

**APJ Abdul Kalam Technological University
Thiruvananthapuram**

Abstract

APJAKTU-Academics-List of Approved MOOC Courses for B.Tech Minor in Engineering (B.Tech 2019 Regulations)-Orders issued-Reg.

ACADEMIC SECTION

U.O.No. 1741/2022/KTU

Thiruvananthapuram, Dated: 22.07.2022

*Read:-*1. Rule R.11.5 of B.Tech 2019 Regulations.

2. U.O.No.1988/2021/KTU Dated: 27.11.2021

3. U.O.No.2009/2021/KTU Dated 01.12.2021

4. U.O.No.2034/2021/KTU Dated 04.12.2021

5. U.O.No.2097/2021/KTU Dated 15.12.2021

6. U.O.No.143/2022/KTU Dated 25.01.2022

7. U.O.No.460/2022/KTU Dated: 07.03.2022

8. U.O.No.1462/2022/KTU Dated: 07.06.2022

9. List of Minor MOOC Courses recommended by the Board of Studies of Electronics and Communication Engineering

ORDER

Vide paper read as (1) above, students registering for the B. Tech Degree with **Minor** programme can earn 8 credits by undergoing 2 Massive Open Online Courses (MOOC) relevant to the concerned subjects in the respective minor basket offered by agencies namely AICTE/ NPTEL/ SWAYAM/ NITTTR with the recommendation by the Board of studies and approval of the Academic Council.

Vide University Orders read as (2) to (8) above, 268 nos. of MOOCs that can be registered by the students of B.Tech (2019 Scheme), to earn credits for **Minor** Programme, were approved.

Vide paper read as (9) above, Board of Studies of Electronics and Communication Engineering, after verifying the syllabus content and duration of the courses, has recommended to approve **2 Massive Online Open Courses**.

Considering the urgency, sanction has been accorded by the Vice Chancellor to approve the list



of 2 MOOC Courses offered by agencies namely AICTE/ NPTEL/ SWAYAM/ NITTTR that can be registered by the students of **B.Tech Minor in Engineering** Programme to earn credits, as appended herewith (*refer attachment*), subject to reporting and ratification of the matter in the Academic Council.

Students will not be permitted to register for MOOCs other than those approved and published by the University, to earn credits for their Minor.

Orders are issued accordingly.

Sd/-

Dr. Shalij P.R *

Dean (Academic) in Charge

Copy to:-

1. All affiliated Institutions.
2. IT(section) for updating s/w and to publish in the website.
3. PS to VC & PVC, Dean (Acad)
4. JR(Acad) / JD(Acad) / Section
- 5.. SF / FC.

Forwarded / By Order

Section Officer

* This is a computer system (Digital File) generated letter. Hence there is no need for a physical signature.



List of approved MOOC Course for B Tech Electronics and Communication & Engineering

B Tech Minor 2019 Regulations

Sl No	Course	Course Code	B Tech Regulations	Duration	Offering Platform	Course Institution
BASKET I						
1	Digital Circuits	ECM108	2019 Regulations	12 weeks	NPTEL/SWAYAM	IIT Kharagpur
BASKET III						
2	Digital Image Processing	ECM309	2019 Regulations	12 weeks	NPTEL/SWAYAM	IIT Kharagpur



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Abstract

APJAKTU-Academics-List of Approved MOOC Courses for B.Tech Minor in Engineering (B.Tech 2019 Regulations)-
Orders issued-Reg.

ACADEMIC SECTION

U.O.No. 460/2022/KTU

Thiruvananthapuram, Dated: 07.03.2022

*Read:-*1. Rule R.11.5 of B.Tech 2019 Regulations.

2. U.O.No.1988/2021/KTU Dated: 27.11.2021

3. U.O.No.2009/2021/KTU Dated 01.12.2021

4. U.O.No.2034/2021/KTU Dated 04.12.2021

5. U.O.No.2097/2021/KTU Dated 15.12.2021

6. U.O.No.143/2022/KTU Dated 25.01.2022

7. List of Minor MOOC Courses recommended by the various Board of Studies

ORDER

Vide paper read as (1) above, students registering for the B. Tech Degree with **Minor** programme can earn 8 credits by undergoing 2 Massive Open Online Courses (MOOC) relevant to the concerned subjects in the respective minor basket offered by agencies namely AICTE/ NPTEL/ SWAYAM/ NITTTR with the recommendation by the Board of studies and approval of the Academic Council.

