Minor Program / Honors Program

(i) A Student has to register one course in each semester of IV, V, VI and VII.

(ii) Students can complete the course either through online/offline classes conducted by the department (or) they can take equivalent courses through MOOCS suggested by the department against that course.

(iii) Students can complete one course mandatorily through MOOCS (one of a course in a group suggested by the department) and it can be completed in any semester starting from IV to VIII semester.

(iv) Students can complete the mini project / a MOOC course (any one of the course in a group suggested by the department in VIII semester) in VIII semester.

(V) All the courses are evaluated for 100 marks, out of which 40 marks through Continuous Internal Assessment and 60 marks through external examination (theory/practical).

Minor in Computer Science

(for Non IT students)

Scheme of Instruction and Examination
(Effective from 2020-2021)

S. No	Semester	Course Title	Credits	MOOC's Equivalent Course
1	IV	Introduction to Algorithms	4	Stanford University through Coursera https://www.coursera.org/specializations/algorithms ➢ University of Kashmir via Swayam https://onlinecourses.nptel.ac.in/noc22_cs01/preview
2	V	Operating Systems	4	➢ University of Madras https://onlinecourses.swayam2.ac.in/cec21_cs20/preview
3	VI	Object Oriented Programming in Java	4	IIT Kharagpur & NPTEL via Swayam https://onlinecourses.nptel.ac.in/noc22_cs47/preview
4	VII	Database Management Systems	4	Anna University through Swayam https://onlinecourses.swayam2.ac.in/cec22_cs08/preview
5	MOOCS-1		2	
6	MOOCS-2 / Mini Project		2	
		Total	**20**	

MOOCS-1 **:** 1. Software Engineering
(Source : University of Madras via Swayam)
2. Software Project Management
(University of Virginia through Coursera)
3. Artificial Intelligence
(Source : IIT Delhi & NPTEL via Swayam)

MOOCS-2/ Mini project **:** 1. Python Programming
(Source : Chennai Mathematical Institute & NPTEL via Swayam) OR
(Source : IIT Rourkee & NPTEL via Swayam) OR
(Source : University of Michigan via Coursera)
2. R-programming
(Source : John Hopkins University via Coursera)
3. Machine Learning
(Source : Royal Institute of Technology via Swayam) OR
(Source : Stanford University via Coursera)

G.PULLA REDDY ENGINEERING COLLEGE (AUTONOMOUS): KURNOOL

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

MINOR IN INTERNET OF THINGS (IoT)

(Scheme-20)

List of Courses with equivalent MOOCS courses

S.No	Semester	Course Code	Course Title	MOOC'S Equivalent Course
1.	IV	MIT01	Introduction to Internet of Things(IIOT)	https://onlinecourses.nptel.ac.in/noc21_cs17/preview
2.	V	MIT02	IoT Architecture and Protocols (IAP)	https://www.coursera.org/learn/iot-software-architecture
3	VI	MIT03	Programming with Arduino and Raspberry-Pi	https://www.coursera.org/specializations/iot
4	VII	MIT04	Industrial Internet of Things	https://www.coursera.org/learn/industrial-internet-of-things
5	MOOCS1			
6	MOOCS-2 / Mini Project			

MOOCS-1	
1.	Introduction to IoT and Embedded Systems Course web link: https://www.coursera.org/learn/iot
2.	Sensors and Actuators Course web link: https://nptel.ac.in/courses/108/108/108108147
MOOCS-2	
1	Design of Internet of Things Course web link: https://onlinecourses.nptel.ac.in/noc21_ee85/
2.	Components and Applications of Internet of Things Course web link: https://onlinecourses.swayam2.ac.in/arp20_ap03/preview

Sd- HOD-ECE

Minor in Data Science

(for Non IT students)

Scheme of Instruction and Examination
(Effective from 2020-2021)

S. No	Semester	Course Title	Credits	MOOC's Equivalent Course
1	IV	Introduction to Algorithms	4	Stanford University through Coursera https://www.coursera.org/specializations/algorithms ➢ University of Kashmir via Swayam https://onlinecourses.nptel.ac.in/noc22_cs01/preview
2	V	Python for Data Science	4	➢ University of Michigan via Coursera https://www.coursera.org/learn/python-data-analysis/home/welcome ➢ IIT Rourkee and NPTEL via swayam https://onlinecourses.nptel.ac.in/noc22_cs08/preview ➢ IIT Madras and NPTEL via swayam https://onlinecourses.nptel.ac.in/noc22_cs32/preview
3	VI	Data Mining	4	IIT Kharagpur & NPTEL via Swayam https://onlinecourses.nptel.ac.in/noc22_cs11/preview (Commences from February to April) St.Johns College via Swayam https://onlinecourses.swayam2.ac.in/cec22_cs06/preview (Commences from January to April)
4	VII	Machine Learning	4	IIT Kharagpur & NPTEL via Swayam https://onlinecourses.nptel.ac.in/noc22_ag05/preview (Commences from January to April) IIT Madras & NPTEL via Swayam https://onlinecourses.nptel.ac.in/noc22_ag05/preview (Commences from January to April)
5	MOOCS-1		2	
6	MOOCS-2 / Mini Project		2	
		Total	**20**	

MOOCS-1 **:** 1. R Programming
(Source : John Hopkins University via Coursera)
2. Probability and Statistics
(Source : IIT Madras and NPTEL via swayam)
3. Artificial Intelligence
(Source : IIT Delhi & NPTEL via Swayam)

