

B.S. Chemistry Degree - Suggested Course Sequence for Freshmen who are placed into CHM 1211 Fall quarter

Year	Autumn	Winter	Spring	†Summer
Freshman	CHM 1211 WKFS, CHM 1211L (5 cr) *MAT 1234 WKQR (5 cr) (PPHS 1200, have PPHS Director add you to events mailing list)	CHM 1212, CHM 1212L (5 cr) MAT 1235 (5 cr)	** CHM 1213 (3 cr), CHM 2213L (2 cr) ^β MAT 2401 (3 cr) CHM 2960 (1 cr) (PPHS 1800)	Consider doing research/internship during summers (on-campus or REU) to prepare for graduate school. PPHS students should consider shadowing and volunteering in professional health field. Consider SPU Study Abroad!
Sophomore	CHM 3371, CHM 3371L (5 cr) PHY 1121 (5 cr)	CHM 3372, CHM 3372L (5 cr) PHY 1122 (5 cr)	CHM 3373, CHM 3373L (5 cr) PHY 1123 (5 cr)	
Junior	CHM 3225, CHM 3225L (5cr) CHM elective (6 cr tot needed)	‡ CHM 3540, CHM 3540L (5cr) CHM 3227 (2 cr) CHM 3421 (4cr) CHM elective (6 cr tot needed) (PPHS 2400)	CHM 3422 (4cr) ‡ CHM 4542 (3cr) only available even years CHM 3228 (2cr)	
Senior	CHM 3423 (2 cr) CHM 3229 (2 cr)	CHM 3461 (2cr) CHM 4899 (1 cr)	CHM 3462 (2 cr) CHM 4899 (1 cr)	

Take the Chem Placement exam before Fall quarter begins. Passing placement exam places student directly into CHM 1211. Not passing chem placement exam means the student should first take CHM 1310 and after that take CHM 1211, 1212, etc.

*Take the Math Placement Exam before Fall freshman year. Take the calculus placement exam, too. If Pre-Calculus MAT 1110 is indicated by the placement, stay on sequence in Math by taking 1110 in fall. Take BIO 2101 later.

**CHM 1213 can be taken sophomore year; it is a pre-req for CHM 3540, not o-chem.

†Majors should do CHM 4960 Undergraduate Research during the academic year and/or do research during Summer.

‡CHM 4542 is taught only on even years and its pre-req is CHM 3540 so you may be forced to take it senior year.

^βMAT 2401 is offered in Fall if there is a schedule conflict with CHM 1213.

General Chemistry

Organic Chemistry

Analytical Chemistry

Inorganic Chemistry

Physical Chemistry

B.S. Chemistry Degree - Suggested Course Sequence for Freshmen who are placed into CHM 1310 Fall quarter				
Year	Autumn	Winter	Spring	†Summer
Freshman	CHM 1310 WKFS, CHM 1310L (5 cr) *MAT 1234 WKQR (5 cr) (PPHS 1200, have PPHS Director add you to events mailing list)	CHM 1211 WKFS, CHM 1211L (5 cr) MAT 1235 (5 cr)	CHM 1212, CHM 1212L (5 cr) [§] MAT 2401 (3 cr) CHM 2960 (1 cr) (PPHS 1800)	Consider doing research/internship during summers (on-campus or REU) to prepare for graduate school.
Sophomore	CHM 3371, CHM 3371L (5 cr) PHY 1121 w/lab (5 cr)	CHM 3372, CHM 3372L (5 cr) PHY 1122 w/lab (5 cr)	**CHM 1213 (3 cr), CHM 2213L (2 cr) CHM 3373, CHM 3373L (5 cr) PHY 1123 w/lab (5 cr)	
Junior	CHM 3225, CHM 3225L (5cr) CHM elective (6 cr tot needed)	‡CHM 3540, CHM 3540L (5cr) CHM 3227 (2 cr) CHM 3421 (4cr) CHM elective (6 cr tot needed) (PPHS 2400)	CHM 3422 (4cr) ‡CHM 4542 (3cr) CHM 3228 (2cr)	PPHS students should consider shadowing and volunteering in professional health field.
Senior	CHM 3423 (2 cr) CHM 3229 (2 cr)	CHM 3461 (2cr) CHM 4899 (1 cr)	CHM 3462 (2 cr) CHM 4899 (1 cr)	

Take the Chem Placement exam before Fall quarter begins. Passing placement exam places student directly into CHM 1211. Not passing chem placement exam means the student should first take CHM 1310 and after that take CHM 1211, 1212, etc.

*Take the Math Placement Exam before Fall freshman year. Take the calculus placement exam, too. If Pre-Calculus MAT 1110 is indicated by the placement, stay on sequence in Math by taking 1110 in fall. Take BIO 2101 later.

