

Dear All,

Sub: NPTEL MOOCs courses for ME, VTU (2018 batch) for July – Dec 2020 enrollment SWAYAM (online education portal of Gov. of India) has announced the list of upcoming (enrollment open) certifiable courses for the Jan – May 2021 session on its portal. The BoS (ME) has selected /finalized the appropriate courses from this course catalog (<https://swayam.gov.in/explorer>) with reference to guidelines laid down by the Joint BoS for the award of BE/B.Tech (Honours) Degree by VTU for the 2018 batch onwards.*

In this regard, kindly find below the list of approved NPTEL MOOCs courses for 5th sem ME students (2018 batch) to register in the upcoming session - Jan 2021 and take up the proctored exams in Mar/April 2021. The proposed list includes currently certifiable interdepartmental NPTEL courses corresponding to recent cutting-edge technologies, Environmental, economics and others that kindles Research activities, start-ups, entrepreneurial activities, etc.

Please note the following:

1. Also kindly note the list of courses not approved for earning the extra credits, as more than 50% contents of these courses exist in the 2018 VTU ME syllabus. The list is suggestive but not exhaustive.
2. The students and faculty – mentor, HoD, etc. can further discuss the appropriateness of the courses to be taken up.
3. Kindly avoid courses whose subject material maps to already existing VTU syllabus, which the student might have studied in lower semesters or is going to study in higher semesters as a core/ elective, etc.
4. Also, too far-fetched courses such as poetry, etc. with little or no relevance to the COs & POs of the Program are to be avoided.
5. Advanced Courses under inter-disciplinary stream for which the students may not have the basics are also to be avoided.

* Note 1: Students have to earn additional 18 or more credits through NPTEL MOOCs courses for the award of BE/B.Tech (Honours) Degree.

Note 2: Equivalent Credits earned after passing the certifiable course: 12 weeks course – 3 credits, 8 - weeks course – 2 credits & 4- weeks course – 1 credit.

Table 1: List of courses for earning extra credits under core ME Stream

Sl. No.	Course Name	Duration	Start date	End date	Exam date	Enrollment End date	UG/PG
01	Introduction to Mechanical Micro Machining Prof. Ajay M Sidpara	12 Weeks	18-Jan-21	9-Apr-21	25-Apr-21	25-Jan-21	UG/PG
02	Gear and Gear Unit Design : Theory and Practice Prof. Rathindranath Maiti	8 Weeks	15-Feb-21	9-Apr-21	24-Apr-21	15-Feb-21	UG
03	Failure analysis and Prevention Prof. D. K. Dwivedi	8 Weeks	15-Feb-21	9-Apr-21	25-Apr-21	15-Feb-21	UG/PG
04	Processing of Polymers and Polymer Composites Prof. Inderdeep Singh	8 Weeks	18-Jan-21	12-Mar-21	21-Mar-21	25-Jan-21	UG/PG
05	Two phase flow and heat transfer Prof. Arup Kumar Das	4 Weeks	18-Jan-21	12-Feb-21	21-Mar-21	25-Jan-21	UG/PG
06	Financial Mathematics Prof. Pradeep Kumar Jha	12 Weeks	18-Jan-21	9-Apr-21	25-Apr-21	25-Jan-21	UG/PG
07	Modelling and Simulation of Dynamic Systems Prof. Pushparaj Mani Pathak	8 Weeks	18-Jan-21	12-Mar-21	21-Mar-21	25-Jan-21	UG/PG
08	Explosions and Safety Prof. K. Ramamurthi; Prof. Prasad Patnaik BSV	12 Weeks	18-Jan-21	9-Apr-21	25-Apr-21	25-Jan-21	UG/PG
09	Muffler Acoustics – Application to Automotive Exhaust Noise Control Prof. Akhilesh Mimani	12 Weeks	18-Jan-21	9-Apr-21	24-Apr-21	25-Jan-21	UG/PG
10	Finite element modeling of welding processes Prof. Swarup Bag	12 Weeks	18-Jan-21	9-Apr-21	24-Apr-21	25-Jan-21	UG/PG
11	Introduction to soft matter Prof. Alope Kumar	8 Weeks	15-Feb-21	9-Apr-21	24-Apr-21	15-Feb-21	UG/PG
12	Nonlinear Vibration Prof. S. K. Dwivedy	12 Weeks	18-Jan-21	9-Apr-21	24-Apr-21	25-Jan-21	UG/PG
13	Vibrations of Structures Prof. Anirvan DasGupta	12 Weeks	18-Jan-21	9-Apr-21	25-Apr-21	25-Jan-21	UG/PG
14	Viscous Fluid Flow Prof. Amaresh Dalal	12 Weeks	18-Jan-21	9-Apr-21	25-Apr-21	25-Jan-21	UG/PG

