



ST. JOSEPH'S
COLLEGE OF ENGINEERING
AND TECHNOLOGY,
- PALAI -
AUTONOMOUS

Choondacherry P.O., Pala, Kottayam - 686579
Kerala, India



LIST OF APPROVED MOOC COURSES

B. Tech. (Honours)

2024 SCHEME



List of approved MOOC Courses for Honours

Offering Department: Artificial Intelligence and Data Science

Name of the Program: B.Tech. (Honours) Artificial Intelligence and Data Science

| Sl. No. | Course Name | Course Code* | Course Type | Duration | Offering Platform | B. Tech Regulation | Course offering institution | Remarks |
|---------|--|--------------|--------------|----------|-------------------|--------------------|-----------------------------|------------|
| 1 | Deep Learning for NLP | 24SJHNADM501 | Honours MOOC | 12 weeks | Swayam | 2024 | IIT Kharagpur | Semester 5 |
| | Deep Learning | 24SJHNADM502 | Honours MOOC | 12 weeks | NPTTEL | 2024 | IIT Ropar | Semester 5 |
| 2 | Transformer Models and Advanced NLP | 24SJHNADM601 | Honours MOOC | 12 weeks | Swayam | 2024 | IIT Delhi, IIT Bombay | Semester 6 |
| | Natural Language Processing | 24SJHNADM602 | Honours MOOC | 12 weeks | Swayam | 2024 | IIT Kharagpur | Semester 6 |
| 3 | Prompt Engineering | 24SJHNADM701 | Honours MOOC | 8 weeks | Swayam | 2024 | IISc Bangalore | Semester 7 |
| | Introduction to Large Language Models (LLMs) | 24SJHNADM702 | Honours MOOC | 12 weeks | Swayam | 2024 | IIT Delhi, IIT Bombay | Semester 7 |

*Course Code example- 24SJHNADM50N where **M** stands for MOOC course and **N** will be ranging from 1 to 9 depending on the number of MOOC courses offered for the particular honours course.

List of approved MOOC Courses for Honours

Offering Department: Civil Engineering

| Sl.No. | Course Name | Course Code* | Course Type | Duration | Offering Platform | B. Tech Regulatio | Course offering institution | Remarks |
|--------|---|---------------|-------------|----------|-------------------|-------------------|-----------------------------|---------|
| 1 | Traffic Engineering | 24SJHNCETM501 | MOOC | 12 WEEKS | NPTEL | 2024 | IITKGP | S5 |
| 2 | Introduction to Multimodal Urban Transportation Systems | 24SJHNCETM502 | MOOC | 12 WEEKS | NPTEL | 2024 | IITKGP | S5 |
| 3 | Geotechniques of Dams, Tunnels and Underground Spaces | 24SJHNCETM601 | MOOC | 12 WEEKS | NPTEL | 2024 | IIT(ISM) | S6 |
| 4 | Geosynthetics and Reinforced Soil Structures | 24SJHNCETM602 | MOOC | 12 WEEKS | NPTEL | 2024 | IITM | S6 |
| 5 | Soil Dynamics | 24SJHNCETM701 | MOOC | 12 WEEKS | NPTEL | 2024 | IITKGP | S7 |
| 6 | Earthquake Geotechnical Engineering | 24SJHNCETM702 | MOOC | 12 WEEKS | NPTEL | 2024 | IITR | S7 |

*Course Code example- 24SJHNCEM50N where **M** stands for MOOC course and **N** will be ranging from 1 to 9 depending on the number of MOOC courses offered for the particular honours course.

List of approved MOOC Courses for Honours

Name of the Program: B.Tech-CSE

| Sl.No. | Course Name | Course Code* | Course Type | Duration | Offering Platform | B. Tech Regulation | Course offering institution | Remarks |
|--------|-------------------------------------|--------------|-------------|----------|-------------------|--------------------|---|---------|
| 1 | Generative AI for Everyday Life | 24SJHNCSM501 | MOOC | 12 Weeks | SWAYAM | 2024 | Krishna Kanta Handiqui State Open University, Guwahati/ Dr. Ridip Dev Choudhury and Dr. Nabankur Pathak | S5 |
| 2 | Quantum Algorithms and Cryptography | 24SJHNCSM601 | MOOC | 12 Weeks | NPTEL | 2024 | IIT Madras/ Prof. Shweta Agrawal | S6 |
| 3 | Modern Application Development | 24SJHNCSM701 | MOOC | 12 Weeks | NPTEL | 2024 | IIT Madras/ Prof. Aamod Sane, Prof. Abhijat Vichare, Prof. Madhavan Mukund | S7 |

*Course Code example- 24SJHNCSM50N where **M** stands for MOOC course and **N** will be ranging from 1 to 9 depending on the number of MOOC courses offered for the particular honours course.

