CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (A)

Department of Information Technology

COURSES IDENTIFIED FOR HONOURS DEGREE 2021-2022 (July-December)

Date: 23/05/2021

The Tentative list of courses for Honours Degree approved by IT Department is as follows:

I and II Semester-maximum 4 credits, III and IV Semester- maximum 4 to 6 credits including internship, V and VI Semester- maximum 6 credits, VII and VIII Semester- maximum 6 credits

Note: Student has to choose the courses atleast from any two tracks and from each level atmost 2 courses only for Coursera courses.

List of NPTEL Courses:

Course Name	Duration	Start date	End date	Exam date	Enrollment End date	Click here to join the course
Design Thinking - A Primer	4 Weeks	July 26, 2021	August 20, 2021	September 26, 2021	August 02, 2021	https://onlinecourses.nptel.ac.in/noc21_mg53/preview
In order of preference: Algorithmic Puzzles Algorithms Implemented DSA with C++ and Python Algorithms for Competitive Prog.	12 Weeks	July 26, 2021	October 15, 2021	October 24, 2021	August 02, 2021	https://onlinecourses.nptel.ac.in/noc21_cs99/preview
Innovation, Business Models and Entrepreneurship	8 Weeks	August 23, 2021	October 15, 2021	October 24, 2021	August 23, 2021	https://onlinecourses.nptel.ac.in/noc21_mg63/preview
Ethics in Engineering Practice	8 Weeks	August 23, 2021	October 15, 2021	October 23, 2021	August 23, 2021	https://onlinecourses.nptel.ac.in/noc21_mg60/preview
Introduction To R Software	8 Weeks	July 26, 2021	September 17, 2021	September 26, 2021	August 02, 2021	https://onlinecourses.nptel.ac.in/noc21_ma75/preview
Descriptive Statistics With R Software	8 Weeks	August 23, 2021	October 15, 2021	October 24, 2021	August 23, 2021	https://onlinecourses.nptel.ac.in/noc21_ma76/preview
Programming in C++	8 Weeks	July 26, 2021	September 17, 2021	September 26, 2021	August 02, 2021	https://onlinecourses.nptel.ac.in/noc21_cs55/preview
Deep learning – IITRopar	12 Weeks	July 26, 2021	October 15, 2021	October 23, 2021	August 02, 2021	https://onlinecourses.nptel.ac.in/noc21_cs76/preview
Deep Learning for Computer Vision	12 Weeks	July 26, 2021	October 15, 2021	October 24, 2021	August 02, 2021	https://onlinecourses.nptel.ac.in/noc21_cs93/preview
Reinforcement Learning	12 Weeks	July 26, 2021	October 15, 2021	October 24, 2021	August 02,	https://onlinecourses.nptel.ac.in/noc21_cs71/preview

					2021	
Scalable Data Science	8 Weeks	July 26, 2021	September 17, 2021	September 26, 2021	August 02, 2021	https://onlinecourses.nptel.ac.in/noc21_cs59/preview
Computational Complexity	12 Weeks	July 26, 2021	October 15, 2021	October 24, 2021	August 02, 2021	https://onlinecourses.nptel.ac.in/noc21_cs90/preview
Computer Vision	12 Weeks	July 26, 2021	October 15, 2021	October 23, 2021	August 02, 2021	https://onlinecourses.nptel.ac.in/noc21_cs101/preview
Cloud computing	8 Weeks	August 23, 2021	October 15, 2021	October 23, 2021	August 23, 2021	https://onlinecourses.nptel.ac.in/noc21_cs62/preview
Computer Graphics	8 Weeks	July 26, 2021	September 17, 2021	September 26, 2021	August 02, 2021	https://onlinecourses.nptel.ac.in/noc21_cs97/preview
Secure Computation: Part I	12 Weeks	July 26, 2021	October 15, 2021	October 24, 2021	August 02, 2021	https://onlinecourses.nptel.ac.in/noc21_cs91/preview
Introduction to Quantum Computing: Quantum Algorithms and Qiskit	4 weeks	August 23, 2021	September 17, 2021	October 23, 2021	August 23, 2021	https://onlinecourses.nptel.ac.in/noc21_cs103/preview
Design for internet of things	8 Weeks	July 26, 2021	September 17, 2021	September 26, 2021	August 02, 2021	https://onlinecourses.nptel.ac.in/noc21_ee85/preview
Game Theory	8 Weeks	July 26, 2021	September 17, 2021	September 26, 2021	August 02, 2021	https://onlinecourses.nptel.ac.in/noc21_ge24/preview
Object Oriented Analysis and Design	8 Weeks	July 26, 2021	September 17, 2021	September 26, 2021	August 02, 2021	https://onlinecourses.nptel.ac.in/noc21_cs57/preview

