

# ELECTIVES FOR SUSTAINABLE ENERGY SYSTEMS, GRADUATE CERTIFICATE

Code	Title	Credit Hours
<b>Historical, Ethical, and Artistic Perspectives</b>		
A HI 4623	Contemporary Art and the Environment	3
ARCH 5970	General Departmental Seminar (Topic: Resilient Futures)	1-4
NAS 4423/5423	Issues in Native American Environment and Sustainability	3
METR 4533/5533	Earth's Past Climate	3
or GEOL 4533	Earth's Past Climate	
or GEOL 5533	Earth's Past Climate	
METR 4553/5553	Climate and Renewable Energy	3
<b>Communications</b>		
JMC 4970/5970	Special Topics (Topic: Strategic Communication about Sustainable Energy Systems)	1-3
JMC 4970/5970	Special Topics (Topic: Communication for STEM Majors)	1-3
<b>Sustainability and the Environment</b>		
CEES 4324/5324	Environmental Biology and Ecology	4
CEES 5123	Climate Change and Impacts on Water Energy Food Nexus	3
CEES 5883	Environmental Modeling	3
CEES 5933	Climate Change and Water Sustainability	3
L A 5970	General Department Seminar (Topic: Sustainable Stormwater Design)	1-4
RCPL 5263	Infrastructure Planning	3
RCPL 5753	Transportation Geography and Planning	3
RCPL 5813	Environmental Planning Methods	3
<b>Energy and Environmental Law, Policy, and Economics</b>		
LSO 5232	Introduction to Property Law and Natural Resources	2
LSO 5970	Special Topics/Seminar (Topic: Energy Law and Electricity Regulation)	1-3
LSO 6573	Oil & Gas Development of Public Lands	3
<b>Carbon Management</b>		
GEOG 4970/5970	Special Topics/Seminar (Topic: Climate CO2 Removal Strategies)	1-3
P E 5753	Low Carbon Energy Markets	3
<b>Life Cycle Analysis</b>		
I D 5970	Special Topics/Seminar (Topic: Advanced Topic in Net Zero)	1-3
GEOG 4523	Life Cycle Analysis	3
or GEOG 5523	Life Cycle Analysis	
<b>Systems Perspectives</b>		
GEOG 4583/5583	Energy Systems and Sustainability	3
<b>Technology and Engineering</b>		

ARCH 5863	Methods VIII-Building Performance Analytics	3
AME 4393/5393	Renewable Energy Systems and Control	3
AME 4653	Air Conditioning Systems	3
CH E 5033	Environmental Separations	3
CH E 5043	Business Sustainability	3
CH E 5053	Carbon Capture & Utilization	3
CH E 5323	Sustainable Engineering Principles	3
CH E 5343	Sustainable Process Design	3
CH E 5353	Emerging Technologies toward Water Sustainability	3
CNS 5970	Special Topics/Seminar (Topic: Construction Analytics and Innovation)	1-3
ECE 5973	Special Topics in Electrical and Computer Engineering (Topic: Power Systems and Market Operations)	3
ECE 5973	Special Topics in Electrical and Computer Engineering (Topic: Power Systems Protection)	3
ECE 5973	Special Topics in Electrical and Computer Engineering (Topic: Energy Propagation in Electrical Systems)	3
ECE 4113	Analysis of Electrical Transmission	3