

1st semester

				Seminar			
Week	Date	Lecture topics	Title	Lecturer	covered topics	Teacher1	Teacher2
1	8, Sept	1,2	Introduction, requirements. (Briefly - Standards of length, mass, time. Significant figures. Prefixes. Conversion of units. OVI). Trigonometry, coordinate systems.	PF	Math review 1 finishing with functions and graphing	ZF	PF
	11, Sept	3,4	Equation solving. Functions and graphing, exponents, scientific notation, logarithms, exponentials	HP			
2	15, Sept	5,6	Motion in one dimension, displacement, velocity, acceleration, motion diagrams. Freely falling objects.	BZS	Math review 2 exponentials, logarithms + lect 5-6	KT	HP
	18, Sept	7,8	Vectors and their properties. Components of vectors. Displacement, velocity and acceleration in two dimensions.	SzJ			
3	22, Sept	9,1	Motion in two dimensions. Projectile motion.	PGY	lect 7-10	HP	PF
	25, Sept	11,12	The laws of motion. Newton's First, Second and Third Law.	PF			
4	29, Sept	13-14	Applications of Newton's Laws. Forces of friction.	PGy	lect 11-14	ZF	BZs
	2, Oct	15-16	Energy. Work. Kinetic energy and the work-energy theorem. Gravitational potential energy.	VZ			
SCT 1 covering topics 1-10							
5	6, Oct	17-18	Spring potential energy. System and energy conservation. Power. Work done by varying forces.	PGY	lect 15-18	SzGT	BZs
	9, Oct	19-20	Momentum and impulse. Conservation of momentum. Collisions. Elastic and inelastic collisions.	HP			
6	13, Oct	21-22	Angular speed and angular acceleration. Rotational motion under constant angular acceleration.	ML	lect 19-22	SzGT	SzJ
	16, Oct	23-24	Centripetal acceleration. Newtonian gravitation. Kepler's laws.	ML			
7	20, Oct	25-26	Torque and the two conditions for equilibrium. The center of gravity.	SZJ	lect 23-24	SzJ	PF
	23, Oct	27-28	Rotational kinetic energy. Angular momentum.	SZJ			
SCT2 covering topics 11-22.							
8	27, Oct	29-30	States of matter. Deformation of solids. The Young's, shear and bulk modulus. Density and pressure. Variation of pressure with depth. Pressure measurements.	DBA	lect 25-28	SZJ	KT
	30, Oct	31-32	Buoyant forces and Archimedes's principle. Fluids in motion. Equation of continuity and Bernoulli's equation.	PF			
9	3, Nov	33-34	Viscous fluid flow. Poiseuille's law. Circulation, blood pressure measurement, transport phenomena, diffusion, osmosis	SzöÁ	lect 29-32	HP	DBA
	6, Nov	35-36	Temperature and the zeroth law of thermodynamics. Thermometers and temperature scales. Thermal expansion of solids and fluids. Macroscopic description of a	SzGT			
10	10, Nov	37-38	Energy in thermal processes. Heat and internal energy.	ML	lect 33-36	BZs	SzöÁ
	13, Nov	39-40	Specific heat. Calorimetry. Latent heat and phase change.	ML			
SCT 3 topics 23-32.							
11	17, Nov	41-42	The first law of thermodynamics. The second law of thermodynamics. Entropy. Refrigerators and heat pumps.	PGY	lect 37-40	ZF	DBA
	20, Nov	43-44	Elastic potential energy. Hook's law. Simple harmonic motion. Motion of a pendulum.	KT			
12	24, Nov	45-46	Waves. Frequency, amplitude and wavelength. Interference of waves. Reflection of waves	VeZe	lect 41-44	NE	DBA
	27, Nov	47-48	Sound. Energy and intensity of sound waves. Doppler effect	KT			
13	1, Dec	49-50	Ultrasound. Shock waves, standing waves. The ear and the principles of hearing.	ZF	lect 45-48	KT	VZ
	4, Dec	51-52	Overview and summary of all topics	PF			
SCT4 covering topics 33-44.							
14	8, Dec	53-54	Interactive lectures and seminars and preparation for the ESE.	VZ		PF	SzGT
	11, Dec	55-56		VZ			