

**Mesabi Range Community and Technical College  
University of Minnesota, Duluth**

**2 + 2 Program in Chemistry**

Listed below are the courses offered at Mesabi Community College that apply to the Bachelor of Science degree in Chemistry at the University of Minnesota, Duluth. After successful completion of the listed Mesabi courses, students may complete at UMD the Chemistry B.S. with an additional two years of fulltime study.

<b>Mesabi Community College Courses to Complete</b>	<b>cr</b>	<b>UMD Requirements satisfied by Mesabi courses</b>	<b>cr</b>
Chem 1522 General Chemistry I	5	Chem 1151 General Chemistry I	5
Chem 1523 General Chemistry II	5	Chem 1152 General Chemistry II	5
Chem 2512 Organic Chemistry I	5	Chem 2521 Organic Chemistry I	4
Chem 2513 Organic Chemistry II	5	Chem 2522 Organic Chemistry II	4
CSci 1466 FORTRAN Programming	3	CS 1131 FORTRAN Programming	3
Engl 1511 College Writing I	4	Comp 1120 College Writing	3
Math 1561 Calculus I	5	Math 1296 Calculus I	5
Math 1562 Calculus II	5	Math 1297 Calculus II	5
Math 2564 Diff Equations wt Linear Algebra	5	Math 3280 Diff Equations w/ Linear Algebra	4
Phys 1.571. 1581 Engineering Physics I & Lab	5	Phys 1201 Mechanics	4
Phys 157Z1582 Engineering Physics II & Lab	5	Phys 1204 Electricity, Magnetism, Optics	5
Liberal Education courses		Liberal Education courses	

11/30/98

**Courses to be taken at UMD:**

Chem 2222 Quantitative Chemistry, 4 cr  
Chem 3322-3324 Biochemistry and Lab, 4 cr  
Chem 4242 Instrumental Analysis, 4 cr  
Chem 4434-4435 Inorganic Chemistry and Lab, 5 cr  
Chem 4641-4642 Physical Chemistry I-II, 8 cr

Chem 3184 Undergraduate Seminar, 2 cr  
Comp 31xx Advanced Writing, 3 cr  
Minor field courses  
Liberal Education courses

**B.S. Chemistry:**

Chemistry is the body of knowledge that focuses on matter - its composition, properties, structure - and the changes it undergoes. Chemistry is a fundamental experimental science which has enormous importance to all of the other sciences and to modern technology. Over 60% of all chemists work in industry, producing the products and technologies that shape our everyday lives - textiles, rubbers, glass, polymers, pharmaceuticals, paper, conductors, and food. Chemists also do teaching and research at educational institutions and work at different levels of government on such issues as health care, the environment, defense and industry. UMD graduates are prepared to move directly into jobs, though many will also continue on for advanced degrees.

**Further Information:**

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