List of approved MOOC Courses for Honours

Name of the Program: B.Tech- CA

| Sl.No. | Course Name | Course Code* | Course Type | Duration | Offering Platform | B. Tech Regulation | Course offering institution | Remarks |
|--------|--|--------------|-------------|----------|-------------------|--------------------|--|---------|
| 1 | Introduction to Large Language Models (LLMs) | 24SJHNCAM501 | MOOC | 12 Weeks | NPTEL | 2024 | IIT Delhi / Prof. Tanmoy Chakraborty, Prof. Soumen Chakraborti | S5 |
| 2 | Applied Accelerated Artificial Intelligence | 24SJHNCAM601 | MOOC | 12 Weeks | NPTEL | 2024 | IIT Guwahati / Prof. Satyajit Das, Prof. Satyadhyan Chickerur, Prof. Bharatkumar Sharma, Prof. Adesuyi Tosin | S6 |
| 3 | Programming with Generative AI | 24SJHNCAM701 | MOOC | 8 Weeks | NPTEL | 2024 | IISc Bangalore / Prof. Viraj Kumar | S7 |

*Course Code example- 24SJHNCAM50N where **M** stands for MOOC course and **N** will be ranging from 1 to 9 depending on the number of MOOC courses offered for the particular honours course.

List of approved MOOC Courses for Honours

Name of the Program: B.Tech- CC

| Sl.No. | Course Name | Course Code* | Course Type | Duration | Offering Platform | B. Tech Regulation | Course offering institution | Remarks |
|--------|---|--------------|-------------|----------|-------------------|--------------------|---|---------|
| 1 | Cyber Security and Privacy | 24SJHNCCM501 | MOOC | 12 Weeks | SWAYAM | 2024 | IIT Madras / Prof. Saji K Mathew | S5 |
| 2 | Privacy and Security in Online Social Media | 24SJHNCCM601 | MOOC | 12 Weeks | NPTEL | 2024 | IIIT Hyderabad / Prof. Ponnurangam Kumaraguru | S6 |
| 3 | Practical Cyber Security for Cyber Security Practitioners | 24SJHNCCM701 | MOOC | 12 Weeks | NPTEL | 2024 | IIT Kanpur / Prof. Sandeep K. Shukla | S7 |

*Course Code example- 24SJHNCCM50N where **M** stands for MOOC course and **N** will be ranging from 1 to 9 depending on the number of MOOC courses offered for the particular honours course.

List of approved MOOC Courses for Honours

Offering Department: ELECTRONICS & COMMUNICATION ENGINEERING

| Sl. No. | Course Name | Course Code* | Course Type | Duration | Offering Platform | B. Tech Regulation | Course offering institution | Remarks |
|---------|---|--------------|-------------|----------|-------------------|--------------------|-----------------------------|---------|
| 1 | Architectural Design of Digital Integrated Circuits | 24SJHNECM501 | MOOC | 12 Weeks | SWAYAM | 2024 | IIT Kharagpur | S5 |
| 2 | Digital Design with Verilog | 24SJHNECM502 | MOOC | 12 Weeks | SWAYAM | 2024 | IIT Guwahati | S5 |
| 3 | VLSI Physical Design | 24SJHNECM601 | MOOC | 12 Weeks | SWAYAM | 2024 | IIT Kharagpur | S6 |
| 4 | Microelectronics: Devices to Circuits | 24SJHNECM602 | MOOC | 12 Weeks | SWAYAM | 2024 | IIT Roorkee | S6 |
| 5 | Fundamentals of Micro and Nanofabrication | 24SJHNECM701 | MOOC | 12 Weeks | SWAYAM | 2024 | IISc Bangalore | S7 |
| 6 | Microsensors and Nanosensors | 24SJHNECM702 | MOOC | 12 Weeks | SWAYAM | 2024 | IIT Guwahati | S7 |

