# **BACHELOR OF SCIENCE, MAJOR IN CHEMISTRY FOR PROFESSIONAL CHEMISTS**

#### Bachelor of Science, Major in Chemistry for Professional Chemists Core Curriculum (catalog.shsu.edu/undergraduate/academic-policies-procedures/degree-requirements-academic-guidelines/core-curriculum) Component Area I (Communication) 6 Component Area II (Mathematics) 4 Component Area III (Life and Physical Sciences)<sup>2</sup> 8 Component Area IV (Language, Philosophy, and Culture) 3 Component Area V (Creative Arts) 3 Component Area VI (American History) 6 Component Area VII (Government/Political Science) 6 Component Area VIII (Social and Behavioral Sciences) 3 Component Area IX (Area IV elective or Oral Communication) 3 **Degree Specific Requirements** ENGL 3330 Intro To Technical Writing 3 MATH 1420 Calculus I 4 MATH 1430 Calculus II 4 PHYS 1301 **General Phy-Mechanics & Heat** 4 & PHYS 1101 and General Physics Laboratory I PHYS 1302 Gen Phy-Snd,Lght, Elec, & Mag 4 & PHYS 1102 and General Physics Laboratory II Major Core Major General Chemistry I<sup>2</sup> 4 CHEM 1411 General Chemistry II<sup>2</sup> CHEM 1412 4 **CHEM 2323** Organic Chemistry I: Lecture 4 & CHEM 2123 and Organic Chemistry I Lab CHEM 2325 Organic Chemistry II: Lecture 4 & CHEM 2125 and Organic Chemistry II: Lab CHEM 2401 **Quantitative Analysis** 4 CHEM 3438 Biochemistry I 4 CHEM 4100 **Chemical Literature Seminar** 1 **CHEM 4440** Instrumental Analytical Chem 4 4 **CHEM 4448** Physical Chemistry I CHEM 4449 Physical Chemistry II 4 2 **CHEM 4260** Advanced Integrated Laboratory 3 CHFM 4367 Advanced Inorganic Chemistry 3 **CHEM 4395** Undergrad Research In Chem CHEM Advanced elective <sup>3</sup> 3-4 Minor (if required) A minor, including 6 advanced hours is required <sup>4</sup> 10 Electives **UNIV 1301** Intro To Collegiate Studies (or general elective) 3 General electives 4 Advanced electives 6 **Total Hours** 120-121

<sup>1</sup> MATH 1420 satisfies the Core Curriculum requirement for Component Area II (Mathematics), the one semester credit hour Core Curriculum requirement for Component Area IX (Component Area Option), and the Degree Specific requirement.

<sup>2</sup> CHEM 1411 and CHEM 1412 satisfy the Core Curriculum requirement for Component Area III (Life and Physical Science) and the Degree Specific requirement.

- <sup>3</sup> CHEM 3361, CHEM 3367, CHEM 3368, CHEM 3339, CHEM 4442, and CHEM 4443 are recommended.
- <sup>4</sup> A minor in MATH, for instance, only requires 10 additional hours beyond MATH 1420 and MATH 1430.

### Note

A minor generally requires six semesters of coursework, a minimum of 18 credits (six advanced) in an approved field. Students should use elective and minor hours to satisfy the 42 advanced hour requirement.

### **Teacher Certification**

Students seeking a background that will prepare them to teach chemistry at the secondary level might pursue a major in chemistry with a minor in secondary education, or they might major in chemistry, minor in another discipline, and seek alternative teaching certification.

## **Emphasis in Biochemistry-Biotechnology**

Students seeking a background that will prepare them for the emerging technologies in biochemistry and biotechnology can select advanced courses that will lead to a major in chemistry and a minor in biology.

CHEM Advanced Elective <sup>8</sup> 3-4 CHEM 4367 3	First Year		
ENGL 1301 <sup>2</sup> 3 SENGL 1302 <sup>2</sup> 3 HIST 1302 <sup>3</sup> 3 HIST 1302 <sup>3</sup> 3 HIST 1302 <sup>3</sup> 3 UNIV 1301 <sup>5</sup> 3 Second Year Fail Hours Spring Hours Component Area IV (catalog shsu.edu/undergraduate/ academic-policies procedures/degree-requirements- academic-policies procedures/degree-requirements- academic policies procedures/degree-requirements- academic		Hours Spring	Hours
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	CHEM 4440		2
	CHEM Advanced Elective <sup>8</sup>	3-4 CHEM 4367	3
	Elective (Advanced)	3 CHEM 4395	3

Minor Courses (Advanced) <sup>6</sup>	3 Elective (Advanced)	3
	14-15	14

#### Total Hours: 120-121

- <sup>1</sup> Satisfies Core Curriculum requirement for Component Area III (Life and Physical Science).
- <sup>2</sup> Satisfies Core Curriculum requirement for Component Area I (Communications).
- <sup>3</sup> Satisfies Core Curriculum requirement for Component Area VI (U.S. History).
- <sup>4</sup> Satisfies Core Curriculum requirement for Component Area II (Mathematics).
- <sup>5</sup> Or general elective.
- <sup>6</sup> A minor requires 6 semester credit hours of coursework, a minimum of 18 semester credit hours (6 advanced) in an approved field.
- <sup>7</sup> Satisfies Core Curriculum requirement for Component Area VII (Political Science/Government).
- <sup>8</sup> CHEM 3339, CHEM 3361, CHEM 3367, CHEM 3368, CHEM 4442, CHEM 4443 are recommended.

Note: Students should use elective and minor hours to satisfy the 42-advanced hour requirement. Advanced hours are 3000 and 4000 level courses.