

**UCC/UGC/ECCC**

Proposal for Course Change

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| **[x]  FAST TRACK (Select if this will** **be a fast track item. Refer to**  [***Fast Track Policy***](http://www4.nau.edu/avpaa/UCCPolicy/Agenda_FastTrack_Consent.docx) **for eligibility)** |

# *If the changes included in this proposal are significant, attach copies of original and proposed syllabi in* [*approved university format*](http://www4.nau.edu/avpaa/UCCForms/syllabus.doc)*.*

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| 1. Course subject and number: | **ME 291** | 2. Units: | **3** |

 [**See upper and lower division undergraduate course definitions**](http://www4.nau.edu/avpaa/UCCPolicy/Uplow.doc).

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| 3. College: | CEFNS | 4. Academic Unit: | Mechanical Engineering |

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| 5. Current Student Learning Outcomes of the course.* Have an understanding of the fundamental principles of thermodynamics and its application to engineering systems.
* Apply the control volume methodology in solution of engineering problems.
* Have exposure to contemporary technical issues associated with energy conversion and utilization.
 | Show the proposed changes in this column (if applicable). Bold the proposed changes in this column to differentiate from what is not changing, and Bold with strikethrough what is being deleted. *(*[*Resources & Examples for Developing Course Learning Outcomes*](http://www4.nau.edu/avpaa/Assessment/CourseLearningOutcomesPDF_090712.pdf)*)***UNCHANGED** |

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| 6. Current **title,** **description** and **units**. Cut and paste, in its entirety,from the current on-line academic catalog\* [**http://catalog.nau.edu/Catalog/**](http://catalog.nau.edu/Catalog/).**ME 291 THERMODYNAMICS 1 (3)**Description: Energy and entropy concepts, applications; first and second law principles, applications to processes and cycles. Letter grade only. Course fee required.Units: 3Prerequisite: CHM 151 and (MAT 238 or 239) Pre- or Co requisite: PHY 262 Must have earned grades of C or better in all prerequisite courses.  | Show the proposed changes in this column **Bold** the proposed changes in this column to differentiate from what is not changing, and **~~Bold with strikethrough~~**what is being deleted.**ME 291 THERMODYNAMICS ~~1~~ I (3)**Description: Energy and entropy concepts, applications; first and second law principles, applications to processes and cycles. Letter grade only. Course fee required.Units: 3Prerequisite: CHM 151 and (MAT 238 or 239) Pre- or Co requisite: PHY 262. Must have earned grades of C or better in all prerequisite courses. **Must concurrently enroll in ME 291R unless earned a grade of B or better in MAT 238.** |

\*if there has been a previously approved UCC/UGC/ECCC change since the last catalog year, please copy the approved text from the proposal form into this field.

 7. Justification for course change.

**In order to enhance learning and improve the performance of students in the class, concurrent enrollment in the recitation section (ME 291R) is required for students who earned grades below “B” in the CHM 151 and MAT 238 prerequisites.**

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| 8. Effective **BEGINNING** of what term and year? | **Fall 2014** |
| [**See effective dates calendar**](http://www4.nau.edu/avpaa/timelines/1314Effective.xls). |  |

