

**Course Evaluation Measures Menu**

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| **Course number:**  | **NRG 223** |
| **Course title:**  | **Energy Control Strategies** |
| **Campus location(s):**  | **Dover** |
| **Effective semester:**  | **2022-51** |

**Core Course Performance Objectives**

1. Engage in professional behavior.

2. Apply control theory to commercial HVAC systems and components

3. Examine common control sequences, and select sequences to optimize the energy performance of HVAC systems.

4. Optimize control and system performance by selecting appropriate controlled devices (valves and dampers).

5. Calculate the effect that selected sequences have on system performance, and predict energy savings resulting from employing each one.

**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?**  |
| Oral presentation (summative) 10 – 20 minutes | 1, 2, 3 |
| Demand Control Ventilation study (summative) – individual project using Typical Meteorological Year (TMY) data and Microsoft excel to calculate potential energy savings | 2, 3, 5 |
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| Hot Water Reset study (Summative) – individual project using Hot water temperature reset strategy, TMY data and boiler performance data to calculate average annual boiler efficiency | 2, 3, 5 |
| Valve selection Assignment (Summative) – Individual assignment to select best performance given coil performance and characteristics for 3 different valves | 2, 4 |
| One midterm (13 questions) and one final exam (21 questions) (both Summative) questions are an assortment of multiple choice, short answer and True/False | 2, 3, 4 |
| Assignments (Formative)(8-10) Calculations, homework assignments, discussion boards, and quizzes | 2, 3, 4, 5 |

**FINAL COURSE GRADE**

(Calculated using the following weighted average)

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| **Evaluation Measure** | **Percentage of final grade** |
| Summative: Presentation  | 10% |
| Formative: Assignments  | 15% |
| Summative: Projects (Equally Weighted) | 45% |
| Summative: Exams (Equally Weighted) | 30% |
| TOTAL | 100% |

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| **Submitted by (Collegewide Lead):** |  | **Date** |  |
|  |  |  |  |
| **[ ]  Approved by counterparts** | **Date** |  |
|  |  |  |  |
| **[x]  Reviewed by Curriculum Committee** | **Date** | 9/1/20 |