

UC 1063909F

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13 Oct '09

MEMORANDUM

To: Ian Evans
From: Simon Bott, Director, UG Affairs and Advising, Chemistry
Re: Change in Math Requirements for Chemistry

9.17.2009

Currently, both BS and BA degrees in Chemistry require Calculus I, II and III. In addition, we have strongly suggested that student take a higher course with more differential equations, matrices, determinants, eigenvectors and eigenvalues. MATH 3321, Engineering Mathematics, fulfils these requirements.

Accordingly, in the catalog, under Departmental Requirements; Mathematics, add MATH 3321.

Associated with this change, attached are

- a) 2 CBM003 forms for CHEM 4370 and 4372 that reflect this change.
- b) a revised "Suggested Course Sequence" for both degree plans.

In addition, changing this requirement allows a long-desired switch in the order in which two classes, 4370 and 4372 are offered. This switch is reflected in the above submissions as well as a CBM003 form for CHEM 4272. The only changes in the 3 CBM003 forms are associated with prerequisites.

Thank you for your consideration.

Suggested Program - Bachelor of Science in Chemistry

First Year

Fall Semester	Hours
<u>ENGL 1303</u> . Freshman Composition I	3
<u>CHEM 1331</u> and <u>1111</u> . Fundamentals of Chemistry and Fundamentals of Chemistry Laboratory	4
<u>MATH 1431</u> . Calculus I	4
Social Sciences Core Course	3
<u>HIST 1377</u> . The United States to 1877 or equivalent	3
Total	17

Spring Semester	Hours
<u>ENGL 1304</u> . Freshman Composition II	3
<u>CHEM 1332</u> and <u>1112</u> . Fundamentals of Chemistry and Fundamentals of Chemistry Laboratory	4
<u>MATH 1432</u> . Calculus II	4
<u>HIST 1378</u> . The United States Since 1877 or equivalent	3
Total	14

Second Year

Fall Semester	Hours
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<u>CHEM 3331</u> and <u>3221</u> . Fundamentals of Organic Chemistry and Fundamentals of Organic Chemistry Laboratory	5
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<u>CHEM 2233</u> and <u>CHEM 2133</u> . Inorganic Chemistry I and Inorganic Chemistry Laboratory	3
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<u>MATH 2433</u> . Calculus III	4
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<u>PHYS 1321</u> . University Physics I	3
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Total	15
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Spring Semester	Hours
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<u>CHEM 3369</u> and <u>3119</u> . Analytical Chemistry and Analytical Chemistry Laboratory	4
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<u>CHEM 3332</u> and <u>3222</u> . Fundamentals of Organic Chemistry II and Fundamentals of Organic Chemistry Laboratory II	5
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<u>PHYS 1322</u> and <u>PHYS 1121</u> . University Physics II and Physics Laboratory I	4
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<u>MATH 3321</u> . Engineering Math	3
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Total	16
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Third Year

Fall Semester	Hours
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<u>CHEM 4372</u> . Physical Chemistry II	3
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<u>CHEM 4272</u> . Physical Chemistry II	2
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Laboratory	
<u>POLS 1336</u> . U.S. and Texas Constitutions and Politics or equivalent	3
Natural Sciences Approved Course	3
Visual/Performing Arts Core Course	3
<u>PHYS 1122</u> . Physics Laboratory II	1
Total	15

Spring Semester	Hours
<u>CHEM 4370</u> . Physical Chemistry I	3
CHEM 4270. Physical Chemistry Laboratory I	2
<u>POLS 1337</u> . U.S. Government: Congress, President and Courts or equivalent	3
Writing in the Discipline Core Course	3
Humanities Core Course	3
Total	14

Fourth Year

Fall Semester	Hours
<u>CHEM 4369</u> . Instrumental Methods of Analysis	3
<u>CHEM 4229</u> . Instrumental Methods of Analysis Laboratory	2
Natural Sciences Approved Course	3
NSM Capstone, Minor, or Electives	7
Total	15

Spring Semester	Hours
<u>CHEM 4365</u> . Inorganic Chemistry II	3
<u>CHEM 4115</u> . Inorganic Chemistry Laboratory II	1
Either <u>CHEM 3336</u> . Organic Chemistry of Biological Molecules or <u>CHEM 4336</u> . Fundamental Biochemistry	3
Chemistry Elective	3
NSM Capstone, Minor, or Electives	4
Total	14

All students are responsible for the completion of 36 advanced semester hours required for a University of Houston degree.

Suggested Program - Bachelor of Arts in Chemistry

First Year

Fall Semester	Hours
<u>ENGL 1303</u> . Freshman Composition I	3
<u>CHEM 1331</u> and <u>1111</u> . Fundamentals of Chemistry and Fundamentals of Chemistry Laboratory	4
<u>MATH 1431</u> . Calculus I	4
<u>HIST 1377</u> . The United States to 1877 or equivalent	3
Social Sciences Core Course	3
Total	17

Spring Semester	Hours
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<u>ENGL 1304</u> . Freshman Composition II	3
<u>CHEM 1332</u> and <u>1112</u> . Fundamentals of Chemistry and Fundamentals of Chemistry Laboratory	4
<u>MATH 1432</u> . Calculus II	4
<u>HIST 1378</u> . The United States Since 1877 or equivalent	3
Total	14

Second Year

Fall Semester	Hours
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<u>CHEM 3331</u> and <u>3221</u> . Fundamentals of Organic Chemistry and Fundamentals of Organic Chemistry Laboratory	5
<u>MATH 2433</u> . Calculus III	4
<u>PHYS 1321</u> . University Physics I	3
Writing in the Discipline Core Course	3
Total	15

Spring Semester	Hours
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<u>CHEM 3332</u> and <u>3222</u> . Fundamentals of Organic Chemistry and Fundamentals of Organic Chemistry Laboratory	5
<u>MATH 3321</u> . Engineering Math	3
<u>PHYS 1322</u> . University Physics II	3
<u>PHYS 1121</u> . Physics Laboratory I	1

Elective	3
Total	15

Third Year

Fall Semester	Hours
<u>CHEM 4370</u> or <u>4373</u> Physical Chemistry I or Survey of Physical Chemistry	3
<u>PHYS 1122</u> . Physics Laboratory II	1
<u>POLS 1336</u> . U.S. and Texas Constitutions and Politics or equivalent	3
Foreign Language (2000-level)	3
Visual/Performing Arts Core Course	3
Total	13

Spring Semester	Hours
Chemistry Elective	3
NSM Capstone, Minor or Elective Courses	3
Foreign Language (2000-level)	3
Humanities Core Course	3
<u>POLS 1337</u> . U.S. Government: Congress, President and Courts or equivalent	3
Total	15

Fourth Year

Fall Semester	Hours
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Chemistry Electives	6
NSM Capstone, Minor or Elective Courses	10
Total	16

Spring Semester	Hours
Chemistry Electives	5
NSM Capstone, Minor or Elective Courses	10
Total	15

All students are responsible for the completion of 36 advanced semester hours required for a University of Houston degree.