**CHM 1213 can be taken after freshman year because the only class that it is a pre-req for is CHM 3540.

†Majors should do CHM 4960 Undergraduate Research during the academic year and/or do research during Summer.

‡CHM 4542 is only offered even years and its pre-req is CHM 3540 so you may be forced to take it senior year.

[§]MAT 2401 is offered in Fall if there is a schedule conflict with CHM 1213.

B.A. Chemistry Degree - Suggested Course Sequence for Freshmen placed into CHM 1211 Fall quarter and want to teach high school or do PPHS				
Year	Autumn	Winter	Spring	†Summer
Freshman	CHM 1211WKFS, CHM 1211L (5 cr) *MAT XXXX (PPHS 1200, get added to PPHS Director's event announcements list)	CHM 1212, CHM 1212L (5 cr) MAT XXXY	**CHM 1213 (3 cr) MAT XXXZ (PPHS 1800)	Students interested in becoming high school teachers should consult their EDU Advisor no later than Summer after Freshman year.
Sophomore	CHM 3371, CHM 3371L (5 cr) PHY 1121 or PHY 1101 w/lab (5 cr)	CHM 3372, CHM 3372L (5 cr) PHY 1122 or PHY 1102 w/lab (5 cr)	CHM 3373, CHM 3373L (5 cr) PHY 1123 or PHY 1103 w/lab (5 cr)	
Junior	CHM 3225, CHM 3225L (5 cr) ‡CHM 4361, CHM 4361L (5 cr)	CHM 3540, CHM 3540L (5 cr) ‡CHM Elective (5 cr tot needed) (PPHS 2400)	CHM 3410, CHM 3410L (5 cr)	PPHS students should consider shadowing and volunteering in professional health field. Consider SPU Study Abroad!
Senior	CHM 4899 (1 cr)	CHM 4899 (1 cr)		

Take the Chem Placement exam before Fall quarter begins. Passing placement exam places student directly into CHM 1211. Not passing chem placement exam means the student should first take CHM 1310 and after that take CHM 1211, 1212, etc.

*Take the Math Placement Exam before Fall freshman year. Take the calculus placement exam, too. If Pre-Calculus MAT 1110 is indicated by the placement, stay on sequence in Math by taking 1110 in fall. Take BIO 2101 later.

**CHM 1213 can be taken in a later year because the only class that it is a pre-req for is CHM 3540.

†Majors should do CHM 4960 Undergraduate Research during the academic year and/or do research during Summer.

‡CHM 4361 may also be taken fall senior year.

‡CHM 342X cannot be taken as electives if CHM 3410 is taken, unless special permission is granted (double dipping p-chem credits)

B.A. Chemistry Degree - Suggested Course Sequence for Freshmen placed into CHM 1310 Fall quarter & aim to teach high school/do PPHS				
Year	Autumn	Winter	Spring	†Summer
Freshman	CHM 1310 WKFS, CHM 1310L (5 cr) *MAT XXXX (PPHS 1200)	CHM 1211WKFS, CHM 1211L (5 cr) MAT XXXY	CHM 1212, CHM 1212L (5 cr) MAT XXXZ (PPHS 1800)	Students who want to become high school teachers should consult their EDU Advisor no later than Summer after Freshman year. PPHS students should consider shadowing and volunteering in professional health field. Consider SPU Study Abroad!
Sophomore	CHM 3371, CHM 3371L (5 cr) PHY 1121 or PHY 1101 (5 cr)	CHM 3372, CHM 3372L (5 cr) PHY 1122 or PHY 1102 (5 cr)	**CHM 1213 (3 cr) CHM 3373, CHM 3373L (5 cr) PHY 1123 or PHY 1103 (5 cr)	
Junior	CHM 3225, CHM 3225L (5 cr) ‡CHM 4361, CHM 4361L (5 cr)	CHM 3540, CHM 3540L (5 cr) ‡CHM Elective (5 cr tot needed) (PPHS 2400)	CHM 3410, CHM 3410L (5 cr)	
Senior	CHM 4899 (1 cr)	CHM 4899 (1 cr)		

Take the Chem Placement exam before Fall quarter begins. Passing placement exam places student directly into CHM 1211. Not passing chem placement exam means the student should first take CHM 1310 and after that take CHM 1211, 1212, etc.

*Take the Math Placement Exam before Fall freshman year. Take the calculus placement exam, too. If Pre-Calculus MAT 1110 is indicated by the placement, stay on sequence in Math by taking 1110

**CHM 1213 can be taken after freshman year because the only class that it is a pre-req for is CHM 3540.

†Majors should do CHM 4960 Undergraduate Research during the academic year and/or do research during Summer.

