List of Courses for the MOOCs on Coursera and edX to be offered for Credit Transfer (2024-2025)

Name of Department	Platform	Name of Course	Duration	Mode of Assessment/ Evaluation	Remark
Computer Science & Engineering (Data Science)	**Courses for V Semester**				
	Coursera	**Course 1: Microsoft Power BI Data Analyst Professional Certificate** 1. Data Analysis and Visualization with Power BI **2.** Deploy and maintain Power BI Assets and Capstone Project **Link :** Microsoft Power BI Data Analyst Professional Certificate | Coursera **https://www.coursera.org/professional-certificates/microsoft-power-bi-data-analyst?**	29 hours 25 hours	Quiz/ Individual Viva/	All branches of (IV & V Sem)
	Coursera	**Course 2:** Meta **Meta Database Engineer Professional Certificate** 1. Advanced Data Modeling 2. Database Engineer Capstone	18 hours	Quiz and Individual Viva	All Branches of (IV & V Sem)

		Link:https://www.coursera.org/professional-certificates/meta-database-engineer	18 hours		
Computer Science & Engineering (Data Science)	**Courses for VI & VII Semester**				
	Coursera	**Course 3:** **Specialization Course by IBM Skill Network** i) Machine Learning with Apache Spark ii) Introduction to NoSQL Databases iii) Introduction to Big Data with Spark and Hadoop	i) 14 Hours ii) 17 Hours iii) 18 Hours	Quiz and Individual Viva	All branches of (VI & VII Sem)
	Coursera	**Course 4:** **Google Data Analytics Professional** 1. Google Analytics for Beginners 2. Advanced Google Analytics 3. Google Analytics for Power Users 4. Getting Started with Google Analytics 360 Link: https://analytics.google.com/analytics/academy/	i) 6 hours ii) 6 hours iii) 5 hours iv) 7 hours	Quiz and Individual Viva	All branches of (VI & VII Sem)

Computer Science & Engineering (Cyber Security)	**Courses for V Semester**				
	Coursera	**Course 1: Blockchain Security Professional Certificate** 3. Blockchain Security - Foundational Concepts 4. Blockchain Security Advanced Protection 5. Blockchain Security - Intermediate Practices **Link:** https://www.coursera.org/learn/blockchain-security-foundational-concepts https://www.coursera.org/learn/blockchain-security-advanced-protection https://www.coursera.org/learn/blockchain-security-intermediate-practices	13 hours 15 hours 21 hours	Quiz/ Individual Viva/	All branches of (IV & V Sem)
	Coursera	**Course 2: Threat Module Professional Certification** 1. Threat Analysis	26 hours	Quiz and Individual Viva	All Branches of (IV & V Sem)

		2. Threat Investigation **3.** Threat Response **Link:** https://www.coursera.org/learn/threat-analysis https://www.coursera.org/learn/threat https://www.coursera.org/learn/threat-response	8 hours 7 hours		
	Coursera	**Course 3: Security in Google Cloud Specialization** **Link:** https://www.coursera.org/specializations/security-google-cloud-platform	1 month at 10hours/week	Quiz and Individual Viva	All Branches of (IV & V Sem)
Computer Science & Engineering (Cyber Security)	**Courses for VI & VII Semester**				
	Coursera	**Course 4:** **Penetration Testing and Cybersecurity Professional Certification** 1. Penetration Testing, Incident Response and Forensics 2. Cyber Threat Intelligence 3. Cybersecurity Capstone: Breach	17 hours 27 hours 15 hours	Quiz and Individual Viva	All branches of (VI & VII Sem)

		Response Case Studies **Link:** https://www.coursera.org/learn/ibm-penetration-testing-incident-response-forensics https://www.coursera.org/learn/ibm-cyber-threat-intelligence https://www.coursera.org/learn/ibm-cybersecurity-breach-case-studies			
	Coursera	**Course 5:** **SOC Professional Certification** 1. Security Operations Center (SOC) 2. Endpoints and Systems **Link:** https://www.coursera.org/learn/security-operations-center-soc https://www.coursera.org/learn/endpoints-and-systems	11 hours 24 hours	Quiz and Individual Viva	All branches of (VI & VII Sem)
Computer Science & Engineering (AI-ML)	**Courses for V Semester**				
	edX	**Course 1: Professional Certificate in Machine Learning Operations**		Quiz and Individual Viva	All Branches of (IV & V Sem)