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List of approved MOOC Courses for Honours

Offering Department: Electrical and Electronics Engineering

| Sl. No | Course Name | Course Code* | Course Type | Duration | Offering Platform | B. Tech Regulation | Course offering institution | Remarks |
|--------|---|--------------|-------------|----------|-------------------|--------------------|-----------------------------|---------|
| 1 | Digital Circuits | 24SJHNEEM501 | MOOC | 12 | NPTEL/ SWAYAM | 2024 | IIT Kharagpur | S5 |
| 2 | Advanced Linear Continuous Control Systems: Applications with MATLAB Programming and Simulink | 24SJHNEEM502 | MOOC | 8 | NPTEL/ SWAYAM | 2024 | IIT Roorkee | S5 |
| 3 | Scientific Computing Using Matlab | 24SJHNEEM503 | MOOC | 12 | NPTEL/ SWAYAM | 2024 | IITD | S5 |
| 4 | Basics of Finite Element Analysis-I | 24SJHNEEM601 | MOOC | 8 | NPTEL/ SWAYAM | 2024 | IIT Kanpur | S6 |
| 5 | Basics of Finite Element Analysis - II | 24SJHNEEM602 | MOOC | 8 | NPTEL/ SWAYAM | 2024 | IIT Kanpur | S6 |
| 6 | "Electrical Equipment And Machines: Finite Element nalysis" | 24SJHNEEM603 | MOOC | 8 | NPTEL/ SWAYAM | 2024 | IIT Bombay | S6 |

*Course Code example- 24SJHNEEM50N where **M** stands for MOOC course and **N** will be ranging from 1 to 9 depending on the number of MOOC courses offered for the particular honours course.

List of approved MOOC Courses for Honours

Offering Department: Electronics & Computer Engineering

| Sl. No. | Course Name | Course Code* | Course Type | Duration | Offering Platform | B. Tech. Regulation | Course offering institution | Remarks |
|---------|---|--------------|-------------|----------|-------------------|---------------------|-----------------------------|---------|
| 1 | Fundamentals of Micro and Nanofabrication | 24SJHNERM501 | MOOC | 12 weeks | NPTEL | 2024 | IISc Bangalore | S5 |
| 2 | Elements of Nanotechnology: Novice to Professional | 24SJHNERM502 | MOOC | 8 Weeks | NPTEL | 2024 | Adamas University | S5 |
| 3 | VLSI Design Flow: RTL to GDS | 24SJHNERM601 | MOOC | 12 weeks | NPTEL | 2024 | IIIT Delhi | S6 |
| 4 | Physical Modelling for Electronics Enclosures using Rapid prototyping | 24SJHNERM602 | MOOC | 8 weeks | NPTEL | 2024 | IISc Bangalore | S6 |

*Course Code example - 24SJHNERM50N where **M** stands for MOOC course and **N** will be ranging from 1 to 9 depending on the number of MOOC courses offered for the particular honours course.

List of approved MOOC Courses for Honours

Offering Department : Mechanical Engineering

| Sl. No. | Course Name | Course Code* | Course Type | Duration | Offering Platform | B.Tech Regulation | Course Offering Institution | Remarks |
|---------|--------------------------------------|--------------|-------------|----------|-------------------|-------------------|-----------------------------|---------|
| 1 | Oil Hydraulics and Pneumatics | 24SJHNMEM501 | MOOC | 12 weeks | NPTEL | 2024 Regulation | IIT Madras | S5 |
| 2 | Industrial Hydraulics and Automation | 24SJHNMEM502 | MOOC | 12 weeks | NPTEL | 2024 Regulation | IIT Kharagpur | S5 |
| 3 | Industrial Automation and Control | 24SJHNMEM503 | MOOC | 12 weeks | NPTEL | 2024 Regulation | IIT (ISM) Dhanbad | S5 |
| 4 | Automation in Manufacturing | 24SJHNMEM601 | MOOC | 12 weeks | NPTEL | 2024 Regulation | IIT Guwahati | S6 |
| 5 | Design of Precision Machines | 24SJHNMEM701 | MOOC | 12 weeks | NPTEL | 2024 Regulation | IIT Delhi | S7 |

*Course Code example- 24SJHNMEM50N where **M** stands for MOOC course and **N** will be ranging from 1 to 9 depending on the number of MOOC courses offered for the particular honours course.