Stony Brook University

Becoming a Chemistry Teacher

Three Routes to New York State Certification

Stony Brook University offers three programs registered and approved by the New York State Education Department for individuals seeking New York State certification to teach chemistry in secondary schools, grades 7 – 12.

The **undergraduate** route to certification requires completion of a Bachelor of Arts in Chemistry degree or a Bachelor of Science in Chemistry degree with the Teacher Preparation option. (See page 2)

The **graduate** route to certification requires completion of the Master of Arts in Teaching degree, as well as completion of an undergraduate degree in chemistry (the equivalent of a Stony Brook University undergraduate chemistry degree). (See page 7)

The **combined** route to certification in which students obtain both the Bachelor of Science in Chemistry and Master of Arts in Teaching Chemistry degrees in 5 years, i.e., one additional year beyond the bachelor degree alone. (See page 11)

The Stony Brook program is aligned with the standards of the National Science Teachers Association (NSTA), National Council for Accreditation of Teacher Education (NCATE), the National Educators Association (NEA) Code of Ethics, Interstate New Teacher Assessment and Support Consortium (INTASC), and the National Board for Professional Teacher Standards (NBPTS).

For advisement, contact Chemistry Education Advisor, Dr. Susan Oatis, (631) 632-1571 (susan.oatis@sunysb.edu), or stop by the Department of Chemistry Office in Room 104, Chemistry Building.

For advisement on education courses, contact Dr. Jessica Chen, Program Advisor, (631-632-9750) (Jessica.L.Chen@stonybrook.edu), or Dr. Keith Sheppard, Director of the Science Education Program, (631) 632-2989, (Keith.Sheppard@stonybrook.edu).

Revised June 2025

Undergraduate Chemistry Teacher Preparation Program
Degree and Certification Requirements

The undergraduate chemistry teacher preparation program is based on completion of a BA or BS program in Chemistry, with required classes in the supporting sciences and secondary education. The BA program comprises over 53 credits of chemistry, physics, and mathematics, and the BS program (more commonly completed by candidates) over 65 credits. Over 220 hours of laboratory work is required, as is a course in scientific writing, ethics, and use of scientific literature. All candidates in the Teacher Preparation Program (BA or BS) must complete at least 36 credits of chemistry.

Additionally, teacher candidates take courses in biology and earth science beyond the requirements for the chemistry major.

All applicants to the Chemistry Teacher Preparation Program must:

- Apply to the program during second semester of sophomore year or first semester of junior year.
- Have taken at least 4 science lab courses.
- Achieve a cumulative GPA of 3.0 and a GPA of 3.0 in science courses.
- Contact the chemistry education advisor for a transcript review and to plan a course of study.
- Contact one of the science education program advisors for an interview.
- Fill out the Teacher Preparation Undergraduate Application Form (see https://www.stonybrook.edu/commcms/dtale/admissions/undergraduate.php). Attach an unofficial copy of your transcript(s) from all colleges and universities that you have attended, three letters of reference (at least two from university faculty) regarding your potential to become a teacher, and your essay. Submit all documents for approval by the Science Education Program Director.
- Declare a Teacher Preparation option by submitting the “Declaration of Major/Minor Form” with TP to the Registrar. Forms are available at the Registrar’s Office, the Undergraduate Chemistry advisor’s office in the Chemistry Building, and the Science Education Program Office, Life Sciences 061.
- Students should declare the major as soon as possible to be eligible for NYS Math and Science Teaching Incentive Scholarships. This declaration requires adding TP/ED to the first major on the major declaration form.

Contact information for program advisors can be found on the first page of this document.

Chemistry Content for Teacher Preparation Option

All required courses must be taken for a letter grade; P/NC grades are not acceptable. All of the courses used to fulfil 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 fulfil any major requirement.

