

Subjects for Studying Sustainability at MIT, with electives that currently count for the Environment and Sustainability Minor noted

This listing includes classes with content for learning about a future that is both environmentally and socially sustainable. Additional subjects that primarily focus on the environment are also included (e.g. those covering the topics of climate, sustainable energy, and ecology).

Subjects were selected from the full inventory of subjects offered at MIT as of August 2016. Please contact the Environmental Solutions Initiative for details on the selection criteria for this list, or to report omissions.

Additional electives can be counted toward the minor in consultation with the academic coordinator (Amanda Graham, agraham@mit.edu).

Updated August 2017

School / Dept	Master subject #	Title	Subjects that currently count as electives for the Environment and Sustainability Minor are noted here, along with the content pillar they fulfill (required Core classes are also	Undergraduate subject	Graduate subject	Credit units	Time offered
School of Architecture & Planning							
Architecture							
	4.153	Architecture Design Core Studio III			Y	21	Fall
	4.214	Water, Landscape & Urban Dsgn			Y	12	Spring
	4.217	Disaster Resilient Design			Y	9	Spring
	4.227	Landscapes of Energy			Y	12	Fall
	4.251	The Making of Cities		Y		12	Spring
	4.401	Environmental Technologies in Buildings	<i>Engineering for Sustainability</i>	Y		12	Fall
	4.411[J]	D-Lab Schools: Building Technology Laboratory	<i>Engineering for Sustainability</i>	Y		12	Fall
	4.42[J]	Fundamentals of Energy in Buildings	<i>Engineering for Sustainability</i>	Y		12	Fall
	4.430	Daylighting & Solar Gain Control			Y	9 or 12 units	Spring
	4.432	Modeling Urban Energy Flows for Sustainable Cities and Neighborhoods	<i>Engineering for Sustainability</i>	Y		12	Spring
	4.473	Design Workshop for a Sustainable Future			Y	9	Spring
	4.612	Islamic Architecture & the Environment			Y	9	2017-2018: Not offered
	4.622	Islamic Gardens and Geographies	<i>Environmental Histories and Cultures</i>	Y		12	Spring
	4.625	Water Planning, Policy & Design			Y	Units arranged	Fall
Urban Studies & Planning							
	11.016[J]	The Once and Future City	<i>Environmental Histories and Cultures</i>	Y		12	Spring
	11.004[J]	Past, Present, and Future of the Environment and Integration with Society	***** Core Subject *****	Y		12	Spring
	11.123	Big Plans and Mega-Urban Landscapes	<i>Environmental Governance</i>	Y		9	Spring
	11.140	Urbanization and Development		Y		12	Spring
	11.142	Geography of the Global Economy	<i>Environmental Governance</i>	Y		12	Spring
	11.148	Environmental Justice: Law and Policy	<i>Environmental Governance</i>	Y		12	Fall
	11.162	Politics of Energy and the Environment	<i>Environmental Governance</i>	Y		12	Spring
	11.165	Urban Energy Systems & Policy		Y		12	Fall
	11.260	Sustainable Development and Institutions			Y	12	Fall
	11.166	Law, Social Movements & Public Policy: Comparative & International Experience		Y		12	Spring
	11.308	Ecological Urbanism Seminar			Y	12	Fall
	11.364	International Environmental Treaties & their Implementation			Y	9	Fall
	11.376	Urban Sustainability in Action			Y	12	Spring
	11.377	Food Systems & Environment			Y	12	Fall
	11.380	Urban Climate Adaptation			Y	12	Spring
	11.382	Water Diplomacy: the Science, Policy, & Politics of Managing Shared Resources			Y	12	Spring
	11.384	Preparation for Malaysia Sustainable Cities Fieldwork			Y	3	Fall; partial term
	11.385	Malaysia Sustainable Cities Fieldwork			Y	6	IAP
	11.386	Malaysia Sustainable Cities Practicum			Y	3	Spring; partial term
	11.404	Housing Policy & Planning in the US & Abroad			Y	12	Spring
	11.436	Housing Studio: Neighborhood Sustainability Plan			Y	15	Spring
	11.533	Ecological Planning with GIS			Y	12	Spring
	11.601	Intro to Environmental Policy & Planning			Y	12	Fall