**IN THE FOLLOWING SECTION, COMPLETE ONLY WHAT IS CHANGING**

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| **CURRENT** | **PROPOSED** |
| Current course subject and number: | Proposed course subject and number: |
| Current number of units: | Proposed number of units: |
| Current short course title:THERMODYNAMICS 1  | Proposed short course title (max 30 characters):**THERMODYNAMICS I**  |
| Current long course title:THERMODYNAMICS 1  | Proposed long course title (max 100 characters):**THERMODYNAMICS I**  |
| Current grading option:letter grade [ ]  pass/fail [ ]  or both [ ]  | Proposed grading option:letter grade [ ]  pass/fail [ ]  or both [ ]  |
| Current repeat for additional units: | Proposed repeat for additional units: |
| Current max number of units: | Proposed max number of units: |
| Current prerequisite:CHM 151 and (MAT 238 or 239). Pre- or Co requisite: PHY 262. Must have earned grades of C or better in all prerequisite courses. | Proposed prerequisite (include rationale in the justification): **CHM 151 and (MAT 238 or 239) Pre- or Co requisite: PHY 262. Must have earned grades of C or better in all prerequisite courses. Must concurrently enroll in ME 291R unless earned a grade of B or better in CHM 151 and MAT 238.** |
| Current co-requisite:Pre- or Co requisite: PHY 262. | Proposed co-requisite (include rationale in the justification): **Pre- or Co requisite: PHY 262. Must concurrently enroll in ME 291R unless earned a grade of B or better in CHM 151 and MAT 238.** |
| Current co-convene with: | Proposed co-convene with: |
| Current cross list with: | Proposed cross list with: |

9. Is this course in any plan (major, minor, or certificate) or sub plan (emphasis)? Yes [x]  No [ ]

 If yes, describe the impact. If applicable, include evidence of notification to and/or response

 from each impacted academic unit.

**Mechanical Engineering; B.S.E., Civil Engineering; B.S.E., Environmental Engineering; B.S.E., Mechanical Engineering Minor.**

10. Is there a related plan or sub plan change proposal being submitted? Yes [x]  No [ ]

 If no, explain.

**These prerequisite/co requisite changes will not require any related plan changes.**

11. Does this course include combined lecture and lab components?                  Yes [ ]  No [x]

 If yes, include the units specific to each component in the course description above.

**Answer 12-15 for UCC/ECCC only:**

12. Is this course an approved Liberal Studies or Diversity course?                    Yes [ ]  No [x]         If yes, select all that apply.   Liberal Studies [ ]    Diversity [ ]    Both [ ]

13. Do you want to remove the Liberal Studies or Diversity designation?            Yes [ ]  No [ ]

 If yes, select all that apply.   Liberal Studies [ ]    Diversity [ ]     Both [ ]

14. Is this course listed in the [**Course Equivalency Guide**](https://aztransmac2.asu.edu/cgi-bin/WebObjects/Admin_CEG.woa/wa/ByInst?inst=NAU)?                               Yes [x]  No [ ]

15. Is this course a [**Shared Unique Numbering**](https://aztransmac1.asu.edu/cgi-bin/WebObjects/ATASS.woa/wa/SUNList?S=X) (SUN) course?                            Yes [ ]  No [x]

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| **FLAGSTAFF MOUNTAIN CAMPUS** |  |
| **Scott Galland** | **2/5/2014** |
| Reviewed by Curriculum Process Associate | Date |
|  |  |
| **Approvals**: |  |
| **F. Ernesto Penado** | **2/5/2014** |
| Department Chair/Unit Head (if appropriate) | Date |
|  |  |
| Chair of college curriculum committee | Date |
|  |  |
| Dean of college | Date |
|  |  |
| **For Committee use only:** |  |
|  |  |
| UCC/UGC Approval | Date |

Approved as submitted: Yes [ ]  No [ ]

Approved as modified: Yes [ ]  No [ ]

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| **EXTENDED CAMPUSES** |  |
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| Reviewed by Curriculum Process Associate | Date |
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| **Approvals:**  |  |
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| Academic Unit Head | Date |
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| Division Curriculum Committee (Yuma, Yavapai, or Personalized Learning) | Date |
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| Division Administrator in Extended Campuses (Yuma, Yavapai, or Personalized Learning) | Date |
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| Faculty Chair of Extended Campuses Curriculum Committee (Yuma, Yavapai, or Personalized Learning) | Date |
|  |
| Chief Academic Officer; Extended Campuses (or Designee) | Date |
|  |  |

Approved as submitted: Yes [ ]  No [ ]

Approved as modified: Yes [ ]  No [ ]