



APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

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CIRCULAR

Sub:- APJAKTU - B.Tech (Honours) - Criteria for identifying reputed foreign Universities and good Massive Open Online Courses (MOOC) - Guidelines Issued.

Ref :- Rule 8 of the Rules for B.Tech (Hons.) Programme.

As per rule 8 of the Rules for B.Tech (Honours) degree programme, students registering for the programme can earn credits by undergoing Massive Open Online Courses (MOOC) offered by reputed institutions / organisation with the approval of University. Certain colleges have sent the list of MOOC conducted by the National Programme on Technology Enhanced Learning (NPTEL) seeking approval. In this context, the University has found it necessary to issue guidelines in this regard.

Hence all Colleges affiliated to this University and offering B.Tech (Honours) Programme are hereby directed to strictly adhere to the norms given hereunder while selecting Massive Open Online Courses (MOOC)

1. Courses having 12 weeks' duration alone will be approved (List of such NPTEL courses are attached for guidance).
2. The courses (MOOC) offered by reputed Institutes / Universities ranked within the first 100 positions in the QS or THE ranking (Times Higher Education World University Ranking) can be selected.
3. If any College is selecting MOOC of foreign Universities outside the above ranking, approval of such Courses will be subject to final decision by a Committee constituted to scrutinise this.
4. Courses with contents same as that of the Core Courses in the same Branch will not be approved.
5. Elective Courses from B.Tech curriculum of this University can also be selected for MOOC if the students are not having those courses as their electives for B.Tech.

Dr. J. SREEKUMAR *

Dean (Academic)

To

1. The Principals of affiliated and accredited institutions with B.Tech (Honours).

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JD-IT (For publishing circular in the KTU website)



LIST OF APPROVED NPTEL Courses for B.Tech (Hons.)

S. No	Discipline	Course Name	SME Name	Institute	Duration
1	Biological Sciences & Biotechnology	Bio-Informatics: Algorithms and Applications	Prof. Michael Gromiha	IITM	12 weeks
2	Biotechnology	Aspects Of Biochemical Engineering	Prof. Debabrata Das	IITKGP	12 weeks
3	Chemical Engineering	Heat Transfer	Prof. Ganesh Viswanathan	IITB	12 weeks
4	Chemical Engineering	Chemical Process Instrumentation	Prof. Debasis Sarkar	IITKGP	12 weeks
5	Chemical Engineering	Fluidization Engineering	Prof. S. K. Majumder	IITG	12 weeks
6	Chemical Engineering	Transport Processes I: Heat and Mass Transfer	Prof. V Kumaran	Iisc	12 weeks
7	Chemical Engineering	Applied Time-Series Analysis	Prof. Arun K Tangirala	IITM	12 weeks
8	Chemistry	Chemistry Of Main Group Elements	Prof. M.S. Balakrishna	IITB	12 weeks
9	Chemistry	Transition Metal Organometallic Chemistry: Principles To Applications	Prof. P. Ghosh	IITB	12 weeks
10	Chemistry	A Study Guide In Organic Retrosynthesis: Problem Solving Approach	Prof. Samik Nanda	IITKGP	12 weeks
11	Chemistry	Thermodynamics & Kinetics	Prof. Arijit K De	IISER M	12 Weeks
12	Chemistry	Biochemistry	Prof. Swagata Dasgupta	IITKGP	12 weeks
13	Chemistry	Quantum Computing	Dr. Debabrata Goswami	IITK	12 Weeks
14	Civil Engineering	Applied Environmental Microbiology	Dr. Gargi Singh	IITR	12 weeks
15	Civil Engineering	Mechanics Of Materials	Prof. Saravanan.U	IITM	12 weeks
16	Civil Engineering	Soil Mechanics/Geotechnical Engineering I	Prof. Dilip Kumar Baidya	IITKGP	12 weeks
17	Civil Engineering	Energy Efficiency, Acoustics and daylighting in Building	Prof. B. Bhattacharjee	IITD	12 weeks
18	Geology And Geophysics	Mineral Resources: Geology, Exploration, Economics And Environment	Prof. Mk Panigrahi	IITKGP	12 weeks



