

# SUSTAINABILITY AND RENEWABLE ENERGY SYSTEMS (SRES) MAJOR, B.S.

Course	Title	Credits
<b>General Requirements</b>		
General Education ( <a href="http://catalog.uwplatt.edu/undergraduate/degree-requirements/bachelor-of-science-degree-core-curriculum/">http://catalog.uwplatt.edu/undergraduate/degree-requirements/bachelor-of-science-degree-core-curriculum/</a> )		22
<b>Energy Core <sup>1</sup></b>		
ECONOMIC 2130	Principles of Macroeconomics	3
ACCTING 2010	Financial Accounting	3
BUSADMIN 2100	Supply Chain Management	3
ENGLISH 3000	Technical Writing	3
or BUSADMIN 2010	Business Communication	
AGBUS 1500	Introduction to Agribusiness	3
or BUSADMIN 2330	Leadership and Management	
GEOGRPHY 3330	Environmental Conservation	3
or ENERGY 3130	Sustainability: Ecology, Resources and Practice	
ENERGY 2130	Energy, Environment, and Society	3
ENERGY 2340	Fundamentals of Energy Sources	4
ENERGY 3230	Biorenewable Resources	3
ENERGY 3330	Electrical Energy Systems and Energy Storage	3
ENERGY 3430	Green Building Design	3
ENERGY 3580	Principles of Project Management and Sustainable Development	3
ENERGY 3950	Sustainability and Renewable Energy Systems Cooperative Education	1-2
or ENERGY 3970	Sustainability and Renewable Energy Systems Internship	
ENERGY 4620	Data Analysis and Verification Tools	3
ENERGY 4920	Senior Design Project	3
<b>Advanced ENERGY Courses <sup>1</sup></b>		
Select three of the following courses:		10-11
ENERGY 4130	Sustainability Policy and Practice	
ENERGY 4230	Biofuels	
ENERGY 4330	Wind and Solar Systems Design	
ENERGY 4430	Building Energy Management	
<b>Emphasis</b>		
Select one of the following emphases		
<b>Total Credits</b>		<b>76-78</b>

<sup>1</sup> All ENERGY courses require a C- or better grade to satisfy major requirements.

## DEVELOPMENT AND MANAGEMENT EMPHASIS

Course	Title	Credits
<b>Required Courses</b>		
MATH 1830	Elementary Statistics	3
MATH 1920	Finite Mathematics with Applications	3-4
or MATH 2640	Calculus and Analytic Geometry I	
Select one of the following options:		5-8
Option 1:		
CHEMISTRY 1050	Survey of General Chemistry	
Option 2:		
CHEMISTRY 1140 & CHEMISTRY 1240	General Chemistry I and General Chemistry II	

Option 3:		
CHEMISTRY 1450	Chemistry for Engineers	
Select one of the following options:		8-10
Option 1:		
PHYSICS 1350 & PHYSICS 1450	Introductory Physics I and Introductory Physics II	
Option 2:		
PHYSICS 2240 & PHYSICS 2340	General Physics I and General Physics II	
ACCTING 2020	Management Accounting	3
AGBUS 2430 or BUSADMIN 2630	Agricultural Marketing Introduction to Marketing	3
BUSADMIN 3620	Corporate Finance	3
ECONOMIC 2230	Principles of Microeconomics	3
<b>Emphasis Electives</b> <sup>1,2,3</sup>		<b>12</b>
<b>Total Credits</b>		<b>43-49</b>

<sup>1</sup> Requires at least 12 credits (of which at least 6 credits must be in 3000 or 4000 level) from the following subjects will count as an Emphasis Elective: ENERGY, AGBUS, AGET, BIOLOGY, BUSADMIN, CHEMISTRY, CIVILENG, ELECTENG, ENGRPHYS, ENVENG, ENVHORT, GEOGRPHY, INDSTENG, INDUSTDY, MECHENG, POLISCI, RECLAM, SCSCI, or SEJ.

<sup>2</sup> Electives cannot double count for major or other emphasis requirements.

## ENERGY SYSTEMS ENGINEERING TECHNOLOGY EMPHASIS

Course	Title	Credits
<b>Required Courses</b>		
MATH 2640	Calculus and Analytic Geometry I	4
MATH 2740	Calculus and Analytic Geometry II	4
MATH 4030	Statistical Methods with Applications	3
Select one of the following options:		5-8
Option 1:		
CHEMISTRY 1450	Chemistry for Engineers	
Option 2:		
CHEMISTRY 1140 & CHEMISTRY 1240	General Chemistry I and General Chemistry II	
PHYSICS 2240 & PHYSICS 2340	General Physics I and General Physics II	8
GENENG 1320 or GENENG 2030	Engineering Computer Graphics Engineering Modeling and Design	2-3
GENENG 2130	Engineering Mechanics-Statics	3
GENENG 2230	Engineering Mechanics-Dynamics	3
MECHENG 2630	Thermodynamics	3
GENENG 2820	Engineering Economy	2
GENENG 2930 or ELECTENG 2210	Applications of Electrical Engineering Circuit Modeling II	3-4
<b>Emphasis Electives</b> <sup>1,2</sup>		<b>3</b>
<b>Total Credits</b>		<b>43-48</b>

