

ME3001 - 002 - Spring 2020 - Exam 2 Review

- General Information

- Date: Friday 04/24/2020
- Start Time: 12:20 AM Stop Time: 2:20 PM
- Location: The exam will be taken remotely.
- Access the exam at Start Time on ilearn.
- Submit your work as a .pdf before Stop Time on ilearn.
- Label all answers. Do not write the problem statements.

- Materials Allowed in Exam

- Calculator of your Choice (i.e. TI, MATLAB, abacus)
- Your notes from class
- Reference Sheet(s) from Instructor
- A writing device of your choice, pencil or tablet
- You are not allowed to use external resources such as the internet or communicate with anyone besides the instructor during test
- This is a Self Proctored Exam - You are responsible for upholding the TNTECH Student Academic Misconduct Policy. You must write, sign and date the following honesty contract on the first page of your exam.

- Honesty Contract:

I _____, agree to follow the policy of this exam as described in the document *me3001_exam2_honestycontract.pdf*.

Signature_____ Date_____

- **Topics Covered**

- Classification of Differential Equations
- Analytical Solutions to ODEs
- Numerical Solutions to ODEs
- Equation Decomposition

- **Probable Problem Breakdown**

1. **Technical Problem A (33.33%)**

- No Model - Just Math
- Solve ODE 1st 2nd
- Separation of Variables or The Trial Solution Method

2. **Technical Problem B (33.33%)**

- Analytical Solution
- Numerical Integration for Solution Validation
- Sketch of Solutions

3. **Technical Problem C (33.33%)**

- Given mathematical model
- Numerical Integration for Solution
- Decomposition of Second Order Equation
- Analysis question