

Phygital Learning Certificate Course Details for EE Department

Specialized Certificate for 2nd Year and 3rd Year	Any one certificate during 3rd and 4th Sem.	Data Structures and Algorithms Specialization	https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/specializations/data-structures-algorithms?source=search
		Introduction to Electricity and Magnetism Specialization	https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/specializations/introduction-to-electricity-magnetism?source=search
		Power Electronics Specialization	https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/specializations/power-electronics?source=search
		Renewable Energy Specialization	https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/specializations/renewable-energy?source=search
		Battery Technologies Specialization	https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/specializations/battery-technologies?source=search
	Any one certificate during 5th and 6th Sem.	Design of Utility Systems for Industrial Plants Specialization	https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/specializations/design-of-utility-systems-for-industrial-plants?source=search
		Power System: Generation, Transmission and Protection	https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/specializations/power-system-generation-transmission-and-protection?source=search
		Electric Vehicle Systems and Technologies Specialization	https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/specializations/electric-vehicle-systems-and-technologies?source=search
		Renewable Energy & Power Evacuation Specialization	https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/specializations/renewable-energy-power-evacuation?source=search
		Industrial Power Systems Analysis and Stability Specialization	https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/specializations/industrial-power-systems-analysis-and-stability?source=search
1st Year	ESCEE201: Basic Electrical Engineering	1. Physics 102 - Electric Potential and DC Circuits 2. Electric Power Systems	1. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/physics-102-electric-potential-and-dc-circuits?fromClip=sfc_page_course_link~hyOkY 2. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/electric-power-systems?source=search#modules
3rd Semester	PCCEE301 : Electrical Circuit Analysis	1. Electrical Design Engineer - Circuit Analysis 2. Linear Circuits:AC Analysis 3. Fundamentals of Credit Analysis	1. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/electrical-design-engineer---circuit-analysis?source=search 2. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/linear-circuits-ac-analysis?source=search 3. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/fundamentals-of-credit-analysis?source=search
	PCCEE302 :Analog Electronics	1. Basic Electronics 2. Introduction to Electronics 3. Analog-to-Digital and Digital-to-Analog Conversion	1. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/basic-electronics-odc?source=search 2. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/electronics?source=search 3. https://www.coursera.org/videos/dsp3/dQzrU?query=Analog+Electronics&source=search
4th Semester	PCCEE401:Electric Machine-I	1. Motors and Motor Control Circuits 2. Batteries and Electric Vehicles 3. Fundamentals of Robotics & Industrial Automation	1. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/motors-circuits-design?source=search#modules 2. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/batteries-and-electric-vehicles?fromClip=sfc_page_course_link~cP6BM 3. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/fundamentals-of-robotics--industrial-automation?fromClip=sfc_page_course_link~i0UiY
	PCCEE403:Power Electronics	1. Basic Electronics 2. Power Electronics Specialization 3. Introduction to Power Electronics 4. Converter Circuits 5. Converter Control	1. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/basic-electronics-odc?source=search 2. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/specializations/power-electronics?source=search 3. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/power-electronics?source=search 4. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/converter-circuits?specialization=power-electronics 5. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/converter-control?specialization=power-electronics

5th Semester	PCCEE502 :Power system-I	1. Power System: Generation, Transmission and Protection Specialization 2. Design of Transmission Line: Modelling and Performance 3. Power System Stability 4. Electrical Power Distribution 5. Load Flow Analysis 6. Basics of Electrical Protection	1. https://www.coursera.org/programs/iem-faculty-learning-program-rttyr7/specializations/power-system-generation-transmission-and-protection?collectionId=skill~electric-power-systems&source=search 2. https://www.coursera.org/programs/iem-faculty-learning-program-rttyr7/learn/design-of-transmission-line-modelling-and-performance?collectionId=skill~electric-power-systems&source=search 3. https://www.coursera.org/programs/iem-faculty-learning-program-rttyr7/learn/power-system-stability?collectionId=skill~electric-power-systems&source=search 4. https://www.coursera.org/programs/iem-faculty-learning-program-rttyr7/learn/electrical-power-distribution?collectionId=skill~electric-power-systems&source=search
	PCCEE503 : Control System	1. Plants 2. Overview of Power Plant Control Systems 3. Control System Configuration in Power Plants	1. https://www.coursera.org/videos/electrical-power-generation-an-industrial-outlook/Udd47?query=Control+System&source=search 2. https://www.coursera.org/videos/electrical-power-generation-an-industrial-outlook/uXUb0?query=Control+System&source=search 3. https://www.coursera.org/videos/electrical-power-generation-an-industrial-outlook/KA6Cp?query=Control+System&source=search
6th Semester	PECEE601 :Wind and Solar Power Energy System	1. Solar Energy Basics 2. Renewable Energy Specialization 3. Renewable Power and Electricity Systems 4. Solar Power Generation	1. https://www.coursera.org/programs/iem-faculty-learning-program-rttyr7/learn/solar-energy-basics?collectionId=skill~electric-power-systems&source=search 2. https://www.coursera.org/programs/iem-faculty-learning-program-rttyr7/specializations/renewable-energy?collectionId=skill~electric-power-systems&source=search 3. https://www.coursera.org/programs/iem-faculty-learning-program-rttyr7/learn/renewable-power-electricity-systems?collectionId=skill~electric-power-systems&source=search 4. https://www.coursera.org/programs/iem-faculty-learning-program-rttyr7/learn/solar-power-generation?collectionId=skill~electric-power-systems&source=search
	OECEE601 :AI & ML	1. Artificial Intelligence and Machine Learning (AI/ML) 2. Supervised Machine Learning: Regression and Classification 3. Advanced Learning Algorithms 4. Unsupervised Learning, Recommenders, Reinforcement Learning	1. https://www.coursera.org/programs/iem-faculty-learning-program-rttyr7/skills/artificial-intelligence-and-machine-learning-ai-ml?query=AI&source=search 2. https://www.coursera.org/learn/machine-learning?specialization=machine-learning-introduction 3. https://www.coursera.org/learn/advanced-learning-algorithms?specialization=machine-learning-introduction 4. https://www.coursera.org/learn/unsupervised-learning-recommenders-reinforcement-learning?specialization=machine-learning-introduction
7th Semester	PEC-EE 701 :Electric Drives	1. Electric Vehicle Systems and Technologies Specialization 2. Powering the Drive: Unveiling EV Electronics 3. Power Electronic Systems in Electric Vehicles 4. Electric Motors and Drive Systems in EVs	1. https://www.coursera.org/programs/iem-faculty-learning-program-rttyr7/specializations/electric-vehicle-systems-and-technologies?source=search 2. https://www.coursera.org/programs/iem-faculty-learning-program-rttyr7/learn/powering-the-drive-unveiling-ev-electronics?source=search 3. https://www.coursera.org/videos/electric-vehicle-operation-and-diagnosis/3OKh9?query=Electric+Drives+&source=search 4. https://www.coursera.org/videos/electric-vehicle-operation-and-diagnosis/clztu?query=Electric+Drives+&source=search
	OEC-EE 701:Embedded system	1. Introduction to the Internet of Things and Embedded Systems 2. Introduction to Embedded Systems Software and Development Environments 3. Embedded Systems using C	1. https://www.coursera.org/programs/iem-faculty-learning-program-rttyr7/learn/iot?source=search 2. https://www.coursera.org/programs/iem-faculty-learning-program-rttyr7/learn/introduction-embedded-systems?source=search 3. https://www.coursera.org/programs/iem-faculty-learning-program-rttyr7/learn/embedded-systems-using-c?source=search
	OEC-EE 702 :Computer Network	1. The Bits and Bytes of Computer Networking 2. Computer Networks and Network Security 3. Fundamentals of Computer Network Security Specialization	1. https://www.coursera.org/programs/iem-faculty-learning-program-rttyr7/learn/computer-networking?source=search 2. https://www.coursera.org/programs/iem-faculty-learning-program-rttyr7/learn/network-security-database-vulnerabilities?source=search 3. https://www.coursera.org/programs/iem-faculty-learning-program-rttyr7/specializations/computer-network-security?source=search

