



**CHAITANYA BHARATHI  
INSTITUTE OF TECHNOLOGY**  
An Autonomous Institute | Affiliated to Osmania University  
Kokapet Village, Gandipet Mandal, Hyderabad, Telangana-500075, www.cbit.ac.in



## Department of Information Technology

### COURSES IDENTIFIED FOR ADDITIONAL MINOR ENGINEERING 2024-2025 (July - December)

#### Additional Minor Engineering Degree In

- I. Information Security
- II. Artificial Intelligence
- III. Data Science
- IV. Augmented Reality- Virtual Reality

Date: 20/05/2024

The Tentative list of courses for Additional Minor Engineering approved by IT Department for AY: 2024-25 (July – December) is as follows:

**Open Enrollment to the Course: May 16**

#### NPTEL courses for the award of Additional Minor Engineering- Information Security

Course ID	Course Name	Institute	Duration	Start date	End date	Exam date	Click here to Join the course
noc24-cs112	Secure Computation: Part II	IITB	12 Weeks	July 22, 2024	October 11, 2024	November 2, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs112/preview">https://onlinecourses.nptel.ac.in/noc24_cs112/preview</a>
noc24-cs85	Practical Cyber Security for Cyber Security Practitioners	IITK	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs85/preview">https://onlinecourses.nptel.ac.in/noc24_cs85/preview</a>
noc24-cs132	Responsible & Safe AI Systems	IIITH & IITM	12 Weeks	July 22, 2024	October 11, 2024	November 2, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs132/preview">https://onlinecourses.nptel.ac.in/noc24_cs132/preview</a>
noc24-cs94	Ethical Hacking	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs94/preview">https://onlinecourses.nptel.ac.in/noc24_cs94/preview</a>
noc24-cs121	Cyber Security and Privacy	IITM	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs121/preview">https://onlinecourses.nptel.ac.in/noc24_cs121/preview</a>
noc24-cs90	Social Network Analysis	IITD	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs90/preview">https://onlinecourses.nptel.ac.in/noc24_cs90/preview</a>
noc24-cs124	Computer Vision	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs124/preview">https://onlinecourses.nptel.ac.in/noc24_cs124/preview</a>
noc24-cs70	Introduction to Graph Algorithms	IISc	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs70/preview">https://onlinecourses.nptel.ac.in/noc24_cs70/preview</a>

noc24-cs77	Distributed Systems	IIT Patna	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs77/preview">https://onlinecourses.nptel.ac.in/noc24_cs77/preview</a>
noc24-cs100	Randomized Methods in Complexity	IITK	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs100/preview">https://onlinecourses.nptel.ac.in/noc24_cs100/preview</a>
noc24-cs87	Computational Arithmetic - Geometry for Algebraic Curves	IITK	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs87/preview">https://onlinecourses.nptel.ac.in/noc24_cs87/preview</a>
noc24-cs78	Programming, Data Structures and Algorithms using Python	CMI	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs78/preview">https://onlinecourses.nptel.ac.in/noc24_cs78/preview</a>
noc24-cs79	Design and Analysis of Algorithms	CMI	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs79/preview">https://onlinecourses.nptel.ac.in/noc24_cs79/preview</a>
noc24-cs80	Introduction to Operating Systems	IITM	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs80/preview">https://onlinecourses.nptel.ac.in/noc24_cs80/preview</a>
noc24-cs95	Introduction to Industry 4.0 and Industrial Internet of Things	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs95/preview">https://onlinecourses.nptel.ac.in/noc24_cs95/preview</a>