A. Core Requirements

- CHE 129/130 or 131, 132 General Chemistry I, II or CHE 152 Molecular Science I
- CHE 133, 134 General Chemistry Lab I, II or CHE 154, Molecular Science Laboratory I
- CHE 301, 302 Physical Chemistry I, II
- CHE 303 Solution Chemistry Laboratory
- CHE 321, 322 Organic Chemistry I, IIB or CHE 331, CHE 332 Molecular Science II, III
- CHE 327 Organic Chemistry Laboratory or CHE 383 Introductory Synthetic and Spectroscopic Laboratory Techniques
- CHE 375 Inorganic Chemistry
- CHE 385 Tools of Chemistry
- MAT 131, 132 Calculus I, II (Substitutions are possible, see note 1)
- MAT 211 or AMS 210 Linear Algebra (Substitutions are possible, see note 1)
- PHY 131/133, 132/134 Classical Physics I, II or PHY 141,142 Honors Physics I, II or PHY 125, 126/133, 127/134

B. Area Requirements

One of the following options:

1) **Chemical Science Option**

- CHE 304 Chemical Instrumentation Laboratory
- CHE 384 Intermediate Synthetic and Spectroscopic Laboratory Techniques
- CHE 357 Molecular Structure and Spectroscopy Laboratory
- CHE 487 Research in Chemistry (3 credits) or CHE 495 - 496 Senior Research
- Two electives chosen from CHE 345/461, 346/461, 348/461, 351, 353, 358, 376, 378, PHY 251 or ESG 281

2) Biological Chemistry Option (see note 2)

- CHE 384 Intermediate Synthetic and Spectroscopic Laboratory Techniques
- One organic or inorganic chemistry elective: CHE 345/461, 346/461 (see note 3), 348/461, 351, 353, 358, 376, 378, or 495 - 496
- BIO 202 Fundamentals of Biology: Cell and Molecular Biology
- CHE 346/461 (recommended) or BIO 361 Biochemistry I
- BIO 310 Cell Biology or BIO 362 Biochemistry II
- It is recommended that students selecting the biological option take a minimum of one BIO lab (e.g., BIO 204)

3) **Chemical Physics Option**
- CHE 304 Chemical Instrumentation Laboratory
- CHE 351 or CHE 353 Quantum Chemistry or Chemical Thermodynamics
- CHE 357 Molecular Structure and Spectroscopy Laboratory
- MAT 203 Calculus III with Applications or MAT 303 Calculus IV (Substitutions are possible, see note 1)
- PHY 251/252 Modern Physics and Laboratory
- One elective chosen from: PHY 277 Computation for Physics and Astronomy, PHY 300 Waves and Optics, PHY 307 Physical and Mathematical Foundations of Quantum Mechanics, PHY 301 Electromagnetic Theory I , PHY 303 Mechanics, PHY 306 Thermodynamics, Kinetic Theory, and Statistical Mechanics (the last three courses require other physics prerequisites or permission of the instructor)

4) **Environmental Chemistry Option**
- 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 384 Intermediate Synthetic and Spectroscopic Laboratory Techniques
- BIO 201 Fundamentals of Biology: Organisms to Ecosystems or
  BIO 113 Applied Ecology
- ATM/MEC 397 Air Pollution and Its Control (Substitutions are possible, see note 4)

5) **Marine and Atmospheric Chemistry Option**
- ATM 205 Introduction to Atmospheric Science
- MAR 308 Principles of Instrumental Analysis
- MAR 333 Coastal Oceanography
- MAR 351 Introduction to Ocean Chemistry
- Two electives chosen from: MAR 301 Environmental Microbiology, MAR 302 Marine Microbiology and Microbial Ecology, MAR 334 Remote Sensing of the Environment, MAR 336 Marine Pollution, MAR 394 Environmental Toxicology and Public Health, ATM 305 Global Atmospheric Change, ATM 345 Atmospheric Thermodynamics and Dynamics, ATM 397 Air Pollution and Its Control

C. Upper-Division Writing Requirements

Each student majoring in chemistry must take CHE 385, Tools of Chemistry, until a satisfactory grade is achieved. The course requires several papers, which are evaluated for cogency, clarity and mechanics.

Notes:

1. Alternate Mathematics sequences: 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; MAT 203 for AMS 210 or MAT 211. MAT 203 may be replaced by AMS 261 and MAT 303 may be replaced by AMS 261. The Chemical Physics option requires two math courses in addition to Calculus I and II. 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.
2. It is recommended that students selecting the biological option take a minimum of one BIO lab (e.g., BIO 204)
3. CHE 346/461 may not be used as both an elective and as a substitute for BIO 361.
4. 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.
5. Transfer Credit: At least twelve credits of upper-division work in chemistry must be taken at Stony Brook; these must be taken in at least two of the major sub-disciplines (inorganic, physical, and organic chemistry).
6. To qualify for the General Science (7-12) certification, candidates must complete a minimum of 18 semester hours in two or more sciences other than chemistry.
7. All candidates in the Teacher Preparation program (BA or BS) are required to complete 36 credits of chemistry. See advisor for assistance with selection of additional courses if needed.

