

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (A)
Hyderabad-75

Department of Computer Science and Engineering
Scheme of Additional Minor Engineering Degree in Computer
Engineering, AI/ML, Cyber Security, IoT

Date:22-06-2024

Academic Requirements: (Min 20 credits)

A) For Engineering (Mechanical, Civil, ECE, EEE, Bio-Tech and Chemical)

1. Students can choose courses which were not studied earlier in the previous semester. Further the courses should not be present in the curriculum of the forthcoming semesters.
2. This scheme is effective for the batches starting from 2024-25 Academic year

**B) CORE ELECTIVE LIST (Any 3 Courses including mandatory course)-
9 to 12credits**

SNO	CourseCode	Course Title	L:T:P	Credits	Preferred Semester
1	22CSC15N	Operating Systems(mandatorycourse)	3-0-0	3	4 or above
2	22CSC06	Discrete Structures	3-0-0	4	4 or above
3	22CSC03	Object Oriented Programming(OOPs)	2-1-0	3	2 or above
4	22CSC10	Computer Organization and Architecture	3-0-0	4	4 or above
5	22CSC11	Database Management Systems	2-0-0	3	3 or above
6	22CSC14N	Design and Analysis of Algorithms	3-0-0	3	5 or above
7	22ITC10	Computer Networks	3-0-0	3	5 or above
8	22CAC13	Artificial Intelligence & Machine Learning	3-0-0	4	5 or above
9	22CSC21	Software Engineering	3-0-0	3	5 or above

Core Elective NPTEL Equivalent courses during July AY:24-25

SNO	Course Title	No of Weeks/ Credits	Start and End Date	Enrolment Last date	NPTEL Link
1	Discrete Mathematics	12/3	22-07-2024 to 11-10-2024	29-07-2024	https://nptel.ac.in/courses/106108227

2	Computer Architecture	12/3	22-07-2024 to 11-10-2024	29-07-2024	https://nptel.ac.in/courses/106102157
3	Data Base Management System	8/2	22-07-2024 to 13-09-2024	29-07-2024	https://nptel.ac.in/courses/106105175
4	Design and analysis of algorithms	8/2	22-07-2024 to 13-09-2024	29-07-2024	https://nptel.ac.in/courses/106106131
5	Operating System Fundamentals	12/3	22-07-2024 to 11-10-2024	29-07-2024	https://nptel.ac.in/courses/106105214

COMPUTER ENGINEERING: (Any THREE Courses or TWO Courses and Project) – 8 to 11 Credits

SNO	Course Code	Course Title	L:T:P	Credits	Preferred Semester
1	20CSC15	Internet And Web Technologies	3-0-2	4	3 Or Above
2	22CSE06	Algorithmic Game Theory	3-0-2	4	5 Or Above
3	20CSE09	Machine Learning	3-0-0	3	4 Or Above
4	20CSE34	Cloud Computing	3-0-0	3	6 Or Above
5	20CSE04	Free And Open-Source Technologies	3-0-0	3	5 Or Above
6	20CSE23	Mobile Application Development	3-0-0	3	4 Or Above
8	22CSCXX	Special Topics Computer Science	2-0-0	2	7 Or 8

Above list is tentative and can be suitably updated based on needs of the Industry and availability of relevant course

NPTEL equivalent courses during July AY:24-25

SN O	Course Title	No of Weeks/Credits	Start and end dates	Enrolment last date	Nptel link
1	Data Science for Engineers	8/2	22-07-2024 to 13-09-2024	29-07-2024	https://nptel.ac.in/courses/106106179
2	Introduction to Machine Learning	12/3	22-07-2024 to 11-10-2024	29-07-2024	https://nptel.ac.in/courses/106106139
3	Cloud Computing	12/3	22-07-2024 to 11-10-2024	29-07-2024	https://nptel.ac.in/courses/106105167

4	Google Cloud Computing Foundations	8/2	19-08-2024 to 11-10-2024	29-07-2024	https://nptel.ac.in/courses/106105223
5	Programming in Java	12/3	22-07-2024 to 11-10-2024	29-07-2024	https://nptel.ac.in/courses/106105191
6	Algorithmic Game Theory	12/3	22-07-2024 to 11-10-2024	29-07-2024	https://nptel.ac.in/courses/106105237
7	The Joy of Computing using Python	12/3	22-07-2024 to 11-10-2024	29-07-2024	https://nptel.ac.in/courses/106106182

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AI & ML(Any THREE Courses or TWO Courses and Project) – 8 to 11 Credits