#### NPTEL courses for the award of Additional Minor Engineering - Artificial Intelligence

Course ID	Course Name	Institute	Duration	Start date	End date	Exam date	Click here to Join the course
noc24-cs88	Artificial Intelligence : Search Methods For Problem solving	IITM	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs88/preview">https://onlinecourses.nptel.ac.in/noc24_cs88/preview</a>
noc24-cs101	Introduction to Machine Learning	IITM	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs101/preview">https://onlinecourses.nptel.ac.in/noc24_cs101/preview</a>
noc24-cs102	Reinforcement Learning	IITM	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs102/preview">https://onlinecourses.nptel.ac.in/noc24_cs102/preview</a>
noc24-cs89	Deep Learning for Computer Vision	IITH	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs89/preview">https://onlinecourses.nptel.ac.in/noc24_cs89/preview</a>
noc24-cs104	Applied Accelerated Artificial Intelligence	IIT Palakkad KLE Technological University NVIDIA	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs104/preview">https://onlinecourses.nptel.ac.in/noc24_cs104/preview</a>
noc24-cs114	Deep Learning - IIT Ropar	IIT Ropar	12 Weeks	July 22, 2024	October 11, 2024	November 2, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs114/preview">https://onlinecourses.nptel.ac.in/noc24_cs114/preview</a>
noc24-cs124	Computer Vision	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs124/preview">https://onlinecourses.nptel.ac.in/noc24_cs124/preview</a>
noc24-cs70	Introduction to Graph Algorithms	IISc	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs70/preview">https://onlinecourses.nptel.ac.in/noc24_cs70/preview</a>
noc24-cs77	Distributed Systems	IIT Patna	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs77/preview">https://onlinecourses.nptel.ac.in/noc24_cs77/preview</a>
noc24-cs87	Computational Arithmetic - Geometry for Algebraic Curves	IITK	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs87/preview">https://onlinecourses.nptel.ac.in/noc24_cs87/preview</a>

noc24-cs78	Programming, Data Structures and Algorithms using Python	CMI	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs78/preview">https://onlinecourses.nptel.ac.in/noc24_cs78/preview</a>
noc24-cs79	Design and Analysis of Algorithms	CMI	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs79/preview">https://onlinecourses.nptel.ac.in/noc24_cs79/preview</a>
noc24-cs80	Introduction to Operating Systems	IITM	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs80/preview">https://onlinecourses.nptel.ac.in/noc24_cs80/preview</a>
noc24-cs117	Parameterized Algorithms	IIT Gandhinagar IMSC	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs117/preview">https://onlinecourses.nptel.ac.in/noc24_cs117/preview</a>
noc24-cs103	Getting Started with Competitive Programming	IIT Gandhinagar	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs103/preview">https://onlinecourses.nptel.ac.in/noc24_cs103/preview</a>
noc24-cs90	Social Network Analysis	IITD	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs90/preview">https://onlinecourses.nptel.ac.in/noc24_cs90/preview</a>
noc24-cs130	Big Data Computing	IIT Patna	8 Weeks	August 19, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs130/preview">https://onlinecourses.nptel.ac.in/noc24_cs130/preview</a>
noc24-cs118	Cloud Computing	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs118/preview">https://onlinecourses.nptel.ac.in/noc24_cs118/preview</a>
noc24-cs119	Software Engineering	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs119/preview">https://onlinecourses.nptel.ac.in/noc24_cs119/preview</a>
noc24-cs105	Programming in Java	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs105/preview">https://onlinecourses.nptel.ac.in/noc24_cs105/preview</a>
noc24-cs128	C Programming and Assembly Language	IITM	4 Weeks	August 19, 2024	September 13, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs128/preview">https://onlinecourses.nptel.ac.in/noc24_cs128/preview</a>
noc24-cs69	Demystifying Networking	IITB	4 Weeks	July 22, 2024	August 16, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs69/preview">https://onlinecourses.nptel.ac.in/noc24_cs69/preview</a>
noc24-cs91	Software Testing	IIITB	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs91/preview">https://onlinecourses.nptel.ac.in/noc24_cs91/preview</a>
noc24-cs67	Introduction to Quantum Computing: Quantum Algorithms and Qiskit	IBM and IITM	4 Weeks	July 22, 2024	August 16, 2024	September 21, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs67/preview">https://onlinecourses.nptel.ac.in/noc24_cs67/preview</a>
noc24-cs120	Social Networks	IIT Ropar	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs120/preview">https://onlinecourses.nptel.ac.in/noc24_cs120/preview</a>
noc24-cs106	Computational Complexity	IIT Hyderabad	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs106/preview">https://onlinecourses.nptel.ac.in/noc24_cs106/preview</a>
noc24-cs68	Python for Data Science	IITM	4 Weeks	July 22, 2024	August 16, 2024	September 21, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs68/preview">https://onlinecourses.nptel.ac.in/noc24_cs68/preview</a>
noc24-cs113	The Joy of Computing using Python	IIT Ropar	12 Weeks	July 22, 2024	October 11, 2024	November 2, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs113/preview">https://onlinecourses.nptel.ac.in/noc24_cs113/preview</a>
noc24-cs92	Discrete Mathematics - IIT Ropar	IIT Ropar	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs92/preview">https://onlinecourses.nptel.ac.in/noc24_cs92/preview</a>
noc24-cs93	Multi-Core Computer Architecture	IITG	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs93/preview">https://onlinecourses.nptel.ac.in/noc24_cs93/preview</a>
noc24-cs122	C-Based VLSI Design	IITG	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs122/preview">https://onlinecourses.nptel.ac.in/noc24_cs122/preview</a>

