

AE 6372 Aerospace Systems Engineering Syllabus

Fall 2020 (Hybrid)

Instructor: Dr. Elena Garcia

Email: elena.garcia@ae.gatech.edu

Office: Weber 311

TA: Andy Kim, andy.kim@gatech.edu

Catalog Description

Introduction to aerospace systems engineering. Systems engineering and quality engineering methods and tools. Top-down design decision support processes, computer integrated environments, Integrated Product/Process Development (IPPD).

Class Topics

- Systems Engineering Definitions and Need
- Integrated Product and Process Development
- Project Scoping
- Quality Function Deployment
- Requirements Definition and Analysis
- Model Based Systems Engineering
- Morphological Analysis
- Trade studies
- Sensitivity Analysis
- Risk Identification and Management
- Design Under Uncertainty, Robust Design and Six Sigma
- Product Life-cycle Management

Class Structure

This class is being offered in a HYBRID mode.

- Weekly quizzes, homework and projects will be asynchronous and turned in online through canvas
- There will be no final exam, but rather a group project deliverable due before the Thanksgiving break.
- Lectures will be on Tuesdays and Thursdays at MRDC 2404 and will be recorded.
- Classroom attendance will be limited to a maximum of $\frac{1}{4}$ of the room capacity and a schedule will be created to indicate when students should attend in person after the first week of class. **You will be expected to attend during your scheduled time.** If you have concerns about face-to-face instruction you must discuss this with the instructor prior to the schedule assignment.
- **The first week will be fully virtual and asynchronous until the schedule is set.**
- Participation during class and/or online will be part of your grade.

Office Hours

Thursdays at 9AM in Weber 311 or via Teams https://teams.microsoft.com/l/meetup-join/19%3ameeting_MzI2MWFjNzgtNDdiNi00YTk2LWE5ODgtMmYwZGM3YmJhZjc1%40thre.ad.v2/0?context=%7b%22Tid%22%3a%22482198bb-ae7b-4b25-8b7a-6d7f32faa083%22%2c%22Oid%22%3a%221d680547-db0a-4825-82df-3f8be34c830b%22%7d Note that the Teams meeting will initially put you into a waiting room.

Please do not hesitate to reach out with any questions, struggles, thoughts or concerns via e-mail as needed since I will only be on campus Tuesdays and Thursdays.

Course Website

This website will provide all official lecture material, important announcements and relevant information.

<https://gatech.instructure.com/courses/118180>

Grade Breakdown

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| Homework | 20% |
| Discussion participation and self-assessment | 20% |
| Weekly Quizzes | 25% |
| Team Project | 35% |

Tentative Dates

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|----------------------|---|
| Aug 25 th | Face-to-face Schedule Rotation Published |
| Aug 25 th | Team Project Assignment |
| Nov 28 th | Team Project Due (intermediate elements due earlier) |
| Mondays | Weekly Homework, Quizzes, Participation and Participation Self-assessment |

Expectations of Students

Students are expected to attend class and review course material online. Students are expected to participate in discussions, complete assignments, actively contribute to groups, and make every effort to understand the course material. Students are expected to show respect to the instructor and their peers.

Expectations of the Instructor

I care about you learning the course material. I will provide instructional materials for your reference. I will happily answer questions regarding the material, projects or homework. If you find yourself struggling after giving it your best effort, *seek assistance*. I will respect you and will do my best to provide an inclusive environment for everyone.

Other Course Policies

- No late assignments will be accepted, no excuses. All assignments will have at least a week available for their completion. Do not leave them until the last minute.
- All assignments are expected to be your own work not copied from anywhere or anyone else (including solution manuals or previous semesters) unless explicitly stated otherwise.

Health and Well-Being

I understand that in these uncertain and unsettled times you may be experiencing additional stress. I want to make you aware of resources available to you should you need them and to encourage you to reach out. Your well-being and mental health are important, my door and my e-mail are always open.

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| Center for Assessment, Referral and Education (CARE) | https://care.gatech.edu/ |
| Campus Police (any emergency): 404-894-2500 | http://www.police.gatech.edu/ |
| Counseling Center: 404-894-2575 | https://counseling.gatech.edu/ |
| Dean of Students Office: 404- 894-6367 | https://studentlife.gatech.edu/ |
| Georgia Crisis and Access Line: 800-715-4225 | |
| National Suicide Prevention Lifeline:800-273-TALK (8255) | https://suicidepreventionlifeline.org/ |
| Crisis Text Line: Text HOME to 741741 | |
| VOICE: Victims Survivor Support: (404) 385-4464 (or 4451) | http://healthinitiatives.gatech.edu/well-being/voice |
| Stamps Health Services | https://health.gatech.edu/contact |

Note that most of these resources are also available through the “Well-Being Connect” link on our Canvas page.

Honor Code Statement

Students are expected to abide by the Honor Code of the Georgia Institute of Technology. Information on the Honor Code can be found at:

<http://www.honor.gatech.edu/>

It is the student’s responsibility to become familiar with the Honor Code of the Institute. When in doubt about rules or specific situations students should contact the class assistants or an Honor Advisory Council member. Violations to the Honor Code have serious consequences and will be enforced at all times. Suspected violations will be reported to the Office of Student Integrity for further investigation.