

Chemistry Bachelor of Science Academic Progress Sheet

T= Transfer IP=In Progress Note: Meetings should be scheduled periodically to review progress toward fulfilling Dept. requirements.

Name:	Notes:
ID:	
Requirements complete:	
Updated by/date:	

Core Requirements	Met	Notes
CHE 131 (or CHE 129 and CHE 130), CHE 132 General Chemistry I, II or CHE 152 Molecular Science I		
CHE 133, CHE 134 General Chemistry Lab I, II or CHE 154 Molecular Science Laboratory I		
CHE 301, CHE 302 Physical Chemistry I, II		
CHE 303 Solution Chemistry Laboratory		
CHE 321, CHE 322 Organic Chemistry I, II, or CHE 331, CHE 332 Molecular Science II, III		
CHE 327 Organic Chem Lab or CHE 383 Introductory Synthetic & Spectroscopic Lab Techniques		
CHE 375 Inorganic Chemistry		
CHE 385 Tools of Chemistry		
MAT 131, MAT 132 Calculus I, II (see Note 1 for possible substitutions)		
MAT 203 Calculus III with Applications (see Note 1 for possible substitutions)		
PHY 131/PHY 133 Classical Physics I (see Note 2 for possible substitutions)		
PHY 132/PHY 134 Classical Physics II (see Note 2 for possible substitutions)		
Upper-Division Writing Requirement: CHE 303, CHE 304, or CHE 384		

Choose one of the following Concentration areas (must be declared through the Registrar's office on the major/minor declaration form):

Chemical Science:

CHE 304 Chemical Instrumentation Laboratory		
CHE 328 Synthetic & Spectroscopic Lab Techniques or CHE 384 Intermediate Synthetic & Spectroscopic Lab Techniques		
CHE 487 Research in Chemistry (3 credits) or CHE 495/CHE 496 Senior Research		
Two of the following: CHE 345/461, CHE 346/461, CHE 348/461, CHE 351, CHE 353, CHE 358, CHE 376, CHE 378, PHY 251, or ESG 281		

Biological Chemistry (see Note 3):

CHE 328 Synthetic & Spectroscopic Lab Techniques or CHE 384 Intermediate Synthetic & Spectroscopic Lab Techniques		
One of the following: CHE 345/461, CHE 346/461 (see Note 4), CHE 348/461, CHE 376, CHE 378, or CHE 495/CHE 496		
BIO 202 Fundamentals of Biology: Molecular and Cellular Biology		
CHE 346/461 (recommended) or BIO 361 Biochemistry I		
BIO 310 Cell Biology or BIO 362 Biochemistry II		

Chemical Physics (requires two math courses in addition to Calc I and II):

Requirements	Met	Notes
CHE 304 Chemical Instrumentation Laboratory		
CHE 351 Quantum Chemistry or CHE 353 Chemical Thermodynamics		
CHE 357 Molecular Structure and Spectroscopy Laboratory		
AMS 210 or MAT 211 or AMS 261 or MAT 303		
PHY 251/PHY 252 Modern Physics and Laboratory		
One of the following: CHE 358, PHY 277, PHY 300, PHY 307, PHY 301, PHY 303, or PHY 306		

Environmental Chemistry:

CHE 304 Chemical Instrumentation Laboratory		
CHE 310 Chemistry in Technology and the Environment		
CHE 357 Molecular Structure and Spectroscopy Laboratory or ENV 321 Chemistry for Environmental Science Laboratory		
CHE 328 Synthetic & Spectroscopic Lab Techniques or CHE 384 Intermediate Synthetic & Spectroscopic Lab Techniques		
BIO 201 Fundamentals of Biology: Organisms to Ecosystems or BIO 113 Applied Ecology		
ATM 397 Air Pollution and Its Control (See Note 5 for possible substitutions)		

Marine and Atmospheric Chemistry:

ATM 205 Introduction to Atmospheric Sciences		
MAR 308 Principles of Instrumental Analysis		
MAR 333 Coastal Oceanography		
MAR 351 Introduction to Ocean Chemistry		
Two of the following: MAR 301, MAR 302, MAR 334, MAR 336, MAR 394, ATM 305, ATM 345, ATM 397		

Disclaimer: Academic Progress Sheets are only updated periodically at the student's request for use as an advising tool. The Undergraduate Bulletin supersedes any errors or omissions in the Academic Progress Sheets.