noc24-cs107	Statistical Learning for Reliability Analysis	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs107/preview">https://onlinecourses.nptel.ac.in/noc24_cs107/preview</a>
noc24-cs131	Google Cloud Computing Foundations	IITKGP	8 Weeks	August 19, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs131/preview">https://onlinecourses.nptel.ac.in/noc24_cs131/preview</a>
noc24-cs123	Problem Solving Through Programming in C	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs123/preview">https://onlinecourses.nptel.ac.in/noc24_cs123/preview</a>
noc24-cs108	Operating System Fundamentals	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs108/preview">https://onlinecourses.nptel.ac.in/noc24_cs108/preview</a>
noc24-cs125	Programming in Modern C++	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs125/preview">https://onlinecourses.nptel.ac.in/noc24_cs125/preview</a>
noc24-cs75	Data Base Management System	IITKGP	8 Weeks	July 22, 2024	September 13, 2024	September 21, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs75/preview">https://onlinecourses.nptel.ac.in/noc24_cs75/preview</a>
noc24-cs95	Introduction to Industry 4.0 and Industrial Internet of Things	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs95/preview">https://onlinecourses.nptel.ac.in/noc24_cs95/preview</a>

### NPTEL courses for the award of Additional Minor Engineering - Data Science

Course ID	Course Name	Institute	Duration	Start date	End date	Exam date	Click here to Join the course
noc24-cs98	Discrete Mathematics	IITB	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs98/preview">https://onlinecourses.nptel.ac.in/noc24_cs98/preview</a>
noc24-cs83	Computer Architecture	IITD	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs83/preview">https://onlinecourses.nptel.ac.in/noc24_cs83/preview</a>
noc24-cs99	Advanced Distributed Systems	IITD	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs99/preview">https://onlinecourses.nptel.ac.in/noc24_cs99/preview</a>
noc24-cs85	Practical Cyber Security for Cyber Security Practitioners	IITK	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs85/preview">https://onlinecourses.nptel.ac.in/noc24_cs85/preview</a>
noc24-cs127	Software Conceptual Design	IITB	4 Weeks	August 19, 2024	September 13, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs127/preview">https://onlinecourses.nptel.ac.in/noc24_cs127/preview</a>
noc24-cs70	Introduction to Graph Algorithms	IISc	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs70/preview">https://onlinecourses.nptel.ac.in/noc24_cs70/preview</a>
noc24-cs71	Theory of Computation	IITK	8 Weeks	July 22, 2024	September 13, 2024	September 21, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs71/preview">https://onlinecourses.nptel.ac.in/noc24_cs71/preview</a>
noc24-cs72	Modern Algebra	IITK	8 Weeks	July 22, 2024	September 13, 2024	September 21, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs72/preview">https://onlinecourses.nptel.ac.in/noc24_cs72/preview</a>
noc24-cs77	Distributed Systems	IIT Patna	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs77/preview">https://onlinecourses.nptel.ac.in/noc24_cs77/preview</a>
noc24-cs100	Randomized Methods in Complexity	IITK	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs100/preview">https://onlinecourses.nptel.ac.in/noc24_cs100/preview</a>
noc24-cs87	Computational Arithmetic - Geometry for Algebraic Curves	IITK	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs87/preview">https://onlinecourses.nptel.ac.in/noc24_cs87/preview</a>
noc24-cs88	Artificial Intelligence : Search Methods For	IITM	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs88/preview">https://onlinecourses.nptel.ac.in/noc24_cs88/preview</a>