		with Microsoft Azure (MLOps with Azure) i) Predictive Analytics: Basic Modeling Techniques ii) MLOps1 (Azure): Deploying AI & ML Models in Production using Microsoft Azure Machine Learning iii) MLOps2 (Azure): Data Pipeline Automation & Optimization using Microsoft Azure Machine Learning **https://www.edx.org/certificates/professional-certificate/statisticscomx-machine-learning-operations-mlops-with-azure?webview=false&campaign=Machine+Learning+Operations+with+Microsoft+Azure+%28MLOps+with+Azure%29&source=edx&product_category=professional-certificate&placement_url=https%3A%2F%2Fwww.edx.org%2Fcertificates%2Fprofessional-certificate**	i) 4 weeks (5-7 hours/week) ii) 4 weeks (5-7 hours/week) iii) 4 weeks (5-7 hours/week)		
Computer Science & Engineering (AI-ML)	**Courses for VI & VII Semester**				
	edX	**Course 2: Professional Certificate in Essential Technologies for Business** i) Introduction to Cloud Computing ii) AI for Everyone: Master	i) 3Weeks (2-3 hours/w	Quiz and Individual Viva	All branches of (VI & VII

		the basics iii) Introduction to Data Science Essential Technologies for Business Professional Certificate | edX	eek) ii) 4 Weeks (2-3 Hours/week) iii) 6 Weeks (3-6 hours/week)		Semester Students)
	edX	**Course 3: Professional Certificate in Introduction to DevOps: Practices and Tools** i) Introduction to DevOps and Site Reliability Engineering ii) Introduction to Jenkins iii) Introduction to Serverless on Kubernetes Introduction to DevOps: Practices and Tools Professional Certificate | edX	i) 10 Weeks (1–2 hours per week) ii) 12 Weeks (2–3 hours per week) iv) 7 Weeks (2–3 hours per week)	Quiz and Individual Viva	All branches of (VI & VII Semester Students)
Computer Science & Engineering	**Courses for V Semester**				
	edX	Course 1: **Professional Certificate in Blockchain for Business** i)Blockchain: Understanding Its Uses and Implications ii) Introduction to Hyperledger Blockchain Technologies	i)2–3 hours per week (14 weeks) ii) 2–4 hours per week, for (10 weeks)	Quiz and Individual Viva Link: https://www.edx.org/certificates/professional-certificate/linuxfoundationx-blockchain-for-business	All branches of (IV & V Sem)

	Coursera	**Course 2:** **Cloud Computing** **Offered by Microsoft** i) Introduction to Microsoft Azure Cloud Services ii) Microsoft Azure Management Tools and Security Solutions iii) Microsoft Azure Services and Lifecycles iv) Data Storage in Microsoft Azure	i) 4 Weeks (10 hours) ii) 4 Weeks (9 Hours) iii) 4 Weeks (7 Hours) iv) 5 Weeks (16 Hours)	Quiz and Individual Viva	All Branches (IV & V Sem)
	Coursera	**Course 3:** **Google UX Design Professional Certificate** **Offered by Google** i) Foundations of User Experience (UX) Design ii) Start the UX Design Process: Empathize, Define, and Ideate iii) Build Wireframes and Low-Fidelity Prototypes iv) Conduct UX Research and Test Early Concepts v) Create High-Fidelity Designs and Prototypes in Figma	i) 4 Weeks (21 Hours) ii) 5 Weeks (31 Hours) iii) 3 Weeks (20 Hours) iv) 4 Weeks (22 Hours) v) 6 Weeks (33 Hours)	Quiz and Individual Viva	All branches of (IV & V Sem) except AIML, Cyber Security

	edX	**Course 4: Professional Certificate in Cloud Application Development Foundations by IBM** i) Introduction to Cloud Computing ii) Introduction to Cloud Development with HTML5, CSS3, and JavaScript iii) Developing Cloud Native Applications iv) Developing Front End Apps with React v)Backend Application development with node.js and Express	i) 3 weeks (2-4 hours/week) ii) 2 weeks (2-4 hours/week) iii) 2 weeks (6-8 hours/week) iv) 4 weeks (2-3 hours/week) v) 3 weeks (4-6 hours/week)	Quiz and Individual Viva **Course link:** https://www.edx.org/professional-certificate/ibm-cloud-and-application-development-foundations	All Branches of (IV & V Sem)
		Courses for VI & VII Semester			
	Coursera	**Course 5:** **Image Processing for Engineering and Science Specialization offered by MathWorks** i) Introduction to Image Processing ii) Image Segmentation, Filtering, and Region Analysis iii) Automating Image Processing	i) 4 Weeks (11 Hours) ii) 4 Weeks (10 Hours) iii) 4 Weeks (13 Hours)	Quiz and Individual Viva	All branches of (VI & VII Sem) except AIML

