

Physics and Mathematics Bachelor of Science in Education: Secondary Education

Program Code: UCOESEUPM
Version Number: 2118-Fall 2011
Program Effective: August 29, 2011
Credit Total: 128

GENERAL EDUCATION		
I. University Core: 12 S.H.	GR.	S.H.
a. Oral Communication: COM 010 or above		3
b. Written Communication: ENG 023, 024 or 025 ♦		3
c. Mathematics: MAT 181 (suggested) ♦		#
d. Wellness: Any 3 credit HEA course		3

II. University Distribution: 15 S.H.	GR.	S.H.
a. Natural Sciences: Any lab or non-lab course with prefix AST, BIO, CHM, ENV, GEL, MAR, NSE or PHY; or certain GEG courses with advisement BIO 104 (suggested)		#
b. Social Sciences: Any course with prefix ANT, CRJ, ECO, HIS, MCS, POL, PSY, SOC, SSE or SWK; or certain GEG courses with advisement		3
c. Humanities: Any course with prefix ENG, HUM, PAG, PHI, WGS, WRI, or Modern Language ENG 010 or higher (English Literature) (suggested) ♦		3
d. Arts: Any course prefix ARC, ARH, ART, CDE, CDH, CFT, DAN, FAR, FAS, MUP, MUS, or THE		3
e. Free Elective: PHY 100 (suggested)		#

IV. College Distribution: 21 S.H.	GR.	S.H.
a. Math: MAT 182 (suggested) ♦		#
b. Special Education: SPU 201 Cognitive Development		#
c. Technology: ITC 321 Instructional Technology in Education		3
d. 12 credits required by major but fulfilling General Education requirements		
COURSE: CHM 100 (suggested)		#
COURSE: CHM 102 (suggested)		#
COURSE: MAT 283 (suggested)		#

III. Competencies Across the Curriculum	S.H.
A. Writing Intensive (WI) (9 credits/3 three credit courses) COURSE: SEU 312 COURSE: SEU 342 COURSE: SEU 321-325, 410	9
B. Quantitative Literacy (QL) (3 credits) OR Computer Intensive (CP) (3 credits) COURSE: ITC 321	3
c. Visual Literacy (VL) (3 credits) OR Communication Intensive (CM) (3 credits) COURSE: SEU 342	3
D. Cultural Diversity (CD) (3 credits) COURSE: SEU 312	3
E. Critical Thinking (CT) (3 credits) COURSE: EDU 100	3

VI. Clinical Component: 39 S.H.	GR.	S.H.
EDU 100 Perspectives on American Education		3
SPU 201 Cognitive Development of Diverse Learners in a Standards Aligned System #		3
SPU 314 Effective Instructional Strategies for Students with Disabilities in Inclusive Settings		3
¹ SEU 312 Principles of Learning		3
¹ SEU 313 Principles of Learning Clinical Lab (must be taken with accompanying lecture-SEU 312)		3
¹ SEU 342 Principles of Teaching		3
¹ SEU 343 Principles of Teaching Clinical Lab (must be taken with accompanying lecture-SEU 342)		3
EDU 326 Introduction to Middle Level Education (recommended)		
¹ SEU 410 Science Instructional Methods for Middle and High School		3
¹ SEU 323 Methods of Teaching Secondary School Subject: Mathematics		3
SEU 390/391 Clinical Experience and Practicum I and II		12
Total		

¹Teacher Candidacy must be achieved for these courses and a minimum grade of B- is required.

TEACHER CANDIDACY REQUIREMENTS

Requirements must be met upon reaching 48 credit hours

- Required Basic Skills Assessment
- Required Grade Point Average
- C or better in ENG 023 or 025
- C or better in ENG literature course
- C or better in two mathematics courses
- Completion of Education Exploration hours