List of Coursera courses:

S.No.	Year	Track 1		Track 2		Track 3		Track 4		Track 5		Track 6		Courses/Credits
		Advanced AI & DS (Coursera)	Advanced AI & DS (NPTEL)	Programming and Application Development (Coursera)	Programming and Application Development (NPTEL)	AR & VR (Coursera)	AR & VR (NPTEL)	Software Systems Engg.(Coursera)	Software Systems Engg.(NPTEL)	Networking/Cyber Security/IoT/ Blockchain (Coursera)	Networking/Cyber Security/IoT/ Blockchain (NPTEL)	Industry Oriented(Coursera)	Industry Oriented (NPTEL)	
1	I	Design Thinking and Product Innovation	Design Thinking - A Primer	Design Thinking and Product Innovation	Design Thinking - A Primer	Design Thinking and Product Innovation	Design Thinking - A Primer	Design Thinking and Product Innovation	Design Thinking - A Primer	Design Thinking and Product Innovation	Design Thinking - A Primer		In order of preference: Algorithmic Puzzles Algorithms Implemented DSA with C++ and Python Algorithms for Competitive Programming	2-4
2		Capstone in Python	Programming in C++	Capstone in Python	Programming in C++	Capstone in Python	Programming in C++	Capstone in Python	Programming in C++	Capstone in Python	Programming in C++	_		
3		Startups and Innovation	Innovation, Business Models and Entrepreneurship	Startups and Innovation	Innovation, Business Models and Entrepreneurship	Startups and Innovation	Innovation, Business Models and Entrepreneurship	Startups and Innovation	Innovation, Business Models and Entrepreneurship	Startups and Innovation	Innovation, Business Models and Entrepreneurship	_		
4		Competitive Programming	Introduction To R Software	Competitive Programming	Introduction To R Software	Competitive Programming		Competitive Programming	Introduction To R Software	Competitive Programming	Introduction To R Software	_		
5	II	AI Ethics	Ethics in Engineering Practice	Wireframe & Prototype Development	_	Computer Graphics and 3D Design & Printing		Project Management and Testing	_	System Administration	_	Hackerrank */ Hackerearth */ Cloud Associate		2-4
6		Random Variables and	Descriptive Statistics	Mobile Application Development		_		_		IoT & AI Cloud	_	_		

#	Year													
		Queuing Theory	With R Software	using Kotlin										
7	III	Deep Learning	Deep learning - IITRopar	Full Stack Development(Javascript)	-	Geometric Algorithms	-	Agile Methodologies (using Devops)	-	Wireless sensor networks	Secure Computation: Part I	Certification from Online Coding Platforms (Codechef, Leetcode,etc.)		2-6
8		**Computer Vision**	Deep Learning for Computer Vision	**Full Stack Development (Python - Django)**	-	AR/VR/MR/XR	-	Quantum Computing	Introduction to Quantum Computing: Quantum Algorithms and Qiskit			-		
9		AI Tensorflow Development	Reinforcement Learning	-	Computational Complexity			-		Wireless Communication	-	-		
10		Data Warehousing and Data Mining	Scalable Data Science	-				-			Design for internet of things	-		
		Data Science with R												
11	IV	Generative Adversarial Networks					Game Theory	Design Patterns	-	Emerging Technologies	-	Data Engineer/ Cisco Certified/ Java Certification /	IV	2-6

											Associate Android/ Web Apps /Redhat Linux Administration/ MIST/Microsoft Server Administration/ Microsoft Azure		
12		**Autonomous Systems**	Computer Vision	Advanced Cloud Computing	Cloud computing	GameDevelopment	_	Cloud Computing Solutions at Scale	_	Software DefinedNetworks	_		

HoD, IT