PH-114 Physics for Architects

Statics: Conditions for static equilibrium, center of mass and center of gravity, stress and strain and hydrostatic pressure.
Waves: Wave motion, transverse waves, stationary waves, longitudinal waves; inverse square law of sound, resonance and beats, reverberation, seismic waves, simple harmonic motion, forced and free vibrations.
Light: Nature of light, superposition of waves, reflection, refraction, Huygens's principle, interference, interferometer, dispersion, prism, biprism, diffraction, diffraction grating, polarization, illuminance, spectrophotometry, electric light source; conditions for good illumination.
Heat: Heat, units of Heat, temperature, and matter, exchange of heat in closed systems, heat conduction; R-number, U-value, and thermal resistance, heat convection, heat radiation, The Greenhouse effect, the first and second laws of thermodynamics.

Recommended book(s) for the approved course

Text book(s)

1. D. Halliday, R. Resnick and J. Walker, "Principles of Physics", John Wiley & Sons, volume 1 and 2, 11th ed. 2020.
2. R. A. Serway and J. W. Jewett, "Physics for Scientists and Engineers", Golden Sunburst Series, 10th ed. 2019.

Reference Book(s)

1.Yehuda Salu, "Physics for Architects", Infinity Publishing, 2nd ed. 2013.