

# SUSTAINABILITY SCIENCE (B.S.)

Unless otherwise noted, 120 credits of coursework is required for a baccalaureate degree with a minimum 2.0 overall GPA, and a minimum 2.0 major GPA.

## Degree Requirements Overview

Code	Title	Credits
	New Student Seminar	1
	SEEDS: General Education Requirements	21-24
	Major Requirements	75-76
	Free Electives	23-19
	<b>Total Credits</b>	<b>120</b>

## Major Requirements

Code	Title	Credits
<b>Core Courses</b>		
EAES 101	Planet Earth	4
EAES 160	The Human Environment	3
EAES 202	Introduction to Sustainability Science	3
EAES 370	World Resources and Industries	3
EAES 402	Sustainability Science Seminar	3
<b>Collateral Courses</b>		
BIOL 113	Principles of Biology: Organisms and Diversity	4
BIOL 213	Introduction to Ecology	4
CHEM 120	General Chemistry I	4
CHEM 121	General Chemistry II	4
ECON 101	Applied Macroeconomics	3
ECON 102	Applied Microeconomics	3
	Select two of the following courses:	7-8
AMAT 120	Applied Calculus A or MATH 122 Calculus I	
AMAT 220	Applied Calculus B or MATH 221 Calculus II	
MATH 111	Applied Precalculus	
STAT 230	Data Science and Statistics	
<b>Major Electives</b>		
	Complete one course from each of the 6 categories below, plus an additional 7-14 credits of additional electives to reach a total of 30 credits.	30
	<b>Total Credits</b>	<b>75-76</b>

## Major Electives

### Global Systems

Code	Title	Credits
ANTH 360	Environmental Anthropology	
ANTH 423	Community and Health	
ANTH 429	Building Sustainable Communities	
EAES 300	Energy Transitions: A Global Dependence	
EAES 475	Environmental Economics	
ECON 215	The Economics of Social Problems	

ECON 414	Economics of Natural Resources and Global Warming	
ECON 419	Economics Of Energy And Environmental Policy	
SOCI 220	Sociology of Rich and Poor Nations	
SOCI 312	Environmental Sociology	
SOCI 314	Environmental Justice	

### Urban Systems

Code	Title	Credits
ANTH 255	Urban Anthropology	
ANTH 422	Environment and Community	
EAES 281	Introduction to American Urban Studies	
EAES 283	Urban Georgraphy	
EAES 380	Transportation	
EAES 385	Urbanization and Environment	
EAES 391	Quantitative Methods in Geography and Urban Studies	
EAES 484	Urban Planning	
POLS 315	Urban Administration	
SOCI 311	Urban Sociology	

### Decision-Making Systems

Code	Title	Credits
Select one of the following:		
EAES 363	Geopolitics	
EAES 460	Environmental Law	
ECON 371	World Trade and Investment	
INBS 250	Introduction to International Business	
LAWS 220	Conflict and Its Resolution	
MGMT 231	Management Processes	
MGMT 315	Organizational Behavior	
MGMT 363	Business and Society	
MGMT 436	Strategic Project Management	
POLS 324	Applied Policy Analysis	

### Surface Processes

Code	Title	Credits
EAES 200	Geomorphology	
EAES 210	Introduction to GIS and Remote Sensing	
EAES 310	Geographic Information Systems (GIS)	
EAES 311	Fundamentals of Remote Sensing of Environment	
EAES 321	Economic Geology	
EAES 340	Sedimentology	
EAES 341	Principles of Soil Science	
EAES 410	Special Topics in Advanced GIScience	
EAES 451	Coastal Marine Geology	

### Climate and Hydrologic Processes

Code	Title	Credits
EAES 201	Understanding Weather and Climate	
EAES 230	Hydrology	
EAES 250	Introduction to Marine Sciences	
EAES 330	Fluvial Geography	
EAES 331	Geohydrology	
EAES 332	Hydroclimatology	

