 292 Evolution</td>
<td>3</td>
<td>BIOL 291, BIOL 293</td>
</tr>
<tr>
<td>BIOL 291 Ecology</td>
<td>3</td>
<td>BIOL 292</td>
</tr>
<tr>
<td>BIOL 293 Cell Biology</td>
<td>3</td>
<td>BIOL 303</td>
</tr>
<tr>
<td>BIOL 303 Genetics</td>
<td>3</td>
<td>BIOL 405W</td>
</tr>
<tr>
<td>BIOL 405W Senior Seminar</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Prerequisites for 405W:**

You must complete the required core courses listed above AND two Biology electives listed below (300-400 level).

**Upper Division Biology Elective Courses**

The biology major requires completion of 16 credit hours of electives from 300- and 400-level biology course offerings. A minimum of three of the courses must have a laboratory/field component; BIOL 367, 368, 369 and 498 cannot be used to satisfy the lab/field requirement but can be used to satisfy one (1) of the required 16 elective hours. A maximum of 4 credits of 200-level coursework may be counted toward the 16-hour total. Students must pass all Biology electives with a C (2.0) or better (P = Passing for courses graded Pass/Fail).

**To complete the concentration in Marine Biology,** students must complete two required courses: BIOL 331 (Marine Biology) and OEAS 306 (Oceanography). BIOL 331 will satisfy 3 credits toward the required 16 credits of biology electives; the remaining 13 credit hours needed to satisfy biology elective requirements should be taken from the following list of approved marine biology elective courses.

**Required Marine Biology Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
<th>Prerequisite(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 331 Marine Biology</td>
<td>3</td>
<td>BIOL 115N/116N, BIOL 291</td>
</tr>
<tr>
<td>OEAS 306 Oceanography+</td>
<td>3</td>
<td>BIOL 115N, MATH 211, CHEM 121N/122N, OEAS 111N, PHYS 111N</td>
</tr>
</tbody>
</table>

**Marine Biology Electives - Asterisks (*) indicate laboratory courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Cr</th>
<th>Prerequisite(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>*BIOL 307 Invertebrate Zoology</td>
<td>4</td>
<td>BIOL 292</td>
</tr>
<tr>
<td>BIOL 415 Marine Ecology</td>
<td>3</td>
<td>BIOL 331, BIOL 291, BIOL 442 (co-requisite)</td>
</tr>
<tr>
<td>*BIOL 420 Ichthyology</td>
<td>5</td>
<td>BIOL 292</td>
</tr>
<tr>
<td>BIOL 435 Marine Conservation</td>
<td>3</td>
<td>BIOL 115N/116N and BIOL 331</td>
</tr>
<tr>
<td>*BIOL 441 Animal Behavior</td>
<td>5</td>
<td>BIOL 291, BIOL 292</td>
</tr>
<tr>
<td>*BIOL 442 Marine Ecology Laboratory</td>
<td>2</td>
<td>BIOL 415 (co-requisite)</td>
</tr>
<tr>
<td>*BIOL 444 Field Studies in Marine Ecology</td>
<td>5</td>
<td>BIOL 331</td>
</tr>
<tr>
<td>BIOL 368 Internship</td>
<td>1-3</td>
<td>BIOL 115N/116N, junior standing, permission of CDA</td>
</tr>
<tr>
<td>BIOL 369 Practicum</td>
<td>1-3</td>
<td>BIOL 115N/116N, junior standing, permission of CDA</td>
</tr>
<tr>
<td>BIOL 497 Undergraduate Research (must complete 3 credit hours to earn lab credit)</td>
<td>1-3</td>
<td>BIOL 115N/116N, junior standing, permission of CDA and Instructor</td>
</tr>
<tr>
<td>BIOL 498 Independent Study</td>
<td>1-3</td>
<td>BIOL 115N/116N, junior standing, permission of CDA and Instructor</td>
</tr>
</tbody>
</table>

*This course is required for the marine biology concentration but does not satisfy biology major upper division elective requirements.*
Cognate Math, Computer Science & Physical Science Requirements:

- CHEM 121N/122N Foundational Chem I Lec & Lab 4 ______  MATH 163 Precalculus II 3 ______
- CHEM 123N/124N Foundational Chem II Lec & Lab 4 ______  MATH 211 Calculus 4 ______
- CHEM 211 Organic Chemistry Lecture 3 ______  STAT 130M or STAT 310 3 ______
- CHEM elective 200-level or higher 5 ______  CS 120G or 121G or 126G 3 ______
- PHYS 111N 4 ______  OEAS 111N 4 ______

Prerequisite courses in Chemistry and Mathematics must be passed with a C (.2.0) or better for the student to continue to higher-level courses.