	Problem solving						
noc24-cs78	Programming, Data Structures and Algorithms using Python	CMI	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs78/preview">https://onlinecourses.nptel.ac.in/noc24_cs78/preview</a>
noc24-cs79	Design and Analysis of Algorithms	CMI	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs79/preview">https://onlinecourses.nptel.ac.in/noc24_cs79/preview</a>
noc24-cs101	Introduction to Machine Learning	IITM	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs101/preview">https://onlinecourses.nptel.ac.in/noc24_cs101/preview</a>
noc24-cs102	Reinforcement Learning	IITM	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs102/preview">https://onlinecourses.nptel.ac.in/noc24_cs102/preview</a>
noc24-cs89	Deep Learning for Computer Vision	IITH	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs89/preview">https://onlinecourses.nptel.ac.in/noc24_cs89/preview</a>
noc24-cs80	Introduction to Operating Systems	IITM	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs80/preview">https://onlinecourses.nptel.ac.in/noc24_cs80/preview</a>
noc24-cs117	Parameterized Algorithms	IIT Gandhinagar IMSC	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs117/preview">https://onlinecourses.nptel.ac.in/noc24_cs117/preview</a>
noc24-cs103	Getting Started with Competitive Programming	IIT Gandhinagar	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs103/preview">https://onlinecourses.nptel.ac.in/noc24_cs103/preview</a>
noc24-cs104	Applied Accelerated Artificial Intelligence	IIT Palakkad KLE Technological University NVIDIA	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs104/preview">https://onlinecourses.nptel.ac.in/noc24_cs104/preview</a>
noc24-cs73	Introduction to Machine Learning (Tamil)	IITM	8 Weeks	July 22, 2024	September 13, 2024	September 21, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs73/preview">https://onlinecourses.nptel.ac.in/noc24_cs73/preview</a>
noc24-cs90	Social Network Analysis	IITD	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs90/preview">https://onlinecourses.nptel.ac.in/noc24_cs90/preview</a>
noc24-cs130	Big Data Computing	IIT Patna	8 Weeks	August 19, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs130/preview">https://onlinecourses.nptel.ac.in/noc24_cs130/preview</a>
noc24-cs118	Cloud Computing	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs118/preview">https://onlinecourses.nptel.ac.in/noc24_cs118/preview</a>
noc24-cs119	Software Engineering	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs119/preview">https://onlinecourses.nptel.ac.in/noc24_cs119/preview</a>
noc24-cs74	Foundations and Applications of Machine Learning (Bengali)	IITKGP	8 Weeks	July 22, 2024	September 13, 2024	September 21, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs74/preview">https://onlinecourses.nptel.ac.in/noc24_cs74/preview</a>
noc24-cs105	Programming in Java	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs105/preview">https://onlinecourses.nptel.ac.in/noc24_cs105/preview</a>
noc24-cs128	C Programming and Assembly Language	IITM	4 Weeks	August 19, 2024	September 13, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs128/preview">https://onlinecourses.nptel.ac.in/noc24_cs128/preview</a>
noc24-cs69	Demystifying Networking	IITB	4 Weeks	July 22, 2024	August 16, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs69/preview">https://onlinecourses.nptel.ac.in/noc24_cs69/preview</a>
noc24-cs91	Software Testing	IIITB	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs91/preview">https://onlinecourses.nptel.ac.in/noc24_cs91/preview</a>