Vide University Orders read as (2) to (6) above, 256 nos. of MOOCs that can be registered by the students of B.Tech (2019 Scheme), to earn credits for **Minor** Programme, were approved.

Vide paper read as (7) above, Various Board of Studies, after verifying the syllabus content and duration of the courses, has recommended to approve **11 Massive Online Open Courses**.

Considering the urgency, sanction has been accorded by the Vice Chancellor to approve the list of 11 MOOC Courses offered by agencies namely AICTE/ NPTEL/ SWAYAM/ NITTTR that can be registered by the students of **B.Tech Minor in Engineering** Programme to earn credits, as appended herewith (*refer attachment*), subject to reporting and ratification of the matter in the Academic Council .

Students will not be permitted to register for MOOCs other than those approved and published by the University, to earn credits for their Minor.

Orders are issued accordingly.

Sd/-

Dr. Sadiq A. *
Dean (Academic)

Copy to:-

1. All affiliated Institutions.
2. IT(section) for updating s/w and to publish in the website.
3. PS to VC & PVC, Dean (Acad)
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List of Approved MOOC Courses for B.Tech Minor in Engineering

MECHANICAL ENGINEERING

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
BASKET-III MATERIALS AND MANUFACTURING ENGINEERING								
1	Welding Metallurgy	MEM308	MINOR MOOC	12 Weeks	SWAYAM/ NPTEL	B.Tech Regulation 2019	IITR	
2	Materials Science and Engineering	MEM309	MINOR MOOC	8 Weeks	SWAYAM/ NPTEL	B.Tech Regulation 2019	IITR	
3	Advanced Composites	MEM310	MINOR MOOC	12 Weeks	SWAYAM/ NPTEL	B.Tech Regulation 2019	IITK	
4	Elements of metal cutting, Machine tools, gear cutting and CNC machining	MEM311	MINOR MOOC	12 Weeks	SWAYAM/ NPTEL	B.Tech Regulation 2019	IITKGP	
5	Rapid Manufacturing	MEM312	MINOR MOOC	12 Weeks	SWAYAM/ NPTEL	B.Tech Regulation 2019	IITK	



List of Approved MOOC Courses for B.Tech Minor in Engineering

NAVAL ARCHITECTURE AND SHIP BUILDING

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
BASKET-1								
1	Dynamics of Offshore Structures	SBM101	MINOR MOOC	12 Weeks	SWAYAM/ NPTEL	B.Tech Regulation 2019	IIT Madras	
2	Aqueous Corrosion and its control	SBM102	MINOR MOOC	12 Weeks	SWAYAM/ NPTEL	B.Tech Regulation 2019	IIT Bombay	
3	Stability and Hydrostatics	SBM103	MINOR MOOC	12 Weeks	SWAYAM/ NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
4	Fluid Mechanics and its applications	SBM104	MINOR MOOC	12 Weeks	SWAYAM/ NPTEL	B.Tech Regulation 2019	IIT Delhi	
5	Finite Element Method	SBM105	MINOR MOOC	12 Weeks	SWAYAM/ NPTEL	B.Tech Regulation 2019	IIT Kharagpur	



List of Approved MOOC Courses for B.Tech Minor in Engineering

ELECTRONICS AND COMMUNICATION ENGINEERING

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
BASKET-I VLSI AND EMBEDDED SYSTEMS								
1	DIGITAL ELECTRONIC CIRCUITS	ECM107	MINOR MOOC	12 Weeks	SWAYAM/ NPTEL	B.Tech Regulation 2019	IITKGP	replacing S3 ECT281 Electronic Circuits

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APJAKTU-Academics-List of Approved MOOC Courses for B.Tech Minor in Electronics and Communication Engineering (B.Tech 2019 Regulations)-Orders issued-Reg.