‡CHM 4361 may also be taken fall senior year.

‡CHM 342X cannot be taken as electives if CHM 3410 is taken, unless special permission is granted (double dipping p-chem credits)

B.S. Biochemistry Degree - Suggested Course Sequence for Freshmen who are placed into CHM 1211 Fall quarter				
Year	Autumn	Winter	Spring	†Summer
Freshman	CHM 1211 WKFS, CHM 1211L (5 cr) *BIO 2101 (5 cr) (PPHS 1200, have PPHS Director add you to events mailing list)	CHM 1212, CHM 1212L (5 cr) MAT 1234 WKQR (5 cr)	**CHM 1213 (3 cr) MAT 1235 (5 cr) CHM 2960 (1 cr) (PPHS 1800)	Consider doing research/internship during summers (on-campus or REU) to prepare for graduate school.
Sophomore	CHM 3371, CHM 3371L (5 cr) PHY 1121 or 1101 w/lab (5 cr) MAT 2401 (3 cr)	CHM 3372, CHM 3372L (5 cr) PHY 1122 or 1102 w/lab (5 cr)	CHM 3373, CHM 3373L (5 cr) PHY 1123 or 1103 w/lab (5 cr)	
Junior	CHM 4361, CHM 4361L (5 cr) ‡CHM 3225, CHM 3225L (5 cr)	CHM 4362, CHM 4362L (5 cr) CHM & BIO elective (7 cr tot needed) (PPHS 3400)	CHM 4363 (3 cr) CHM 3422 (4 cr)	‡PPHS students should consider shadowing and volunteering in professional health field. Consider SPU Study Abroad!
Senior	‡BIO 3325 w/lab (5 cr)	CHM 4899 (1 cr) BIO 4325 w/lab (5 cr) CHM & BIO elective (7 cr tot needed)	CHM 4899 (1 cr)	

Take the Chem Placement exam before Fall quarter begins. Passing placement exam places student directly into CHM 1211. Not passing chem placement exam means the student should first take CHM 1310 and after that take CHM 1211, 1212, etc. This is okay! Just take CHM 1310 in Fall, CHM 1211 in Winter, and CHM 1212 in Spring. CHM 1213 can be taken some other spring. The pre-req for CHM 3371 is CHM 1212.

*Take the Math Placement Exam before Fall freshman year. Take the calculus placement exam, too. If Pre-Calculus MAT 1110 is indicated by the placement, stay on sequence in Math by taking 1110 in fall and take BIO 2101 later.

**CHM 1213 can be taken in later years because it is not a pre-req for any other class that is required for the B.S. Biochem degree.

†Majors should do CHM 4960 Undergraduate Research during the academic year and/or do research during Summer.

‡CHM 3225 and BIO 3325 may be switched.

‡The details shown below apply only to biochem majors who are also in the PPHS program. Also, remember that PPHS is a program, not a major. If you're intending to major in biochemistry and do PPHS, the advice you follow from your chemistry major advisor will from time to time will be slightly different than the advice a biology major (or BS chem major for that matter) will follow. Therefore, PPHS biochemists will take a slightly different path than is suggested to PPHS biologists, based on the following five rules:

1. **Take math as early as possible**, finish the 5-credit MAT courses in the first year or soon after. Historically, Genetics profs accepted students with calculus experience instead of MAT 2360; ask instructor for permission to waive the MAT 2360 pre-req.
2. Because rule #1 makes the first year crowded, you may need to make room. If so, **you may postpone BIO 2103** (there is room to take it in later spring quarters).
3. For a number of reasons, the 2-credit lab **CHM 2213 is not required for biochemists**. Of course, the 3-credit lecture CHM 1213 is, but it can be postponed.
4. For pre-meds, we recommend more bio beyond the BIO 210X series in the form of A&P specifically, and the good news is **there is a new 5-credit Fall course, BIO 4410**, that is recommended (the alternative is 2 5-credit courses which can be difficult to schedule).
5. For PPHS biochemistry majors, BIO 2102 can be take Spring Sophomore year while BIO 2103 can be taken even later (Spring Junior year). The main thing to remember is that you have a few years to get all these courses in. BIO 2101 and CHM 1212 are essential pre-req's for other courses so these have to be taken early, but BIO2102 and BIO 2103 may be postponed.
6. In general, PPHS requires a year of bio, a year of general chem (no 2213 is OK!), a year of organic, and some biochem, and a few more bio courses.

General Chemistry
Organic Chemistry
Analytical Chemistry
Biochemistry
Physical Chemistry