NWFP University of Engineering & Technology Peshawar

Document Type: **Course Outline** Department: **Civil Engineering**

Course No.: **CE-201**

Serial No.: _____

Course Title: **Mechanics of Solids-II**

Type**: Theory** Credit Hours **03**

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1. Analysis of stresses and strains at a point due to combined effect of axial force, shear force and bending moment
2. Mohr's circle for stresses and strains
3. Relationship between elastic constants
4. Theories of Failure
5. Unsymmetrical Bending
6. Shear Stresses in mono-symmetric beams
7. Shear stress distribution in unsymmetrical beams
8. Shear flow, shear center, concentration of stresses
9. Thick and thin walled cylinders
10. Analysis of curved beams and beams on elastic foundation
11. Short eccentrically loaded columns
12. Core of a section
13. Rankine Gordon formula for intermediate columns, slenderness ratio
14. Eccentrically Loaded Columns
15. Inelastic behavior of beams in flexure
16. Shape factor of a section.

Books recommended:

1. Strength of Materials by Andrew Pytel and Ferdinand L. Singer
2. Mechanics of Materials by E.P. Popov