

**Course Evaluation Measures Menu**

**Course number: CPO 135**

**Course title: Chemical Process Technology-Equipment**

**Campus location(s): Stanton**

**Effective semester: 201951**

**Core Course Performance Objectives**

1. Describe the roles and responsibilities of a process technician, and list the fundamental skills required to be a successful technician. (CCC 1, 4; PGC 1)
2. Explain the basic principles of pressure, temperature/heat, heat transfer, and fluid flow. (CCC 2, 6; PGC 3)
3. Describe the construction, function, and operation of various fluid control valves. (CCC 2, 5, 6; PGC 2)
4. Describe the construction, function, and operation of various fluid pumps. (CCC 2, 5, 6; PGC 2, 6)
5. Explain the construction, function, and operation of various fluid compressors. (CCC 2, 5, 6; PGC 2, 6)
6. Describe the construction, function, and operation of various steam turbines. (CCC 2, 5, 6; PGC 2, 6)
7. Identify basic instrumentation symbols, and explain temperature, pressure, and flow measurement. (CCC 2, 5, 6; PGC 3)
8. Describe the construction, function, and operation of various heat exchangers. (CCC 2, 5, 6; PGC 6)
9. Describe the construction, function, and operation of various fired heaters. (CCC 2, 5, 6; PGC 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 do not need to be included on this template.*

*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?**  |
| **Test #1**: True & False (25), Multiple Choice (25), and Matching (25) questions for a total of 75 questions. | CCPO 1, 3, 7  |
| **Test #2**: True & False (15), Multiple Choice (30), and Matching (25) questions for a total of 70 questions. | CCPO 1, 2, 4, 5 |
| **Test #3**: True & False (15), Multiple Choice (30), and Matching (25) questions for a total of 75 questions. | CCPO 1, 6, 7  |
| **Test #4**: True & False (20), Multiple Choice (30), and Matching (20) questions for a total of 70 questions. | CCPO 1, 2, 8, 9 |
| **Class Project**: Students present a 15-minute oral presentation describing a piece of equipment used in the process industry. | CCPO 1, 2, 3, 4, 5, 6, 7, 8, 9 |
| **Laboratory Reports**: Students prepare laboratory reports to document actual operation of process pilot plants.  Students prepare laboratory reports to document the use of computer process simulation software to start, shutdown, and troubleshoot chemical processes  | CCPO 1, 2, 3, 4, 5, 6, 7, 8, 9 |
| **Homework Assignments**: Weekly assignment include reading chapters and answering questions in/from the textbook | CCPO 1, 2, 3, 4, 5, 6, 7, 8, 9 |

**FINAL COURSE GRADE**

(Calculated using the following weighted average)

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| **Evaluation Measure** | **Percentage of final grade** |
| Tests (summative) (equally weighted) | 60% |
| Class Project (summative) | 10% |
| Homework (formative) | 5% |
| Laboratory Reports (summative) | 25% |
| TOTAL | 100% |

 (Electronic Signature Permitted)

**Submitted by (Collegewide Lead):** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**[ ]  Approved by counterparts**  Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**[ ]  Reviewed by Curriculum Committee**  Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_