

# CHEMISTRY CONCENTRATION

## Program Description

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

This concentration provides a strong foundation in general and organic chemistry, mathematics, and laboratory science. Students develop quantitative reasoning, analytical problem-solving skills, and technical laboratory competencies essential for advanced study in chemistry and related disciplines. Emphasis is placed on scientific inquiry, precision, and the application of chemical principles to real-world challenges in industry, research, and healthcare.

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 critical to maintaining steady progress toward graduation and transfer.

## Transfer Information

The Chemistry concentration is structured to align with bachelor's degree programs in chemistry and related disciplines such as chemical engineering, biochemistry, materials science, and forensic science. 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) (<http://www.njtransfer.org>)) to review articulation agreements and degree requirements.

Because chemistry programs often require a structured sequence of science and mathematics courses, early academic planning is strongly recommended.

## Career Information

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

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

- Chemical research and development
- Pharmaceutical and biotechnology industries
- Materials and polymer science
- Environmental and analytical laboratories
- Forensic science
- Pre-professional pathways such as medicine, dentistry, pharmacy, or chemical engineering

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
CHEM 181 & 181L	General Chemistry I Lecture and General Chemistry I Lab	4
PSYC 172	General Psychology	3
<b>Credit Hours</b>		<b>16</b>
Spring One		
ENGL 152	English II	3
MATH 196	Precalculus	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
<b>Credit Hours</b>		<b>17</b>
Fall Two		
MATH 265	Calculus I	4
CHEM 283 & 283L	Organic Chemistry I Lecture and Organic Chemistry I Lab	4
PHIL 191	Introduction to Philosophy	3
PHYS 171 & 171L	Physics I Lecture and Physics I Lab	4
<b>Credit Hours</b>		<b>15</b>
Spring Two		
CHEM 284 & 284L	Organic Chemistry II Lecture and Organic Chemistry II Lab	4
PHYS 172 & 172L	Physics II Lecture and Physics 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
<b>Credit Hours</b>		<b>14</b>
<b>Total Credit Hours</b>		<b>62</b>
Fall One		Credit Hours
ENGL 151	English I	3
STSC 150	Student Success Seminar	2
MATH 196	Precalculus	4
CHEM 181 & 181L	General Chemistry I Lecture and General Chemistry I Lab	4
PSYC 172	General Psychology	3
<b>Credit Hours</b>		<b>16</b>
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
CSIT 123	Integrated Office Software	3
HIST 171	Western Civilization to 1650	3
<b>Credit Hours</b>		<b>17</b>
Fall Two		
CHEM 283 & 283L	Organic Chemistry I Lecture and Organic Chemistry I Lab	4
PHIL 191	Introduction to Philosophy	3
PHYS 171 & 171L	Physics I Lecture and Physics I Lab	4
COMM 154	Fundamentals of Public Speaking	3
<b>Credit Hours</b>		<b>14</b>

**Spring Two**

CHEM 284 & 284L	Organic Chemistry II Lecture and Organic Chemistry II Lab	4
PHYS 172 & 172L	Physics II Lecture and Physics 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
<b>Credit Hours</b>		<b>14</b>
<b>Total Credit Hours</b>		<b>61</b>

<b>Fall One</b>		<b>Credit Hours</b>
ENGL 151	English I	3
STSC 150	Student Success Seminar	2
MATH 265	Calculus I	4
CHEM 181 & 181L	General Chemistry I Lecture and General Chemistry I Lab	4
PSYC 172	General Psychology	3
<b>Credit Hours</b>		<b>16</b>

<b>Spring One</b>		
ENGL 152	English II	3
CHEM 182 & 182L	General Chemistry II Lecture and General Chemistry II Lab	4
MATH 266	Calculus II	4
CSIT 123	Integrated Office Software	3
HIST 171	Western Civilization to 1650	3
<b>Credit Hours</b>		<b>17</b>

<b>Fall Two</b>		
CHEM 283 & 283L	Organic Chemistry I Lecture and Organic Chemistry I Lab	4
PHIL 191	Introduction to Philosophy	3
PHYS 171 & 171L	Physics I Lecture and Physics I Lab	4
COMM 154	Fundamentals of Public Speaking	3
<b>Credit Hours</b>		<b>14</b>

<b>Spring Two</b>		
CHEM 284 & 284L	Organic Chemistry II Lecture and Organic Chemistry II Lab	4
PHYS 172 & 172L	Physics II Lecture and Physics 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
<b>Credit Hours</b>		<b>14</b>
<b>Total Credit Hours</b>		<b>61</b>