Program Requirements

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

   ASSESSMENTS

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

   ASSESSMENTS
   a. Project in CHEM 1711 rubric

Program Faculty

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Program Requirements

- Check off when completed

Course | Cr
----- | ----
CHEM 1711 Principles of Chemistry | 4
CHEM 2712 Principles of Chemistry | 4
CHEM 2720 Organic Chemistry | 5
CHEM 2721 Organic Chemistry | 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 Cr
ENGL 1712 Composition 2 | 2 Cr
COMM 17XX | 3 Cr
Goal 3: Natural Science | 0
Met with courses from above.
Goal 4: Mathematical/Logical Reasoning | 8
MATH 2749 Calculus 1 | 4 Cr
MATH 2750 Calculus 2 | 4 Cr
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

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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 summer term. 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