

## Bouquet of MOOCs Courses

**Table 1. List of certifiable courses approved for earning the extra credits under type Aerospace/Aeronautical Department**

Sl. No.	Name of the Subject & Instructor	Duration in Weeks	Start Date	Exam Dates	Enrolment End	Intended Audience
1	Rocket Propulsion Prof. K. Ramamurthi Prof. V. Nagabhushana Rao	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	UG/PG
2	Computational Science in Engineering Prof. Ashoke De	8 Weeks	February 15, 2021	April 24, 2021	February 15, 2021	UG/PG
3	Gasdynamics: Fundamentals and Applications Prof. Srisha Rao M V	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	UG/PG
4	Aircraft Design Prof. A. K. Ghosh	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	UG/PG
5	Introduction to Experiments in Flight Prof. A. K. Ghosh	4 Weeks	February 15, 2021	April 24, 2021	February 15, 2021	UG
6	Introduction to Launch Vehicle Analysis and Design Prof. Ashok Joshi	8 Weeks	February 15, 2021	April 24, 2021	February 15, 2021	UG/PG
7	Lighter than Air Systems Prof. Rajkumar Pant	12 weeks	January 18, 2021	April 24, 2021	January 25, 2021	UG/PG
8	Engineering Mechanics - Statics and Dynamics Prof. Anubhab Roy	8 Weeks	January 18, 2021	March 21, 2021	January 25, 2021	UG
9	Experimental Stress Analysis Prof. K. Ramesh	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	UG/PG
10	Computational Fluid Dynamics Prof. Sreenivas Jayanti	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	UG/PG
11	Heat Transfer Prof. Ganesh Viswanathan	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	UG
12	Renewable Energy Engineering: Solar, Wind and Biomass Energy Systems Prof. Vaibhav Vasant Goud Prof. R. Anandalakshmi	8 Weeks	January 18, 2021	March 21, 2021	January 25, 2021	UG/PG

13	Fluid Flow Operations Prof. Subrata Kumar Majumder	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	UG
14	Advanced Thermodynamics Prof. Nanda Kishore	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	PG
15	Engineering Thermodynamics Prof. Jayant K. Singh	8 Weeks	January 18, 2021	March 21, 2021	January 25, 2021	UG
16	Remote Sensing: Principles and Applications Prof. Eswar Rajasekaran	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	UG/PG
17	Problem solving through Programming In C Prof. Anupam Basu	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	UG/PG
18	Programming in C++ Prof. Partha Pratim Das	8 Weeks	January 18, 2021	March 21, 2021	January 25, 2021	UG/PG
19	Programming in Java Prof. Debasis Samanta	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	UG
20	Data Base Management System Prof. Partha Pratim Das Prof. Samiran Chattopadhyay	8 Weeks	January 18, 2021	March 21, 2021	January 25, 2021	UG/PG
21	Deep Learning - IITKGP Prof. Prabir Kumar Biswas	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	UG/PG
22	Data Mining Prof. Pabitra Mitra	8 Weeks	February 15, 2021	April 24, 2021	February 15, 2021	UG
23	Embedded Systems Design Prof. Anupam Basu	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	UG
24	Introduction to Soft Computing Prof. Debasis Samanta	8 Weeks	January 18, 2021	March 21, 2021	January 25, 2021	UG/PG
25	Cloud computing Prof. Soumya Kanti Ghosh	8 Weeks	February 15, 2021	April 25, 2021	February 15, 2021	UG
26	Introduction to internet of things Prof. Sudip Misra	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	UG
27	Introduction to Industry 4.0 and Industrial Internet of Things Prof. Sudip Misra	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	PG
28	Programming, Data Structures And Algorithms Using Python Prof. Madhavan Mukund	8 Weeks	January 18, 2021	March 21, 2021	January 25, 2021	UG

29	Design and analysis of algorithms Prof. Madhavan Mukund	8 Weeks	January 18, 2021	March 21, 2021	January 25, 2021	UG
30	Data Science for Engineers Prof. Ragunathan Rengasamy Prof. Shankar Narasimhan	8 Weeks	January 18, 2021	March 21, 2021	January 25, 2021	UG/PG
31	Introduction to Machine Learning Prof. Balaraman Ravindran	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	UG/PG
32	Artificial Intelligence: Knowledge Representation and Reasoning Prof. Deepak Khemani	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	UG/PG
33	AI: Constraint Satisfaction Prof. Deepak Khemani	8 Weeks	January 18, 2021	March 21, 2021	January 25, 2021	UG/PG
34	Foundations to Computer Systems Design Prof. Kamakoti Veezhinathan	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	UG/PG
35	Python for Data Science Prof. Ragunathan Rengasamy	4 Weeks	January 18, 2021	March 21, 2021	January 25, 2021	UG
36	Deep Learning - IIT Ropar Prof. Sudarshan Iyengar	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	UG/PG
37	An Introduction to Artificial Intelligence Prof. Mausam	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	UG
38	Data Analytics with Python Prof. A. Ramesh	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	UG/PG
39	Advanced Graph Theory Prof. Rajiv Misra	8 Weeks	February 15, 2021	April 24, 2021	February 15, 2021	UG/PG
40	Machine Learning, ML Prof. Carl Gustaf Jansson	8 Weeks	February 15, 2021	April 25, 2021	February 15, 2021	PG
41	Product Design and Innovation Prof. Supradip Das Prof. Swati Pal Prof. Debayan Dhar	4 Weeks	January 18, 2021	March 21, 2021	January 25, 2021	PG
42	Fundamentals of Automotive Systems Prof. C. S. Shankar Ram	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	UG/PG
43	Innovation by Design Prof. B. K. Chakravarthy	4 Weeks	February 15, 2021	April 25, 2021	February 15, 2021	UG
44	Understanding Design Prof. Nina Sabnani	4 Weeks	February 15, 2021	April 24, 2021	February 15, 2021	UG

