

# BIOLOGY CONCENTRATION

## Program Description

The **Associate in Science (A.S.) in Science – Biology Concentration** is designed for students who plan to transfer to a four-year institution to pursue a bachelor's degree in biology or a related life science field.

This concentration provides a strong foundation in biological sciences, chemistry, and mathematics, along with hands-on laboratory experience. Students develop scientific reasoning, data analysis skills, and an understanding of core biological principles such as cellular structure and function, genetics, ecology, and evolution. Emphasis is placed on inquiry-based learning and the application of biological concepts to real-world issues in health, the environment, and biotechnology.

Because mathematics preparation varies by student, multiple course sequences are available. Students should review the additional tabs and select the appropriate pathway based on their starting level in mathematics. Beginning in the appropriate math course is essential to maintaining steady progress toward graduation and transfer.

## Transfer Information

The Biology concentration is structured to align with bachelor's degree programs in biology and related disciplines such as environmental science, microbiology, biotechnology, and health sciences. Students are encouraged to work closely with OCC faculty and Advising & Transfer Services to ensure course selection supports their intended major and transfer institution.

Students planning to transfer within New Jersey should explore the "Transfer Programs" feature on NJ Transfer ([www.njtransfer.org](http://www.njtransfer.org)) to review articulation agreements and degree requirements.

Early planning is especially important for students considering competitive health-related or research-based programs.

## Career Information

The A.S. in Science – Biology Concentration is designed primarily for transfer. A bachelor's degree (and sometimes graduate study) is typically required for professional roles in biology and related fields.

After completing a four-year degree, graduates may pursue careers in:

- Environmental science and conservation
- Biomedical research
- Biotechnology and laboratory science
- Public health
- Wildlife biology and ecology
- Pre-professional pathways such as medicine, dentistry, veterinary medicine, or physical therapy

Students are encouraged to consult with OCC faculty and Career Services as they explore long-term academic and career goals. OCC students

may also use Focus2 Career through Ocean Connect to research degree pathways and related professions.

Fall One		Credit Hours
ENGL 151	English I	3
STSC 150	Student Success Seminar	2
MATH 166	Topics in Algebra	4
PSYC 172	General Psychology	3
BIOL 161 & 161L	General Biology I Lecture and General Biology I Lab	4
<b>Credit Hours</b>		<b>16</b>

Spring One		Credit Hours
ENGL 152	English II	3
MATH 196	Precalculus	4
CSIT 123	Integrated Office Software	3
BIOL 162 & 162L	General Biology II Lecture and General Biology II Lab	4
<b>Credit Hours</b>		<b>14</b>

Fall Two		Credit Hours
MATH 265	Calculus I	4
PHYS 171 & 171L	Physics I Lecture and Physics I Lab	4
CHEM 181 & 181L	General Chemistry I Lecture and General Chemistry I Lab	4
PHIL 191	Introduction to Philosophy	3
<b>Credit Hours</b>		<b>15</b>

Spring Two		Credit Hours
BIOL 232 & 232L	Microbiology Lecture and Microbiology Lab	4
HIST 171	Western Civilization to 1650	3
CHEM 182 & 182L	General Chemistry II Lecture and General Chemistry II Lab	4
PHYS 172 & 172L	Physics II Lecture and Physics II Lab	4
<b>Credit Hours</b>		<b>15</b>

**Total Credit Hours** **60**

Fall One		Credit Hours
ENGL 151	English I	3
STSC 150	Student Success Seminar	2
MATH 196	Precalculus	4
PSYC 172	General Psychology	3
BIOL 161 & 161L	General Biology I Lecture and General Biology I Lab	4
<b>Credit Hours</b>		<b>16</b>

Spring One		Credit Hours
ENGL 152	English II	3
MATH 265	Calculus I	4
BIOL 162 & 162L	General Biology II Lecture and General Biology II Lab	4
HIST 171	Western Civilization to 1650	3
CSIT 123	Integrated Office Software	3
<b>Credit Hours</b>		<b>17</b>

Fall Two		Credit Hours
CHEM 181 & 181L	General Chemistry I Lecture and General Chemistry I Lab	4
PHYS 171 & 171L	Physics I Lecture and Physics I Lab	4
PHIL 191	Introduction to Philosophy	3
COMM 154	Fundamentals of Public Speaking	3
<b>Credit Hours</b>		<b>14</b>

Spring Two		Credit Hours
BIOL 232 & 232L	Microbiology Lecture and Microbiology Lab	4

CHEM 182 & 182L	General Chemistry II Lecture and General Chemistry II Lab	4
PHYS 172 & 172L	Physics II Lecture and Physics II Lab	4
SOCI 181	Introduction to Sociology	3
<b>Credit Hours</b>		<b>15</b>

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**Total Credit Hours** **62**

<b>Fall One</b>		<b>Credit Hours</b>
ENGL 151	English I	3
STSC 150	Student Success Seminar	2
MATH 265	Calculus I	4
PSYC 172	General Psychology	3
BIOL 161 & 161L	General Biology I Lecture and General Biology I Lab	4
<b>Credit Hours</b>		<b>16</b>

<b>Spring One</b>		
ENGL 152	English II	3
MATH 156	Introduction to Statistics	3
BIOL 162 & 162L	General Biology II Lecture and General Biology II Lab	4
HIST 171	Western Civilization to 1650	3
CSIT 123	Integrated Office Software	3
<b>Credit Hours</b>		<b>16</b>

<b>Fall Two</b>		
CHEM 181 & 181L	General Chemistry I Lecture and General Chemistry I Lab	4
PHYS 171 & 171L	Physics I Lecture and Physics I Lab	4
COMM 154	Fundamentals of Public Speaking	3
PHIL 191	Introduction to Philosophy	3
<b>Credit Hours</b>		<b>14</b>

<b>Spring Two</b>		
BIOL 232 & 232L	Microbiology Lecture and Microbiology Lab	4
CHEM 182 & 182L	General Chemistry II Lecture and General Chemistry II Lab	4
PHYS 172 & 172L	Physics II Lecture and Physics II Lab	4
SOCI 181	Introduction to Sociology	3
<b>Credit Hours</b>		<b>15</b>
<b>Total Credit Hours</b>		<b>61</b>