

CSE Department Phygital Certificate Course Details for 2nd Year and 3rd Year

Specialized Certificate for 2nd Year and 3rd Year	Any one certificate during 3rd and 4th Sem.	Google AI Essentials Specialization https://www.coursera.org/specializations/ai-essentials-google Java Programming and Software Engineering Fundamentals https://www.coursera.org/specializations/java-programming Mathematics for Machine Learning and Data Science https://www.coursera.org/specializations/mathematics-for-machine-learning-and-data-science Object Oriented Java Programming: Data Structures and Beyond https://www.coursera.org/specializations/java-object-oriented .NET Core Mastery: Advanced Techniques for Exp Developers https://www.coursera.org/specializations/dotnet-adv-techniques-for-exp-developer Exam Prep (NCA-GENL): NVIDIA-Certified Generative AI LLMs https://www.coursera.org/specializations/exam-prep-nca-genl-nvidia-certified-generative-ai-llms-associate Mastering GitHub for Developers and DevOps https://www.coursera.org/specializations/packt-mastering-github-for-developers-and-devops Node.js Mastery: Streams, Patterns & High-Performance Apps https://www.coursera.org/specializations/packt-node-js-mastery-streams-patterns-and-high-performance-apps Microsoft Power BI: Data Analysis Professional https://www.coursera.org/specializations/microsoft-power-bi-data-analysis-professional LLM Engineering: Prompting, Fine-Tuning, Optimization & RAG https://www.coursera.org/specializations/llm-engineering-prompting-fine-tune-optimization-rag Applied Object Detection & Segmentation https://www.coursera.org/specializations/applied-object-detection-segmentation Advanced App Development in Android https://www.coursera.org/specializations/advanced-app-android Complete Web Development: HTML, CSS, JS & PHP Projects https://www.coursera.org/specializations/packt-complete-web-development-html-css-js-and-php-projects Object Oriented Java Programming: Data Structures and Beyond https://www.coursera.org/specializations/java-object-oriented Modern Web Development Specialization https://www.coursera.org/specializations/modern-web-development-specialization	
	Any one certificate during 5th and 6th Sem.	Data Science https://www.coursera.org/specializations/ibj-data-science AI Agent Developer https://www.coursera.org/specializations/ai-agents Generative AI Software Engineering Specialization https://www.coursera.org/specializations/generative-ai-software-engineering IBM DevOps, Cloud, and Agile Foundations https://www.coursera.org/specializations/devops-cloud-and-agile-foundations Advanced Machine Learning on Google Cloud https://www.coursera.org/specializations/advanced-machine-learning-tensorflow-gcp Data Engineering, Big Data, and Machine Learning on GCP https://www.coursera.org/specializations/gcp-data-machine-learning Modern Data Architecture & Lakehouse Engineering https://www.coursera.org/specializations/modern-data-architecture-and-lakehouse-engineering Building AI Cloud Apps with Microsoft Azure https://www.coursera.org/specializations/building-ai-cloud-apps-microsoft-azure Fundamentals of Computer Network Security https://www.coursera.org/specializations/computer-network-security Modern Data Analytics with Python, Excel & Generative AI https://www.coursera.org/specializations/modern-data-analytics-with-python-excel-and-genai Linux and Private Cloud Administration on IBM Power Systems https://www.coursera.org/specializations/linux-private-cloud-administration-power-systems Exam Prep: AWS Certified DevOps Engineer - Professional https://www.coursera.org/specializations/exam-prep-dop-c02-aws-certified-devops-engineer-professional Exam Prep (DEA-C01): AWS Certified Data Engineer - Associate https://www.coursera.org/specializations/exam-prep-aws-certified-data-engineer-associate Intermediate to Advanced: Professional Figma UI / UX Design https://www.coursera.org/specializations/intermediate-to-advanced-professional-figma-ui-ux-design Mastering Operating Systems with IBM AIX https://www.coursera.org/specializations/mastering-operating-systems-with-ibm-aix Mastering AI: Neural Nets, Vision System, Speech Recognition https://www.coursera.org/specializations/mastering-ai-neural-nets-vision-speech AI Security: Security in the Age of Artificial Intelligence https://www.coursera.org/specializations/ai-security-security-in-the-age-of-artificial-intelligence Data Engineering on AWS - The Complete Training https://www.coursera.org/specializations/packt-data-engineering-on-aws-complete-training Applied Python: Web Dev, Machine Learning & Cryptography https://www.coursera.org/specializations/applied-python-web-dev-machine-learning-cryptography Big Data Foundations with Hadoop and Spark https://www.coursera.org/specializations/packt-big-data-foundations-with-hadoop-and-spark	
3rd Semester Two subjects for phygital learning certificate	ESC302: Digital Electronics	1. Digital Systems: From Logic Gates to Processors https://www.coursera.org/learn/digital-systems 2. Design of Digital Circuits with VHDL Programming https://www.coursera.org/learn/design-of-digital-circuits-with-vhdl-programming 3. Fundamentals of Digital Design for VLSI Chip Design https://www.coursera.org/learn/fundamentals-of-digital-design-for-vlsi-chip-design	2.
	PCCCS301: Data structure & Algorithms	1. Data Structures and Algorithms Specialization https://www.coursera.org/programs/iem-faculty-learning-program-rtvr7/specializations/data-structures-algorithms?source=search 2. Data Structures and Algorithms https://www.coursera.org/programs/iem-faculty-learning-program-rtvr7/learn/msft-data-structures-and-algorithms?source=search 3. Data Structures and Algorithms https://www.coursera.org/programs/iem-faculty-learning-program-rtvr7/learn/bits-data-structures-and-algorithms?source=search 4. Data Structures and Algorithms https://www.coursera.org/programs/iem-faculty-learning-program-rtvr7/specializations/data-structures-algorithms-rsinehua?source=search 5. Data Structures and Algorithms https://www.coursera.org/programs/iem-faculty-learning-program-rtvr7/specializations/data-structures-algorithms-rsinehua?source=search	
4th Semester Two subjects for phygital learning certificate	PCCCS402: Computer Organization & Architecture	1. Computer Architecture Essentials on Arm https://www.coursera.org/learn/computer-architecture-essentials-on-arm 2. Computer Architecture https://www.coursera.org/learn/comparch	
	PCCCS404: Design & Analysis of Algorithms	1. Design and Analysis of Algorithms https://www.coursera.org/learn/cpsc-8400-design-and-analysis-of-algorithms 2. Algorithms for Searching, Sorting, and Indexing https://www.coursera.org/learn/algorithms-searching-sorting-indexing 3. Algorithm Design: Mastering Computational Problem Solving https://www.coursera.org/learn/bits-algorithm-design	
5th Semester Two subjects for phygital learning certificate	PCCCS501: Database Management Systems	1. Database Management Systems https://www.coursera.org/learn/cpsc-6620-database-management-systems 2. Database Management Essentials https://www.coursera.org/learn/database-management 3. Introduction to Relational Databases https://www.coursera.org/learn/introduction-to-relational-databases	
	PCCCS502: Theory of Computations	1. Automata and Computability https://www.coursera.org/learn/automata-and-computability-odc 2. Formal Languages and Applications https://www.coursera.org/learn/formal-languages-and-applications-odc	
6th Semester Two subjects for phygital learning certificate	PCCS601: Computer Networks	1. The Bits and Bytes of Computer Networking https://www.coursera.org/learn/computer-networking 2. Computer Communications Specialization https://www.coursera.org/specializations/computer-communications 3. Fundamentals of Network Communication https://www.coursera.org/learn/fundamentals-network-communications	3.
	PECS601: Introductory Cyber Security	1. Cyber Security Fundamentals https://www.coursera.org/learn/cyber-security-fundamentals 2. Introduction to Cyber Security Specialization https://www.coursera.org/specializations/intro-cyber-security	

