

AE673A: Rocket and Missile Structures (2020-21)

Group: **IMOA**

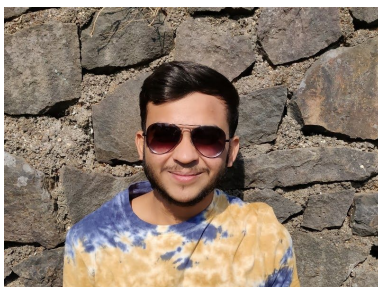
Members:



Aditya Raghuwanshi
170052
adityarg@iitk.ac.in
+91-7706848545



Amrendra Pratap Singh
170097
apsingh@iitk.ac.in
+91-9140695135



Mataria Pence Jagatkumar
170382
pencem@iitk.ac.in
+91-9727799001



About Us

We are a passionate group with multi-domain interests. We believe that our varied specialties will provide views and ideas from different perspectives and will strive for innovation. One of our members has immense experience in the fabrication of aero models and structures. Another member is an expert in computational methods and programming. And we have one more with a skill set in flight autonomy and manufacturing. Apart from this, the bond amongst us is incomparable and we have done many valuable projects and courses together.

This course is something of utmost importance given the future of our nation in current circumstances at the same time interesting and we look forward to this and are absolutely positive about it.

Opinions on Conduct

Let's break this down thoughtfully.

Motive: To learn the basics of construction, mission, and planning of Rocket and Missiles.

Constraints: Lack of live interaction, problems in monitoring fidelity of submissions as well as teaching and connectivity issues

- Considering the nature of course, completely moving towards an andragogical way will simply mean missing the opportunity to invoke sufficient motivation about a super interesting field. And completely going pedagogical would be boring in the given circumstances. So something middle needs to be thought of.
- What if we exploit the given conditions and study in a more practical way, study things that actually matter. Rather than just theory, something focusing on the actual things that happen on the

field. Of course, the basic theory is essential and cannot be avoided.

- There is a decent set of materials available on the internet ranging from video lectures to books to documentaries to inside tours to simulation tools/games (like KSP). The instructor can help us channelize these resources and can discuss them as a discussion forum rather than a class.
 - Interesting Projects are the best way in our opinion to learn something. But choosing a good creative project is much more a challenge.
 - Case studies on real missiles, how ISRO is doing, what makes a good rocket design,... tons of things that we are never able to answer despite studying theories behind it. Maybe we can invite some real scientists out there to lay some interesting insights. So, essentially realizing what we are actually studying.
 - Theoretical Evaluation is a difficulty as we can never equalize everyone due to connectivity and fidelity issues. So we can be a little reluctant here and focus more on learning.
-

Ways of conducting Learning Process in The Current Scenario

- The best and possibly only way of interaction and discussion is online mode. Posting lecture videos & audios and reading material on an online platform (like HelloIITK) is only viable option for people having different internet connect strength, as instructed by the Professor;
- As you have instructed to form groups of three students each, we can convert it into different type of learning experience by giving assignments, quizzes, possibly mid-semester & end-semester exams too in groups;

- It will have two advantages, firstly it will reduce resources required (like TAs) and secondly, it will give students an opportunity to learn & practice concepts with discussion from peers.

Grading Policy

- As the interaction will be not as efficient as physical interaction and as most of the students will be deprived of the appropriate softwares required for completing assignments and projects, we expect grading to be comparatively lenient.
- As stated above, we expect this course to be more practical than theoretical in the current scenario for better learning experience. So, kindly add more weightage to assignments and projects than to examinations.