	Coursera	**Course 6:** **Natural Language Processing Specialization offered by Deeplearning.AI** i) Natural Language Processing with Classification and Vector Spaces ii) Natural Language Processing with Probabilistic Models iii) Natural Language Processing with Sequence Models	i) 4 Weeks (34 Hours) ii) 4 Weeks (31 Hours) iii) 4 Weeks (24 Hours	Quiz and Individual Viva	All branches of (VI & VII Sem) Except CSE(AIML)
	Coursera	**Course 7:** **Generative Adversarial Networks (GANs) Specialization offered by Deep learning. AI** i) Build Basic Generative Adversarial Networks (GANs) ii) Build Better Generative Adversarial Networks (GANs) iii) Apply Generative Adversarial Networks (GANs)	i) 4 Weeks (34 Hours) ii) 4 Weeks (32 Hours) iii) 3 Weeks (30 Hours)	Quiz and Individual Viva	All branches of (VI & VII Sem)
	edX	Course 8: i)Computer Vision and Image Processing Fundamentals by IBM ii)Image Processing and Analysis for Life Scientists by EPFL	i)3 weeks (3-4 hrs/week) ii)7 weeks (2-3 hrs/week)	Quiz and Individual Viva	
	edX	Course 9: Professional Certificate in Human-Computer Interaction by GeorgiaTech		Quiz and Individual Viva Course Link: https://www.edx.org/certificates/	

		i)Human-Computer Interaction I: Fundamentals & Design Principles ii)Human-Computer Interaction II: Cognition, Context & Culture iii) Human-Computer Interaction III: Ethics, Need finding & Prototyping iv) Human-Computer Interaction IV: Evaluation, Agile Methods & Beyond	i)5–6 hours per week, for 6 weeks ii)5–6 hours per week, for 6 weeks iii)5–6 hours per week, for 6 weeks iv)5–6 hours per week, for 6 weeks	professional-certificate/gtx-human-computer-interaction	
	edX	Course 10: Professional Certificate in Large Language Models: by Databricks i)Large Language Models: Application through Production ii)Large Language Models: Foundation Models from the Ground Up	i)6 week (4-10 hrs/week) ii) 4 week (4-8 hrs/week)	Quiz and Individual Viva Course Link: https://www.edx.org/certificates/professional-certificate/databricks-large-language-models	
	edX	Course 11: Generative AI for Everyone Professional Certificate by IBM i)Introduction to Generative AI ii)Introduction to Prompt Engineering iii)Models and Platforms for Generative AI iv)Impact, Ethics, and Issues with Generative AI v)Elevating Businesses and Careers with Generative AI	i)3 week (1-3 hrs/week) ii)3 week (1-3 hrs/week) iii)3 week (1-3 hrs/week) iv)3 week (1-3 hrs/week) v)3 week (1-3 hrs/week)	Quiz and Individual Viva	

	Coursera	Course 12: Reinforcement Learning Specialization by University of Alberta i)Fundamentals of Reinforcement Learning ii)Sample-based Learning Methods iii)Prediction and Control with Function Approximation	i) 15 hours (5 week) ii) 21 hours (5 week) iii) 21 hours (5 week)	Quiz and Individual Viva Course Link: https://www.coursera.org/specializations/reinforcement-learning?	
Electronics Engineering	**Courses for VII Semester**				
	Coursera	Nanotechnology: A Maker's Course	4 weeks (26 hrs)	There would be two assessments. Type of assessments MCQ Test / Viva / Presentation / report writing	Electronics, Electronics and Tele-communication, Biomedical Engineering branches of VII semester
		Nanotechnology and Nanosensors, Part1	3 weeks (11 hrs)		
		Nanotechnology and Nanosensors, Part2	3 weeks (16 hrs)		
Electrical Engineering	**Courses for V, VI & VII Semester**				
	edX	Electric Cars: Technology, Delft University of Technology	4 week (4 to 5 hours per week)	There will be minimum **two** assessments. The mode of	

		.Electric Cars: Introduction, Delft University of Technology	4 week(4 to 5 hours per week)	assessment may include Written Test, Seminar, Viva-voce, Presentation etc.	
		Electric Cars: Business, Delft University of Technology	4 week(4 to 5 hours per week)		
		Solar Energy: Photovoltaic (PV) Energy Conversion, Delft University of Technology / Solar Energy: Photovoltaic (PV) Systems, Delft University of Technology /Solar Energy, Delft University of Technology	12 week (10 to 11 hours per week) / 11 week(10 to 11 hours per week) / 8 week(6 to 8 hours per week)		
	Coursera	Solar Energy Basics, The State university of New York / Photovoltaic Systems, Technical University of Denmark /Solar Energy and Electrical System Design, University at Buffalo	5 week (Appr 15 hours to complete) /5 week (Appr 12 hours to complete) / 5week (Appr 17 hours to complete)		

Mechanical Engineering	**Courses for V, VI & VII Semester**				
	Coursera	**1) Computer aided Manufacturing** (by Autodesk) 1) Introduction to CAD, CAM, and Practical CNC Machining (Approx. 19 hours to complete) 2) Multi-Axis CNC Toolpaths (Approx. 26 hours to complete)	Approx. 3-4 months to complete Suggested pace of 5 hours/week	**Assignment/ Quiz/Test,** **Individual Viva/Presentation**	
		2) MATLAB Programming for Engineers and Scientists Specialization by Vanderbilt University (i) Introduction to Programming with MATLAB (Approx. 35 hours to complete (ii) Mastering Programming with MATLAB (Approx. 56 hours to complete (iii) Introduction to Data, Signal, and Image Analysis with MATLAB (Approx. 23 hours to complete)	Approximately 4 months to complete Suggested pace of 5 hours/week		

		3) Entrepreneurship: Launching an Innovative Business Specialization by University of Maryland (i) Developing Innovative Ideas for New Companies: The First Step in Entrepreneurship (Approx. 8 hours to complete)	Approximately 5 months to complete Suggested pace of 3 hours/week		
		(ii) Innovation for Entrepreneurs: From Idea to Marketplace (Approx. 11 hours to complete)			
		(iii) New Venture Finance: Start-up Funding for Entrepreneurs (Approx. 20 hours to complete)			
		(iv) Entrepreneurship Capstone (Approx. 10 hours to complete			
Civil Engineering	**Courses for V, VI & VII Semester**				
	edX	Drinking Water Treatment	7 weeks (6–8 hours per week	There would be two assessments. Type of assessments MCQ Test / Viva /	
	Coursera	Construction Project Management	16 Hours (4 weeks)		
		Construction Scheduling	17 Hours (4 weeks)		

		Construction Cost Estimating and cost control	17 Hours (4 weeks)	Presentation / report writing	
		Autodesk Certified Professional: AutoCAD for Design and Drafting Exam Prep	17 Hours (2 weeks)		
		Mechanics of Materials I: Fundamentals of Stress & Strain and Axial Loading	15 Hours (4 weeks)		
		Applications in Engineering Mechanics	11 Hours (4 weeks)		
		Renewable Energy and Green Building Entrepreneurship	18 hours (3 weeks)		
		Operations Research : Models and Application	04 Week (8 Hrs.)		
Electronics and Communication Engineering	**Courses for V, VI & VII Semester**				
	Coursera	i) Fundamentals of Network Communication https://www.coursera.org/learn/fundamentals-network-communications ii)Wireless Communication for Everybody https://www.coursera.org/learn/wireless-communications	5 Weeks 15 hrs 6 Weeks 14 hrs	There would be two assessments. Type of assessments MCQ Test / Viva / Presentation / report writing	Please check overlapping before opting

		iii)Fundamentals of Digital Image and Video Processing https://www.coursera.org/learn/digital?	12 Weeks 36 hrs		
	edX	i)Principle of Semiconductor Devices Part I: Semiconductors, PN Junctions and Bipolar Junction Transistors https://www.edx.org/course/principle-of-semiconductor-devices-part-i-semicond?index=product&queryID=13aa02a7a81df089d56be54360e75c43&position=17 ii)Principle of Semiconductor Devices Part II: Field Effect Transistors and MOSFETs https://www.edx.org/course/principle-of-semiconductor-devices-part-ii-field-e?index=product&queryID=50cf928ca4a1ecf8bf761ecdaaa87778&position=1	8 weeks (2–4 hours per week) 7 weeks (4–5 hours per week)		
Biomedical Engineering	edX	DelftX: Biomedical Equipment: Repairing and Maintaining Biomedical Devices	10 weeks	Two assessments : i) review paper writing ii) MCQ test	All branches (Except Biomedical)