

## **Five-Year BS/MAT Physics Teacher Preparation Program Degree and Certification Requirements**

The BS/MAT physics teacher preparation program is based on completion of a combined BS in Physics and Master of Arts in Teaching in Physics. 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 satisfy the requirements of both programs. See both the BS teacher preparation program (p. 2) and the MAT program (p.7). Students in the BS/MAT program, with the consent of the physics education advisor, satisfy some of their requirements for the BS by taking appropriate graduate courses, each of which contains the content of a required undergraduate course plus additional requirements.

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

- Have taken at least 4 science lab courses.
- Contact the physics 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](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 the SPD website for details: [www.stonybrook.edu/spd](http://www.stonybrook.edu/spd))

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 Physics advisor’s office in the Physics Department Office, and the Science Education Program Office, Life Sciences 061.

### **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 mostly of graduate courses. 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 Physics.

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**Five Year BS/MAT Program – Sample Course Sequence**

**Sample Course sequence for a PHY major in the BS/MAT program**

<b>Fall, Freshman Year</b>	<b>cr</b>	<b>gc</b>	<b>Spring, Freshman Year</b>	<b>cr</b>	<b>gc</b>
MAT131: Calc. 1 SBC: QPS	4		MAT132: Calc. 2	4	
PHY 131/133: Physics 1/Lab SBC: SNW	4		PHY 132/134: Physics 2/Lab	4	
SPN 111: Elementary Spanish I*	3		SPN 112: Elementary Spanish II* SBC: LANG	3	
WRT 102: Writing SBC: WRT	3		HIS 113:US History since 1877 SBC: SBS, USA	3	
Freshman Seminar (101)	1		Freshman Seminar (102)	1	
<b>Total</b>	<b>15</b>		<b>Total</b>	<b>15</b>	
<b>Fall, Sophomore Year</b>			<b>Spring, Sophomore Year</b>		
MAT 307: Calc 3/Lin Alg	4		MAT 308: Calc 4/Lin Alg	4	
PHY 251/252: Modern/Lab SBC: STEM+	4		PHY 300: Waves & Optics	4	
PHY 277 Programming SBC: TECH	3		PHY 335 Electronics Lab	3	
CCS 101: Cinema SBC: ARTS, HUM	3		PHY 287: Research EXP+	3	
Elective	3		Elective	3	
<b>Total</b>	<b>17</b>		<b>Total</b>	<b>17</b>	
<b>Fall, Junior Year</b>			<b>Spring, Junior Year</b>		
PHY 301: Elec/Mag	3		PHY 306: thermo and statistical mechanics	3	
MAT 341: Applied Real Analysis	3		GEO 102/112: The Earth/Lab	4	
BIO 201/204 Organisms to Ecosystems/Lab	5		CHE 131/133 Chemistry 1B/Lab	5	
HUR 235: Crime Punish SBC: CER, GLO, HUM	3		AST 248: Search for Life SBC: STAS	3	
Elective	3				
<b>Total</b>	<b>17</b>		<b>Total</b>	<b>15</b>	
<b>Fall, Senior Year</b>			<b>Spring, Senior Year</b>		
PHY 573: Mechanics for Teachers		3	PHY 578: Quantum Physics for Teachers		3
PHY 600: Teaching Practicum		3	PHY 570: Introductory Physics Revisited		3
PHY 487: Research SBC: EXP+	3		CEE 505: Education: Theory and Practice		3
HIS 396: Topics in US History SBC: SBS+	3		SCI 410: Methods I	3	
Elective	3		SCI 449: Field Experience I	1	
			LIN 344: Literacy Development	3	
<b>Total</b>	<b>9</b>	<b>6</b>	<b>Total</b>	<b>7</b>	<b>9</b>
<b>Fall, Graduate Year</b>			<b>Spring, Graduate year</b>		
PHY 445: Advanced Lab SBC: ESI	3	0	SCI 551 Student Teaching 7-9		3
PHY 458: Speak Effectively SBC: SPK	0		SCI 552 Student Teaching 10-12		3
PHY 600: Teaching Practicum		3	SCI 554 Student Teaching Seminar		3
CEE 565: Human Development		3			
SCI 520: Methods II		3			
SCI 550: Field Experience II		1			
CEF 547: Special Education		3			
PHY 459 Write Effectively SBC: WRTD	0				
<b>Total</b>	<b>3</b>	<b>13</b>	<b>Total</b>	<b>0</b>	<b>9</b>

\*Satisfaction of SBU's SBC LANG fulfills the foreign language requirement.

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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 physics teacher preparation advisor may lead to a delay in completion of the program.

A student wishing to complete this 5 year combined program is strongly encouraged to consult with the physics teacher preparation advisor for individualized guidance in course selection.

### 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 physics 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 449/549 and SCI 450/550. Assignments and details are distributed in SCI 410/510 and SCI 420/520. New York State requires 100 hours of field experience in secondary schools prior to student teaching. Each teacher candidate is required to obtain 15 hours of field experience that includes a focus on understanding the needs of students with disabilities. These hours will be noted on the Field Experience Time Sheets from SCI 449/549, SCI 450/550, or a combination of both. In 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 during SCI 410/510.
- Prior to student teaching, candidates must complete five 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 has revised the examinations required for teacher certification, effective May 2014. The new requirements are:

- Educating All Students Test (EAS)
- Content Specialty Test (CST) in physics [Note: It is a program requirement that candidates with a score lower than 220 on any sub-section of the CST must pass an alternate exam on the concepts of that section which will be administered by departmental faculty.]
- Teacher Performance Assessment (edTPA) - This is a portfolio assessment that is prepared

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during the student teaching semester.

- 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 CEF 347/547 and LIN 344/CEE 594, and take the CST upon completion of the undergraduate physics major. The edTPA will be completed during student teaching.

### **Language Requirement:**

New York State certification requires at least one year (6 credits) of college level study of a foreign language. Satisfaction of SBU's SBC LANG 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.

### **General Science Certification:**

In order to qualify for the General Science (grade 7 – 12) certification, candidates must complete a minimum of 18 semester hours in two or more sciences other than physics.

### **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](http://www.stonybrook.edu/spd)).