

# **Department of Physics and Astronomy**

# BS/MAT Dual Certification Program: BS Physics, MAT Physics & Teacher of Students w. Disabilities

20		
1	PHYS 470 Solid State Physics	4
6		3
		1-4
3	C. Collateral Requirements	(26-27)
		3
		4
	CHEM 121 General Chemistry II	4
		4
(0)		4
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		3
1		3
2		4
3	of MATH 323 Differential Equations	4
3	4 Teacher Education Program Requirements	<u>30</u>
	ĕ 1	30
3		
	• • •	(2) 444
		(3) ***
0	or FSHD 216 Adolescent Development	
	SASE 210 Dublic Durnoses of Ed: Democracy & Schooling	(3) ***
65.66	SASE 210 Public Purposes of Ed. Democracy & Schooling	(3)
	PROFESSIONAL SEQUENCE TAKEN AS US	
		21
		9
3	Apply to the Teacher Education Program.	
3	No Professional Sequence courses taken this semester.	
4	First Semester Junior Year	
1	SPED 279 Foundation & Phil. of Inclusive Ed.	3
3	SASE 320 Curriculum Design for Inclusive Classrooms	3
4	SASE 321 Assessment Practices for Inclusive Classrooms	3
3	(Second Semester Junior Year)	
3	SASE 322 Lang. & Learning in Content-Area Teaching	3
3	SPED 469 Inclusive Methods for Middle/Sec. Schools	3
	(First Semester Senior Year)	
<u>(3)</u>	SPED 483 Adv. Inclusive Methods for Middle/Sec. Schools	3
4	SPED 488 Promoting Prosoc. Behav. in Inclusive Settings	3
4	(Second Semester Senior Year)	
4	*SPED 566 Creating Curric. Access Adolescents w. Disabil.	3
3	*SPED 586 Ed. Planning for Adolescents w. Disabilities	3
3	*SPED 690 Action Research in Inclusive Settings	3
4	*Count for credit on both the UG and Graduate levels.	
4		
3	5. Free Electives	<u>1 - 2</u>
3		
	TOTAL UNDERGRADUATE CREDITS	120
		120
	*** EDFD 200 fulfills K3 Social Science rea	
	-	
3	***SASE 210 fulfills L Elective requirement	
	3 (0) (0) (0) (0) (1) 3 3 3 3 0 (36) 4 4 1 3 3 3 4 4 4 4 3 3 3 4 4 4 4 4 3	1 PHYS 470 Solid State Physics 6 PHYS 480 Astrophysics PHYS 495 Research/Indep. Study in Phys  3 C. Collateral Requirements CSIT 104 Computational Concepts CHEM 120 General Chemistry I CHEM 121 General Chemistry II MATH 122 Calc. I or AMAT 120 Applied Calc. A (0) MATH 221 Calc. II or AMAT 220 Applied Calc. B (0) MATH 221 Calc. II or AMAT 220 Applied Calc. B (0) MATH 222 Calculus III (0) and choose one of the following options: 1 AMAT 350 Applied Mathematics I or PHYS 377 Mathematical Physics 3 Or MATH 325 Differential Equations  4. Teacher Education Program Requirements PRE-PROFESSIONAL SEQUENCE (Freshman Year/First Semester Sophomore Year) EDFD 200 Psychological Foundations of Education or PSYC 200 Educational Psychology 0 or FSHD 216 Adolescent Development  SASE 210 Public Purposes of Ed: Democracy & Schooling  65-66 (36) PROFESSIONAL SEQUENCE TAKEN AS UG UNDERGRADUATE LEVEL COURSES 4 GRADUATE LEVEL COURSES 4 GRADUATE LEVEL COURSES 4 GRADUATE LEVEL COURSES 1 (Second Semester Sophomore Year) Apply to the Teacher Education Program. No Professional Sequence courses taken this semester. First Semester Junior Year 1 SPED 279 Foundation & Phil. of Inclusive Ed. 3 SASE 321 Assessment Practices for Inclusive Classrooms SASE 321 Assessment Practices for Inclusive Classrooms (Second Semester Junior Year) 3 SASE 321 Assessment Practices for Inclusive Classrooms (Second Semester Junior Year) 3 SASE 321 Assessment Practices for Inclusive Classrooms (Second Semester Junior Year)  SASE 321 Assessment Practices for Inclusive Classrooms (Second Semester Junior Year)  SASE 320 Assessment Practices for Inclusive Settings (Second Semester Senior Year)  SPED 469 Inclusive Methods for Middle/Sec. Schools (First Semester Senior Year)  *SPED 586 Ed. Planning for Adolescents w. Disabil. *SPED 586 Ed. Planning for Inclusive Settings (Second Semester Senior Year)  *SPED 586 Ed. Planning for Inclusive Settings *Count for credit on both the UG and Graduate levels.  *SPED 590 Action Research in Inclusive Settings *Count for credit on both