School of Engineering						
Chemical Engineering						
10.04	A Philosophical History of Energy	<i>Environmental Histories and Cultures</i>	Y		12	Spring
10.05	Foundational Analyses of Problems in Energy and the Environment	<i>Environmental Histories and Cultures</i>	Y		12	Spring
10.489	Concepts in Modern Heterogeneous Catalysis		Y		9	Spring
Civil & Environmental Engineering						
1.007	Big Engineering: Small Solutions with a Large Impact	<i>Engineering for Sustainability</i>	Y		6	Fall
1.011	Project Evaluation and Management	<i>Engineering for Sustainability</i>	Y		12	Spring
1.013	Senior Civil & Environmental Engineering Design Project		Y		12	Spring
1.016[J]	Design for Complex Environmental Issues: Building Solutions and Communicating Ideas	<i>Environmental Histories and Cultures</i> <i>Engineering for Sustainability</i>	Y		9	Spring
1.018A[J]	Fundamentals of Ecology I	<i>Earth Systems and Climate Science</i>	Y			
& 1.018B[J]	and Fundamentals of Ecology II	<i>Earth Systems and Climate Science</i>	Y		12	Fall
1.020	Principles of Energy & Water Sustainability		Y		12	Spring
1.035	Multiscale Characterization of Materials		Y		12	Spring
1.071	Global Change Science		Y		12	Fall
1.075	Water Resource Systems		Y		12	Fall
1.078	Introduction to Soil Science	<i>Earth Systems and Climate Science</i>	Y		12	Fall
1.080A	Environmental Chemistry I	<i>Earth Systems and Climate Science</i>	Y			
& 1.080B	and Environmental Chemistry II	<i>Earth Systems and Climate Science</i>	Y		12	Spring
1.085	Air Pollution		Y		12	Fall
1.089	Environmental Microbiology	<i>Earth Systems and Climate Science</i>	Y		12	Spring
or 1.089A	Environmental Microbiology I	<i>Earth Systems and Climate Science</i>	Y		6	Spring; first half of term
1.091	Traveling Research Environmental Experience: Fieldwork		Y		3	IAP
1.092	Traveling Research Environmental Experience: Fieldwork Analysis & Communication		Y		9	Spring
1.102	Introduction to Civil & Environmental Engineering Design II		Y		6	Spring
1.107	Environmental Chemistry & Biology Lab		Y		6	Spring
1.153	Transportation Policy, the Environment, & Livable Communities		Y		12	Spring
1.252	Urban Transportation Planning			Y	12	Fall
1.74	Land, Water, Food, & Climate			Y	6	Spring
1.801[J]	Environmental Law, Policy, and Economics: Pollution Prevention and Control	<i>Environmental Governance</i>	Y		12	Fall
1.802[J]	Regulation of Chemicals, Radiation, and Biotechnology	<i>Environmental Governance</i>	Y		12	Spring
1.819	Design for Sustainability			Y	6	Fall
1.83	Environmental Organic Chemistry			Y	12	Fall
1.84	Atmospheric Chemistry			Y	12	Fall
1.841	Atmospheric Composition in the Changing Earth System			Y	12	Spring
1.851	Water, Sanitation, Hygiene & Environmental Sanitation in Low- and Middle-income Countries			Y	Units arranged	Spring
Materials Science & Engineering						
3.081	Industrial Ecology of Materials		Y		12	Fall
3.094	Materials in Human Experience	<i>Environmental Histories and Cultures</i>	Y		9	Spring
3.18	Materials Science & Engineering of Clean Energy		Y		12	Spring
3.19	Sustainable Chemical Metallurgy		Y		12	Spring
3.982	The Ancient Andean World	<i>Environmental Histories and Cultures</i>	Y		9	Fall
3.983	Ancient Mesoamerican Civilization	<i>Environmental Histories and Cultures</i>	Y		9	Spring