19	Mining Engineering	Introduction To Mineral Processing	Prof. Arun Kumar Majumder	IITKGP	12 weeks
20	Computer Science & Engineering	Computer Organization and Architecture A Pedagogical Aspect	Dr. Santosh Biswas, Prof. J. K. Deka, Dr. Arnab Sarkar	IITG	12 weeks
21	Computer Science & Engineering	Social network	Prof. Sudarshan Iyengar	IITRopar	12 weeks
22	Computer Science & Engineering	Embedded Systems Design	Prof. Anupam Basu	IITKGP	12 weeks
23	Computer Science & Engineering	Vlsi Physical Design	Prof. Indranil Sengupta	IITKGP	12 weeks
24	Computer Science & Engineering	Cryptography And Network Security	Prof. Sourav Mukhopadhyay	IITKGP	12 weeks
25	Computer Science & Engineering	Introduction to Internet of Things	Prof. Sudip Misra	IITKGP	12 weeks
26	Computer Science & Engineering	Problem solving through Programming In C	Prof. Anupam Basu	IITKGP	12 weeks
27	Computer Science & Engineering	Synthesis of Digital Systems	Prof. Preeti Ranjan Panda	IITD	12 weeks
28	Computer Science & Engineering	Artificial Intelligence: Knowledge Representation And Reasoning	Prof. Deepak Khemani	IITM	12 weeks
29	Computer Science	Introduction to Machine Learning	Prof. Balaraman	IITM	12 Weeks
30	Computer Science	Reinforcement Learning	Prof. Balaraman	IITM	12 Weeks
31	Electrical Engineering	Principles of Signals and Systems	Prof. Aditya K. Jagannatham	IITK	12 Weeks
32	Electrical Engineering	Principles of Communication Systems - I	Prof. Aditya K. Jagannatham	IITK	12 Weeks
33	Electrical Engineering	Electromagnetic Theory	Dr. Pradeep Kumar	IITK	12 Weeks
34	Electrical Engineering	Control engineering	Prof. Ramkrishna Pasumarthy	IITM	12 weeks



35	Electrical Engineering	Deep Learning For Visual Computing	Prof. Debdoot Sheet	IITKGP	12 weeks
36	Electrical Engineering	Power System Engineering	Prof. Debapriya Das	IITKGP	12 weeks
37	Electrical Engineering	Basic Electronics	Prof. M.B. Patil	IITB	12 weeks
38	Electrical Engineering	Antennas	Prof. Girish Kumar	IITB	12 weeks
39	Electrical Engineering	Industrial Automation And Control	Prof. Siddhartha Mukhopadhyay	IITKGP	12 weeks
40	Electronics & Communication	Biomedical Signal Processing	Prof. Sudipta Mukhopadhyay	IITKGP	12 weeks
41	Electronics & Communication	Microprocessors And Microcontrollers	Prof. Santanu Chattopadhyay	IITKGP	12 weeks
42	Electronics & Communications	Analog Ic Design	Prof. Aniruddhan.S	IITM	12 weeks
43	Electronic System Engineering	Mathematical Methods and Techniques in Signal Processing	Prof. Shayan Srinivasa Garani	IISc	12 weeks
44	Electronics & Communications	Integrated Circuits, Mosfets, OP-Amps	Prof. Hardik Jeetendra Pandya	IISc	12 weeks
45	Humanities And Social Sciences	An Introduction to Microeconomics	Dr.Vimal Kumar	IITK	12 Weeks
46	Humanities and Social Sciences	Sociological Perspectives on Modernity	Prof. Sambit Mallick	IITG	12 weeks
47	Humanities And Social Sciences	Introduction to Cognitive Psychology	Prof. Naveen Kashyap	IITG	12 weeks
48	Humanities And Social Sciences	Patent Law For Engineers And Scientists	Prof. Feroze	IITM	12 weeks
49	Humanities And S	Better Spoken English	Prof. Rajesh Ku	IITM	12 weeks
50	Industrial And Systems Engineering	Design And Analysis Of Experiments	Prof. Jhareswar Maiti	IITKGP	12 weeks