♦These courses require a grade of "C" or better

B.S. in Secondary Education – Physics and Mathematics

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V. SPECIALIZATION: 67-68 S.H.		
1. Required Courses: 65 S.H.	GR.	S.H.
BIO 104 Principles of Biology	#	4
CHM 100 General Chemistry I	#	4
CHM 102 General Chemistry II	#	4
MAT 181 Calculus I	#	4
MAT 182 Calculus II	#	4
MAT 224 Foundations of Higher Mathematics		3
MAT 283 Calculus III	#	4
MAT 301 Probability and Statistics I		3
Select one of the following two courses:		
MAT 240 Synthetic Geometry		3
MAT 320 Geometry and the Real Numbers		
Select one of the following two courses:		
MAT 260 Linear Algebra		3
MAT 340 Differential Equations		
MAT 311 Abstract Algebra I		3
MAT _____ Elective @ 200 level or above		3
Select one of the following two courses:		
CSC 112 Visual Basic Programming		3
CSC 135 Computer Science I		
PHY 100 Physics I	#	4
PHY 102 Physics II		4
PHY 212 Modern Physics I		3
PHY 312 Mechanics I		4
PHY 315 Advanced Physics Laboratory I		2
PHY 316 Electricity and Magnetism		3
Total		
2. Electives: 2/3 S.H. to be selected from the following:		
Choose one course from the following:		
PHY 220 Electronics		3
PHY 230 Optics		3
PHY 319 Advanced Physics Laboratory II		2
PHY 327 Heat and Thermodynamics		3
PHY 360 Quantum Mechanics		3
Total		

Courses cross-list with General Education

Program:		BSED SEU/PHYSICS & MATHEMATICS			
FIRST YEAR					
<i>Fall Semester</i>			<i>Spring Semester</i>		
Course	Title	C.H.	Course	Title	C.H.
EDU 100CT	Perspectives on American Education	3	SPU 201	Cognitive Development of Diverse Learners in a Standards Aligned System	3
COM 010	Fundamentals of Oral Communication	3	MAT 017 or above	Mathematics General Education Requirement	3 or 4
ENG 23, 24 or 25	College Composition	3		ENG Literature Course (Humanities General Education Requirement)	3
MAT 017 or above	Mathematics General Education Requirement	3 or 4		PHY & MAT Required Course	3 or 4
	PHY & MAT Required Course	3 or 4		PHY & MAT Required Course	3 or 4
Total		15 or 17	Total		15 or 18
SECOND YEAR					
<i>Fall Semester</i>			<i>Spring Semester</i>		
Course	Title	C.H.	Course	Title	C.H.
ITC 321CPVL	Instructional Technology in Education	3	SPU 314	Effective Instructional Strategies for Students with Disabilities in Inclusive Settings	3
	General Education Requirement (Wellness, Social Sciences, Natural Sciences, or Arts)	3		General Education Requirement (Wellness, Social Sciences, Natural Sciences, or Arts)	3 or 4
	General Education Requirement (Wellness, Social Sciences, Natural Sciences, or Arts)	3 or 4		General Education Requirement (Wellness, Social Sciences, Natural Sciences, or Arts)	3 or 4
	PHY & MAT Required Course	3 or 4		PHY & MAT Required Course	3 or 4
	PHY & MAT Required Course	3 or 4		PHY & MAT Required Course	3 or 4
	PHY & MAT Required Course	3 or 4		PHY & MAT Required Course	3 or 4
Total		18 or 22	Total		18 or 23
THIRD YEAR					
<i>Fall Semester</i>			<i>Spring Semester</i>		
Course	Title	C.H.	Course	Title	C.H.
SEU 312WICD	Principles of Learning	3	SEU 342WIVL	Principles of Teaching	3
SEU 313	Principles of Learning Clinical Component	3	SEU 343	Principles of Teaching Clinical Component	3
	PHY & MAT Required Course	3 or 4		PHY & MAT Required Course	3 or 4
	PHY & MAT Required Course	3 or 4		PHY & MAT Required Course	3 or 4
	PHY & MAT Required Course	3 or 4		PHY & MAT Required Course	3 or 4
Total		15 or 18	Total		15 or 18
FOURTH YEAR					
<i>Fall Semester</i>			<i>Spring Semester</i>		
Course	Title	C.H.	Course	Title	C.H.
SEU 410WI	Science Instructional Methods for Middle & High School	3	SEU 390	Clinical Experience & Practicum I	6
	PHY & MAT Required Course	3 or 4	SEU 391	Clinical Experience & Practicum II	6
	PHY & MAT Required Course	3 or 4			
	PHY & MAT Required Course	3 or 4			
	General Education Requirement (Free Elective)	3			
Total		15 or 18	Total		12