

## ME 403-001 – Mechanical Systems Design I

### **Meeting Times & Location:**

T 1:00 – 2:20pm CKB 313

Th 1:00 – 1:20pm GITC 2302

### **Course Description:**

Lectures and projects covering problem solving methodology in the design, analysis, and synthesis of mechanical and thermal systems.

### **Prerequisites:**

ME 304, ME 305, ME 312, ME 316

### **Optional Textbooks:**

*“The Engineering Design Process”*

A. Ertas, J. Jones

John Wiley & Sons, 1996, 2<sup>nd</sup> Edition

*“The Mechanical Design Process”*

David G. Ullman

McGraw Hill, 2010, 4<sup>th</sup> Edition

### **Instructor:**

Mr. Anthony Glick

Office hours: T, Th 2:40 – 3:30pm MEC 333CD or via Zoom by appointment

Email: aglick@njit.edu

### **Course Objectives:**

Demonstrate an understanding of the phases of the methodology of design.

### **Topics:**

Weeks 1 – 6/7: Introduction/Engineering Design/Modeling & Simulation/Material Selection/Crack Growth/Structured & Unstructured Problems/Engineering Economics/Design Optimization/Ethics

Week 7/8: Exam

Weeks 8 – 15: Capstone project

### **Grading:**

Final Project (Design Proposal): 35%

1 Examination: 28%

Homework: 27%

Attendance: 10%

**Grading Scale:**

A: 100.00 – 90.00%

B+: 89.99 – 87.00%

B: 86.99 – 80.00%

C+: 79.99 - 77.00%

C: 76.99 - 70.00%

D: 69.99 – 60.00%

F: 59.99 – 0%

**Policies:**

Homework submitted after due date will be penalized as follows: ½ credit if one week late and no credit beyond one week.

**Statement on Academic Integrity:**

*Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at:*

<http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf>.

*Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. **Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university.** If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at [dos@njit.edu](mailto:dos@njit.edu).*

**Statement on Artificial Intelligence:**

This course expects students to work without artificial intelligence (AI) assistance unless explicitly permitted by the instructor. Additionally, if and when students use AI in this course, the AI must be properly cited. If you have any questions or concerns about AI technology use in this class, please reach out to your instructor prior to submitting any assignments.