Sl. No.	Course Name	Duration	Start date	End date	Exam date	Enrollment End date	UG/PG
15	Turbulent Combustion: Theory and Modelling Prof. Ashoke De	12 Weeks	18-Jan-21	9-Apr-21	24-Apr-21	25-Jan-21	UG/PG
16	Mechanics of Human Movement Prof. Sujatha Srinivasan	12 Weeks	18-Jan-21	9-Apr-21	25-Apr-21	25-Jan-21	UG/PG
17	Introduction to Uncertainty Analysis and Experimentation Prof. S. R. Kale	8 Weeks	18-Jan-21	12-Mar-21	21-Mar-21	25-Jan-21	UG/PG
18	Introduction to Machining and Machining Fluids Prof. Mamilla Ravi Sankar	8 Weeks	18-Jan-21	12-Mar-21	21-Mar-21	25-Jan-21	UG/PG
19	Traditional and Non-Traditional Optimization Tools Prof. Dilip Kumar Pratihari	8 Weeks	18-Jan-21	12-Mar-21	21-Mar-21	25-Jan-21	UG/PG
20	Smart Materials and Intelligent System Design Prof. Bishakh Bhattacharya	4 Weeks	15-Feb-21	12-Mar-21	25-Apr-21	15-Feb-21	UG/PG
21	Product Design and Manufacturing Prof. J. Ramkumar ; Prof. Amandeep Singh	12 Weeks	18-Jan-21	9-Apr-21	24-Apr-21	25-Jan-21	UG/PG
22	Industrial Automation and Control Prof. Siddhartha Mukhopadhyay	12 Weeks	18-Jan-21	9-Apr-21	24-Apr-21	25-Jan-21	UG/PG
23	Tools in Scientific Computing Prof. Aditya Bandopadhyay	8 Weeks	18-Jan-21	12-Mar-21	21-Mar-21	25-Jan-21	UG/PG

Table 1: List of courses for earning extra credits for ME Students under Interdisciplinary Stream

Sl. No.	Course Name	Duration	Start date	End date	Exam date	Enrollment End date	UG/PG
01	Surface Engineering of Nanomaterials Prof. Kaushik Pal	8 Weeks	18-Jan-21	12-Mar-21	21-Mar 21	25-Jan-21	UG/PG
02	Non - Metallic Materials Prof. Subhasish Basu Majumder	12 Weeks	18-Jan-21	9-Apr-21	24-Apr-21	25-Jan-21	UG/PG
03	Mining Machinery Prof. Khanindra Pathak	12 Weeks	18-Jan-21	9-Apr-21	25-Apr-21	25-Jan-21	UG
04	Fuzzy Logic and Neural Networks Prof. Dilip Kumar Pratihar	8 Weeks	15-Feb-21	9-Apr-21	25-Apr-21	15-Feb-21	UG/PG
05	A brief course on Superconductivity Prof. Saurabh Basu	4 Weeks	18-Jan-21	12-Feb-21	21-Mar-21	25-Jan-21	UG/PG
06	Rocket Propulsion Prof. K. Ramamurthi Prof. V. Nagabhushana Rao	12 Weeks	January 18, 2021	April 9, 2021	April 24, 2021	January 25, 2021	UG/PG
07	Aircraft Design Prof. A. K. Ghosh	12 Weeks	January 18, 2021	April 9, 2021	April 24, 2021	January 25, 2021	UG/PG
08	Lighter than Air Systems Prof. Rajkumar Pant	12 weeks	January 18, 2021	April 9, 2021	April 24, 2021	January 25, 2021	UG/PG
09	Biomass Conversion and Biorefinery Prof. Kaustubha Mohanty	12 Weeks	18-Jan-21	9-Apr-21	24-Apr-21	25-Jan-21	UG/PG
10	Deep Learning – IITKGP Prof. Prabir Kumar Biswas	12 Weeks	18-Jan-21	9-Apr-21	24-Apr-21	25-Jan-21	UG/PG
11	Data Mining Prof. Pabitra Mitra	8 Weeks	15-Feb-21	9-Apr-21	24-Apr-21	15-Feb-21	UG
12	Data Science for Engineers Prof. Ragunathan Rengasamy Prof. Shankar Narasimhan	8 Weeks	18-Jan-21	12-Mar-21	21-Mar-21	25-Jan-21	UG/PG
13	Artificial Intelligence: Knowledge Representation and Reasoning Prof. Deepak Khemani	12 Weeks	18-Jan-21	9-Apr-21	24-Apr-21	25-Jan-21	UG/PG
14	Design, Technology and Innovation Prof. B. K. Chakravarthy	8 Weeks	15-Feb-21	9-Apr-21	24-Apr-21	15-Feb-21	UG

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15	Data Mining Prof. Pabitra Mitra	8 Weeks	15-Feb-21	9-Apr-21	24-Apr-21	15-Feb-21	UG
16	Business analytics and data mining Modeling using R Prof. Gaurav Dixit	12 Weeks	18-Jan-21	9-Apr-21	25-Apr-21	25-Jan-21	UG/PG
17	Supply Chain Analytics Prof. Rajat Agrawal	8 Weeks	18-Jan-21	12-Mar-21	21-Mar-21	25-Jan-21	UG/PG
18	Essentials of Data Science With R Software - 1: Probability and Statistical Inference Prof. Shalabh	12 Weeks	18-Jan-21	9-Apr-21	24-Apr-21	25-Jan-21	UG/PG
19	Essentials of Data Science With R Software - 2: Sampling Theory and Linear Regression Analysis Prof. Shalabh	12 Weeks	18-Jan-21	9-Apr-21	25-Apr-21	25-Jan-21	UG/PG