45	Mathematical Methods and Techniques in Signal Processing Prof. Shayan Srinivasa Garani	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	PG
46	Control engineering Prof. Ramkrishna Pasumarthy	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	UG/PG
47	Sensors and Actuators Prof. Hardik Jeetendra Pandya	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	UG/PG
48	Fuzzy Sets, Logic and Systems & Applications Prof. Nishchal Kumar Verma	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	UG/PG
49	Soft Skill Development Prof. Priyadarshi Patnaik Prof. V. N. Giri Prof. D. Suar	8 Weeks	January 18, 2021	March 21, 2021	January 25, 2021	UG/PG
50	English language for competitive exams Prof. Aysha Iqbal	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	UG/PG
51	German - I Prof. Milind Brahme	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	UG
52	German - II Prof. Milind Brahme	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	UG
53	Effective Writing Prof. Binod Mishra	4 Weeks	January 18, 2021	March 21, 2021	January 25, 2021	UG/PG
54	Introduction to Environmental Economics Prof. Diptimayee Nayak Prof. S. P. Singh	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	UG/PG
55	Data Analysis and Decision Making - I Prof. Raghu Nandan Sengupta	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	PG
56	Total Quality Management - I Prof. Raghu Nandan Sengupta	8 Weeks	January 18, 2021	March 21, 2021	January 25, 2021	UG/PG
57	Design Thinking - A Primer Prof. Ashwin Mahalingam Prof. Bala Ramadurai	4 Weeks	February 15, 2021	April 24, 2021	February 15, 2021	UG/PG
58	Quality Design And Control Prof. Pradip Kumar Ray	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	UG/PG
59	Introduction to Stochastic Processes Prof. Manjesh hanawal	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	PG
60	Ordinary and Partial Differential Equations and	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	UG

	Applications Prof. P. N. Agrawal Prof. D. N. Pandey					
61	Essentials of Data Science With R Software - 2: Sampling Theory and Linear Regression Analysis Prof. Shalabh	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	UG/PG
62	Introduction to Fluid Mechanics Prof. Suman Chakraborty	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	UG
63	Modelling and Simulation of Dynamic Systems Prof. Pushparaj Mani Pathak	8 Weeks	January 18, 2021	March 21, 2021	January 25, 2021	UG/PG
64	Introduction to Robotics Prof. Ashish Dutta	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	UG/PG
65	Evolutionary Computation for Single and Multi-Objective Optimization Prof. Deepak Sharma	8 Weeks	January 18, 2021	March 21, 2021	January 25, 2021	PG
66	Viscous Fluid Flow Prof. Amaresh Dalal	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	UG/PG
67	Computational Fluid Dynamics for Incompressible Flows Prof. Amaresh Dalal	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	UG/PG
68	Fundamentals of Combustion Prof. V. Raghavan	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	UG/PG
69	Traditional and Non-Traditional Optimization Tools Prof. Dilip Kumar Pratihar	8 Weeks	January 18, 2021	March 21, 2021	January 25, 2021	UG/PG
70	Experimental Methods in Fluid Mechanics Prof. Pranab K. Mondal	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	UG/PG
71	Computational Fluid Dynamics and Heat Transfer Prof. Gautam Biswas	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	UG/PG
72	IC Engines and Gas Turbines Prof. Pranab K. Mondal Prof. Vinayak N. Kulkarni	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	UG/PG

73	Fuzzy Logic and Neural Networks Prof. Dilip Kumar Pratihari	8 Weeks	February 15, 2021	April 25, 2021	February 15, 2021	UG/PG
74	Fluid Dynamics for Astrophysics Prof. Prasad Subramanian	12 Weeks	January 18, 2021	April 25, 2021	January 25, 2021	PG
75	Introduction to Atmospheric and Space Sciences Prof. M V Sunil Krishna	12 Weeks	January 18, 2021	April 24, 2021	January 25, 2021	UG/PG

**Table 2. List of certifiable courses approved for earning the extra credits by ECE Students  
(Interdisciplinary)**

Sl. No.	Name of the Subject & Instructor	Duration in Weeks	Start Date	Exam Dates	Enrolment End	Intended Audience
1						
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