LOWER DIVISION GENERAL EDUCATION REQUIREMENTS:

Written Communication: 6 cr
- ENGL 110C 3 ______
- ENGL 231C 3 ______

Oral Communication 3cr
- COMM 101R, 103R, 112R 3 ______

Mathematics: 3 cr
- MATH 162M 3 ______

Foreign Language: 6 cr or met in High School
- ARAB 111F, CHIN111F, FARS 111F, FR 101F-102F,
- GER 101F-102F, HEBR 111F, ITAL 101-102F, JAPN 111F, LATN101F-102F, RUS 101F-102F,
- SPAN 101F-102F, 121F 0-6 ______

Human Creativity: 3 cr
- ARTH 121A, ARTS 122A, COMM/THEA 270A,
- DANC 185A, MUSC 264A, THEA 241A 3 ______

Impact of Technology: 3 cr
- COMM 270T, DS 300T, DNTH 440T,
- ENGL 301T, GEOG 306T, HIST 300T;
- HIST 304T; HIST 386T/SCI 302T,
- HIST 389T, IT 360T, MUSC 335T,
- STEM 110T, STEM 370, PHIL 383T,
- POLS 350T, WMST 390T, EET 370T 3 ______

Human Behavior: 3 cr
- AAST 100S, ANTR 110S,
- COMM 200S, CSJS215S, ECON 200S, 201S, 202S
- FIN 210S, GEOG 100S, 101S,
- HIST 300T;
- HIST 304T; HIST 386T/SCI 302T,
- HIST 389T, IT 360T, MUSC 335T,
- STEM 110T, STEM 370, PHIL 383T,
- POLS 350T, WMST 390T, EET 370T 3 ______

Interpreting the Past: 3 cr
- HIST 100H, 101H, 102H, 103H,
- 104H, 105H 3 ______

Literature: 3 cr
- ENGL 112L, 114L, FLET 100L 3 ______

Philosophy & Ethics: 3 cr
- PHIL 110P, 120P, 140P,
- 230E, 250E, 303E, 344E
- 345E, 441E, 442E 3 ______

Interpreting the Past: 3 cr
- HIST 100H, 101H, 102H, 103H,
- 104H, 105H 3 ______

LOWER DIVISION GENERAL EDUCATION REQUIREMENTS:

Written Communication: 6 cr
- ENGL 110C 3 ______
- ENGL 231C 3 ______

Oral Communication 3cr
- COMM 101R, 103R, 112R 3 ______

Mathematics: 3 cr
- MATH 162M 3 ______

Foreign Language: 6 cr or met in High School
- ARAB 111F, CHIN111F, FARS 111F, FR 101F-102F,
- GER 101F-102F, HEBR 111F, ITAL 101-102F, JAPN 111F, LATN101F-102F, RUS 101F-102F,
- SPAN 101F-102F, 121F 0-6 ______

Human Creativity: 3 cr
- ARTH 121A, ARTS 122A, COMM/THEA 270A,
- DANC 185A, MUSC 264A, THEA 241A 3 ______

Impact of Technology: 3 cr
- COMM 270T, DS 300T, DNTH 440T,
- ENGL 301T, GEOG 306T, HIST 300T;
- HIST 304T; HIST 386T/SCI 302T,
- HIST 389T, IT 360T, MUSC 335T,
- STEM 110T, STEM 370, PHIL 383T,
- POLS 350T, WMST 390T, EET 370T 3 ______

Human Behavior: 3 cr
- AAST 100S, ANTR 110S,
- COMM 200S, CSJS215S, ECON 200S, 201S, 202S
- FIN 210S, GEOG 100S, 101S,
- HIST 300T;
- HIST 304T; HIST 386T/SCI 302T,
- HIST 389T, IT 360T, MUSC 335T,
- STEM 110T, STEM 370, PHIL 383T,
- POLS 350T, WMST 390T, EET 370T 3 ______

Interpreting the Past: 3 cr
- HIST 100H, 101H, 102H, 103H,
- 104H, 105H 3 ______

Literature: 3 cr
- ENGL 112L, 114L, FLET 100L 3 ______

Philosophy & Ethics: 3 cr
- PHIL 110P, 120P, 140P,
- 230E, 250E, 303E, 344E
- 345E, 441E, 442E 3 ______

Upper Division General Education Requirements

Upper division fulfillment options are completion of (A) a disciplinary minor, second major or second degree, (B) an interdisciplinary minor, (C) International Business and Regional Courses or an approved Certification Program such as teaching licensure; or (D) two upper-division courses from another college outside of and not required by the major. See catalog for details.

Students who pursue the Marine Biology Concentration are advised to consider declaring a Minor in Ocean & Earth Science (OEAS). The OEAS minor requires completion of 12 credit hours of OEAS coursework at the 300-400 level. In addition to the Marine Biology Concentration’s required OEAS 306 course, other marine biology related courses include OEAS 403, OEAS 404 and OEAS 440. Completion of any of these courses will count toward fulfilling the OEAS minor requirements. Contact Dr. John McConaughga, Chief Departmental Advisor for OEAS, at jmconau@odu.edu to schedule an appointment to declare the minor.

Notes:
- Completion of the University Writing Requirement, University Assessment, and Department Assessment Exam (if offered) are required for graduation. Students must have a total of 120 credit hours to graduate. No grade below a C (2.0) may be earned in any Biology course for that course to satisfy the requirements of the program. Students must have a 2.0 overall, 2.0 in the major, and a 2.0 in the minor in order to graduate. A student who seeks a bachelor’s degree from Old Dominion University must, in addition to meeting other requirements of the University, earn a minimum of 25% of the total number of credits required for the degree (30 credits in a 120-credit degree program) through on- or off- campus instruction. This must include a minimum of 12 hours of upper-level courses in the department of the declared major. Students, not advisors, are ultimately responsible for knowing whether or not they have completed their degree requirements. Students are expected to use Degree Works to monitor their progress each semester, identify problems as they arise, and seek assistance in a timely fashion. Students are expected to read, understand, and follow the policies and regulations outlined in the University Catalog for the year in which they enroll at ODU. Exceptions to the curriculum requirements, policies and procedures outlined on this sheet must be petitioned to and approved by the Department Chair.