BIOCHEMISTRY CONCENTRATION

Program Description

The **Associate in Science (A.S.) in Science – Biochemistry Concentration** is designed for students who plan to transfer to a four-year institution to pursue a bachelor's degree in biochemistry, biochemistry and molecular biology, chemistry, biology, or a related STEM field.

This concentration provides a strong foundation in chemistry, biology, and mathematics, along with hands-on laboratory experience. Students develop analytical reasoning, quantitative problem-solving skills, and scientific literacy—essential preparation for advanced study in the life sciences and health-related professions.

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 correct math sequence is critical to staying on track for timely graduation and transfer.

Transfer Information

The Biochemistry concentration is structured to align with bachelor's degree requirements at many four-year institutions. Students are encouraged to work closely with OCC faculty and Advising & Transfer Services to ensure course selection supports their intended major and transfer destination.

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 at specific institutions.

Early planning is essential, particularly for competitive STEM programs.

Career Information

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

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

- Biomedical research
- Pharmaceutical and biotechnology industries
- Clinical laboratory science
- Environmental and chemical analysis
- Public health
- Medicine, dentistry, pharmacy, or other health professions

Students are strongly 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
CHEM 181 & 181L	General Chemistry I Lecture and General Chemistry I Lab	4
	Credit Hours	**16**
Spring One		
ENGL 152	English II	3
MATH 196	Precalculus	4
HIST 171	Western Civilization to 1650	3
CHEM 182 & 182L	General Chemistry II Lecture and General Chemistry II Lab	4
CSIT 123	Integrated Office Software	3
	Credit Hours	**17**
Fall Two		
MATH 265	Calculus I	4
BIOL 161 & 161L	General Biology I Lecture and General Biology I Lab	4
PHIL 191	Introduction to Philosophy	3
CHEM 283 & 283L	Organic Chemistry I Lecture and Organic Chemistry I Lab	4
	Credit Hours	**15**
Spring Two		
BIOL 162 & 162L	General Biology II Lecture and General Biology II Lab	4
CHEM 284 & 284L	Organic Chemistry II Lecture and Organic Chemistry II Lab	4
SOCI 181	Introduction to Sociology	3
ENGL 255 or ENGL 256	World Literature Ancient through 1600 or World Literature 1600 to Present	3
	Credit Hours	**14**
	Total Credit Hours	**62**

Fall One		**Credit Hours**
ENGL 151	English I	3
STSC 150	Student Success Seminar	2
MATH 196	Precalculus	4
PSYC 172	General Psychology	3
CHEM 181 & 181L	General Chemistry I Lecture and General Chemistry I Lab	4
	Credit Hours	**16**
Spring One		
ENGL 152	English II	3
MATH 265	Calculus I	4
CHEM 182 & 182L	General Chemistry II Lecture and General Chemistry II Lab	4
HIST 171	Western Civilization to 1650	3
CSIT 123	Integrated Office Software	3
	Credit Hours	**17**
Fall Two		
CHEM 283 & 283L	Organic Chemistry I Lecture and Organic Chemistry I Lab	4
PHIL 191	Introduction to Philosophy	3
BIOL 161 & 161L	General Biology I Lecture and General Biology I Lab	4
COMM 154	Fundamentals of Public Speaking	3
	Credit Hours	**14**
Spring Two		
CHEM 284 & 284L	Organic Chemistry II Lecture and Organic Chemistry II Lab	4
BIOL 162 & 162L	General Biology II Lecture and General Biology II Lab	4

ENGL 255 or ENGL 256	World Literature Ancient through 1600 or World Literature 1600 to Present	3
SOCI 181	Introduction to Sociology	3
	Credit Hours	**14**
	Total Credit Hours	**61**

Fall One		**Credit Hours**
ENGL 151	English I	3
STSC 150	Student Success Seminar	2
MATH 265	Calculus I	4
PSYC 172	General Psychology	3
CHEM 181 & 181L	General Chemistry I Lecture and General Chemistry I Lab	4
	Credit Hours	**16**
Spring One		
ENGL 152	English II	3
MATH 266	Calculus II	4
CHEM 182 & 182L	General Chemistry II Lecture and General Chemistry II Lab	4
CSIT 123	Integrated Office Software	3
HIST 171	Western Civilization to 1650	3
	Credit Hours	**17**
Fall Two		
CHEM 283 & 283L	Organic Chemistry I Lecture and Organic Chemistry I Lab	4
PHIL 191	Introduction to Philosophy	3
BIOL 161 & 161L	General Biology I Lecture and General Biology I Lab	4
COMM 154	Fundamentals of Public Speaking	3
	Credit Hours	**14**
Spring Two		
CHEM 284 & 284L	Organic Chemistry II Lecture and Organic Chemistry II Lab	4
BIOL 162 & 162L	General Biology II Lecture and General Biology II Lab	4
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ENGL 255 or ENGL 256	World Literature Ancient through 1600 or World Literature 1600 to Present	3
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