GRADUATE PROFESSIONAL SEQUENCE COURSES	
GRADUATE COURSES TAKEN AT THE UNDERGRADUATE LEVEL	<u>9</u>
SPED 566 Creating Curricular Access for Adolescents with Disabilities	3
SPED 586 Educational Planning for Adolescents w. Disabilities	3
SPED 690 Action Research in Inclusive Settings	3
GRADUATE COURSES TAKEN AT THE GRADUATE LEVEL	<u>22</u>
(Fall)*	
BIOL 503 Teaching Science in Secondary Schools	4
SASE 527 Clinical Practice I	3
SASE 526 Seminar in Inclusive Pedagogies	3
SASE 584 Assessment/Evaluation in the Inclusive Classroom	3
GRAD CMP Comprehensive Examination	0
(Spring)*	
SASE 529 Clinical Practice II	6
SASE 543 Advanced Seminar in Inclusive Pedagogies	3
TOTAL CRADUATE LEVEL CREDITS	21
TOTAL GRADUATE LEVEL CREDITS	31

The graduate program of study only is offered in the semester sequence shown above, beginning with summer courses and culminating with Clinical Practice II in the spring semester.

## ADDITIONAL STUDENT RESPONSIBILITIES

Students are responsible for completing additional requirements necessary to be recommended to the state of New Jersey for instructional certification and for being aware of University policies and deadlines. These include:

Physiology and Hygiene requirement—must pass University-approved course or University-approved test.

**Praxis Exam**—must pass all state-required Praxis Subject Assessment exams for the certification area prior to student teaching.

**Advisement**—must meet with advisors each semester to review registration and completion of degree requirements.

**Teacher Education Program Handbook**—must be familiar with policies, procedures, and deadlines of the Teacher Education Program.

**Final Audit**—must file the proper Audit forms in the Office of the Registrar for graduation *and* certification.

**edTPA** – students must successfully complete the edTPA in order to become certified in New Jersey. This is completed during Clinical Practice II.

<sup>\*</sup> A Clinical Internship Application must be submitted the semester prior to the Clinical Practice I semester. The application is due March 1 for fall Clinical Practice I/Seminar in Inclusive Pedagogy or October 1 for spring Clinical Practice I. Late applications cannot be accepted. All courses listed in the undergraduate program must be completed satisfactorily before being permitted to enroll in Clinical Practice I/Seminar in Inclusive Pedagogy.

<sup>\*\*</sup> A Clinical Practice II audit is conducted by the Secondary and Special Education Department to verify that all student teaching requirements have been met prior to the Clinical Practice II semester. All requirements must be met by December 15th for spring Clinical Practice II. Requirements include successful completion of all program coursework, submission of passing Praxis Subject Assessment scores and acceptable overall/major GPA as outlined in the Teacher Education Program Handbook.