<sup>1</sup> Any 3000 or 4000 level course from the following subjects will count as an Emphasis Elective: ENERGY, AGBUS, AGET, BIOLOGY, BUSADMIN, CHEMISTRY, CIVILENG, ELECTENG, ENGRPHYS, ENVENG, ENVHORT, GEOGRPHY, INDSTENG, INDUSTDY, MECHENG, POLISCI, RECLAM, SCSCI, or SEJ.

<sup>2</sup> Electives cannot double count for major or other emphasis requirements.

## BIOENERGY AND SUSTAINABLE LAND USE EMPHASIS

Course	Title	Credits
Required Courses		
MATH 1830	Elementary Statistics	3
MATH 1920 or MATH 2640	Finite Mathematics with Applications Calculus and Analytic Geometry I	3
Select one of the following options: (5-8 credits)		5-8
Option 1:		
CHEMSTRY 1050	Survey of General Chemistry	
Option 2:		
CHEMSTRY 1140 & CHEMSTRY 1240	General Chemistry I and General Chemistry II	
Option 3:		
CHEMSTRY 1450	Chemistry for Engineers	
PHYSICS 1350 & PHYSICS 1450 or PHYSICS 2240 & PHYSICS 2340	Introductory Physics I and Introductory Physics II General Physics I and General Physics II	8-10
RECLAM 1010	Introduction to Reclamation & Restoration	3
SCSCI 1240	Introduction to Plant Science	3
AGET 1750	Equipment, Structure and Power Systems	3
SCSCI 2230	Soils	4
SCSCI 2260	Crop Production and Agroecology	3
RECLAM 3880	Environmental Law	3
AGET 3950 or SCSCI 4350	Soil and Water Conservation Engineering Soil and Water Conservation	3
<b>Emphasis Electives</b> <sup>1,2</sup>		<b>3</b>
<b>Total Credits</b>		<b>44-49</b>

<sup>1</sup> Any 3000 or 4000 level course from the following subjects will count as an Emphasis Elective: ENERGY, AGBUS, AGET, BIOLOGY, BUSADMIN, CHEMSTRY, CIVILENG, ELECTENG, ENGRPHYS, ENVENG, ENVHORT, GEOGRPHY, INDSTENG, INDUSTDY, MECHENG, POLISCI, RECLAM, SCSCI, or SEJ.

<sup>2</sup> Electives cannot double count for major or other emphasis requirements.

## GREEN BUILDING AND ENERGY MANAGEMENT EMPHASIS

Course	Title	Credits
MATH 1830	Elementary Statistics	3
MATH 1920 or MATH 2640	Finite Mathematics with Applications Calculus and Analytic Geometry I	3
Select one of the following options: (5-8 credits)		5-8
Option 1:		
CHEMSTRY 1050	Survey of General Chemistry	
Option 2:		
CHEMSTRY 1140 & CHEMSTRY 1240	General Chemistry I and General Chemistry II	
Option 3:		
CHEMSTRY 1450	Chemistry for Engineers	
Select one of the following options (8-10 credits)		8-10
Option 1:		
PHYSICS 1350 & PHYSICS 1450	Introductory Physics I and Introductory Physics II	
Option 2:		

PHYSICS 2240 & PHYSICS 2340	General Physics I and General Physics II	
INDUSTDY 1010	Principles of Safety and Risk Management	3
INDUSTDY 1100	Introduction to the Construction Industry	3
INDUSTDY 1300	Construction Computer Applications	3
INDUSTDY 2430	Building Construction Materials	3
INDUSTDY 3140	General Construction Estimating	3
INDUSTDY 4530	Commercial Planning and Design	3
INDUSTDY 4630	Building Systems Analysis	3
<b>Emphasis Electives</b> <sup>1,2</sup>		<b>3</b>
<b>Total Credits</b>		<b>43-48</b>

<sup>1</sup> Any 3000 or 4000 level course from the following subjects will count as an Emphasis Elective: ENERGY, AGBUS, AGET, BIOLOGY, BUSADMIN, CHEMSTRY, CIVILENG, ELECTENG, ENGRPHYS, ENVENG, ENVHORT, GEOGRPHY, INDSTENG, INDUSTDY, MECHENG, POLISCI, RECLAM, SCSCI, or SEJ.

<sup>2</sup> Electives cannot double count for major or other emphasis requirements.