Program Requirements Guide 2019 - 2020

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.

Program Outcomes
Students should be able to:
1. Demonstrate basic knowledge and understanding of the fundamentals of experimental and theoretical chemistry.
2. Explain and apply skills in analytical thinking and problem solving, and apply scientific methods to experimental data.
3. Demonstrate skills in laboratory operations including making accurate and precise measurements, preparing solutions, operating instrumentation, experimental design, and the interpretation and reporting of quantitative and qualitative data and results.
4. Communicate their own data and analysis in oral and written communications that uses tables and graphs, describes detailed experimental procedures, and clearly explains conclusions, in order to create clear and compelling papers, posters, or presentations.
5. Work both independently and collaboratively in the classroom and in the laboratory.
6. Apply learned concepts to everyday situations and experiences and critically evaluate contributions to science reported in the media; identify valid approaches to solving problems and reporting.

Transfer Opportunities
Saint Paul College has a transfer articulation agreement between the following program and post-secondary institution for the baccalaureate degree program listed below.

For more information please go to saintpaul.edu/Transfer.

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

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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
Refer to the Minnesota Transfer Curriculum Course List for each Goal Area
☐ 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        3
Behavioral Sciences                         3
☐ Goal 6: Humanities & Fine Arts             3
☐ Goals 1-6 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

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 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 (w/Calc)  5
Goal 5: History, Social Science, and         3
Behavioral Sciences                         3
MnTC elective                                3
Total Semester Credits                      15

Third Semester
Goal 1: ENGL 1712 Composition                 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

Minimum Program Entry Requirements
Students entering this program must meet the following minimum program entry requirements:

Reading: Score of 78+ or grade of "C" or better in READ 0722
Writing: Score of 78+ on Reading Comprehension or grade of “C” or better in ENGL 0922

College Level Mathematics: Score of 50+ 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.

This Program Requirements Guide is not a contract.