ALTERNATIVE ENERGY (ALET)

ALET 111, INTRODUCTION TO ALTERNATIVE ENERGY 3 (4)
This course introduces the student to alternative energy sources including solar, wind power, geothermal, bio-fuels, hydrogen generation and fuel cell applications. Cost effectiveness and overall fuel efficiency will be examined, as evaluated in electrical and thermal units. Laboratory activities will demonstrate alternative energy concepts. Laboratory required. (A special fee will be assessed.) (TAG, CTAG)
General Education: GEO1, GEO2, GEO4, GEO7
Typically Offered: Not offered this year

ALET 112, ALTERNATIVE ENERGY MECHANICAL SYSTEMS 4 (6)
This course examines the different mechanical systems used in alternative energy power generation. Included are discussions of wind turbine components, passive and active solar components, precision measurement, blueprints, hand and power tools, torque, mechanical drives, alignment, bearings, lubrication, rigging, and ladder safety. Laboratory required. (A special fee will be assessed.)
General Education: GEO1, GEO2, GEO6, GEO7
Course Entry Requirement(s): Prerequisite: ALET 111; Concurrent: MTHM 155
Typically Offered: Not offered this year

ALET 113, OSHA 10 CONSTRUCTION SAFETY 1 (1)
The OSHA 10 Hour Construction class provides entry level general awareness in recognizing and preventing hazards on a construction site. Course is instructed by an OSHA recognized instructor. Successful participants will be awarded an OSHA 10 card for construction safety. (TAG, CTAG)
General Education: GEO2, GEO5
Typically Offered: Not offered this year

ALET 220, WIND TURBINE TECHNOLOGY I 3 (5)
The student will study the operation, installation and maintenance of small wind turbine systems. This class is designed to give the student a theoretical and practical basis for the application of wind turbine systems. Laboratory required. (A special fee will be assessed.)(TAG, CTAG)
General Education: GEO1, GEO2, GEO7
Course Entry Requirement(s): Prerequisite: ALET 112
Typically Offered: Not offered this year

ALET 221, WIND TURBINE TECHNOLOGY II 3 (5)
This course is a continuation and practice of the concepts and skills learned in ALET 220 - Wind Turbine Technology I. The student will study the application and installation of utility scale wind turbine systems. This class is designed to give the student practical experience in the application, installation and maintenance of wind turbine systems. Project management and team based skills will be emphasized. Laboratory required. (A special fee will be assessed.)
General Education: GEO1, GEO2, GEO7
Course Entry Requirement(s): Prerequisite: ALET 220
Typically Offered: Not offered this year

ALET 222, SOLAR THERMAL SYSTEMS 4 (6)
This course explores the operation, design, installation, maintenance, performance estimating, site selection considerations and troubleshooting of solar thermal systems for consumer and commercial applications. The course covers heat stores, solar circuits, solar collators, controllers, heating systems, dimensioning; heat exchangers, economic considerations, and safety.
General Education: GEO1, GEO2, GEO7, GEO8
Course Entry Requirement(s): Prerequisite: ALET 111
Typically Offered: Not offered this year

ALET 223, PHOTOVOLTAIC SYSTEMS 4 (6)
This course explores the design, installation and use of solar-photovoltaic power systems for consumer and commercial applications. The course covers theory and hands-on lab experience required to assess, install, maintain, and troubleshoot solar-photovoltaic electrical generating systems. The course prepares students for the North American Board of Certified Energy Practitioners (NABCEP) Photovoltaic (PV) Entry Level Exam. (A special fee will be assessed.) (TAG, CTAG)
General Education: GEO1, GEO2, GEO7, GEO8
Course Entry Requirement(s): Prerequisite: ALET 111
Typically Offered: Not offered this year

ALET 287, WORK BASED LEARNING I - ALET 1-3 (1)
This course provides supervised, paid work experience with approved employer(s) in an area related to the student's program. Emphasis is placed on integrating prior or concurrent classroom learning with work experience through career readiness competencies. Students will be able to evaluate career selection and satisfactorily demonstrate work-related competencies.
General Education: GEO1, GEO2, GEO6, GEO8
Typically Offered: Offer as required

ALET 288, WORK-BASED LEARNING II - ALET 1-3 (1)
Building on experiences from Work Based Learning I, this course provides supervised, paid work experience with approved employer(s) in an area related to the student's program. Emphasis is placed on integrating prior or concurrent classroom learning with work experience through career readiness competencies. Students will be able to evaluate career selection and satisfactorily demonstrate work-related competencies.
General Education: GEO1, GEO2, GEO6, GEO8
Course Entry Requirement(s): Prerequisite: ALET 287
Typically Offered: Offer as required

ALET 289, WORK-BASED LEARNING III - ALET 1-3 (1)
Building on experiences from Work Based Learning II, this course provides supervised, paid work experience with approved employer(s) in an area related to the student's program. Emphasis is placed on integrating prior or concurrent classroom learning with work experience through career readiness competencies. Students will be able to evaluate career selection and satisfactorily demonstrate work-related competencies.
General Education: GEO1, GEO2, GEO6, GEO8
Course Entry Requirement(s): Prerequisite: ALET 288
Typically Offered: Offer as required

ALET 299, INDIVIDUALIZED STUDIES IN ALTERNATIVE ENERGY 1-3 (1)
An in-depth study of areas in alternative energy presented by discussion and/or individual research and reading. Topics will vary. Repeatable up to six (6) times for a total of six (6) credit hours.
Course Entry Requirement(s): Prerequisites: Second-year standing and division approval.
Typically Offered: Offer as required