

**Course Evaluation Measures Menu**

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| **Course number:** | NRG 226 |
| **Course title:** | Building Mechanical and Electrical Systems Analysis |
| **Campus location(s):** | Terry |
| **Effective semester:** | Fall 2022 |

**Core Course Performance Objectives**

1. Engage in professional behavior. (CCC 1, 3, 4, 5)
2. Solve energy efficiency problems to include interpolation, right triangle functions, appropriate use of significant figures, and factor label method. (CCC 2, 6; PGC BAS 3, 4; NRG 3, 4, 5, 6)
3. Employ the basic electrical concepts and equations needed for energy efficiency calculations. (CCC 2, 6; PGC BAS 1, 2 NRG 1, 2, 3, 4, 5)
4. Employ energy and power equations and appropriate units to solve efficiency calculations for the four major energy systems: mechanical, fluid, electrical, and thermal. (CCC 2, 6; PGC BAS 1, 2, 3; NRG 2, 3)
5. Use thermodynamics, heat transfer, and fluid flow dynamics to analyze HVAC commercial system and component performance. (CCC 2, 6; PGC BAS 2, 3; NRG 2, 3, 5)
6. Recommend system improvements based on predicted performance, and calculate energy and cost savings. (CCC 1, 2, 5, 6; PGC BAS 3; NRG 3, 5, 6)

**Summative Evaluations**

*Please note: All courses must have a* ***minimum******of four*** *summative evaluation measures, and those measures should include a variety of evaluation methods (e.g., test, oral presentation, group project).* ***Please list all summative evaluation measures. In addition to these summative measures, a variety of formative exercises/quizzes/other assignments should be used to guide instruction and learning* *but only required to be included on the final course grade.***

*For each measure, please include a scope of the assignment: for example, if requiring a research paper, include the range of required number of words and number and types of sources; for a test, include the types and number of questions; for a presentation, include the minimum and maximum time, and so on.*

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| **Evaluation Measures:** Include each agreed upon measure and scope of that measure (see above). | **Which CCPO(s) does this evaluation measure?** |
| **Quizzes / Assignments (8-12)** Unlimitedattempts for full credit | **CCPO 2,3,4,5, and 6** |
| **Exams (midterm)**   * 15-25 Short answer, Multiple Choice, T/F, and Problem-Based Questions * Only one attempt for full credit, no re-attempts allowed | **CCPO 2,3,4,5, and 6** |
| **Exam (Final)**   * 25-35 Multiple Choice, Short Answer, matching, and Problem-Based Questions * Only one attempt for full credit, no re-attempts allowed | **CCPO 2,3,4,5, and 6** |
| **ECM Project (1)** comprehensiveof CCPO’s | **CCPO 2,3,4,5, and 6** |
| **Presentation (1)** comprehensiveof CCPO’s | **CCPO 1,2,3,4,5, and 6** |

**FINAL COURSE GRADE**

(Calculated using the following weighted average)

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| **Evaluation Measure** | **Percentage of final grade** |
| Formative Assessments  Quizzes and Assignments | 30% |
| Exam (Midterm) (Summative Assessment) | 20% |
| Exam (Final) (Summative Assessment) | 20% |
| ECM Project (Summative Assessment) | 20% |
| Presentation (Summative Assessment) | 10% |
| TOTAL | 100% |

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| **Submitted by (Collegewide Lead):** |  | **Date** |  |
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| **Approved by counterparts** | | **Date** |  |
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| **Reviewed by Curriculum Committee** | | **Date** | 1/18/22 |