ACADEMIC SECTION

U.O.No. 2009/2021/KTU

Thiruvananthapuram, Dated: 01.12.2021

*Read:-*1. Rule R.11.5 of B.Tech 2019 Regulations.

2. U.O.No. 1988/2021/KTU Dated: 27.11.2021

3. Minutes of the Board of Studies Electronics and Communication meeting held on 19.11.2021

ORDER

Vide paper read as (1) above, students registering for the B. Tech Degree with **Minor** programme can earn 8 credits by undergoing 2 Massive Open Online Courses (MOOC) relevant to the concerned subjects in the respective minor basket offered by agencies namely AICTE/ NPTEL/ SWAYAM/ NITTTR with the recommendation by the Board of studies and approval of the Academic Council.

Vide University Order read as (2) above, 163 nos. of MOOCs that can be registered by the students of B.Tech (2019 Scheme), to earn credits for **Minor** Programme, were approved.

Vide paper read (3) above, Board of Studies Electronics and Communication Engineering, after verifying the syllabus content and duration of the courses, has recommended to approve **24 Massive Online Open Courses.**

Considering the urgency, sanction has been accorded by the Vice Chancellor to approve the list of 24 MOOC Courses offered by agencies namely AICTE/ NPTEL/ SWAYAM/ NITTTR that can be registered by the students of **B.Tech Minor in Electronics and Communication Engineering** Programme to earn credits, as appended herewith (*refer attachment*), subject to reporting and ratification of the matter in the Academic Council .

Students will not be permitted to register for MOOCs other than those approved and published by the University, to earn credits for their Honours / Minor.

Orders are issued accordingly.

Sd/-

Dr. Sadiq A. *

Dean (Academic)

Forwarded / By Order



Section Officer

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List of Approved MOOC Courses for B.Tech Minor in Engineering

ELECTRONICS AND COMMUNICATION ENGINEERING

SL. No	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Course Institution	Remarks
BASKET I - VLSI AND EMBEDDED SYSTEMS								
1	Digital Circuits	ECM100	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
2	Digital Circuits and Systems	ECM101	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Madras	
3	Digital System Design	ECM102	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Ropar	
4	Electronic Systems for Cancer Diagnosis	ECM103	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IISc Bangalore	
5	Fabrication Techniques for MEMs-based sensors: Clinical Perspective	ECM104	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IISc Bangalore	
6	Integrated Circuits, MOSFETS, OP-Amps and Their Applications	ECM105	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IISc Bangalore	
7	Microelectronics: Devices To Circuits	ECM106	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Roorkee	
BASKET II - COMMUNICATION SYSTEMS								
1	Advanced Topics in Probability and Random Processes	ECM200	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Guwahati	
2	Applied Linear Algebra	ECM201	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Madras	
3	Applied Linear Algebra for Signal Processing, Data Analytics and Machine Learning	ECM202	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Kanpur	
4	Introduction to Wireless and Cellular Communications	ECM203	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Madras	
5	Peer To Peer Networks	ECM204	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Kanpur	
6	Principles of Communication Systems Part II	ECM205	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
7	Probability Foundations for Electrical Engineers	ECM206	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Madras	
8	Satellite Communication Systems	ECM207	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
BASKET-III - SIGNAL PROCESSING								
1	Biomedical Signal Processing	ECM300	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	

2	Digital Speech Processing	ECM301	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
3	Foundations of Wavelets and Multirate Digital Signal Processing	ECM302	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Bombay	
4	Medical Image Analysis	ECM303	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Kharagpur	
5	Advanced Topics in Probability and Random Processes	ECM304	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Guwahati	
6	Applied Linear Algebra for signal Processing, Data Analytics and Machine Learning	ECM305	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Kanpur	
7	Fundamentals of Wavelets, Filter banks and Time Frequency Analysis	ECM306	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Bombay	
8	Image Signal Processing	ECM307	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Madras	
9	Introduction to Biomedical Image Systems	ECM308	MINOR MOOC	8/12 Weeks	NPTEL	B.Tech Regulation 2019	IIT Madras	