LECTURE NOTE ON
CVE 417 (STRUCTURAL DESIGN II)
Course Unit 2

Course Lecturer: Engr. Akinyele J.O

Duration for lecture: 2 hours per week
(15 weeks)

Design philosophies

(Week1)

- Allowable stress design

- working stress design (for concrete)

- ultimate stress design

Limit state design (Week2)

- A condition beyond which a structural system or a structural component ceases to fulfill the function for which it is designed.
- **Examples of limit states**
- Deflection
- Fatigue
- Shear
- Buckling
- Bearing
- Cracking
- Flexure
- Torsion
- Settlement
- Stability
- **Strength limit states**
- Flexure
- Shear
- Torsion
- **Serviceability limit states**
- Cracking
- Excessive deflection