MESSIAH COLLEGE
ENGINEERING

Environmental Concentration Guideline

FIRST YEAR

FALL		SPRING	
CHEM 105 Chemistry	4	MATH 112 Calculus II	4
MATH 111 Calculus I	4	PHYS 211 General Physics I	4
ENGR 102 Intro to Engineering	2	ENGR 101 Engineering Graphics	2
IDFY 101 First Year Seminar	3	ENGR 262 Circuit Analysis	4
General Education	3	IDCR 151 Created & Called for Community	3
	16		17

SECOND YEAR

FALL		SPRING	
MATH 211 Calculus III	4	MATH 308 Differential Equations	3
MATH 261 Linear Algebra	3	ENGR 201 Group Orientation	1
PHYS 212 General Physics II	4	ENGR 232 Engineering Dynamics	3
ENGR 231 Engineering Statics	3	ENGR 242 Experimental Methods	3
General Education	3	ENGR 254 Materials Engineering	4
	17	General Education	3
			17

THIRD YEAR

FALL		SPRING	
ENGR 288 Project I	1	ENGR 290 Engineering Economics	2
ENGR 301 Seminar I	1	ENGR 302 Seminar II	1
ENGR 333 Mechanics of Materials	3	ENGR 372 Fluid Mechanics	4
ENGR 371 Thermodynamics	3	ENGR 388 Project II	1
BIOL 160 Molecular and Cell Biology**	4	BIOL 162 Plant Form and Function*	3
PHED 101 Introduction to Wellness	2	GIS 245 Intro. Geo. Info. Sys.-or-Gen.Ed.**	3
General Education	3	General Education	3
	17		17

FOURTH YEAR

FALL		SPRING	
ENGR 366 Control Systems	4	ENGR 440 Environmental Hydrology	3
ENGR 488 Project III	2	ENGR 489 Project IV	2
BIOL xxx Environmental Elective	3	GIS 245 Intro. Geo. Info. Sys.-or-Gen.Ed.**	3
BIOL 315 Environmental Ethics	3	Physical Fitness	1
General Education	3	General Education	9
	15		18

Total Credits: 130

* Students wishing to take BIOL274 Environmental Science as their Environmental Elective must take both BIOL160 and BIOL161. Students choosing BIOL216 may choose either BIOL160 or BIOL161.

** GIS245 is offered alternate year (offered Spring 2012) and should be taken in either the third or fourth year.

Biology Electives	Environmental Electives
BIOL 160 Molecular and Cellular Biology	BIOL 216 Issues in Environmental Science
BIOL 162 Plant Form and Function	BIOL 274 Environmental Science

This guideline applies to students who entered the Engineering curriculum during the 2009-10, 2010-11, and 2011-12 academic years. December 2012