51	Industrial And Systems Engineering	Quality Design And Control	Prof. Pradip Kumar Ray	IITKGP	12 weeks
52	Management	Business Analytics For Management Decision	Prof. Rudra P Pradhan	IITKGP	12 weeks
53	Management	Soft Skills For Business Negotiations And Marketing Strategies	Prof. Uttam Kumar Banerjee	IITKGP	12 weeks
54	Management	Business analysis and data mining Modeling using R	Dr. Gaurav Dixit	IITR	12 weeks
55	Management	Financial Statement Analysis and Reporting	Prof. A. K. Sharma	IITR	12 weeks
56	Management	Six Sigma	Prof. Jitesh Thakkar & T Bagchi	IITKGP	12 weeks
57	Mathematics	Numerical Linear Algebra	Prof. P. N. Agrawal & Dr. D. N. Pandey	IITR	12 weeks
58	Mathematics	Chaotic Dynamical Systems	Dr. Anima Nagar	IITD	12 weeks
59	Mathematics	Stochastic Processes	Prof. S. Dharmaraja and Prof. N Selvaraju	IITD	12 weeks
60	Metallurgical And Materials Engg	Introduction to Materials Science and Engineering	Dr. Rajesh Prasad	IITD	12 weeks
61	Mechanical Engineering	Introduction To Composites	Dr.Nachiketa Tewari	IITK	12 Weeks
62	Mechanical Engineering	Manufacturing Process Technology I & II	Dr.Shantanu Bhattacharya	IITK	12 Weeks
65	Mechanical Engineering	Advanced Fluid Mechanics	Prof. Suman Chakraborty	IITKGP	12 weeks
64	Mechanical Engineering	Introduction To Mechanical Micro Machining	Prof. Ajay M Sidpara	IITKGP	12 weeks
65	Mechanical Engineering	Machinery Fault Diagnosis And Signal Processing	Prof. Amiya Ranjan Mohanty	IITKGP	12 weeks
66	Mechanical Engineering	Fundamentals of Nuclear Power Generation	Prof. Dipankar N. Basu	IITG	12 weeks



67	Mechanical Engineering	Spray Theory	Prof. Mahesh Panchagnula	IITM	12 weeks
68	Mechanical Engineering	Compliant Mechanisms : Principles and Design	Prof. Ananthasuresh	IISc	12 weeks
69	Mechanical Engineering	Convective Heat Transfer	Prof. Saptarshi Basu	IISc	12 weeks
70	Mechanical and Industrial Engineering	Operations Management	Dr. Inderdeep Singh	IITR	12 weeks
71	Mechanical and Industrial Engineering	Theory of Production Processes	Dr. Pradeep Kumar Jha	IITR	12 weeks
72	Mechanical and Industrial Engineering	Experimental Stress Analysis	Prof. K. Ramesh	IITM	12 Weeks
73	Metallurgical And Materials Engg	Physics Of Materials	Prof. Prathap Haridoss	IITM	12 weeks
74	Metallurgical And Materials Engg	Material Characterization	Prof. Sankaran.S	IITM	12 weeks
75	Multidisciplinary(Chemical Engineering, Mechanical Engineering, Applied Mechanics, Civil Engineering, Biotechnology)	Rheology of Complex Materials	Prof. Abhijit Deshpande	IITM	12 weeks
76	Multidisciplinary	Virtual Reality Engineering	Prof. Manivannan	IITM	12 weeks
77	Ocean Engineering	Computer Methods Of Structural Analysis Of Offshore Structures	Prof. Srinivas Chandarsekaran	IITM	12 weeks
78	Ocean Engineering	Water Economics And Governance	Prof. Manoj Kumar Tiwari	IITKGP	12 weeks
79	Ocean Engineering	Reliability Of Offshore Structures	Prof. Srinivas Chandarsekaran	IITM	12 weeks
80	Physics	Atomic And Molecular Physics	Prof. Amal Kumar Das	IITKGP	12 weeks



81	Physics	Nuclear and Particle Physics	Prof. Poulose Poulose	IITG	12 weeks
82	Physics	Semiconductor Optoelectronics	Prof. M.R. Shenoy	IITD	12 weeks

