

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
MOOC FOR MINORS AND HONOURS - 2020 SCHEME(REVISED IN 2022) BTECH CSE

MOOC FOR MINORS:

BASKET I SOFTWARE ENGINEERING

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
1	Programming in Java	CSMC00W	MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2020	IIT Kharagpur	Replacing CS0M20A OBJECT ORIENTED PROGRAMMING offered in Semester 3
2	Software Engineering	CSMC00Z	MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2020	IIT Kharagpur	Replacing CS0M30A CONCEPTS IN SOFTWARE ENGINEERING offered in Semester 5
3	Software Testing	CSMC01A	MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2020	IIIT Bangalore	Replacing CS0M30A INTRODUCTION TO SOFTWARE TESTING offered in Semester 6
4	Object Oriented System Development using UML, Java and Patterns	CSMC00T	MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2020	IIT Kharagpur	
5	Fundamentals of Object Oriented Programming	CSMC01B	MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2023	IIT Roorkee	

BASKET II **MACHINE LEARNING**

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
1	Essential Mathematics for Machine Learning	CSMC00I	MOOC	12 Weeks	NPTEL/SWAYAM	B.Tech Regulation 2020	IIT Roorkee	Replacing the course <i>CS0M20E MATHEMATICS FOR MACHINE LEARNING</i> offered in Semester 4 .
2	Linear Algebra in AI and ML	CSMC00P	MOOC	12 Weeks	NPTEL/SWAYAM	B.Tech Regulation 2020	IIT Kharagpur	Replacing the course <i>CS0M20E MATHEMATICS FOR MACHINE LEARNING</i> offered in Semester 4 .
3	Machine Learning for Engineering and Science Applications	CSMC00R	MOOC	12 Weeks	NPTEL/SWAYAM	B.Tech Regulation 2020	IIT Madras	Replacing <i>CS0M30B CONCEPTS IN MACHINE LEARNING</i> offered in Semester 5
4	Introduction to Machine Learning	CSMC00N	MOOC	8 Weeks	NPTEL/SWAYAM	B.Tech Regulation 2020	IIT Kharagpur	Replacing <i>CS0M30B CONCEPTS IN MACHINE LEARNING</i> offered in Semester 5
5	Introduction to Machine Learning	CSMC00O	MOOC	12 Weeks	NPTEL/SWAYAM	B.Tech Regulation 2020	IIT Madras	Replacing <i>CS0M30B CONCEPTS IN MACHINE LEARNING</i> offered in Semester 5
6	Deep Learning	CSMC00G	MOOC	12 Weeks	NPTEL/SWAYAM	B.Tech Regulation 2020	IIT Kharagpur	Replacing <i>CS0M30E CONCEPTS IN DEEP LEARNING</i> offered in Semester 6
7	Deep Learning	CSMC00H	MOOC	12 Weeks	NPTEL/SWAYAM	B.Tech Regulation 2020	IIT Ropar	Replacing <i>CS0M30E CONCEPTS IN DEEP LEARNING</i> offered in Semester 6

BASKET III **NETWORKING**

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
1	Introduction to Computer Networks and Internet protocols	CSMC00K	MOOC	15 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2020	Gujarat University Ahmedabad	Replacing <i>CS0M20F INTRODUCTION TO COMPUTER NETWORKS</i> offered in Semester 4
2	Advanced Computer Networks	CSMC00B	MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2020	IIT Gandhinagar	Replacing <i>CS0M20F INTRODUCTION TO COMPUTER NETWORKS</i> offered in Semester 4
3	Cloud Computing	CSMC00C	MOOC	12 weeks	NPTEL/ SWAYAM	B.Tech Regulation 2020	IIT Kharagpur	
4	Computer Networks and Internet Protocol	CSMC00D	MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2020	IIT Kharagpur	
5	Introduction to Internet of Things	CSMC00M	MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2020	IIT Kharagpur	Replacing <i>CS0M30F WIRELESS NETWORKS AND IOT APPLICATIONS</i> offered in Semester 6