# Suggested Sequence for Five-Year Plan BS Physics Major – MAT Physics & Teacher of Students w. Disabilities

#### First Year

Fall (Freshman) or First Semester (16 credits)	Spring (Freshman) or Second semester (19 credits)
I. PHYS 191 University Physics I (4)	PHYS 192 University Physics II (4)
MATH 122 Calc I or AMAT 120 App. Calc A (4)*	PHYS 198 Introductory Physics Seminar (1)
CHEM 120 General Chemistry I (4)	MATH 221 Calc II or AMAT 220 App. Calc B (4)*
C1. Writing (3)	CHEM 121 General Chemistry II (4)
A. New Student Seminar (1)	C2. Literature (3)
	K3. Teacher Ed. Prereq. Course (EDFD 200) (3)**

#### **Second Year**

Fall (Sophomore) or Third Semester (16 credits)	Spring (Sophomore) or Fourth Semester (15 credits)
PHYS 210 Intermediate Mechanics (3)***	PHYS 340 Electricity and Magnetism (3)***
MATH 222 Calculus III (4)	PHYS 320 Statistical and Thermal Physics (3)***
K1, K2 Gen. Ed. or World Cultures Course (3)	AMAT 350 or PHYS 377 (3) [or MATH 325 (4)]
L. Teacher Ed. Prereq. Course (SASE 210) (3)**	G. CSIT 104 Computational Concepts (3)
World Language I (3)	D, F1, or F2 Gen. Ed Course (3)

# **Third Year**

Fall (Junior) or Fifth Semester (17 credits)	Spring (Junior) or sixth Semester (15 credits)
PHYS 220 Oscillations, Waves, & Optics (3)***	PHYS 360 Modern Physics (3)***
PHYS 230 Intermediate Physics Lab (4)	Physics Elective Course (3-4)
PHYS 300 Junior/Senior Physics Seminar (1)	SASE 322 Lang. & Learning in Content-Area Teaching (3)
SPED 279 Foundation & Phil. of Inclusive Ed. (3)	SPED 469 Inclusive Methods for Middle/Sec. Schools (3)
SASE 320 Curriculum Design for Inclusive Classrooms (3)	J. Physical Education (1)
SASE 321 Assessment Practices for Inclusive Classrooms (3)	Free Elective (1-2)

# **Fourth Year**

Fall (Senior) or Seventh Semester (13 credits)	Spring (Senior) or Eighth Semester (9 credits)
PHYS 464 Quantum Mechanics (3)	SPED 566 Creating Curric. Access Adolescents w. Dis. (3)
PHYS 330 Advanced Physics Lab (4)	SPED 586 Ed. Planning for Adolescents w. Disabilities (3)
SPED 483 Adv. Inclusive Methods for Middle/Sec. Schools (3)	SPED 690 Action Research in Inclusive Settings (3)
SPED 488 Promoting Prosoc. Behav. in Inclusive Settings (3)	

### Fifth Year

Fall (Grad, Year 1) or Ninth Semester (13 credits)	Spring (Grad, Year 1) or Tenth Semester (9 credits)
BIOL 503 Teaching Science in Secondary Schools (4)	SASE 529 Clinical Practice II (6)
SASE 527 Clinical Practice I (3)	SASE 543 Advanced Seminar in Inclusive Pedagogy (3)
SASE 526 Seminar in Inclusive Pedagogy (3)	
SASE 584 Assessment/Evaluation in the Inclusive Classroom (3)	
GRAD CMP Comprehensive Examination (0)	

Note: After Year 1, General Education, World Languages/Cultures, and free electives can be taken in any sequence, excepting general education courses that serve as Teacher Education Prerequisite Courses.

<sup>\*</sup>Students who do not have a strong (4 year) background in high school mathematics, including exponential, logarithmic, and trigonometric functions are advised to take MATH 111 Applied Precalculus before Calculus I.

<sup>\*\*</sup>Students may take either EDFD 200 or PSYC 200 or FSHD 216, but not SASE 210 in Spring of Freshman year.

<sup>\*\*\*</sup>The PHYS 210, 320, 340 and PHYS 220, 360 sequences are offered in alternate years and can be taken in Year 2 or Year 3. Most 200-level and higher physics courses are offered on an alternate-year schedule.