

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

Fall 2018 Schedule -- v1.0 NS 4/2/2018  
 Underlined Courses are available based on the preliminary published schedule information for Fall 2018. **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)**

Scaife Hall 219 (TR 9:30-11:20)  
 39-610 A1-mini, Prof. Salvador  
 39-613 A2-mini, TBA

## CONCENTRATION (36 units: bold/required, underlined/Fall '18)

### Chemical Engineering

<b>06-665 Process Systems Modeling (12)</b>	<b>06-705 Adv. Chem. Eng. Thermo (12) MW10:30-12:20</b>
<u>06-623 Math. Mod. Chem. E. Process (12) MW12:30-2:20</u>	06-702 Advanced Reaction Kinetics (12)
06-625 Chemical & Reactive Systems (12) MW4:30-6:20	<b>06-703 Advanced Fluid Dynamics (12) MW2:30-4:20</b>
06-663 Analysis & Modeling Transport Phenom. (12)	06-704 Heat and Mass Transfer (12)
<u>06-713 Math Techniques in Chem. Engr. (12) MW12:30-2:20</u>	06-720 Advanced Process Systems Engineering (12)

### Civil & Environmental Engineering

12-704 Prob & Est Methods for Engr Sys (12) MW4:30-6:20	12-744/745 AIS Systems Prep / Project
12-706 Civil Systems Invest. Plan & Pricing (12) TR4:30-6:20	12-711 Adv. Project Management for Constr (12)
12-712 Intro to Sustainable Engr. (12) MWF 1:30-2:20	12-714 Environmental Life Cycle Assessment (12)
12-740 Data Acquisition (6A1) TR 6:30-7:50	12-749 S.T. Climate Change Adapt.
12-741 Data Management (6-A2) TR3-4:20	12-750 Infrastructure Systems (12)
12-742 Data Mining in Infrastructure (6)	<b>12-751 Air Quality Engr. (12) MWF 2:30-3:20</b>
12-743 Comp. Search & Decision in Civil Infrastructure (6)	12-752 S.T. Data Drv Bldg Energy Man (6A2)
<b>12-766 S.T. Climate Change Science &amp; Solutions (12) MW 6:30-7:50</b>	

### Electrical & Computer Engineering

18-618 (19-638) Smart Grids & F. El. Eng. Sys (12) TR 4:30-5:50	18-771 Linear Systems (12) MW2:30-4:20
18-630 Intro to Security & Policy (12)	18-777 Complex Large-Scale Dynam Sys (12)
18-649 Distr. Embedded Systems (12)	18-879M Optim in Energy Networks (12) TR 4:30-5:50, R 3-4:20
18-730 Intro Computer Security (12) MW2:30-4:20 F11:30-12:20	18-879S Networked Control Systems (12)
18-731 Network Security (12)	18-875 Econ & Engr Electric Energy Systems (12)
18-587 Elec. Energy Conv. Cntrl & Mgmt (12ug)	18-882A S.T. Power Electronics (12)
18-631 Intro to Info Security (12) MW 7:30pm-8:50pm	<b>18-824 S.T. Power Electronics (12)</b>
18-743 Energy Aware Computing (12) TR 1:30-2:50	<b>18-418 Electric Energy Processing (12ug) MW 12:30-2:20</b>

### Engineering & Public Policy

19-612 Int. Life Cycle Assessment (12)	19-626 Climate Science & Policy (12)
<b>19-624 S.T. Emerging Energy Policy (12) TR12-1:20</b>	<b>19-653 (24-640) Climate Change Mit (12) TR 3-4:20</b>
19-625 Sust. Energy for the Dev. World (12)	19-656 S.T. CO2 Capture & Sequestration
19-683 S.T. Sci, Tech, & Innov. Policy (6A2)	<b>19-629 Climate Change Sci &amp; Solutions (12) MW6:30-7:50</b>
19-696 S.T. Sus Dev & Innovation (9)	19-714 (12-714) Env. Life Cycle Assmt
19-717 (12-712) Intro Sustainable Engr (12) MWF 1:30-2:20	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)
19-740 (24-740) Cmbstn & Air Pollut Ctrl (12 ) TR1:30-2:50	19-751 (12-751) Air Quality Engr (12) MWF 2:30-3:20
<b>19-638 (18-618) Smart Grids &amp; F. Elec. (12) TR 4:30-5:50</b>	<b>19-424 (24-424) Energy &amp; Environment (9ug) TR12-1:20</b>
<b>19-881 S.T. Sem.Elect. Mkt. Restr(6A2) TR3:30-5:20</b>	<b>19-472 Fund. Electric Pwr Sys (12ug) TR 12-1:20</b>

### Materials Science and Engineering

<b>X27-798 Thermodynamics I (6A1) TR9:30-11:20 conflict</b>	<b>27-799 Thermodynamics II (6A2) MW4:30-6:20</b>
27-718 Soft Materials (12)	<b>X27-721 Processing Design (6A2) TR 9:30-11:20 conflict</b>
27-724 Materials for Energy Storage (6)	27-725 Materials in Nuclear Systems (6)
27-727 Mechanical Behavior in Extreme Env.(6)	<b>27-728 Materials Future Energy Sys (6A2) TR 11:30-1:20</b>
<b>27-729 Solid State Dev. Energy Conv.(6A1) 11:30-1:20</b>	27-730 Energy Consum. & Min. Metals Prod(6)
27-765 Special Topics: Materials & Society (6)	<b>27-766 Diffusion in Materials (6A2) TR 3:30-5:20</b>
27-794 Chem. Stab. Materials Extr. Env. (6)	<b>27-788 Defects in Materials (6A1) TR 3:30-5:20</b>
<b>27-796 Structure of Materials (6A1) MW9:30-11:20</b>	<b>27-797 Bonding of Materials (6A2) MW9:30-11:20</b>

### Mechanical Engineering

<b>24-722 Energy System Modeling (12) MW 9:30-11:20</b>	24-640 Climate Change Mitigation (12) TR 3-4:20
24-616 Tribology-Fric. Lubric. & Wear (12)	24-711 Fluid Dynamics (12) TR 3-4:50
24-628 ST Energy Trans+Conv Nano-scale (12)	<b>X24-718 Comp Fluid Dynamics (12) TR10:30-11:50 conflict</b>
<b>24-721 Advanced Thermodynamics (12) MW 11:30-1:20</b>	24-730 Advanced Heat Transfer (12)
24-731/733 Conductive/Radiative Heat Transfer (6)	24-732 Convective Heat Transfer (6)
24-736 Two-Phase Flow & Heat Transfer	<b>24-740 Combustion &amp; Air Pollution (12) TR 1:30-2:50</b>
24-642 Fuel Cell Systems (12)	24-629 Dir Solar & Therm Energy Conv (12)
<b>24-643 Electrochem. Energy Storage (12) TR 1:30-3:20</b>	24-644 S.T. Adv. Power Plant Design

## BREADTH ELECTIVES

**EST&P and EST&P-AS 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

M.S. EST&P

**also for the 3 semester EST&P-AS Degree:**  
 additional 24 units of faculty-supervised master's project, independent study, internship, and/or specific pre-approved engineering project courses

M.S. EST&P-AS (Applied Studies)