D. Required Additional Areas of Study

In addition to the mathematics and physics courses listed above for all chemistry majors, all chemistry teacher candidates are required to complete one course in biology (BIO 201 or BIO 202) and one course in earth and space sciences with lab (GEO 122 or GEO 102/112 or GEO 103/113 or AST 101/112 or ATM 102 or ATM 205).

E. Required Professional Studies in Education Courses

____PSY 327 Middle Childhood/Adolescent Development
____SSE 350 Foundations in Education
____LIN 344 Language Acquisition and Literacy Development
____CEF 347 Introduction to Special Education
____SCI 410 Pedagogy and Methods in Science Education I
____SCI 449 Field Experience I (co-requisite SCI 410)
____SCI 420 Pedagogy and Methods in Science Education II
____SCI 450 Field Experience II (co-requisite SCI 420)
____SCI 451 Supervised Student Teaching 7 – 9 (See note below)
____SCI 452 Supervised Student Teaching 10 – 12 (See note below)
____SCI 454 Student Teaching Seminar (See note below)

Note:

- Prior to admission to student teaching, candidates will be interviewed by a committee to assess their ability to speak extemporaneously about both chemistry concepts and pedagogical issues. Candidates who are not successful in this interview will be counseled in order to remedy deficiencies. Upon completion of the remediation another interview will be held. In the event that a candidate is unable to satisfy the interview component, the candidate will not advance to student teaching.
- 75 days of student teaching are required. Dependent on the semester and public school vacation schedules, student teaching may extend beyond the university semester calendar. Student teaching is divided into two placements of approximately equal duration, one in a middle school/junior high school and the other in a high school.

F. Field Experience
Field Experience sites for all teacher candidates are arranged through SCI 449 and SCI 450. Assignments and details are distributed in SCI 410 and SCI 420. New York State requires 100 hours of field experience in partnership schools prior to student teaching. Each teacher candidate is required to obtain 15 hours of field experience that include a focus on understanding the needs of students with disabilities. These hours will be noted on the Field Experience Time Sheets from SCI 449, SCI 450, or a combination of both. While earning these field experience hours, teacher candidates will be encouraged to observe inclusion (integrated co-teaching) classes in their certification area and other special education classroom situations as available.

G. State Tests, Mandated Seminars and Fingerprinting
- All teacher candidates must be fingerprinted at the start of SCI 410/SCI 449.
- Prior to student teaching, candidates must complete four mandated seminars, *Training in Child Abuse Recognition, Substance Abuse Education, School Violence and Intervention,* and *Dignity for All Students* (DASA). For details and to register for the seminars on campus, see http://www.sunysb.edu/spd/career/tworkshops.html.

New York State examinations required for teacher certification are:
- Educating All Students Test (EAS)
- Content Specialty Test (CST) in chemistry [Note: Candidates with a scaled score below 520 on the CST, or a sub-section score of 1, should meet with their departmental faculty advisor to review the content addressed in the exam.]
- For further information about the NYSTCE testing program, visit their website at http://www.nystce.nesinc.com/.

It is recommended that candidates take the EAS upon completion of PSY 327, CEF 347 and LIN 344, and take the CST upon completion of chemistry courses required for the major.

H. Language Requirement
Satisfaction of SBU's DEC Entry Skill 3/SBC LANG fulfills the foreign language requirement.

I. Professional Portfolio
The Professional Portfolio is presented and defended at the conclusion of student teaching. It includes many performance indicators of standards-based teaching competencies.

J. **General Science Certification and Certification in an Additional Science**
To qualify for the General Science (7-12) certification, candidates must complete a minimum of 18 semester hours in two or more sciences other than chemistry, i.e., total of at least 18 credits in two or more non-chemistry science courses. To qualify for certification in a second science, candidates need to complete a minimum of 18 semester hours in the second science and pass the associated CST exam.

