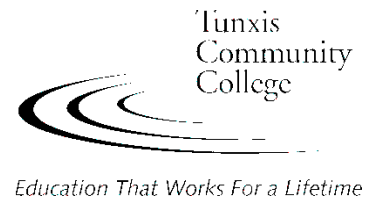


COURSE SYLLABUS



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|---|--|------------------------------|--|--------------------------|
| Course Title: | Industrial Energy Systems | | Date submitted: | May 2020 (AAC: 20-19) |
| Department: | STEAM | | | |
| Curriculum: | Tech Studies: Energy Management Option | | | |
| Course Descriptors: Make certain that the course descriptors are consistent with college and Board of Trustees policies, and the current course numbering system. | Course Code: (eg. ACC 101) | NRG 132 | Prerequisites: C- or better in NRG 123 – Energy Efficiency Methods | |
| | Course Type: | X | | |
| | A: Clinical B: Lab D: Distance Learning I: Individual/Independent L: Lecture N: Internship M: Seminar P: Practicum U: Studio X: Combined Lecture/Lab Y: Combined Lecture/Clinical/Lab Z: Combined Lecture/Studio | | | |
| | Elective Type: | G | | |
| | AH: Art History E: English FA: Fine Arts G: General HI: History HU: Humanities LA: Liberal Arts FL: Foreign Language M: Math S: Science SS: Social Science | | | |
| | Credit Hours: | 3 | | |
| | Developmental: (yes/no) | No | | |
| | Lecture: | 1.5 | | |
| | Clinical: | 0 | | |
| | Lab: | 1.5 | | |
| Contact Hours: | Studio | 0 | | |
| | Other: | 0 | | |
| | TOTAL: | 3 | | |
| Class Maximum: | 24 | Corequisites: None | | |
| Semesters Offered: | Sp/F | | | |
| Other Requirements: | None | | | |
| Catalog Course Description: | Energy Managers are called upon to assess ways to save money by saving energy in industrial processes. Saving energy can typically lead to other direct benefits such as a more efficient process, better tolerances on parts, and less wear and tear on manufacturing equipment. Understanding these unique systems, accurately projecting energy savings, dealing with a business' core operations and convincing reluctant managers that saving energy equals greater profit are valuable skills into today's energy market. Topics include Compressed Air Systems and Controls, Lighting, Steam Systems, Ventilation, Dust Collection and Energy Auditing. | | | |
| Topical Outline: List course content in outline format. | <ol style="list-style-type: none"> 1. Process Control Systems Overview 2. Process Control 3. Pressure Systems 4. Thermal Systems 5. Level Determining Systems Flow Process Systems 6. Analytical Process Systems (Microprocessor Systems) | | | |

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| | <p>7. Automated Processes and Robotic Systems</p> |
| <p>Outcomes: Describe measurable skills or knowledge that students should be able to demonstrate as evidence that they have mastered the course content.</p> | <p>After successful completion of the course students will be able to:</p> <ol style="list-style-type: none"> 1. demonstrate an ability to use critical thinking and problem-solving skills to evaluate industrial process and building energy use and be able to recommend effective energy saving solutions 2. demonstrate an ability to understand and assess the obstacles associated with the assessment, sale and implementation of industrial energy audits and energy conservation measures (ECM's 3. Evaluate the advantages, limitations and potential of various industrial system ECM's 4. demonstrate an understanding of the engineering and financial aspects of industrial projects 5. demonstrate familiarity with the regulatory aspects of industrial energy projects 6. demonstrate familiarity with State policies, financing and utility-led programs in CT <p>TECH STUDIES PROGRAM, ENERGY OPTION <i>(Numbering reflects Program Outcomes as they appear in the college catalog)</i></p> <ol style="list-style-type: none"> 2. utilize the tools, materials, techniques, and technical processes of engineering and technology when solving technical problems 6. identify energy conversion processes and their relation to engineering and technology <p>GENERAL EDUCATION: <i>(Numbering reflects General Education Outcomes as they appear in the college catalog)</i></p> |
| <p>Evaluation: List how the above outcomes will be assessed.</p> | <p>Assessment will be based on the following criteria:</p> <ol style="list-style-type: none"> 1. Tests and Quizzes 2. Homework 3. Class Participation 4. Term Project and/or Final Exam |
| <p>Instructional Resources: List library (e.g. books, journals, on-line resources), technological (e.g. Smartboard, software), and other resources (e.g. equipment, supplies, facilities) required and desired to teach this course.</p> | <p>Required: Smartboard</p> |
| <p>Textbook(s)</p> | <p>Required: textbook will be adopted at the discretion of the instructor:</p> |