WJEC PH2

Spec Ref	Topic	TAP episode	comments
2.1	transverse and longitudinal waves, $c = f\lambda$,	309, 311	
	polarisation of light and microwaves;	313	
	the diffraction of water, sound and microwaves,	323	
	superposition, Young $\lambda = ay/D$, $d \sin\theta = n\lambda$	321, 322	
	path & phase difference, coherence, interference	310, 322	
	single slit effect on double-slit and grating patterns		Not covered by 323-2
	stationary waves for stretched string and sound	324	
2.2	Snell's Law $n_1v_1 = n_2v_2$, $n_1 \sin\theta_1 = n_2 \sin\theta_2$;	317	
	wave model of light propagation;		No obvious reference
	total internal reflection, critical angle, $n_1 \sin c = n_2$	318	
	multi & monomode optical fibres, multi-mode dispersion	318-2	Limited
	compare optical fibre, microwave, satellite and copper cables	318-2	Limited
2.3	photo-electric effect, Einstein's equation	502	
	X-rays & production		No reference
	the electromagnetic spectrum & photon energies	314, 501	
	line emission and line absorption spectra	501	
	atomic energy level diagrams, ionisation energies	501-1	
	stimulated emission, population inversion	504	
	pumping, structure of a laser	504	
	semiconductor diode laser & uses	504-1	Uses only – no material on s/c lasers
2.4	the nuclear atom		Assumed
	quarks and leptons, antiparticles	540, 533, 534	
	Comparison of four forces or interactions,		
	hadrons, baryons and mesons	533	
	conservation of charge and lepton number	533, 535	
2.5	stellar spectrum	701	
	black bodies, the black body spectrum		No reference
	Wien's displacement law Stefan's Law		No reference
	luminosity, size, temperature and distance	704-8	
	composition of the universe, proton-proton chain in stars		No reference