

AE687 - AEROSPACE STRUCTURAL ANALYSIS-II
Department of Aerospace Engineering, IIT Kanpur

L-T-P-D-[C]: 3-0-0-0-[4]

Course Instructor: Dr. R. Kitey

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Course Content:

- General loads on aircraft, load factor, V-n diagram, effect of gust loading.
- Energy principles, potential and complementary potential; deflection analysis, indeterminate structures.
- Analysis of plates, Kirchoff and first order shear deformation plate theories, buckling of plates, buckling of stiffened plates, local buckling of composite shapes.

Reference:

1. Aircraft structures for engineering students, THG Megson
2. Theory and analysis of flight structures, RM Rivello
3. Fundamentals of aircraft structural analysis, HW Curtis
4. Energy and finite element methods in structural mechanics, IH Shames and CL Dym
5. Energy methods in applied mechanics, HL Langhaar
6. An introduction to the mechanics of solids, SH Crandall, NC Dhal, TJ Lardner.
7. Class notes.

Examination:

Quiz and projects: 20%

Mid semester examination: 35%

End semester examination: 45%

Note:

1. Appearing in both examination (midterm and final) and 80% attendance are compulsory, failing which you will be awarded an 'F' grade.
2. Students will not be allowed to drop the course after the mid semester examination.
3. Stringent disciplinary actions will be taken against the students who are found involved in plagiarism.