Mechanical Engineering							
	2.00A	Fundamentals of Engineering Design: Explore Space, Sea and Earth	<i>Engineering for Sustainability</i>	Y		9	Spring
	2.500	Desalination & Water Purification			Y	12	Spring
	2.60	Fundamentals of Advanced Energy Conversion		Y		12	Spring
	2.627	Fundamentals of Photovoltaics	<i>Engineering for Sustainability</i>	Y		12	Fall
	2.813	Energy, Materials, & Manufacturing		Y		12	Spring
	2.981	New England Coastal Ecology	<i>Earth Systems and Climate Science</i>	Y		3	IAP
Biological Engineering							
	20.106[J]	Systems Microbiology	<i>Earth Systems and Climate Science</i>	Y		12	Fall
Nuclear Science & Engineering							
	22.033	Nuclear Systems Design Project	<i>Engineering for Sustainability</i>	Y		15	Fall
	22.04[J]	Social Problems of Nuclear Energy	<i>Engineering for Sustainability</i>	Y		12	Fall
	22.081[J]	Introduction to Sustainable Energy	<i>Engineering for Sustainability</i>	Y		12	Fall
School of Humanities, Arts, & Social Sciences							
Anthropology							
	21A.155	Food, Culture, and Politics	<i>Environmental Histories and Cultures</i>	Y		12	Spring
	21A.303[J]	The Anthropology of Biology	<i>Environmental Histories and Cultures</i>	Y		12	Fall
	21A.410	Environmental Struggles	<i>Environmental Governance</i>	Y		12	Spring
	21A.429	Environmental Conflict & Social Change			Y	12	2017-2018: Not offered
Literature							
	21L.449	The Wilds of Literature	<i>Environmental Histories and Cultures</i>	Y		12	Spring
Economics							
	14.42	Environmental Policy & Economics		Y		12	Spring
	14.444	Energy Economics & Policy			Y	12	Spring
Global Studies & Languages							
	21G.057	Gender in Science, Technology, & the Environment		Y		12	Spring
	21G.417	Cultural Geographies of Germany: Nature, Culture, & Politics		Y		12	Spring
History							
	21H.185	Environment & History		Y		12	Spring
	21H.383	Technology & the Global Economy, 1000-2000		Y		12	Fall
	21H.380[J]	People and Other Animals	<i>Environmental Histories and Cultures</i>	Y		12	N/A
	21H.981	Seminar in Nature, Environment, & Empire			Y	12	Spring
Political Science							
	17.051	Ethics of Energy Policy	<i>Environmental Histories and Cultures</i>	Y		12	Fall
	17.181	Sustainability: Political Economy, Science, and Policy	<i>Environmental Governance</i>	Y		12	Fall
	17.309[J]	Science, Technology, and Public Policy	<i>Environmental Governance</i>	Y		12	Fall
	17.310	Science, Technology, & Public Policy			Y	12	Fall
	17.411	Globalization, Migration, and International Relations	<i>Environmental Governance</i>	Y		12	Spring
Science, Technology, & Society							
	STS.009	Evolution and Society	<i>Environmental Histories and Cultures</i>	Y		12	2017-2018: Not offered
	STS.032	Energy, Environment, and Society	<i>Environmental Histories and Cultures</i>	Y		12	Spring
	STS.088	Africa for Engineers		Y		12	2017-2018: Not offered