Master of Arts in Teaching Chemistry

For an admission application to the Master of Arts in Teaching degree program and details about admission requirements (https://www.stonybrook.edu/commcms/spd/graduate/matscience) or contact the School of Professional Development at (631) 632-7055.

The faculty advisor for the MAT in Chemistry program is Dr. Susan Oatis, 631- 632-1571; email: susan.oatis@stonybrook.edu. Note that all MAT students seeking chemistry teacher certification must earn the equivalent of the Stony Brook undergraduate chemistry degree program before MAT program completion. For full details, consult the degree and certification requirements for the undergraduate chemistry program. Students plan an appropriate course of study in collaboration with the Chemistry Education Advisor.

A. Core Science Courses for Master of Arts in Teaching Degree
15 credits, including CHE 590 (M.S. Term Paper, see below*) and four graduate courses as appropriate in CHE and other science departments. Candidates may be asked to complete a placement test in chemistry to determine the appropriate level of coursework. There are no core requirements. Students choose from among this *illustrative* list of possible courses, or other graduate level science courses, with approval of the content advisor. Additionally, the MAT in Chemistry program allows, for instance, molecular biology courses dependent on student background. Consult Graduate Course Catalog for listing of other courses.

_____CHE 501 Instrumental Methods in Chemistry
_____CHE 502 Mechanistic Organic Chemistry
_____CHE 503 Synthetic Organic Chemistry
_____CHE 504 Structure and Reactivity in Organic Chemistry
_____CHE 511 Structural Inorganic Chemistry
_____CHE 511 Structural Inorganic Chemistry
_____CHE 514 Transition Metal Chemistry
_____CHE 515 Advanced Inorganic Chemistry
_____CHE 516 Solid State Chemistry
_____CHE 517 Structural Chemistry
_____CHE 518 Materials Chemistry
_____CHE 521 Quantum Chemistry 1
_____CHE 522 Molecular Spectroscopy
_____CHE 523 Chemical Thermodynamics
_____CHE 524 Magnetic Resonance
_____CHE 525 Theoretical Chemistry
_____CHE 528 Statistical Mechanics
_____CHE 530 Physical Chemistry of Macromolecules
_____CHE 534 Computing in Chemistry
_____CHE 535 Introduction to Computational Structural Biology and Drug Design
_____CHE 536 Molecular Modeling of Biological Molecules
_____CHE 541 Biomolecular Structure and Reactivity
_____CHE 542 Chemical Biology
_____CHE 543 Chemical Approaches to Biology

_____CHE 558 Physical Biology
_____CHE 559 Biological Dynamics and Networks
_____CHE 589 Directed Study
_____CHE 591 Chemistry in Society
_____CHE 593 Chemical Demonstrations
_____CHE 610/611 Practicum in Teaching

*The M.S. Term Paper is a substantial paper on some aspect of chemical science, technology, or pedagogy and it is to be prepared under the aegis of CHE 590. Guidelines for the literature master's paper are given below.

(i) Based on the topic of interest, the student will identify a faculty member to act as primary reader for the term paper. The student will register for the Master's Program Director's section of CHE 590, who will serve as the second reader. Both the primary reader and the Master's Program Director will evaluate the paper.

(ii) Selection of the topic: Considerable latitude is to be allowed for student interest, e.g., possible topics include a critical or historical evaluation of some concept in chemistry, an analysis of some aspect of chemical pedagogy, a short review article in some area of pure or applied chemistry, an original research proposition, or the observation, discussion, and interpretation of the work of a research group. The paper must include an original hypothesis or proposal. The student should meet with the Master's Program Director to approve the topic after the student has prepared an outline of the paper. The student and the Master's Program Director should have additional meetings as deemed necessary during the preparation of the paper.

(iii) It is expected that the master's term paper will be of significant length (20 pages is typical), and will be researched in depth, as evidenced by the referencing of current peer-reviewed journal articles. Style guidelines will be discussed with the Master's Program Director. Plagiarism is considered Academic Dishonesty. For additional information, visit the following website: http://guides.library.stonybrook.edu/citations

(iv) Evaluation of the literature master's paper: The student should submit one typed copy (original or photocopy) to the primary reader for review. After edits are completed on the first draft, the student will then submit the second draft to the Master's Program Director for review. Both readers will then review the final draft and they will determine the grade for the student's paper. The readers may approve, approve with alterations, or disapprove the paper. The grade for the course should then consist respectively of an A, A–, B+, B, B–, C, F or I. A student who receives a C, F or I has not successfully completed the requirements for the MAT degree.

