

# NRGY - SUSTAINABLE ENERGY

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NRGY 101 Intro to Sustainable Energy. Term Typically Offered: Spring Provides an overview of sustainable energies including solar, wind, hydro, biomass, and geothermal. Students will learn the basic principles of each technology. Students will also investigate renewable resources and their associated technologies. Lecture Hours 3 Department: Engineering & Industrial - COT	3 Credits	NRGY 291 Special Topics. Term Typically Offered: Fall (1-3 lec/wk) Provides experimental offerings in Sustainable Energy Technology. Lecture Hours 1-3 Department: Engineering & Industrial - COT	1-3 Credits
NRGY 120 Industrial Safety and Rigging. Term Typically Offered: Spring Provides an overview of safe industrial practices and basic rigging techniques. At completion of this course, students will have earned the OSHA 10 certification. Lecture Hours 3 Department: Engineering & Industrial - COT	3 Credits	NRGY 298 Internship/Cooperative Educ. Term Typically Offered: Fall (V/wk) Provides university credit for student work experience in the area of Sustainable Energy Technology. Learning agreement must be completed prior to registration (restricted). Department: Engineering & Industrial - COT	3 Credits
NRGY 121 Climb Safety and Rigging. Term Typically Offered: Fall Introduces students to the concept of rigging and basic skills needed for every rigging operation. The skills learned include determining the center of gravity, load balancing, operation of hoists, and use of slings to lift material. Hooks and eyebolts will also be discussed. Students will also learn climb safety and rescue techniques. Lab Hours 1 Department: Engineering & Industrial - COT	1 Credit	NRGY 299 Senior Thesis/Capstone. Term Typically Offered: Fall Prerequisite(s): NRGY 101, ETEC 103, NRGY 243, and ELCT 241. Provides hands-on experience in which the student, under supervision, applies the skills and knowledge presented thus far in the Sustainable Energy program. Students will participate in a sustainable energy technology design, build, and testing project of their choice. The instructor will coach students as they take a project from concept to a working product. Lecture Hours 3 Department: Engineering & Industrial - COT	3 Credits
NRGY 130 Fundmtl of Mechanical Systems. Term Typically Offered: Spring Explains energy industry mechanical systems at the component level. Topics covered include repairing a basic mechanical system, familiarity with basic tooling, and understanding gears and rotational relationships. Lecture Hours 3 Department: Engineering & Industrial - COT	3 Credits		
NRGY 220 Wind Turbine Equipment. Prerequisite(s): NRGY 120. Introduces common wind turbine components and equipment. The mechanical systems that make up the subsystems of wind turbines will be covered in addition to structural characteristics and aerodynamic principles. Lecture Hours 3 Department: Engineering & Industrial - COT	3 Credits		
NRGY 235 Building Energy Efficiency. Term Typically Offered: Fall Prerequisite(s): NRGY 101. Provides an overview of energy efficiency opportunities in residential buildings and prepares the student to take the National RESNET Home Energy Rater Exam. Provides familiarity with residential construction and basic energy terminology. Lecture Hours 3 Department: Engineering & Industrial - COT	3 Credits		
NRGY 243 Fundmtl Photovol Dsgn Instal. Term Typically Offered: Fall Prerequisite(s): NRGY 101 and ETEC 103. Provides students with an introduction to the fundamental principles and technologies of solar energy systems. Emphasis on system design and installation, including site and resource assessment, load analysis, trouble shooting, and cost analysis. The material covered prepares students for a career in renewable energy or for installing a renewable energy system on their own homes. Solar hydronics will also be covered. Lecture Hours 3 Department: Engineering & Industrial - COT	3 Credits		