SNO	Course Code	Course Title	L:T:P	Credits	PreferredSemester
1	20CSO14	Fundamentals Of Computer Vision	2-0-0	3	3 or above
2	20CSE26	Human Computer Interaction	2-0-0	3	6 or above
3	20CSE11	Natural Language Processing	2-0-1	3	5 or above
4	20CSE09	Machine Learning	3-0-2	4	6 or above
5	20CSE21	Deep Learning	3-0-2	4	6 or above
6	20CSC34	Project	0-1-4	4	7 or 8
7	20CSCXX	Special Topics on AI	2-0-0	2	7 or 8
8	20CSCXX	Special modules in AI	1-0-0	1	7 or 8

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SNO	Course Title	No of Weeks/Credits	Start and end dates	Enrollment last date	Nptel link
1	Introduction to Machine Learning	12/3	22-07-2024 to 11-10-2024	29-07-2024	https://nptel.ac.in/courses/106106139
2	Computer vision	12/3	22-07-2024 to 11-10-2024	29-07-2024	https://nptel.ac.in/courses/106105216
3	Deep learning	12/3	22-07-2024 to 11-10-2024	29-07-2024	https://nptel.ac.in/courses/106106184
4	Design & Implementation of Human-Computer Interfaces	12/3	22-07-2024 to 11-10-2024	29-07-2024	https://nptel.ac.in/courses/106103237

NPTEL equivalent courses

CYBER SECURITY (Any THREE Courses or TWO Courses and Project) – 8 to 11 Credits

SNO	Course Code	Course Title	L:T:P	Credits	Preferred Semester
1	20CSC05	IT 5.0	3-0-0	3	2 or above
3	20CSC15	INTERNET AND WEB TECHNOLOGIES	3-0-2	4	3 or above
4	20CSE17	Internet of Things	3-0-1	3	5 or above
5	22CIE55	Cyber Security	3-0-0	3	4 or above
6	20CSC27	Applied Cryptography	2-0-1	3	6 or above
7	22CSE01	Computer Graphics and Multimedia	3-0-0	3	6 or above
9	20CSCxx	Special Topics in Cyber Systems	2-0-0	2	7 or 8
10	20CSCXX	Special modules in Systems	1-0-0	1	7 or 8

Above list is tentative and can be suitably updated based on needs of the Industry and availability of relevant course

NPTEL equivalent courses

SNO	Course Title	No of Weeks/Credits	Start and end dates	Enrollment last date	Nptel link
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1	Introduction To Industry 4.0 And Industrial InternetOf Things	1 2 / 3	22-07-2024 to 11-10-2024	29-07-2024	https://nptel.ac.in/courses/106105195
2	Introduction To Internet Of Things	1 2 / 3	22-07-2024 to 11-10-2024	29-07-2024	https://nptel.ac.in/courses/106105166
3	Data Sciencefor Engineers	8/2	22-07-2024 to 13-09-2024	29-07-2024	https://nptel.ac.in/courses/106106179
4	Cyber Security and Privacy	12/3	22-07-2024 to 11-10-2024	29-07-2024	https://nptel.ac.in/courses/106106248
5	Ethical Hacking	12/3	22-07-2024 to 11-10-2024	29-07-2024	https://nptel.ac.in/courses/106105217

INTERNET OF THINGS (Any THREE Courses OR TWO Courses and Project) 8 to 11 Credits


SNO	Course Code	Course Title	L:T:P	Credits	Preferred Semester
1	20CSC05	IT 5.0	3-0-0	3	2 or above
2	20CSE17	Internet of Things	3-0-1	3	5 or above
3	20CSE23	Mobile Application Development	3-0-0	3	4 or above
4	20CSCXX	Special modules in Systems	1-0-0	1	7 or 8

#Above list is tentative and can be suitably updated based on needs of the Industry and availability of relevantcourse

SN O	CourseTitle	No of Week s/Credits	Start and end dates	Enroll ment last date	Nptel link
1	Introduction To Industry 4.0 And Industrial InternetOf Things	12/3	22-07-2024 to 11-10-2024	29-07-2024	https://nptel.ac.in/courses/106105195
2	Introduction To Internet Of Things	12/3	22-07-2024 to 11-10-2024	29-07-2024	https://nptel.ac.in/courses/106105166

3	Data Science for Engineers	8/2	22-07-2024 to 13-09-2024	29-07-2024	https://nptel.ac.in/courses/106106179
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NPTEL equivalent courses during July AY:24-25


 AMD Co-ordinator (Hyderabad)


 Professor and Head Department
 Department of Computer Science & Engineering
 Chaitanya Bharathi Institute of Technology (CBIT)
 Gandipet, Hyderabad-500 075, (T.S.)