Chemistry Transfer Pathway
AS DEGREE

Program Overview
The Chemistry Transfer Pathway AS degree is awarded for successful completion of 60 credits in science and liberal arts. It is designed to constitute the first two years of a bachelor's degree in Chemistry.

Career Opportunities
Chemistry majors are curious, analytical and self-starting leaders. Upon completion of the Chemistry AS degree, students will have developed strong communication skills and grown in their scientific and mathematical reasoning skills as well as developed their ability to perform experiments in a hands-on environment. As graduates in Chemistry, students can choose a number of career options from technical scientific laboratory careers to education. Salaries will vary based on the chosen career path.

Transfer Opportunities
Chemistry Transfer Pathway AS
BS Chemistry
BA Individualized Studies
Metropolitan State University
BS Chemistry
Minnesota State University, Mankato (ACS Approved)
BA Chemistry
Southwest Minnesota State University
BS Chemistry
St. Cloud State University (ACS Approved)
BS Chemistry
Minnesota State University, Moorhead
BS Chemistry
Winona State University

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Program Outcomes
1. Apply fundamentals of experimental chemistry in the laboratory environment
   CRITERIA
   a. Carefully follow written procedures
   b. Make accurate and precise measurements, perform calculations
   c. Operate instrumentation safely and properly
   d. Keep scientific records
   e. Design and execute experiments using scientific method
   f. Follow safety protocols and waste management procedures
   ASSESSMENTS
   a. Formal lab project rubric

2. Apply fundamentals of theoretical chemistry in the classroom and laboratory environment
   CRITERIA
   a. Build portfolio through projects
   a. Analyze data and derive a conclusion from collected data
   a. Present results of lab projects
   ASSESSMENTS
   a. Portfolio rubric

3. Solve chemistry related problems.
   CRITERIA
   a. Identify and analyze a chemistry problem using critical thinking
   a. Propose a problem-solving strategy and utilize it
   ASSESSMENTS
   a. Portfolio rubric

4. Communicate scientific results effectively in oral and written formats.
   CRITERIA
   a. Write clearly and concisely
   a. Speak clearly, loudly, and to the appropriate level of the audience
   a. Address or answer audience questions
   ASSESSMENT TOOLS
   a. Formal lab project rubric

5. Evaluate chemistry related issues in society using scientific literature.
   CRITERIA
   a. Perform literature search relevant to issue(s)
   a. Write a review of the issue(s)
   a. Follow lab safety and waste management protocols
   ASSESSMENT TOOLS
   a. Project in CHEM 1711 rubric

Program Requirements
☐ Check off when completed
Course Cr
☐ CHEM 1711 Principles of Chemistry 1 4
☐ CHEM 1712 Principles of Chemistry 2 4
☐ CHEM 2720 Organic Chemistry 1 5
☐ CHEM 2721 Organic Chemistry 2 5
☐ PHYS 2700 General Physics 1 (w/Calc) 5
☐ PHYS 2710 General Physics 2 (w/Calc) 5
Subtotal 28

General Education/MnTC Requirements Cr
☐ Goal 1: Communication 9
   ENGL 1711 Composition 1 4
   ENGL 1712 Composition 2 2
   COMM 17XX 3
☐ Goal 3: Natural Science 0
   Met with courses from above.
☐ Goal 4: Mathematical/Logical Reasoning 8
   MATH 2749 Calculus 1 4
   MATH 2750 Calculus 2 4
☐ Goal 5: History, Social Science, and Behavioral Sciences 3
☐ Goal 6: Humanities & Fine Arts 3
☐ Goals 1-10 of the MnTC 9
Students must select a minimum of 9 additional credits such that courses from at least six (6) goal areas of the Minnesota Transfer Curriculum are met.

General Education Requirements 32
Total Program Credits 60

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:
Reading: Score of 250+ or grade of “C” or better in READ 0722 or READ 0724 or EAPP 0900
Writing: Score of 250+ on Reading Comprehension or grade of “C” or better in ENGL 0922 or EAPP 0900
Adv. Algebra & Functions: Score of 250+ or grade of “C” or better in MATH 0920

Assessment Results and Prerequisites:
Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

Program Start Dates & Course Sequence
See back of this guide for Program Start Dates & Course Sequence

Information is subject to change.
This Program Requirements Guide is not a contract.

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3/23/21
Program Start Dates
Fall, Spring, Summer

Course Sequence
This course sequence is recommended for a full-time student; however, this sequence is not required. Not all courses are offered each semester; a selection of courses is offered each semester. Students should consult with the Program Faculty each semester.

First Semester
Goal 1: ENGL 1711 Composition .................. 4
Goal 1: COMM 17XX ............................... 3
Goal 3: CHEM 1711 Principles of Chemistry 1 .... 4
Goal 4: MATH 2749 Calculus 1 .................... 4
Total Semester Credits ............................. 15

Second Semester
Goal 3: CHEM 1712 Principles of Chemistry 2 .... 4
Goal 3: PHYS 2700 General Physics 1 .......................... 5
Goal 5: History, Social Science, and Behavioral Sciences .................................. 3
MnTC elective ......................................... 3
Total Semester Credits ............................. 15

Third Semester
Goal 1: ENGL 1712 Composition 2 ................. 2
Goal 3: PHYS 2710 General Physics 2 ............. 5
Goal 3: CHEM 2720 Organic Chemistry 1 ........ 5
Goal 6: Humanities & Fine Arts .......................... 3
Total Semester Credits ............................. 15

Fourth Semester
Goal 3: CHEM 2721 Organic Chemistry 2 ........ 5
Goal 4: MATH 2750 Calculus 2 .......................... 4
MnTC elective ......................................... 6
Total Semester Credits ............................. 15

Total Program Credits .............................. 60