

**Messiah College**  
**Engineering with Environmental Concentration (B.S.E.)**  
**Requirements for students matriculating in 2015-2016**

		<b>HACC Course Options</b>	
<b>Major requirements</b>	<b>Credits</b>		<b>Credits</b>
<a href="#">[ENGR 101]</a> Engineering Graphics	2	CAD 154, 164	
<a href="#">[ENGR 102]</a> Introduction to Engineering	2	ENGR 102	
<a href="#">[ENGR 201]</a> Group Orientation	1		
<a href="#">[ENGR 231]</a> Engineering Statics	3	ENGR 213	
<a href="#">[ENGR 236]</a> Circuit I	4		
<a href="#">[ENGR 242]</a> Experimental Methods	3		
<a href="#">[ENGR 254]</a> Materials Engineering	4		
<a href="#">[ENGR 290]</a> Engineering Economics	2		
<a href="#">[ENGR 301]</a> Seminar I*	1		
<a href="#">[ENGR 302]</a> Seminar II*	1		
<a href="#">[ENGR 366]</a> Control Systems	4		
<i>Six credits from the following:</i>	6		
<a href="#">[ENGR 288]</a> Project I (1)			
<a href="#">[ENGR 388]</a> Project II (1-2)			
<a href="#">[ENGR 488]</a> Project III (2-3)			
<a href="#">[ENGR 489]</a> Project IV (2-3)			
<a href="#">[CHEM 105]</a> General Chemistry I	4	CHEM 101	
<a href="#">[MATH 111]</a> Calculus I	4	MATH 121	
<a href="#">[MATH 112]</a> Calculus II	4	MATH 122	
<a href="#">[MATH 211]</a> Calculus III	4	MATH 221	
<a href="#">[MATH 261]</a> Linear Algebra	3		
<a href="#">[MATH 308]</a> Differential Equations	3	MATH 222	
<a href="#">[PHYS 211]</a> General Physics I	4	PHYS 211	
<a href="#">[PHYS 212]</a> General Physics II	4	PHYS 212	
<b>Environmental Concentration (29-30)</b>			
<a href="#">[ENGR 232]</a> Engineering Dynamics	3	ENGR 214	
<a href="#">[ENGR 233]</a> Mechanics of Materials	3		
<a href="#">[ENGR 321]</a> Environmental Engineering	4		
<a href="#">[ENGR 371]</a> Thermodynamics	3		
<a href="#">[ENGR 372]</a> Fluid Mechanics	4		
<a href="#">[ENGR 440]</a> Environmental Hydrology	3		
<i>One of the following:</i>	3-4		
<a href="#">[BIOL 160]</a> Molecular and Cellular Biology (4)			
<a href="#">[BIOL 162]</a> Plant Form and Function (3)		BIOL 101	
<i>One of the following:</i>	3		
<a href="#">[BIOL 315]</a> Environmental Ethics (3)			
<a href="#">[ECON 117]</a> Issues in Environ. Economics (3)			
<a href="#">[GIS 245]</a> Intro to Geographic Information Systems	3		
<b>Experiential Learning requirement</b>	0		

Courses for Messiah College have been selected by joint agreement of HACC and Messiah College. However, curricula are subject to change and it is in your best interest to speak with your advisor and/or the Messiah College transfer advisor if you have questions. Courses that are “recommended” fulfill HACC requirements, as well as Messiah College general education and/or major requirements. It is in your best interest to take the recommended courses.

**Messiah College**  
**Engineering with Environmental Concentration (B.S.E.)**  
**Requirements for students matriculating in 2015-2016**

QuEST requirements	Credits	HACC Courses	
First Year Seminar	3	ENGL 101 (if taken after high school)	3
Oral Communication	3	COMM 101 or SPCH 101	3
Created and Called for Community (W)	3	<i>Messiah Course</i>	
Mathematical Sciences (MATH 111)	met /major	-	-
Laboratory Science (CHEM 105)	met /major	-	-
Science, Technology & the World	waived	-	-
<b>Two of the following (6 credits total):</b> Social Science (ECON 117)** European History United States History	3 or 6	<u>European History:</u> HIST 111, 201, 202  <u>US History:</u> HIST 103, 104, 107	6
Literature	3	Any ENGL Literature 201 or higher	3
Philosophy and Religion	3	PHIL 101	3
Arts	waived	-	-
First Semester of Language	3	Any Modern Language 1 <sup>st</sup> Level	4
Second Semester of Language	3	Any Modern Language 2 <sup>nd</sup> Level	4
<b>One of the following***:</b> Third Semester of Language Cross Cultural (Messiah Course) Non-Western Studies	2 or 3	Any Modern Language Intermediate Level <b>OR</b> ANTH 205, 210, HIST 101, 102	3-4
Bible	3	<i>Messiah Course</i>	
Christian Beliefs	3	<i>Messiah Course</i>	
Wellness	1	Any <b>two</b> Messiah WELL 100 Equivalent Courses	2
Ethics, World Views <b>or</b> Pluralism (BIOL 315)**	0 or 3	<i>Messiah Course</i>	
QuEST requirements	36-37		31-32
Major requirements (inclusive of concentration)	92-93		
<b>Total credits</b>	<b>128-130</b>		

\*Fulfills Writing Enriched course requirement for major.

\*\*For the Engineering w/ Environmental concentration, the student choice between BIOL 315 and ECON 117 determines which QuEST requirement is met by the major. BIOL 315 meets the requirement for Ethics, and ECON 117 meets the requirement for Social Science.

\*\*\*The choice of either a third semester of a language, a cross cultural, or a non-western studies course applies **only** to the Engineering major.

Courses for Messiah College have been selected by joint agreement of HACC and Messiah College. However, curricula are subject to change and it is in your best interest to speak with your advisor and/or the Messiah College transfer advisor if you have questions. Courses that are “recommended” fulfill HACC requirements, as well as Messiah College general education and/or major requirements. It is in your best interest to take the recommended courses.