ME3001 - 002 - Spring 2020 - Exam 1 Review

- **General Information**

  - **Date: Monday 03/02/2020**

  - **Time: 12:20 PM - 1:15 PM**

  - **Location: BRWN 236**

- **Materials Allowed in Exam**

  - **Calculator**

  - **One 8.5inx11in Two-Sided Equation Sheet**

  - **Reference Sheet(s) from Instructor**

- **Important Notes**

  - **Scratch paper will be provided by the instructor.**

  - **No phones, tablets, or computers are allowed, Duh.**

- **Major Topics**

  - **Numerical Methods for Solving Non-Linear Equations**

    * Incremental, Bisection, Newton-Raphson Methods
    * General form of Problem

  - **System of Linear Equations**

    * Matrix form of System of Equations
    * Existence of Solution

- **Probable Problem Breakdown**

1. **Short Answer (10%)**

   – Concept Problems

   – Important Vocabulary

2. **Technical Problem A - Non-Linear Eq.'s (30%)**

   – Bisection or Newton-Raphson Method

   – Show 2-3 Iterations of Method

   – Function Provided ?

3. **Technical Problem B - Systems Linear Eq.'s (30%)**

   – Write Linear Equations ?

   – Matrix form of System of Equations

   – Matrix form - not solve

4. **Technical Problem C - Systems Linear Eq.'s (30%)**

   – Gaussian Elimination

   – Prove Existence of Solution