Note: I Sem, II Sem, VII Sem, VIII Sem all courses will be Phygital Learning as per the Bucket List given by the Department

Course ID	Discipline
noc26-cs109	Computer Science and Engineering
noc26-cs114	Computer Science and Engineering
noc26-cs117	Computer Science and Engineering
noc26-cs123	Computer Science and Engineering
noc26-cs151	Computer Science and Engineering
noc26-cs152	Computer Science and Engineering
noc26-cs156	Computer Science and Engineering

Course Name	SME Name
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3rd Semester

Programming, Data Structures And Algorithms Using Python	Prof. Madhavan Mukund
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5th Semester

Theory of Computation	Prof. Raghunath Tewari
Data Base Management System	Prof. Partha Pratim Das, Prof. Samiran Chattopadhyay
Introduction to Operating Systems	Prof. Chester Rebeiro
Software Engineering	Prof. Rajib Mall
Software Project Management	Prof. Rajib Mall, Prof. Durga Prasad Mohapatra
Operating System Fundamentals	Prof. Santanu Chattopadhyay

Institute	Coordinating Institute	Duration	Type
Chennai Mathematical Institute	IIT Madras	8 Weeks	Rerun
IIT Kanpur	IIT Kanpur	8 Weeks	Rerun
IIT Kharagpur	IIT Kharagpur	8 Weeks	Rerun
IIT Madras	IIT Madras	8 Weeks	Rerun
IIT Kharagpur	IIT Kharagpur	12 Weeks	Rerun
IIT Kharagpur	IIT Kharagpur	12 Weeks	Rerun
IIT Kharagpur	IIT Kharagpur	12 Weeks	Rerun

Start date	End date	Exam date	Enrollment End date	Exam Registration End date	UG/PG	Core/Elective
Jul 20, 2026	Sep 11, 2026	Sep 19, 2026	Jul 27, 2026	Aug 14, 2026	UG	Elective
Jul 20, 2026	Sep 11, 2026	Sep 19, 2026	Jul 27, 2026	Aug 14, 2026	UG	Elective
Jul 20, 2026	Sep 11, 2026	Sep 20, 2026	Jul 27, 2026	Aug 14, 2026	UG/PG	Core
Jul 20, 2026	Sep 11, 2026	Sep 20, 2026	Jul 27, 2026	Aug 14, 2026	UG	Core
Jul 20, 2026	Oct 9, 2026	Oct 23, 2026	Jul 27, 2026	Aug 14, 2026	PG	Elective
Jul 20, 2026	Oct 9, 2026	Oct 24, 2026	Jul 27, 2026	Aug 14, 2026	PG	Elective
Jul 20, 2026	Oct 9, 2026	Oct 18, 2026	Jul 27, 2026	Aug 14, 2026	UG	Core

FDP
Yes
Yes
Yes
No
Yes
Yes
No