Notes:

- The following alternate sequences may be substituted for major requirements or prerequisites: MAT 125, MAT 126, MAT 127 or MAT 141, MAT 142 or MAT 171 or AMS 151, AMS 161 for MAT 131, MAT 132; AMS 210 or MAT 211 or AMS 261 for MAT 203. Equivalency for MAT courses as indicated by earning the appropriate score on a placement examination will be accepted as fulfillment of the requirement without the necessity of substituting other credits.
- The following alternate sequences may be substituted for physics requirements or prerequisites: PHY 141/PHY 133, PHY 142/PHY 134 or PHY 125, PHY 126/PHY 133, PHY 127/PHY 134 for PHY 131/PHY 133, PHY 132/PHY 134.
- It is recommended that students selecting the biological option take a minimum of one BIO lab (e.g., BIO 204).
- CHE 346/461 may not be used as both an elective and as a substitute for BIO 361.
- The following substitutions for ATM 397 need additional prerequisites: ENV 315/GEO 315 Groundwater Hydrology, MAR 336 Marine Pollution, MAR 351 Introduction to Ocean Chemistry
- At least 12 credits of upper-division work in chemistry must be taken at Stony Brook; these must be taken in at least two of the major subdisciplines (inorganic, physical, and organic chemistry).
- All required courses must be taken for a letter grade; P/NC grades are not acceptable. Courses used to fulfill the requirements of the major (CHE, MAT, PHY, BIO, etc.) must be passed with a grade of C or higher, with the exception of three courses, for which the grade may be C-. No transferred course with a grade lower than C may be used to fulfill any major requirement.
- The American Chemical Society's Committee on Professional Training has nationally recognized standards for professional preparation in chemistry. For ACS certification, students electing the Chemical Science Option must complete CHE 346 Biomolecular Structure and Reactivity or BIO 361 Biochemistry I. For ACS courses required for other Options, see the Undergraduate Bulletin.

OPTIONAL: American Chemical Society Certification Requirements

Not required for degree completion

The American Chemical Society's Committee on Professional Training has set nationally recognized standards for professional preparation in chemistry. The Chemistry faculty recommends that students intending to pursue careers in the chemical sciences secure ACS certification along with their Bachelor of Science degree.

To obtain ACS certification, students must complete courses beyond those required for the major.

Chemical Science concentration: must complete the following additional course(s):

Requirements	Met	Notes
CHE 346/461 or BIO 361		

Biological Chemistry concentration: must complete the following additional courses:

One additional elective in chemistry or a related field		
CHE 304		
one of the following: CHE 487 (6 or more credits), CHE 495-496, CHE 357 and CHE 487 (3 or more credits), or a research experience in the chemical sciences of at least 180 hours at another college, university, or government laboratory (see note)		

Chemical Physics concentration: must complete the following additional courses:

CHE 346/461		
One of the following: CHE 328 or CHE 384 and CHE 487 (3 or more credits), CHE 487 (6 or more credits), CHE 495-496, or a research experience in the chemical sciences of at least 180 hours at another college, university, or government laboratory (see note)		

Marine & Atmospheric Chemistry concentration: must complete the following additional courses:

CHE 346/461		
CHE 328 or CHE 384		
One of the following: CHE 487 (6 or more credits), CHE 495-496, CHE 357 and CHE 487 (3 or more credits), or a research experience in the chemical sciences at another college, university, or government laboratory of at least 180 hours (see note)		

Environmental Chemistry concentration: must complete the following additional courses:

CHE 346/461		
Either CHE 487 (3 credits), CHE 495-496, or a research experience in the chemical sciences at another college, university, or government laboratory of at least 180 hours (see note)		

Note: Students who fulfill ACS requirements with an off-campus research experience must register for CHE 487 (0 credits). All students who use CHE 487 to fulfill ACS requirements must prepare a written research report that will be evaluated by a Stony Brook Chemistry faculty member.