

ME 322 – Mechanical Engineering Thermodynamics
EES Exam 1 – 25 Points
Spring 2022

This is a non-collaborative take-home exam.
Submit your own work.

Please read the following statement:

Article II, Section 1 of the University of Idaho Student Code of Conduct states,

Cheating on classroom or outside assignments, examinations, or tests is a violation of this code. Plagiarism, falsification of academic records, and the acquisition or use of test materials without faculty authorization are considered forms of academic dishonesty and, as such, are violations of this code. Because academic honesty and integrity are core values at a university, the faculty finds that even one incident of academic dishonesty seriously and critically endangers the essential operation of the university and may merit expulsion.

I have read and understand the above statement.

Signature

Date

Printed Name (no points, but you'll want to make this legible)

EXAM INSTRUCTIONS – PLEASE READ THIS CAREFULLY

You will have several days to complete this exam. You may use your notes, the online course resources, your computer (EES, Google, etc.) and pretty much any non-human resource you can find. You need to solve, code, and debug these problems on your own. There will be ample opportunity to ask questions about the exam in class, so start early.

1) Work Problem 3 on Exam 1 using the EES software.

- Make sure to add your name as a comment at the top of your code
- Store all of the properties in an array table (T, p, v, u)
- Properties at State 1 (which properties did you use to define State 1?)
- Properties at State 2 (which properties did you use to define State 2?)

2) In addition to W_{12} [ft*lb_f] for problem 3, calculate the Q_{12} , displaying this in both [ft*lb_f] and [Btu]

3) Use EES to make a P-v plot for water and overlay your state points on your P-v plot

Print directly from EES: equations, solution, array and plot. This is what you will turn in.