noc24-cs67	Introduction to Quantum Computing: Quantum Algorithms and Qiskit	IBM and IITM	4 Weeks	July 22, 2024	August 16, 2024	September 21, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs67/preview">https://onlinecourses.nptel.ac.in/noc24_cs67/preview</a>
noc24-cs120	Social Networks	IIT Ropar	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs120/preview">https://onlinecourses.nptel.ac.in/noc24_cs120/preview</a>
noc24-cs106	Computational Complexity	IIT Hyderabad	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs106/preview">https://onlinecourses.nptel.ac.in/noc24_cs106/preview</a>
noc24-cs68	Python for Data Science	IITM	4 Weeks	July 22, 2024	August 16, 2024	September 21, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs68/preview">https://onlinecourses.nptel.ac.in/noc24_cs68/preview</a>
noc24-cs113	The Joy of Computing using Python	IIT Ropar	12 Weeks	July 22, 2024	October 11, 2024	November 2, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs113/preview">https://onlinecourses.nptel.ac.in/noc24_cs113/preview</a>
noc24-cs92	Discrete Mathematics - IIT Ropar	IIT Ropar	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs92/preview">https://onlinecourses.nptel.ac.in/noc24_cs92/preview</a>
noc24-cs114	Deep Learning - IIT Ropar	IIT Ropar	12 Weeks	July 22, 2024	October 11, 2024	November 2, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs114/preview">https://onlinecourses.nptel.ac.in/noc24_cs114/preview</a>
noc24-cs121	Cyber Security and Privacy	IITM	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs121/preview">https://onlinecourses.nptel.ac.in/noc24_cs121/preview</a>
noc24-cs93	Multi-Core Computer Architecture	IITG	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs93/preview">https://onlinecourses.nptel.ac.in/noc24_cs93/preview</a>
noc24-cs122	C-Based VLSI Design	IITG	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs122/preview">https://onlinecourses.nptel.ac.in/noc24_cs122/preview</a>
noc24-cs107	Statistical Learning for Reliability Analysis	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs107/preview">https://onlinecourses.nptel.ac.in/noc24_cs107/preview</a>
noc24-cs131	Google Cloud Computing Foundations	IITKGP	8 Weeks	August 19, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs131/preview">https://onlinecourses.nptel.ac.in/noc24_cs131/preview</a>
noc24-cs123	Problem Solving Through Programming in C	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs123/preview">https://onlinecourses.nptel.ac.in/noc24_cs123/preview</a>
noc24-cs108	Operating System Fundamentals	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs108/preview">https://onlinecourses.nptel.ac.in/noc24_cs108/preview</a>
noc24-cs94	Ethical Hacking	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs94/preview">https://onlinecourses.nptel.ac.in/noc24_cs94/preview</a>
noc24-cs124	Computer Vision	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs124/preview">https://onlinecourses.nptel.ac.in/noc24_cs124/preview</a>
noc24-cs125	Programming in Modern C++	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs125/preview">https://onlinecourses.nptel.ac.in/noc24_cs125/preview</a>
noc24-cs75	Data Base Management System	IITKGP	8 Weeks	July 22, 2024	September 13, 2024	September 21, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs75/preview">https://onlinecourses.nptel.ac.in/noc24_cs75/preview</a>
noc24-cs95	Introduction to Industry 4.0 and Industrial Internet of Things	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs95/preview">https://onlinecourses.nptel.ac.in/noc24_cs95/preview</a>
noc24-cs115	Introduction to Internet of Things	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	November 2, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs115/preview">https://onlinecourses.nptel.ac.in/noc24_cs115/preview</a>
noc24-cs96	Data Structure and Algorithms using Java	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs96/preview">https://onlinecourses.nptel.ac.in/noc24_cs96/preview</a>
noc24-cs81	Introduction To Machine Learning - IITKGP	IITKGP	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs81/preview">https://onlinecourses.nptel.ac.in/noc24_cs81/preview</a>

noc24-cs116	Introduction To Algorithms and Analysis	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	November 2, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs116/preview">https://onlinecourses.nptel.ac.in/noc24_cs116/preview</a>
noc24-cs109	Algorithmic Game Theory	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs109/preview">https://onlinecourses.nptel.ac.in/noc24_cs109/preview</a>
noc24-cs126	Design & Implementation of Human-Computer Interfaces	IITG	12 Weeks	July 22, 2024	October 11, 2024	November 2, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs126/preview">https://onlinecourses.nptel.ac.in/noc24_cs126/preview</a>
noc24-cs82	Computer Graphics	IITG	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs82/preview">https://onlinecourses.nptel.ac.in/noc24_cs82/preview</a>
noc24-cs76	Artificial Intelligence for Economics	IITKGP	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs76/preview">https://onlinecourses.nptel.ac.in/noc24_cs76/preview</a>
noc24-cs97	Approximation Algorithm	IITKGP	12 weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs97/preview">https://onlinecourses.nptel.ac.in/noc24_cs97/preview</a>
noc24-cs132	Responsible & Safe AI Systems	IITH & IITM	12 Weeks	July 22, 2024	October 11, 2024	November 2, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs132/preview">https://onlinecourses.nptel.ac.in/noc24_cs132/preview</a>