(v) Preservation of the paper: Three final copies are to be submitted to the Master's Program Director. One copy is to be returned to the student, one kept by a member of the committee or in the student's file, and one placed in the Chemistry Library.

B. Required Additional Areas of Study

All Masters candidates seeking chemistry teacher certification must earn the equivalent of the Stony Brook undergraduate chemistry teacher preparation program. Therefore, consult the

undergraduate program described above. Please note that in addition to the mathematics and physics courses required for all chemistry majors, all chemistry teacher candidates are required to complete one course in biology and one course in earth and space sciences.
NOTE: To qualify for the General Science (7-12) certification, candidates must complete a minimum of 18 semester hours (undergraduate or graduate) in two or more sciences other than chemistry.

C. Required Professional Studies in Education Courses

____CEE 505 Education: Theory and Practice
____CEE 565 Human Development
____CEE 594 Language Acquisition and Literacy Development
____CEF 547 Principles and Practices of Special Education
____SCI 510 Introduction to Science Teaching (Methods of Teaching 1)
____SCI 549 Field Experience I (co-requisite SCI 510)
____SCI 520 Science Instructional Strategies & Techniques (Methods of Teaching 2)
____SCI 550 Field Experience II (co-requisite SCI 520)
____SCI 551 Supervised Student Teaching 10 – 12 (See * below)
____SCI 552 Supervised Student Teaching 7 – 9 (See * below)
____SCI 554 Student Teaching Seminar (See * below)

*** Notes:**

- Prior to admission to student teaching, candidates will be interviewed by a committee to assess their ability to speak extemporaneously about both chemistry concepts and pedagogical issues. Candidates who are not successful in this interview will be counseled in order to remedy deficiencies. Upon completion of the remediation another interview will be held. In the event that a candidate is unable to satisfy the interview component, the candidate will not advance to student teaching.
- Seventy-five days of student teaching are required. Depending on the semester and public school vacation schedules, student teaching may extend beyond the university semester calendar. Student teaching is divided into two placements of approximately equal duration, one in a middle school/junior high school and the other in a high school.

D. Field Experience

Field Experience sites for all teacher candidates are arranged through SCI 549 and SCI 550. Assignments and details are distributed in SCI 510 and SCI 520. New York State requires 100 hours of field experience in partnership schools prior to student teaching. Each teacher candidate is required to obtain 15 hours of field experience that include a focus on understanding the needs of students with disabilities. These hours will be noted on the Field Experience Time Sheets from SCI 549, SCI 550, or a combination of both. While earning these field experience hours, teacher candidates will be encouraged to observe inclusion (integrated co-teaching) classes in their certification area and other special education classroom situations as available.

E. State Tests, Mandated Seminars and Fingerprinting

- All teacher candidates must be fingerprinted at the start of SCI 510/SCI 549.
- Prior to student teaching, candidates must complete four mandated seminars, *Training in Child Abuse Recognition, Substance Abuse Education, School Violence and Intervention,* and

Dignity for All Students (DASA). For details and to register for the seminars on campus, see http://www.sunysb.edu/spd/career/tworkshops.html.

New York State examinations required for teacher certification are:

- Educating All Students Test (EAS)
- Content Specialty Test (CST) in chemistry [Note: Candidates with a scaled score below 520 on the CST, or a sub-section score of 1, should meet with their departmental faculty advisor to review the content addressed in the exam.]
- For further information about the NYSTCE testing program, visit their website at http://www.nystce.nesinc.com/.

It is recommended that candidates take the EAS upon completion of CEE 565, CEF 547 and CEE 594, and take the CST during SCI 510.

F. Language Requirement:

New York State certification requires 6 credits of a foreign language or its equivalent. (Satisfaction of SBU's DEC Entry Skill 3/SBC LANG fulfills this requirement.) Bilingual students may satisfy this requirement by taking the CLEP exam in foreign language. (http://www.collegeboard.com/student/testing/clep/ex_foreign.html)

G. Professional Portfolio

The Professional Portfolio is presented and defended at the conclusion of student teaching. It includes many performance indicators of standards-based teaching competencies.

