

Secondary Science Education/Chemistry Double Major

Name:			
General Education Requirements			
Fundamental Studies			
<i>Requirements: credits</i>	Course	Credits	Grade
Academic Writing (AW)	ENGL 101	3	
Professional Writing (PW)		3	
Oral Comm. (OC)		3	
Math (MA)	MATH 140	4	
Analytic Reasoning (AR)	MATH 140	-	
Distributive Studies			
<i>Requirements: credits</i>	Course	Credits	Grade
Natural Science Lab (NL)	BSCI 170/171	4	
Natural Sciences (NS)	PHYS 161	3	
History/Social Sciences (HS)	TLPL 414	3	
History/Social Sciences (HS)		3	
Humanities (HU)		3	
Humanities (HU)		3	
Scholarship in Practice (SP)	TLPL 101 & TLPL 102	3	
Scholarship in Practice (SP; non major)		3	
I-Series			
Normally double counted with Distributive Studies			
<i>Requirements: credits</i>	Course	Credits	Grade
I-Series (IS)		3	
I-Series (IS)		3	
Diversity			
(overlap permitted with Distributive Studies and/or I-series)			
<i>Requirements: credits</i>	Course	Credits	Grade
Understanding Plural Soc. (UP)		3	
Understanding Plural Soc. (UP) or Cultural Competency (CC)	TLPL 401	3	
Experiential Learning- optional			
(overlap permitted with other requirements/courses)			
<i>Requirements: credits</i>	Course	Credits	Grade

Students must earn a minimum of 120 credits to complete a degree.

Requirements for Graduation:	
<input type="checkbox"/>	At least 30 credits must be earned at UMD
<input type="checkbox"/>	15 of the final 30 credits must be earned at the 300-400 level
<input type="checkbox"/>	12 upper level major credits must be earned at UMD

UID:		
UNIV 100	1	
Major Requirements		
(Grade of C- or higher is required)		
Benchmark Requirements		
Year 1 - Benchmark Requirement		
AW with C- or higher	3	
MA with C- or higher	3-4	
CHEM 146/147	5	
Year 2 - Benchmark Requirement		
BSCI 170/171 Principles of Biology I	4	
MATH 140	4	
Gateway Requirement		
TLPL 401 with B- or higher	3	
Admission into CHEM LEP		
<i>Requirements</i>		
	Credits	Grade
Chemistry Requirements		
CHEM 146/177	5	
CHEM 237 Principles of Organic Chemistry I	4	
CHEM 247 Principles of Organic Chemistry II	4	
CHEM 276 (or 271)/277	5	
CHEM 481 Physical Chemistry I	3	
CHEM 482 Physical Chemistry II	3	
CHEM 483 Physical Chemistry Laboratory I	2	
CHEM 401 Inorganic Chemistry	3	
CHEM 395 Prof Issues in Chemistry & Biochem	1	
CHEM 425 Instrumental Methods of Analysis	4	
CHEM 484 Physical Chemistry Laboratory II	2	
CHEM upper level electives	6	
BSCI 170/171 Principles of Biology I	4	
PHYS 161	3	
PHYS 260/261	4	
MATH 140 Calculus I	4	
MATH 141 Calculus II	4	
MATH 241 Calculus III (Recommended)	4	
Pre-Professional Education Requirements		
TLPL 101 Inquiry Teaching of STEM in Elementary School	1	
TLPL 102 Inquiry Teaching of STEM in Middle School	2	
EDHD 426 Cognitive and Motivational Literacy Content	3	
TLPL 415 Perspectives in Science*	3	
TLPL 414 Knowing and Learning	3	
TLPL 401 Project Based Instruction	3	
Professional Education Requirements		
BSCI 348T Research Methods* (Satisfied in TLPL 415, formal change in process)	3	--
TLPL 425 Learning and Teaching in Science (Fall Only)	3	
TLPL 421 Field Experiences in Science Education (Fall Only)	2	
TLPL 479F Student Teaching Seminar in Sec Sci (Spring Only)	2	
TLPL 489F Student Teaching in Sec Sci (Spring Only)	12	
TLPL 488B Teaching Acad, Cult, & Ling Diverse Studs in Sec Ed (Spring Only)	2	

Secondary Science Education/Chemistry Double Major Four Year Academic Plan

Year 1	Fall	Cr.	Spring	Cr.	
Benchmark Requirements AW with C- or higher MA with C- or higher CHEM 146/177	MATH 140 (MA/AR)	4	BSCI 170/171 (NL)	4	
	CHEM 146/177	5	CHEM 237	4	
	ENGL 101 (AW)	3	MATH 141	4	
	UNIV 100	1	HUMANITIES (HU)*	3	
	TLPL 101	1	TLPL 102 (SP, in combination with TLPL 101)	2	
	<i>Total Credits</i>		14	<i>Total Credits</i>	17
Year 2	Fall	Cr.	Spring	Cr.	
Benchmark 2 Requirements MATH 130 or 140 BSCI 170/171	PHYS 161 (NS)	3	CHEM 276 (or CHEM 271)	2	
	CHEM 247	4	CHEM 277	3	
	MATH 241 (Recommended)	4	PHYS 260/261	4	
	TLPL 414 (HS)	3	ORAL COMMUNICATION (OC)	3	
	HUMANITIES (HU) / Scholarship in Practice (SP; non major)*	3	EDHD 426	3	
	<i>Total Credits</i>		17	<i>Total Credits</i>	15
Test of Basic Skills					
Year 3	Fall	Cr.	Spring	Cr.	
Gateway Requirements TLPL 401 with B- or higher Admission to CHEM LEP	CHEM 481	3	CHEM 482	3	
	CHEM 483	2	CHEM 484	2	
	CHEM 401	3	CHEM 395	1	
	Apply to the COE by Dec. 1st	TLPL 401 (CC)	3	Elective	3
	Cumulative GPA of 2.75	PROFESSIONAL WRITING (PW)	3	History/Social Sciences (HS)*	3
				TLPL 415	3
	<i>Total Credits</i>	14	<i>Total Credits</i>	15	
Year 4	Fall	Cr.	Spring	Cr.	
	YEARLONG INTERNSHIP				
	CHEM 425	4	TLPL 421	2	
	CHEM upper level elective	3	TLPL 489F	12	
	TLPL 425	3	TLPL 488B	2	
	TLPL 479F	1			
	CHEM upper level elective	3			
	<i>Total Credits</i>	14	<i>Total Credits</i>	16	
Total Degree credits: 122					

This is a proposed plan and the College of Education does not guarantee that these courses will be offered in the designated semester. Consult the *Schedule of Classes* for class availability and meeting times.

* All students must complete two Distribute Studies courses that are approved for I-series courses. Students must complete Understanding Plural Society and Cultural Competence courses that may also fulfill a Distributive Studies category.

Students must also meet with their Academic Advisor in CMNS/Chemistry Department to discuss the Chemistry program requirements.

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