	HSMC-701:Human Resource Development & Organisational Behaviour	1. Understand Human Resource Management Fundamentals 2. Human Resources Management and GenAI Specialization 3. Human Resource Management: HR for People Managers Specialization	1. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/understand-human-resource-management-fundamentals?source=search 2. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/specializations/human-resources-management-and-genai?source=search 3. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/specializations/human-resource-management?source=search
	E39:F41E41E41:F42		
8th Semester	PECEE801:Electrical Machine Design	1. Fundamentals of Robotics & Industrial Automation 2. Renewable Energy Futures 3. Powering the Future with Electrification 4. Bridging the Gap: EV Grid Integration & V2G Systems	1. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/fundamentals-of-robotics--industrial-automation 2. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/renewable-energy-futures?collectionId=skill~electric-power-systems&source=search 3. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/electrification?collectionId=skill~electric-power-systems&source=search 4. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/bridging-the-gap-ev-grid-integration--v2g-systems?collectionId=skill~electric-power-systems&source=search
	PECEE802:Power quality & FACTS	1. Industrial Power Systems Analysis and Stability Specialization 2.Solar Power Sensors 3. Power System Stability	1. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/specializations/industrial-power-systems-analysis-and-stability?source=search#outcomes 2. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/solar-power-sensors?fromClip=sfc_page_course_link~w3293#modules 3. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/power-system-stability?source=search#modules
	OECEE801:Power Plant Engineering	1. Power System: Generation, Transmission and Protection Specialization 2. Electrical Power Generation - An Industrial Outlook 3. Basics of Electrical Protection System 4. Advanced Study of Protection Schemes and Switchgear 5. Design of Transmission Line: Modelling and Performance 6. Renewable Power and Electricity Systems 7. Electrical Power Generation - An Industrial Outlook 8. Plant Design & Economics	1. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/specializations/power-system-generation-transmission-and-protection?source=search 2. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/electrical-power-generation-an-industrial-outlook?specialization=power-system-generation-transmission-and-protection 3. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/basics-of-electrical-protection-system?specialization=power-system-generation-transmission-and-protection 4. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/advanced-study-of-protection-schemes-and-switchgear?specialization=power-system-generation-transmission-and-protection 5. https://www.coursera.org/programs/iem-faculty-learning-program-rtyr7/learn/design-of-transmission-line-modelling-and-performance?specialization=power-system-generation-transmission-and-protection 6. https://www.coursera.org/learn/renewable-power-electricity-systems 7. https://www.coursera.org/learn/electrical-power-generation-an-industrial-outlook 8. https://www.coursera.org/learn/plant-design-economics
	ESPEE801 :Essential Studies for Professionals VIII	1. Banking & Finance in India 2.Contemporary Issues in World Politics 3.Basics Economics 4. Microeconomics: Foundations and Insights	1. https://www.coursera.org/learn/banking-and-finance-in-india 2. https://www.coursera.org/learn/contemporary-issues-in-world-politics 3. https://www.coursera.org/programs/uemj-passout-batch-2028-54ok2/learn/basics-economics?source=search 4. https://www.coursera.org/programs/uemj-passout-batch-2028-54ok2/learn/microeconomics-foundations-insights-jgu?source=search