H. Middle Level Extension

Candidates who wish to qualify to teach grades 5 and 6 in a middle school setting may obtain an extension to their grades 7-12 certification by completing two additional courses prior to graduation. The courses are: CEE 601 Early Adolescent Development and CEE 602 Middle Child Education-Instruction. More information about these courses can be found on the SPD website (www.stonybrook.edu/spd).

I. General Science Certification and Certification in an Additional Science

To qualify for the General Science (7-12) certification, candidates must complete a minimum of 18 semester hours in two or more sciences other than chemistry, i.e., total of at least 18 credits in two or more non-chemistry science courses. To qualify for certification in a second science, candidates need to complete a minimum of 18 semester hours in the second science and pass the associated CST exam.

Five-Year BS/MAT Chemistry Teacher Preparation Program
Degree and Certification Requirements

The BS/MAT Chemistry teacher preparation program is based on completion of a combined BS in Chemistry and Master of Arts in Teaching in Chemistry. It is possible to complete both degrees in 5 years (instead of 5 ½ years) because of credit sharing between the programs. This program requires a combination of the courses that are required for each of the individual degree programs. A complete description follows below.

All applicants to the BS/MAT Chemistry Teacher Preparation Program must:

- Have taken at least 4 science lab courses.
- Contact the chemistry education advisor for a transcript review and to plan a course of study.
- Achieve a cumulative GPA of 3.00 and a GPA of 3.00 in science courses.
- Apply for the combined program by the end of the junior year.
- Complete the BS/MAT application that is found on the School of Professional Development web site (https://www.stonybrook.edu/commcms/spd/graduate/ba_mat.php).
  - SPD Student Application/Information Sheet
  - Three (3) letters of recommendation
  - Official transcript from each college or university attended
  - Application Essay
  - Any additional items required by the School of Professional Development
- Submit application prior to SPD deadline (See www.stonybrook.edu/spd for details.)

Upon entry to the program, candidates must declare a Teacher Preparation option along with their Undergraduate major by submitting the "Declaration of Major/Minor Form" with TP to the Registrar. Forms are available at the Registrar's Office, the Undergraduate Chemistry advisor's office in the Chemistry Department Office, and the Science Education Program Office, Life Sciences 092.

Number of semesters of full-time study required for program completion at the undergraduate and graduate levels.

Students should apply to the combined BS/MAT program during their fifth or sixth semester of study. The first six semesters of the program are full time study at the undergraduate level. Semesters seven and eight will include a mix of undergraduate and graduate courses. Semesters nine and ten will consist of graduate courses only. Candidates will generally advance to Graduate status during their eighth semester.

Note: The two degrees are conferred only when the entire combined degree program has been completed. Both degrees are conferred together unless the student elects to exit the combined degree program and receive only a BS in Chemistry.

Additional Requirements

Student Teaching

Prior to admission to student teaching, candidates will be interviewed by a committee to assess their ability to speak extemporaneously about both chemistry concepts and pedagogical issues. Candidates who are not successful in this interview will be counseled in order to remedy deficiencies. Upon completion of the remediation another interview will be held. In the event that a candidate is unable to satisfy the interview component, the candidate will not advance to student teaching.

Seventy-five days of student teaching are required. Depending on the semester and public school vacation schedules, student teaching may extend beyond the university semester calendar. Student teaching is divided into two placements of approximately equal duration, one in a middle school/junior high school and the other in a high school.

Field Experience

Field Experience sites for all teacher candidates are arranged through SCI 549 and SCI 550. Assignments and details are distributed in SCI 510 and SCI 520. New York State requires 100 hours of field experience in partnership schools prior to student teaching. Each teacher candidate is required to obtain 15 hours of field experience that include a focus on understanding the needs of students with disabilities. These hours will be noted on the Field Experience Time Sheets from SCI 549, SCI 550, or a combination of both. While earning these field experience hours, teacher candidates will be encouraged to observe inclusion (integrated co-teaching) classes in their certification area and other special education classroom situations as available.

