

List of eLab Experiments as of ۲۹ March ۲۰۱۵

Mechanical Engineering

Machine Design

- ۱- Initial tension Experiment
- ۲- Pump assembly
- ۳- Hand Press assembly
- ۴- Hoist Block assembly
- ۵- Monorail Trolley assembly

Sound and Vibration

- ۶- Indoor Acoustics
- ۷- Lumped parameter systems
- ۸- Vibration isolation (HW)
- ۹- Structural vibration and Modal analysis (HW)
- ۱۰- Sound Level Meter (Signal Analyzer)
- ۱۱- MATLAB Lab

Material Science

- ۱۲- Crystalline structures of different materials

Measurements

- ۱۳- Measurement Instruments (Vernier and Micrometer)

Civil Engineering

Civil

- ۱۴- Simple Plain Beam Experiment
- ۱۵- Simple Reinforced Concrete Beams Experiment
- ۱۶- RC Element – FRP Tension Stiffening
- ۱۷- RC Beam – FRB Debonding Test
- ۱۸- RC Beam – CFS Bending Test
- ۱۹- Frame Analysis Experiment
- ۲۰- Truss Analysis Experiment
- ۲۱- Slab Analysis Experiment
- ۲۲- Continuous Beam Analysis Experiment
- ۲۳- Cantilever Analysis Experiment

Physics

Physics of Matter

- २६- Fluid Mechanics 'Stokes' Law and Viscosity
- २७- Momentum- Elastic and inelastic collisions

Signal Analysis

- २८- Complete Signal Analyzer

Electricity and Magnetism

- २९- Faraday's Law of Induction and Mutual Inductance (HW)
- ३०- Solenoids and Ampere's Law (HW)
- ३१- Eddy current magnetic brake system (HW)
- ३२- Oscillating magnet energy harvester (HW)

Electrical Engineering

Communication

- ३३- Amplitude Modulation
- ३४- Pulse Code Modulation
- ३५- Digital Modulation Techniques (१)
- ३६- Digital Modulation Techniques (२)

$$१३(\text{Mechanical}) + १०(\text{Civil}) + ११(\text{Physics}) + ६(\text{Electrical}) = ३६ \text{ Total}$$

$$२८ \text{ SW} + ६ \text{ HW}$$