**NPTEL courses for the award of Additional Minor Engineering- Augmented Reality- Virtual Reality**

Course ID	Course Name	Institute	Duration	Start date	End date	Exam date	Click here to Join the course
noc24-cs70	Introduction to Graph Algorithms	IISc	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs70/preview">https://onlinecourses.nptel.ac.in/noc24_cs70/preview</a>
noc24-cs77	Distributed Systems	IIT Patna	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs77/preview">https://onlinecourses.nptel.ac.in/noc24_cs77/preview</a>
noc24-cs100	Randomized Methods in Complexity	IITK	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs100/preview">https://onlinecourses.nptel.ac.in/noc24_cs100/preview</a>
noc24-cs87	Computational Arithmetic - Geometry for Algebraic Curves	IITK	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs87/preview">https://onlinecourses.nptel.ac.in/noc24_cs87/preview</a>
noc24-cs78	Programming, Data Structures and Algorithms using Python	CMI	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs78/preview">https://onlinecourses.nptel.ac.in/noc24_cs78/preview</a>
noc24-cs79	Design and Analysis of Algorithms	CMI	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs79/preview">https://onlinecourses.nptel.ac.in/noc24_cs79/preview</a>
noc24-cs80	Introduction to Operating Systems	IITM	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs80/preview">https://onlinecourses.nptel.ac.in/noc24_cs80/preview</a>
noc24-cs117	Parameterized Algorithms	IIT Gandhinagar IMSC	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs117/preview">https://onlinecourses.nptel.ac.in/noc24_cs117/preview</a>
noc24-cs103	Getting Started with Competitive Programming	IIT Gandhinagar	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs103/preview">https://onlinecourses.nptel.ac.in/noc24_cs103/preview</a>
noc24-cs90	Social Network Analysis	IITD	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs90/preview">https://onlinecourses.nptel.ac.in/noc24_cs90/preview</a>
noc24-cs130	Big Data Computing	IIT Patna	8 Weeks	August 19, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs130/preview">https://onlinecourses.nptel.ac.in/noc24_cs130/preview</a>
noc24-cs118	Cloud Computing	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs118/preview">https://onlinecourses.nptel.ac.in/noc24_cs118/preview</a>
noc24-cs119	Software Engineering	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs119/preview">https://onlinecourses.nptel.ac.in/noc24_cs119/preview</a>
noc24-cs105	Programming in Java	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs105/preview">https://onlinecourses.nptel.ac.in/noc24_cs105/preview</a>
noc24-cs128	C Programming and Assembly Language	IITM	4 Weeks	August 19, 2024	September 13, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs128/preview">https://onlinecourses.nptel.ac.in/noc24_cs128/preview</a>
noc24-cs69	Demystifying Networking	IITB	4 Weeks	July 22, 2024	August 16, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs69/preview">https://onlinecourses.nptel.ac.in/noc24_cs69/preview</a>
noc24-cs91	Software Testing	IIITB	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs91/preview">https://onlinecourses.nptel.ac.in/noc24_cs91/preview</a>
noc24-cs67	Introduction to Quantum	IBM and IITM	4 Weeks	July 22, 2024	August 16, 2024	September 21,	<a href="https://onlinecourses.nptel.ac.in/noc24_cs67/preview">https://onlinecourses.nptel.ac.in/noc24_cs67/preview</a>