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
6	Introduction To Industry 4.0 And Industrial Internet of Things	CSMC01C	MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2020	IIT Kharagpur	Replacing <i>CS0M30F WIRELESS NETWORKS AND IOT APPLICATIONS</i> offered in <i>Semester 6</i>

MOOC FOR HONOURS:

BASKET I SECURITY IN COMPUTING

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
1	A basic course in Number Theory	CSMC00A	MOOC	12 Weeks	NPTEL/SWAYAM	B.Tech Regulation 2020	IIT Bombay	Replacing CS1H20A NUMBER THEORY offered in Semester 4
2	Cryptography and Network Security	CSMC00E	MOOC	12 Weeks	NPTEL/SWAYAM	B.Tech Regulation 2020	IIT Kharagpur	Replacing CS1H30A CRYPTOGRAPHIC ALGORITHMS offered in Semester 5
3	Cyber Security and Privacy	CSMC00F	MOOC	12 Weeks	NPTEL/SWAYAM	B.Tech Regulation 2020	IIT Madras	Replacing CS1H30D SECURITY offered in Semester 6 NETWORK
4	Introduction to Cyber Security	CSMC00L	MOOC	12 Weeks	NPTEL/SWAYAM	B.Tech Regulation 2020	Uttarakhand Open University, Haldwani	Replacing CS1H30D SECURITY offered in Semester 6 NETWORK
5	Privacy and Security in Online Social Media	CSMC00V	MOOC	12 Weeks	NPTEL/SWAYAM	B.Tech Regulation 2020	IIT Hyderabad	

6	Ethical Hacking	CSMC00J	MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2020	IIT Kharagpur	
7	Secure Computation Part 1	CSMC00Y	MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2020	IIIT Bangalore	

BASKET II **MACHINE LEARNING**

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
1	Essential Mathematics for Machine Learning	CSMC00I	MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2020	IIT Roorkee	Replacing CS1H20B COMPUTATIONAL FUNDAMENTALS FOR MACHINE LEARNING offered in <i>Semester 4</i>
2	Deep Learning	CSMC00G	MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2020	IIT Kharagpur	Replacing CS1H30B NEURAL NETWORKS AND DEEP LEARNING offered in <i>Semester 5</i>
3	Deep Learning	CSMC00H	MOOC	12 Weeks	NPTEL/ SWAYAM	B.Tech Regulation 2020	IIT Ropar	Replacing CS1H30B NEURAL NETWORKS AND DEEP LEARNING offered in <i>Semester 5</i>

4	Machine Learning and Deep Learning - Fundamentals and Applications	CSMC00Q	MOOC	12 Weeks	NPTEL/SWAYAM	B.Tech Regulation 2020	IIT Guwahati	Replacing <i>CS1H30E ADVANCED TOPICS IN MACHINE LEARNING</i> offered in <i>Semester 6</i>
5	Optimization for machine learning: Theory and Implementation	CSMC00U	MOOC	12 Weeks	NPTEL/SWAYAM	B.Tech Regulation 2020	IIT Kharagpur	
6	Reinforcement Learning	CSMC00X	MOOC	12 Weeks	NPTEL/SWAYAM	B.Tech Regulation 2020	IIT Madras	Replacing <i>REINFORCEMENT LEARNING</i> offered in <i>Semester 7</i> <i>CS1H40B LEARNING</i>
7	Introduction to Large Language Models (LLMs)	CSMC01D	MOOC	12 Weeks	NPTEL/SWAYAM	B.Tech Regulation 2020	IIT Delhi/IIT Bombay	

BASKET III FORMAL METHODS

Sl. No.	Course	Course Code	Course Type	Duration	Offering Platform	B.Tech Regulation	Institution Offering the Course	Remarks
1	Model Checking	CSMC00S	MOOC	12 Weeks	NPTEL/SWAYAM	B.Tech Regulation 2020	Chennai Mathematical Institute	Replacing <i>CS1H30C PRINCIPLES OF MODEL OF CHECKING</i> offered in <i>Semester 5</i>