



Module PMRF-ISSS004

Mechanics of Beams

Name of the PMRF student

Ajeet Kumar Yadav

Required background of the students taught

UG students of the departments of Aerospace Mechanical and Civil engineering who have completed their first course on strength of materials

Faculty coordinator

Prof. Nithin Aithal

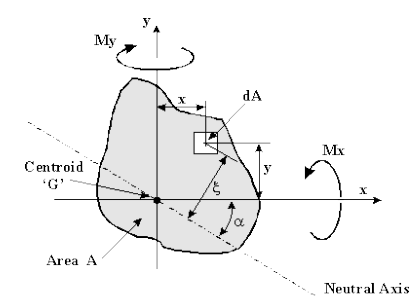
Online session coordinator

Ms. Aishwarya P

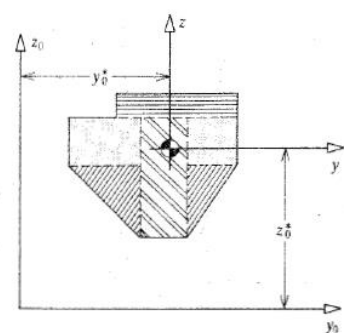
Details of the content of the module

1 credit course 1 lecture per week. 1 hour lecture. Total 15 sessions.

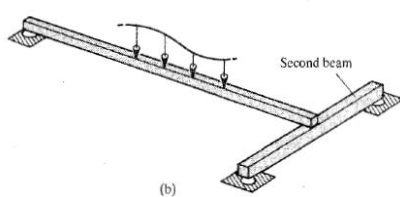
1. Bending and extensional stress in beams (unsymmetrical bending of homogeneous and nonhomogeneous beams, calculation of the area properties of nonhomogeneous section)
2. Beam bending and extensional deflections (the small deflection beam equilibrium equation, nonlinear beam equilibrium equations, boundary conditions, uncoupled form of governing differential equations (GDEs) and boundary conditions (BCs) and their solution for different BCs)
3. Additional beam bending topics (concepts of elastic boundary conditions, concentrated and partial span loads)



Unsymmetrical bending



Nonhomogeneous section



Elastic boundary condition

Schedule of the module

Saturday 4 pm to 5:15 pm

Start date 12th June 2021

End date 25th September 2021

15 sessions

Meeting link

<https://teams.microsoft.com/l/meetup->

Contact email

ID: issforum@gmail.com

Registration link

<https://forms.gle/D2sPLGs2EP6YkCXr6>