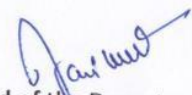


	Computing: Quantum Algorithms and Qiskit					2024	
noc24-cs120	Social Networks	IIT Ropar	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs120/preview">https://onlinecourses.nptel.ac.in/noc24_cs120/preview</a>
noc24-cs106	Computational Complexity	IIT Hyderabad	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs106/preview">https://onlinecourses.nptel.ac.in/noc24_cs106/preview</a>
noc24-cs68	Python for Data Science	IITM	4 Weeks	July 22, 2024	August 16, 2024	September 21, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs68/preview">https://onlinecourses.nptel.ac.in/noc24_cs68/preview</a>
noc24-cs113	The Joy of Computing using Python	IIT Ropar	12 Weeks	July 22, 2024	October 11, 2024	November 2, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs113/preview">https://onlinecourses.nptel.ac.in/noc24_cs113/preview</a>
noc24-cs92	Discrete Mathematics - IIT Ropar	IIT Ropar	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs92/preview">https://onlinecourses.nptel.ac.in/noc24_cs92/preview</a>
noc24-cs93	Multi-Core Computer Architecture	IITG	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs93/preview">https://onlinecourses.nptel.ac.in/noc24_cs93/preview</a>
noc24-cs122	C-Based VLSI Design	IITG	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs122/preview">https://onlinecourses.nptel.ac.in/noc24_cs122/preview</a>
noc24-cs107	Statistical Learning for Reliability Analysis	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs107/preview">https://onlinecourses.nptel.ac.in/noc24_cs107/preview</a>
noc24-cs131	Google Cloud Computing Foundations	IITKGP	8 Weeks	August 19, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs131/preview">https://onlinecourses.nptel.ac.in/noc24_cs131/preview</a>
noc24-cs123	Problem Solving Through Programming in C	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs123/preview">https://onlinecourses.nptel.ac.in/noc24_cs123/preview</a>
noc24-cs108	Operating System Fundamentals	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs108/preview">https://onlinecourses.nptel.ac.in/noc24_cs108/preview</a>
noc24-cs125	Programming in Modern C++	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	November 3, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs125/preview">https://onlinecourses.nptel.ac.in/noc24_cs125/preview</a>
noc24-cs75	Data Base Management System	IITKGP	8 Weeks	July 22, 2024	September 13, 2024	September 21, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs75/preview">https://onlinecourses.nptel.ac.in/noc24_cs75/preview</a>
noc24-cs95	Introduction to Industry 4.0 and Industrial Internet of Things	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs95/preview">https://onlinecourses.nptel.ac.in/noc24_cs95/preview</a>
noc24-cs115	Introduction to Internet of Things	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	November 2, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs115/preview">https://onlinecourses.nptel.ac.in/noc24_cs115/preview</a>
noc24-cs96	Data Structure and Algorithms using Java	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs96/preview">https://onlinecourses.nptel.ac.in/noc24_cs96/preview</a>
noc24-cs81	Introduction To Machine Learning - IITKGP	IITKGP	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs81/preview">https://onlinecourses.nptel.ac.in/noc24_cs81/preview</a>
noc24-cs116	Introduction To Algorithms and Analysis	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	November 2, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs116/preview">https://onlinecourses.nptel.ac.in/noc24_cs116/preview</a>
noc24-cs109	Algorithmic Game Theory	IITKGP	12 Weeks	July 22, 2024	October 11, 2024	October 27, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs109/preview">https://onlinecourses.nptel.ac.in/noc24_cs109/preview</a>

noc24-cs126	Design & Implementation of Human-Computer Interfaces	IITG	12 Weeks	July 22, 2024	October 11, 2024	November 2, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs126/preview">https://onlinecourses.nptel.ac.in/noc24_cs126/preview</a>
noc24-cs82	Computer Graphics	IITG	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs82/preview">https://onlinecourses.nptel.ac.in/noc24_cs82/preview</a>
noc24-cs76	Artificial Intelligence for Economics	IITKGP	8 Weeks	July 22, 2024	September 13, 2024	September 22, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs76/preview">https://onlinecourses.nptel.ac.in/noc24_cs76/preview</a>
noc24-cs97	Approximation Algorithm	IITKGP	12 weeks	July 22, 2024	October 11, 2024	October 26, 2024	<a href="https://onlinecourses.nptel.ac.in/noc24_cs97/preview">https://onlinecourses.nptel.ac.in/noc24_cs97/preview</a>

**Note:**

Students must choose the course if and only if the course is not studied in their respective B.E. Program.

Head Dept. of IT  
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