EAES 350	Oceanography	
EAES 403	Meteorology	

**Biological and Chemical Processes**

Code	Title	Credits
BIOL 254	Applied Microbiology	
BIOL 300	Environmental Biology and Related Controversial Issues	
BIOL 351	Introduction to Aquatic Ecology	
BIOL 370	Principles of Ecology	
BIOL 460	Biological Oceanography	
BIOL 461	Aquatic Ecology	
CHEM 230	Organic Chemistry I	
CHEM 231	Organic Chemistry II	
CHEM 232	Experimental Organic Chemistry I	
CHEM 233	Experimental Organic Chemistry II	
CHEM 320	Environmental Chemical Analysis	
CHEM 325	Atmospheric Chemistry	
CHEM 330	Green Chemistry	
EAES 322	Environmental Geochemistry	

**Additional Electives**

Code	Title	Credits
ANTH 255	Urban Anthropology	3
ANTH 360	Environmental Anthropology	3
ANTH 422	Environment and Community	3-4
ANTH 423	Community and Health	3-4
ANTH 429	Building Sustainable Communities	3-4
BIOL 254	Applied Microbiology	3
BIOL 300	Environmental Biology and Related Controversial Issues	3
BIOL 351	Introduction to Aquatic Ecology	4
BIOL 370	Principles of Ecology	3
BIOL 460	Biological Oceanography	3
BIOL 461	Aquatic Ecology	3
CHEM 230	Organic Chemistry I	3
CHEM 231	Organic Chemistry II	3
CHEM 232	Experimental Organic Chemistry I	2
CHEM 233	Experimental Organic Chemistry II	2
CHEM 320	Environmental Chemical Analysis	3
CHEM 325	Atmospheric Chemistry	3
EAES 200	Geomorphology	3
EAES 201	Understanding Weather and Climate	4
EAES 210	Introduction to GIS and Remote Sensing	3
EAES 230	Hydrology	3
EAES 250	Introduction to Marine Sciences	4
EAES 280	Principles of Land Use	3
EAES 281	Introduction to American Urban Studies	3
EAES 283	Urban Geography	3
EAES 300	Energy Transitions: A Global Dependence	3
EAES 310	Geographic Information Systems (GIS)	3
EAES 311	Fundamentals of Remote Sensing of Environment	3
EAES 321	Economic Geology	3
EAES 322	Environmental Geochemistry	3

EAES 330	Fluvial Geography	3
EAES 331	Geohydrology	3
EAES 332	Hydroclimatology	3
EAES 340	Sedimentology	4
EAES 341	Principles of Soil Science	3
EAES 350	Oceanography	3
EAES 363	Geopolitics	3
EAES 380	Transportation	3
EAES 385	Urbanization and Environment	3
EAES 391	Quantitative Methods in Geography and Urban Studies	3
EAES 403	Meteorology	4
EAES 410	Special Topics in Advanced GIScience	3
EAES 451	Coastal Marine Geology	4
EAES 460	Environmental Law	3
EAES 484	Urban Planning	3
ECON 215	The Economics of Social Problems	3
ECON 371	World Trade and Investment	3
ECON 414	Economics of Natural Resources and Global Warming	3
ECON 419	Economics Of Energy And Environmental Policy	3
INBS 250	Introduction to International Business	3
LAWS 220	Conflict and Its Resolution	3
MGMT 231	Management Processes	3
MGMT 315	Organizational Behavior	3
MGMT 363	Business and Society	3
MGMT 436	Strategic Project Management	3
POLS 315	Urban Administration	3
POLS 324	Applied Policy Analysis	3
SOCI 220	Sociology of Rich and Poor Nations	3
SOCI 311	Urban Sociology	3
SOCI 312	Environmental Sociology	3
SOCI 314	Environmental Justice	3