Writing							
	21W.012	Writing & Rhetoric: Food for Thought		Y		12	Fall
	21W.036	Science Writing & New Media: Writing & the Environment		Y		12	Fall
	21W.775	Writing about Nature & Environmental Issues		Y		12	Spring
Linguistics and Philosophy							
	24.03	Good Food: The Ethics and Politics of Food	<i>Environmental Histories and Cultures</i>	Y		12	Spring
School of Science							
Chemistry							
	5.00	Energy Technology & Policy: From Principles to Practice			Y	9	Spring
	5.37	Organic & Inorganic Laboratory		Y		Units arranged	Fall, Spring
Physics							
	8.21	Physics of Energy	<i>Earth Systems and Climate Science</i>	Y		12	Spring
Earth, Atmospheric, & Planetary Sciences							
	12	Solving Complex Problems	<i>Earth Systems and Climate Science Engineering for Sustainability</i>	Y		9	Fall
	12.001	Introduction to Geology	<i>Earth Systems and Climate Science</i>	Y		12	Fall
	12.002	Introduction to Geophysics and Planetary Science	<i>Earth Systems and Climate Science</i>	Y		12	Spring
	12.003	Introduction to Atmosphere, Ocean, and Climate Dynamics	<i>Earth Systems and Climate Science</i>	Y		12	Fall
	12.007	Geobiology: History of Life on Earth	<i>Earth Systems and Climate Science</i>	Y		12	Spring
	12.009	Nonlinear Dynamics: The Natural Environment		Y		12	Spring
	12.021	Earth Science, Energy, and the Environment	<i>Earth Systems and Climate Science</i>	Y		12	Fall
	12.086	Modeling Environmental Complexity		Y		12	Fall
	12.102	Environmental Earth Science	<i>Earth Systems and Climate Science</i>	Y		12	Fall
	12.104	Geochemistry of the Earth and Planets	<i>Earth Systems and Climate Science</i>	Y		12	Fall
	12.12	Environmental Earth Science Field Course	<i>Earth Systems and Climate Science</i>	Y		6	IAP
	12.17	Essentials of Geology	<i>Earth Systems and Climate Science</i>	Y		12	Fall
	12.174	Biogeochemistry of Natural and Perturbed Systems	<i>Earth Systems and Climate Science</i>	Y		12	Spring
	12.213	Alternate Energy Sources	<i>Engineering for Sustainability</i>	Y		6	IAP
	12.301	Climate Science		Y		12	Fall
	12.306	Atmospheric Physics & Chemistry		Y		12	Spring
	12.307	Weather and Climate Laboratory	<i>Earth Systems and Climate Science</i>	Y		15	Spring
	12.335	Experimental Atmospheric Chemistry	<i>Earth Systems and Climate Science</i>	Y		12	Fall
	12.340	Global Warming Science		Y		12	Spring
	12.349	Mechanisms and Models of the Global Carbon Cycle	<i>Earth Systems and Climate Science</i>	Y		12	Spring
	12.372	Elements of Modern Oceanography		Y		12	Fall
	12.385	Science, Politics, and Environmental Policy	<i>Earth Systems and Climate Science Environmental Governance</i>	Y		9	Fall
	12.387[J]	People and the Planet: Environmental Governance and Science	***** Core Subject *****	Y		9	Fall
	12.39	Fluid Dynamics of the Atmosphere and Ocean		Y		12	Fall
	12.707	The History of Earth's Climate			Y	12	2017-2018: Not offered
	12.740	Paleoceanography			Y	12	Spring
	12.860	Climate Variability & Diagnostics			Y	12	Spring
Sloan School of Management							
Management							
	15.014	Applied Macro- & International Economics II			Y	6	Spring; second half of term

15.026	Global Climate Change: Economics, Science, & Policy		Y		9	Spring
15.031	Energy Decisions, Markets & Policies		Y		12	Fall
15.569	Leadership Lab: Leading Sustainable Systems			Y	15	Fall, IAP
15.663	Environmental Law, Policy & Economics			Y	12	Fall
15.723	Advanced Applied Macroeconomics & International Institutions			Y	6	IAP, Spring
15.878	Capstone Seminar in Sustainability			Y	6	Spring; second half of term
15.913	Strategies for Sustainable Business			Y	6	Spring; first half of term
15.915	Laboratory for Sustainable Business			Y	6	Spring
15.933	Strategic Opportunities in Energy			Y	6	Fall; first half of term
Other Programs						
Edgerton Center						
EC.701[J]	D-Lab: Development	<i>Environmental Governance Environmental Histories and Cultures Engineering for Sustainability</i>	Y		12	Fall
EC.711[J]	D-Lab: Energy	<i>Environmental Governance Engineering for Sustainability</i>	Y		12	Spring
EC.714	D-Lab: Earth	<i>Environmental Governance Earth Systems and Climate Science Engineering for Sustainability</i>	Y		6	Spring
EC.715	D-Lab: Water, Sanitation, Hygiene and Environmental Innovations for the Common Good	<i>Environmental Governance Environmental Histories and Cultures Engineering for Sustainability</i>	Y		9	Fall
EC.716	D-Lab: Waste	<i>Environmental Governance Engineering for Sustainability</i>	Y		9	Fall
EC.733[J]	D-Lab: Supply Chains	<i>Environmental Governance Engineering for Sustainability</i>	Y		12	Fall
Institute for Data, Systems, & Society						
IDS.062[J]	Global Environmental Negotiations	<i>Environmental Governance</i>	Y		6	Fall
IDS.430	Environmental Law, Policy, & Economics: Pollution Prevention & Control			Y	12	Fall
IDS.437	Technology, Globalization, & Sustainable Development			Y	12	Fall
IDS.505	Engineering, Economics & Regulation of the Electric Power Sector			Y	12	Spring
IDS.521	Energy Systems & Climate Change Mitigation			Y	12	Spring
IDS.522	Mapping & Evaluating New Energy Technologies			Y	12	Fall
IDS.526	Sustainability Science & Engineering			Y	9	Fall
Special Programs						
SP.360	Terrascope Radio	<i>Environmental Histories and Cultures</i>	Y		12	Spring