Chemistry Major, Mathematics Emphasis
See [www.chem.utah.edu](http://www.chem.utah.edu) for details or contact Professor Richard Ernst (ernst@chem.utah.edu; 801-581-8639)

**Chemistry Core Courses** (required of all majors):
- CHEM 1210, 1220 General Chemistry I, II (4, 4) both SF (or 1211/1221 honors versions)
- CHEM 1215, 1225 General Chemistry Lab I, II (1, 1) (or 1240/1241 honors versions)
- CHEM 2310, 2320 Organic Chemistry I, II (4, 4) (or 2311/2321 honors versions)
- CHEM 2315, 2325 Organic Chemistry Lab I, II (2, 2)
- CHEM 3000 Quantitative Analysis (4) QI CW
- CHEM 3060 Quantum Chemistry and Spectroscopy (4) QI
- CHEM 3100 Inorganic Chemistry (5)

**Math and Physics Core** (required of all majors):
- MATH 1210, 1220 Calculus I, II (4, 4) or MATH 1250 AP Calculus I (4) all QR
- MATH 2210 Calculus III (3) or MATH 1260 AP Calculus II (4) both QR
- PHYS 2210, 2220 Physics for Scientists and Engineers I, II (4, 4) (or 3210/3220 honors versions)
- PHYS 2215, 2225 Physics Laboratory for Scientists and Engineers I, II (1, 1)

**G. Chemistry, Mathematics Emphasis**

*Core courses, plus:*
- CHEM 3070 Thermodynamics and Chemical Kinetics (4) QI
- MATH 2250 Differential Equations and Linear Algebra (4) (or 2270 and 2280)
- MATH 3150 Partial Differential Equations for Engineers (2)
- MATH 3160 Applied Complex Variables (2)
- MATH Elective: *Three or more units selected from the following:*
  - MATH 3070 Applied Statistics I (4)
  - MATH 3210 Foundations of Analysis I (3)
  - MATH 3300 Lab in Computational Science (3)
  - MATH 4200 Intro. to Complex Variables (3)
- MATH 4500 Intro. to Applied Analysis (3)
- MATH 4510 Intro. to Topology and Geometry (3)
- MATH 4600 Math. in Physiology and Medicine (4)
- MATH 5510 Intro. to Alg. and Geom. Topology I (3)

*Complete two of the following lab courses:*
- CHEM 3200 Advanced Radiochemistry with Lab I (3)
- CHEM 5700 Advanced Analytical Chemistry Lab (2) CW
- CHEM 5710 Advanced Organic Chemistry Lab (2)
- CHEM 5720 Advanced Physical Chemistry Lab (2)
- CHEM 5730 Advanced Inorganic Chemistry Lab (2)
- CHEM 5750 Advanced Chemical Biology Lab (2)

*Six or more units selected from the following:*
- MATH 5010 Introduction to Probability (3)
- MATH 5080 Statistical Inference I (3)
- MATH 5090 Statistical Inference II (3)
- MATH 5210 Introduction to Real Analysis (4)
- CHEM 4800 or 4999 Undergraduate Research or Honors Thesis (max. 2 units counted total)

**University Requirements:** 122 Hours (at least 40 upper division), DV, IR, WRTG, GEN ED

**Suggested Course Sequence**

<table>
<thead>
<tr>
<th>Year 1 Fall</th>
<th>Year 2 Fall</th>
<th>Year 3 Fall</th>
<th>Year 4 Fall</th>
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</thead>
<tbody>
<tr>
<td>CHEM 1210, 1215</td>
<td>CHEM 2310, 2315</td>
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<td>MATH 1210</td>
<td>PHYS 2210, 2215</td>
<td>CHEM 3060</td>
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<td>MATH 2210</td>
<td>MATH 3150</td>
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<th>Year 3 Spring</th>
<th>Year 4 Spring</th>
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<tbody>
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<td>CHEM 1220, 1225</td>
<td>CHEM 2320, 2325</td>
<td>CHEM 3070</td>
<td>CHEM 5700/5720</td>
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<tr>
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<td>PHYS 2220, 2225</td>
<td>MATH 3160</td>
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<td>MATH 2250</td>
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