**New Student Seminar**

Code	Title	Credits
Students in the Adult Learner program must take GNED 100.		
Complete one course from the following. Some courses may be restricted by major. Consult with an academic advisor.		1
ADVS 198	Pathways to Success	
CHEM 190	Freshman Seminar in Chemistry	
FYS 100	First Year Seminar	
GNED 100	Adult Academic Success Seminar	
GNED 199	New Student Seminar	
HPEM 199	Freshman Seminar in Health and Physical Education	
IDS 155	Pathways to Adult Learning	
JUST 199	New Student Seminar	
MATH 102	New Student Experience for Mathematical Sciences	
MUGN 199	Freshman Seminar for Music Majors	

NURS 199 Introduction to Nursing

POLS 199 Freshman Seminar in Political Science and Law

## SEEDS General Education Requirements

Click here for a list of courses that fulfill the SEEDS requirements. (<http://catalog.montclair.edu/programs/seeds-general-education-requirements/>)

Code	Title	Credits
<b>Foundations</b>		
<i>Effective Writing I</i>		
	Complete one Effective Writing I course.	3
<i>Effective Writing II</i>		
	Complete one Effective Writing II course.	3
<i>Interactive Communication</i>		
	Complete one Interactive Communication course.	3
<i>Quantitative Reasoning</i>		
	Fulfilled by AMAT 120, MATH 111, or MATH 122 in the major	
<i>Political and Civic Life</i>		
	Fulfilled by EAES 160 in the major.	
<i>World Language</i>		
	Complete two sequential classes in one World Language when starting at the Beginner I or Beginner II level. Complete one class when starting at the Intermediate/Advanced Level.	3-6
<b>Exploration</b>		
	Complete one course from four different Exploration categories	9
<i>Analyzing Cultures and Societies</i>		
<i>Creative Expression</i>		
<i>Ethical Inquiry</i>		
<i>Historical Thinking</i>		
<i>Literary and Artistic Analysis</i>		
<i>Scientific Reasoning</i>		
	Fulfilled by EAES 101 in the major	
<b>Total Credits</b>		<b>21-24</b>

## Recommended Roadmap to Degree Completion

This recommended degree plan is provided as an outline for students to follow in order to complete their degree requirements within four years and 120 credits. This plan is a recommendation and MUST be used in consultation with their academic advisor. Important note: Students should be aware this plan assumes no pre-requisite coursework is required. If pre-requisite coursework is needed, students may have additional requirements to fulfill which do not appear on the plan.

### First Year

Fall	Credits	Spring	Credits
New Student Seminar	1	EAES 202	3
SEEDS: Effective Writing I	3	SEEDS: Effective Writing II	3
EAES 101 (Fulfills SEEDS: Exploration 1 - Scientific Reasoning)	4	AMAT 220, MATH 221, or STAT 230	4

SEEDS: Quantitative Reasoning - Fulfilled by AMAT 120, MATH 111, or MATH 122 in the major	4	SEEDS: Interactive Communication	3
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EAES 160 (Fulfills SEEDS: Political and Civic Life)	3	SEEDS: Exploration 2	3
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**15** **16**

### Second Year

Fall	Credits	Spring	Credits
BIOL 113	4	BIOL 213	4
EAES 370	3	Major Elective Group A	3-4
Free Elective	3	Free Elective	3
Free Elective	3	SEEDS: World Language 2	3
SEEDS: World Language 1	3		

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**16** **13-14**

### Third Year

Fall	Credits	Spring	Credits
SEEDS: Exploration 3	3	SEEDS: Exploration 4	3
CHEM 120	4	CHEM 121	4
ECON 101	3	ECON 102	3
Major Elective Group B	3-4	Major Elective Group D	2-4
Major Elective Group C	3	Major Elective Group E	3-4

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**16-17** **15-18**

### Fourth Year

Fall	Credits	Spring	Credits
Major Elective Group F	3-4	EAES 402	3
Additional Major Electives	7-13	Free Electives	13-1
Free Elective	3		

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**13-20** **16-4**

**Total Credits 120**