

# Secondary Science Education/Geology Double Major

<b>Name:</b>			
<b>General Education Requirements</b>			
<b>Fundamental Studies</b>			
<i>Requirements:</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	-	
<b>Distributive Studies</b>			
<i>Requirements: _ credits</i>	Course	Credits	Grade
Natural Science Lab (NL)	GEOL 100/110	4	
Natural Sciences (NS or NL)	CHEM 131/132	4	
History/Social Sciences (HS)	TLPL 414	3	
History/Social Sciences (HS)		3	
Humanities (HU)		3	
Humanities (HU)		3	
Scholarship in Practice (SP)	GEOL 394	3	
Scholarship in Practice (SP, non major)	TLPL 101 & TLPL 102	3	
<b>Big Questions</b>			
<b>Normally double counted with Distributive Studies</b>			
<i>Requirements: _ credits</i>	Course	Credits	Grade
Big Questions		3	
Big Questions		3	
<b>Diversity</b>			
<b>(overlap permitted with Distributive Studies and/or Big Questions)</b>			
<i>Requirements: _ credits</i>	Course	Credits	Grade
Understanding Plural Soc. (UP)		3	
Understanding Plural Soc. (UP) or Cultural Competency (CC)	TLPL 401	3	
<b>Experiential Learning- optional</b>			
<b>(overlap permitted with other requirements/courses)</b>			
<i>Requirements: _ credits</i>	Course	Credits	Grade
			n/a
			n/a
Students must earn a minimum of 120 credits to complete a degree.			
<b>Requirements for Graduation:</b>			
<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			

<b>UID:</b>		
<b>Major Requirements (Grade of C- or higher is required unless otherwise noted.)</b>		
UNIV 100	1	
<b>Benchmark Requirements</b>		
<b>Year 1 - Benchmark Requirement</b>		Credits Grade
AW with C- or higher	3	
MA with C- or higher	4	
GEOL 100 and 102	3	
<b>Year 2 - Benchmark Requirement</b>		
CHEM 131/132* or 135/136	4	
PHYS 141 or 161 or 171	3 or 4	
MATH 140	4	
<b>Gateway Requirement</b>		
TLPL 401 with B- or higher	3	
<b>Geology Major Requirements</b>		
<i>Please see a GEOL advisor for details on coursework (must earn a "C-" or better)</i>		
GEOL 100 or 120 (co-req. GEOL 110)	3	
GEOL 110 Lab (co-req. GEOL 100 or 120)	1	
GEOL 102 Historical Geology	4	
GEOL 322 Mineralogy	4	
GEOL 341 Structural Geology	4	
GEOL 342 Stratigraphy & Sedimentation	4	
GEOL 490 Geology Field Camp	6	
GEOL 393 Technical Writing for Geoscientists	3	
GEOL 394 Research Problems in Geology	3	
GEOL 423 Optical Mineralogy	4	
Three courses selected from :	3 or 4	
GEOL 212 - Planetary Geology (3)		
GEOL 331 - Principles of Paleontology (4)		
GEOL 340 - Geomorphology (4)	3 or 4	
GEOL/AOSC 375 - Introduction to the Blue Ocean (3)		
GEOL 444 - Low Temperature Geochemistry (4)		
GEOL 445 - High Temperature Geochemistry (4)		
GEOL 446 - Geophysics (3)	3 or 4	
GEOL 451 - Groundwater (3)		
<b>Geology Major Supporting Requirements</b>		
One of the following:		
ASTR 100, ASTR 101, or AOSC 200	3 or 4	
One of the following:		
CHEM 131/132 or CHEM 135/136	4	
MATH 140	4	
MATH 141	4	
PHYS 161/174	3 or 4	
<b>Pre-Professional Education Requirements</b>		
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	
<b>Professional Education Requirements</b>		
BSCI 348T Research Methods* (Satisfied in TLPL 415, formal change in process)	3	--
TLPL 425 Learning and Teaching in Science (Fall Only)	3	
TLPL 479F Field Experiences in Science Education (Fall Only)	2	
TLPL 421 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/Geology Four Year Academic Plan

Year 1	Fall	Cr.	Spring	Cr.
Benchmark Requirements AW with C- or higher MA with C- or higher GEOL 100 and 102	TLPL 101	1	TLPL 102 (SP in combination with TLPL 101)	2
	ENGL 101 (AW)	3	GEOL 102	4
	MATH 140 (MA/AR)	4	GEOL 322	4
	GEOL 100 or GEOL 120 (NL in combination with GEOL 110)	3	MATH 141	4
	GEOL 110	1	Oral Communication (OC)	3
	CHEM 131/132 (NL) or CHEM 135/136	4		
	UNIV 100	1		
	<i>Total</i>	17	<i>Total</i>	17
Year 2	Fall	Cr.	Spring	Cr.
Benchmark 2 Requirements MATH 140 CHEM 131/132 or CHEM 135/6 PHYS 141	PHYS 161/174	4	Upper Level GEOL (from list)	4
	ASTR (per GEOL Advising)	3	GEOL 340	4
	TLPL 414 (HS)	3	EDHD 426	3
	HISTORY/SOCIAL SCIENCES (HS)*	3	Upper Level GEOL (from list)	3
	Elective	3	Elective*	3
<i>Test of Basic Skills</i>	<i>Total</i>	16	<i>Total</i>	17
Year 3	Fall	Cr.	Spring	Cr.
Gateway Requirements TLPL 401 with B- or higher <i>Apply to the COE by Dec. 1st</i> Minimum 2.75 cumulative GPA	GEOL 342	4	Upper Level GEOL (from list)	4
	GEOL 423	4	TLPL 415	3
	Professional Writing (PW)	3	GEOL 341	3
	TLPL 401 (CC)	3	GEOL 393	4
	HUMANITIES (HU)*	3	GEOL 443	3
	<i>Total</i>	17	<i>Total</i>	17
<b><u>SUMMER: GEOL 490 (6) (Prerequisite: GEOL 341 &amp; 443)</u></b>				
Year 4	Fall	Cr.	Spring	Cr.
	<b>YEARLONG INTERNSHIP</b>			
	GEOL 394 (SP)	3	TLPL 421	2
	TLPL 425	3	TLPL 489F	12
	TLPL 479F	1	TLPL 488B	2
	HUMANITIES (HU)*	3		
	Elective	3		
	Elective	3		
	<i>Total</i>	16	<i>Total</i>	16
Total Degree Credits: 139				

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 Big Questions 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 CMSC / GEOL Department to discuss the Geology course requirements.

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