

PROFESSOR'S NAME	Prof. Tapan K. Sengupta
DEPARTMENT	Department of Aerospace Engineering
INSTITUTE	Indian Institute of Technology Kanpur
COURSE OUTLINE	<p>Introduction to Instability and Transition. Computing Transitional and Turbulent Flows. Instability and Transition in Flows. Bypass Transition: Theory, Computations, and Experiments. Spatio-Temporal Wave Front and Transition. Nonlinear Effects: Multiple Hopf Bifurcations and Proper Orthogonal Decomposition. Stability and Transition of Mixed Convection Flows. Instabilities of Three-Dimensional Flows. Analysis and Design of Natural Lamina Flow Airfoils.</p>

COURSE DETAILS

S. No	Module ID/ Lecture ID	Lecture Title/Topic
1.	L1	Instability and Transition of Fluid Flows - I
2.	L2	Instability and Transition of Fluid Flows - II
3.	L3	Instability and Transition of Fluid Flows - III
4.	L4	Instability and Transition of Fluid Flows - IV
5.	L5	Instability and Transition of Fluid Flows -V
6.	L6	Instability and Transition of Fluid Flows -VI
7.	L7	Instability and Transition of Fluid Flows - VII
8.	L8	Instability and Transition of Fluid Flows - VIII
9.	L9	Instability and Transition of Fluid Flows - IX
10.	L10	Instability and Transition of Fluid Flows - X

11.	L11	Instability and Transition of Fluid Flows - XI
12.	L12	Instability and Transition of Fluid Flows - XII
13.	L13	Instability and Transition of Fluid Flows - XIII
14.	L14	Instability and Transition of Fluid Flows - XIV
15.	L15	Instability and Transition of Fluid Flows - XV
16.	L16	Instability and Transition of Fluid Flows - XVI
17.	L17	Instability and Transition of Fluid Flows - XVII
18.	L18	Instability and Transition of Fluid Flows - XVIII
19.	L19	Instability and Transition of Fluid Flows - XIX
20.	L20	Instability and Transition of Fluid Flows - XX
21.	L21	Instability and Transition of Fluid Flows - XXI
22.	L22	Instability and Transition of Fluid Flows - XXII
23.	L23	Instability and Transition of Fluid Flows - XXIII
24.	L24	Instability and Transition of Fluid Flows - XXIV
25.	L25	Instability and Transition of Fluid Flows - XXV
26.	L26	Instability and Transition of Fluid Flows - XXVI
27.	L27	Instability and Transition of Fluid Flows - XXVII
28.	L28	Instability and Transition of Fluid Flows - XXVIII
29.	L29	Instability and Transition of Fluid Flows- XXIX
30.	L30	Instability and Transition of Fluid Flows - XXX
31.	L31	Instability and Transition of Fluid Flows- XXXI
32.	L32	Instability and Transition of Fluid Flows - XXXII
33.	L33	Instability and Transition of Fluid Flows - XXXIII
34.	L34	Instability and Transition of Fluid Flows - XXXIV
35.	L35	Instability and Transition of Fluid Flows - XXXV
36.	L36	Instability and Transition of Fluid Flows - XXXVI
37.	L37	Instability and Transition of Fluid Flows - XXXVII
38.	L38	Instability and Transition of Fluid Flows - XXXVIII

39.	L39	Instability and Transition of Fluid Flows - XXXIX
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List of reference material/ books:

Name and contact details of two referees for the course: