

Masters in Energy Science, Technology and Policy: *pathways*

Fall 2022 Schedule -- v1.0 JP 4/6/2022
 Underlined Courses are available based on the preliminary published schedule information for Fall 2022. **BOLD Courses** are required for the CHE, MSE, & MEG disciplinary concentrations.

ENERGY CORE (24 units)

- 39-610 Energy Conversion & Supply (6)**
- 39-613 Energy Transport & Storage (6)**
- 39-611 Energy Demand & Utilization (6)**
- 39-612 Energy Policy & Economics (6)**

TBD (TR 10:10-12:00)
 39-610 A1-mini (Prof. Salvador)
 39-613 A2-mini (Prof. Kelly-Pitou)

CONCENTRATION (36 units: bold/required, underlined/Fall '22)

Chemical Engineering

06-665 Process Systems Modeling (12)	<u>06-705 Adv. Chem. Eng. Thermo (12) MW 12:20-2:10</u>
<u>06-623 Math. Mod. Chem. E. Process (12) MW 2:30-4:20</u>	06-702 Advanced Reaction Kinetics (12)
<u>06-625 Chemical & Reactive Systems (12) MW 4:40-6:30</u>	06-703 Advanced Fluid Dynamics (12)
06-663 Analysis & Modeling Trans. Phenom (12)	<u>06-704 Adv Heat & Mass Transfer (12) MW 10:10-12:00</u>
<u>06-713 Math Techniques in Chem. Engr. (12) MW 2:30-4:20</u>	06-720 Adv Process Systems Engr (12)

Civil & Environmental Engineering

<u>12-704 Prob & Est Methods for Engr Sys (12) MW 7:00-8:50p</u>	12-745 Adv Infra Systems Project (12)
<u>12-706 Civil Systems Invest. Plan & Pricing (12) TR 1:25-2:45</u>	12-747 Sustainable Buildings (6)
<u>12-712 Sustainable Engineering Principles (12) MWF 1:25-2:15</u>	12-714 Environ. Life Cycle Asst. (12)
<u>12-740 Data Acquisition (6) TR 11:50-1:10</u>	12-749 Climate Change Adapt. (6A4)
<u>12-741 Data Management (6) TR 11:50-1:10</u>	12-750 Infrastructure Management (12)
<u>12-751/651 Air Quality Engr. (12) MWF 2:30-3:20</u>	12-752 Data Drv Bldg Engy Mang(6A4)
12-761 ST Sense & Data Mine Smart Structures (12)	<u>12-766 S.T. Climate Change Sci & Adapt. (12) TR 11:50-1:10p</u>

Electrical & Computer Engineering

18-418 El. Energy Processing: Fundamentals & App. (12ug)	<u>18-631 Intro to Info Security (12) TR 3:05-4:25</u>
18-618 Smart Grids & F. El. Eng. Sys (12)	<u>18-771 Linear Systems (12) MW 4:40-6:30</u>
18-743 Energy Aware Computing (12)	18-777 Complex Large-Scale Dynam Sys(12)
<u>18-649 Distr. Embedded Systems (12) TR 3:05-4:25</u>	18-879M Optim in Energy Networks (12)
<u>18-730 Intro Computer Security (12) MW 3:35-5:25</u>	18-879S Networked Control Systems (12)
<u>18-731 Network Security (12) MW 8:30-10:20</u>	18-875 Econ & Engr Electric Energy Sys (12)
<u>18-882B S.T. Power Electronics (12) 11:50-1:10p</u>	<u>18-883A1&&A2 S.T. Energy Systems MW 9:05-10:55</u>

Engineering & Public Policy

19-881 Sem. Elec. Markt Restruct (6)	19-882 Sem. Low Carbon Elec. Power (6A4)
19-617(12-750) Infrastructure Mgmt (12)	19-626 Climate Science & Policy (12)
<u>19-624 S.T. Emerging Energy Policy (12) TR 11:50-1:10</u>	19-653 (24-640) S.T. Climate Change Mit (12)
19-625 Sust Energy for Dev World(12)	19-656 S.T. CO2 Capture & Sequestration (6A3)
19-683 S.T. Sci, Tech, & Innov. Policy (6)	19-655 S.T. Climate Change Sci & Adapt.(12)
19-696 S.T. Sus Dev & Innovation (9)	19-714 (12-714) Env. Life Cycle Assmt. (12)
<u>19-717 (12-712) Sustainable Engr Princip. (12) MWF 1:25-2:15</u>	19-724 (27-724) Materials Energy Storage (6)
19-736 (27-726) Energy & Materials in Policy (6)	19-739(18-875) Engr&Econ Elec Engy Sys(12)
<u>19-740 (24-740) Cmbstn & Air Pollut Ctrl (12) TR 1:25-2:45</u>	<u>19-751 (12-751) Air Quality Engr. (12) MWF 2:30-3:20</u>
19-638 (18-618) Smart Grids & F. Elec. (12)	19-424 (24-424) Energy & Environment (9ug)
19-655 S.T. Design, Innov & Strat (12)	19-472 Fund. Electric Pwr Sys (12ug)

Materials Science and Engineering

27-705 Nanostructured Mat. (12)	27-752 Fnd. of Semicond. Nanostructures (12)
27-718 Soft Materials (12)	27-765 Special Topics: Materials & Society (6)
<u>27-721 Processing Design (6) MW 8:00-9:50</u>	<u>27-766 Diffusions in Materials (6) MW 12:20-2:10</u>
27-724 Materials for Energy Storage (6)	<u>27-788 Defects in Materials (6) TR 4:40-6:30</u>
27-725 Materials in Nuclear Systems(6A3)	27-794 Chem. Stab. Materials Extr. Env. (6)
27-727 Mech Behavior in Extreme Env(6A4)	<u>27-796 Structure of Materials (6) MW 8:00-9:50</u>
27-728 Materials for Future Energy Sys (6)	<u>27-798 Thermodynamics I (6A1) MW 12:20-2:10</u>
<u>27-729 Solid State Dev. Energy Conv.(6) MW 12:20-2:10</u>	<u>27-799 Thermodynamics II (6A2) TR 4:40-6:30</u>
<u>27-770 Electronic, Magnetic & Optical Prop(12)</u>	27-722 Basics & Apps Power Magnetic Devices

Mechanical Engineering

<u>24-722 Energy System Modeling (12) MW 4:40-6:30</u>	24-640 Climate Change Mitigation (12)
24-616 Tribology-Fric. Lubric. & Wear (12)	<u>24-711 Fluid Dynamics (12) TR 3:05-4:55</u>
<u>24-628 Energy Trans&Conv Nano-scale (12) MW 2:30-4:20</u>	<u>24-718 Computational Fluid Dynamics (12) MW 4:40-6:00</u>
<u>24-721 Advanced Thermodynamics (12) MW 12:20-2:10</u>	24-730 Advanced Heat Transfer (12)
24-731/733 Conductive/Radiative Heat Transfer (6)	24-736 Two-Phase Flow & Heat Transfer
<u>24-740 Combustion & Air Pollution (12) TR 1:25-2:45</u>	24-642 Fuel Cell Systems (12)
<u>24-643 Energy Storage Materials & Systems (12) MW 12:20-2:10</u>	24-629 Dir Solar & Therm Energy Conv (12)
24-618 Comp. Trans Phen (12)	

BREADTH ELECTIVES

All EST&P Degrees:

36 units of relevant grad-level engineering courses, including up to 18 units of pre-approved energy related courses from outside the college of engineering

also for students in Energy Project track:

additional 36 units of faculty-supervised master's project, independent study, internship, and/or specific pre-approved engineering project courses

