Syllabus

Lecture wise break up

Sl No	Topic	No of Lecture
1	Brief discussion of free-surface ship and offshore hydrodynamics problems, linear and nonlinear free-surface constraints, wave theories	2
2	Various class of practical ship and offshore hydrodynamic problems of importance	2
3	Formulation of the boundary value problem for forward speed ship motion	2
4	Steady wave resistance	2
5	Zero speed, lifting surface,	3
6	Forward speed effects	2
7	Importance of nonlinearities and nonlinear free-surface conditions and their implication on the problem solution	2
8	Second order and nonlinear forces.	2
Mid Semester		
9	Numerical solution of the boundary value problems, basics behind different solution methods	2
10	2D- strip theory	2
11	3D solution methods, state-of-art method of solution of the zero-speed radiation-diffraction problem	2
12	3D wave-structure interaction problem	2
13	3D forward speed problems, frequency and time domain solution schemes	3
14	Numerical estimation of nonlinear effects	3
15	extremes load and load effects, added resistance	3
16	forward speed 2^{nd} order drift force	2