State Tests, Mandated Seminars and Fingerprinting

- All teacher candidates must be fingerprinted when starting SCI 510/SCI549.
- Prior to student teaching, candidates must complete four mandated seminars, *Training in Child Abuse Recognition, Substance Abuse Education, School Violence and Intervention,* and *Dignity for All Students* (DASA). For details and to register for the seminars on campus, see http://www.sunysb.edu/spd/career/tworkshops.html.

New York State examinations required for teacher certification are:

- Educating All Students Test (EAS)
- Content Specialty Test (CST) in chemistry [Note: Candidates with a scaled score below 520 on the CST, or a sub-section score of 1, should meet with their departmental faculty advisor to review the content addressed in the exam.]
- For further information about the NYSTCE testing program, visit their website at http://www.nystce.nesinc.com/.

It is recommended that candidates take the EAS upon completion of PSY 327/CEE 565, CEF 347/547 and LIN 344/CEE 594, and take the CST during SCI 510.

Language Requirement

Satisfaction of SBU's Entry Skill 3/SBC LANG requirement (at least one year (6 credits) of college level study of a foreign language) fulfills the foreign language requirement.

Professional Portfolio

The Professional Portfolio is presented and defended at the conclusion of student teaching. It includes many performance indicators of standards-based teaching competencies.

Middle Level Extension
Candidates who wish to qualify to teach grades 5 and 6 in a middle school setting may obtain an extension to their grades 7-12 certification by completing two additional courses prior to graduation. The courses are: CEE 601 Early Adolescent Development and CEE 602 Middle Child Education-Instruction. More information about these courses can be found on the SPD website (www.stonybrook.edu/spd).

General Science Certification and Certification in an Additional Science
To qualify for the General Science (7-12) certification, candidates must complete a minimum of 18 semester hours in two or more sciences other than chemistry, i.e., total of at least 18 credits in two or more non-chemistry science courses. To qualify for certification in a second science, candidates need to complete a minimum of 18 semester hours in the second science and pass the associated CST exam.

Chemistry BS/MAT – Sample Course Sequence

	UG	G		UG	G
Semester 1			**Semester 2**		
CHE 131 or 141	4		CHE 132 or 142	4	
CHE 133 or 143	1		CHE 134 or 144	1	
MAT 125	3		MAT 126	3	
SBU 101	1		BIO or GEO	3	
DEC/SBC	3		DEC/SBC	3	
DEC/SBC	3		DEC/SBC	3	
Semester 3			**Semester 4**		
CHE 321	3		CHE 322 or 326	3	
CHE 383	2		CHE 384	3	
MAT 127	3		CHE 385	1	
GEO or BIO	3		MAT 211 or AMS 210	3	
DEC/SBC	3		DEC/SBC	3	
DEC/SBC	3		DEC/SBC	3	
Semester 5			**Semester 6**		
CHE 301	4		CHE 302	4	
CHE 303	2		CHE 304	2	
PHY 131, 133	4		DEC/SBC	3	
PSY 327	3		PHY 132, 134	4	
*Foreign Lang.	4		SSE 350	3	
Semester 7			**Semester 8**		
CHE 375	3		SCI 510		3
CHE 357	2		SCI 549		1
CHE 310	3		CEE 594		3
CHE 495	3		CHE 496	3	
DEC/SBC	3		Grad 2		3
Grad 1		3	DEC/SBC	3	
Semester 9			**Semester 10**		
SCI 520		3	SCI551		3
SCI 550		1	SCI552		3
Grad 3		3	SCI554		3
Grad 4		3			
CHE 590**		3			
CEF 547		3			

*Satisfaction of SBU's DEC Entry Skill 3/SBC LANG fulfills the foreign language requirement.
**A substantial paper on some aspect of chemical science, technology, or pedagogy is to be prepared under the aegis of CHE 590. The subject should be chosen in consultation with the faculty advisor, in whose section of CHE 590 the student will register. See page 8 of this information packet for more details about the expectations associated with CHE 590.

The above listing of courses provides a suggested sequence for coursework. There is a degree of flexibility in the order of courses, but any deviation from the above without permission of chemistry teacher preparation advisor may lead to delay in completion of the program. A student wishing to complete this five-year combined program is strongly encouraged to consult with the chemistry teacher preparation advisor for individualized guidance in course selection.