MOOCS-2 / Mini Project **:** 1. Natural Language Processing
(Source : DeepLearning.ai through Coursera)
2. Business Analytics
(Source : IIT Kharagpur and NPTEL via swayam OR
Source : IIT Rourkee and NPTEL via swayam)
3. Data Engineering
(Source : IBM via Coursera)

Honors in Computer Science & Engineering (CSE)

Scheme of instruction and examination

(Effective from 2020-2021)

S No.	Semester	Course Title	Credits	MOOC's Equivalent Course
1	**IV**	Foundations of AI & Machine Learning	4	➢ Royal Institute of Technology via Swayam **https://onlinecourses.nptel.ac.in/noc22_cs24/preview (Commences from February to April)** ➢ **IIT Delhi & NPTEL via Swayam https://onlinecourses.nptel.ac.in/noc22_cs56/preview** (Commences from january to April)
2	**V**	Python for Data Science	4	➢ University of Michigan via Coursera https://www.coursera.org/learn/python-data-analysis/home/welcome ➢ IIT Rourkee and NPTEL via swayam https://onlinecourses.nptel.ac.in/noc22_cs08/preview ➢ IIT Madras and NPTEL via swayam https://onlinecourses.nptel.ac.in/noc22_cs32/preview
3	**VI**	Social Data Analytics	4	➢ University of Washington through Coursera https://www.coursera.org/learn/social-media-data-analytics/home/welcome
4	**VII**	Natural Language Processing	4	➢ DeepLearning.ai through Coursera https://www.coursera.org/specializations/natural-language-processing ➢ HSE University through Coursera https://www.coursera.org/learn/language-processing
5		MOOC – 1	2	
6		MOOC–2 / Mini Project	2	
		Total	**20**	

MOOCS - 1	
1	Scalable Data Science (Source : IBM Watson via Coursera)
2	Information Security (Source : IIT Madras & NPTEL via Swayam)
3	Cyber Security (Source : Uttarakhand Open University via Swayam) OR (Source : Dr.Baba Saheb Ambedkar Open University via Swayam)
4	Internet of things (Source : IIT Kharagpur & NPTEL via Swayam)
MOOCS – 2 / Mini Project	
1	Computer Vision (Source : IIT Guwahati & NPTEL via Swayam)
2	Virtual Reality (Source : University of London via Coursera)
3	Database security (Source : Udemy)
4	Fuzzy Logic & Neural Networks (Source : IIT Kharagpur & NPTEL via Swayam)

G. Pulla Reddy Engineering College (Autonomous) : Kurnool
Civil Engineering Department

Date: 14-02-2022

Submitted to the Principal:

The Following is the list of Equivalent Online Courses for Minor in Construction Planning and Project Management (CPPM) & B. Tech with Honors in Civil Engineering for the Academic Year 2021-22

Minor in Construction Planning and Project Management (CPPM)					
S. No	**Sem**	**Title of the Course as per Scheme**	**Equivalent Course available through online**	**Organization**	**Course link**
1	IV	Construction Project management	Mastering Construction/Project management	M.S Construction Management	https://www.udemy.com/course/mastering-construction-project-management/
2	V	Building materials and construction	Building Materials and Composites	IIT Kharagpur	https://onlinecourses.nptel.ac.in/noc20_ar04/preview
3	VI	Quality Control and Safety Management	Construction Quality and Completions	ENG LEARN	https://www.udemy.com/course/construction-quality-and-completions/
4	VII	Disaster preparedness and Planning management	Disaster Management: Basic Concepts	Sree Narayana Institute of Technology	https://www.udemy.com/course/disaster-management-basic-concepts/

B.Tech. Honors in Civil Engineering					
S. No	**Sem**	**Title of the course as per scheme**	**Equivalent course available through online**	**Organization**	**Course Link**
1	IV	Sustainable material and green building	Sustainable thinking for green buildings	EDS Global_ Sustainability Consulting firm	https://www.udemy.com/course/sustainable-thinking-for-green-buildings/
2	V	Water Supply Distribution System	Become a Plumbing Professional - P 1/2 - Water Supply Design	Brunel University London	https://www.udemy.com/course/plumbingwatersupplydesign/
3	VI	Ground Improvement Techniques	Ground Improvement Techniques	IIT Madras	https://nptel.ac.in/content/syllabus_pdf/105108075.pdf
4	VII	Intelligent Transportation Systems	Cooperative Intelligent Transportation Systems (CITS) - ITS	Feras Naser group	https://www.udemy.com/courses/search/?src=ukw&q=Cooperative+Intelligent+Transportation+Systems+%28CITS%29+-+ITS

HODCE

G. Pulla Reddy Engineering College (Autonomous): Kurnool

Department of Electronics and Communication Engineering

B. Tech Honors in ECE

(Scheme-20)

List of Courses with equivalent MOOCS Courses

S.No	Semester	Course Code	Course Title	MOOC'S Equivalent Course
1.	IV	HEC01	Detection & Estimation of Signals (DES)	https://nptel.ac.in/courses/117/103/117103018/ (Commences from July to December)
2.	V	HEC02	Application Specific Integrated Circuits (ASIC)	**Unit 1,3,5:** https://www.udemy.com/course/implementation-of-asic-design-flow-using-modelsim (OR) https://www.coursera.org/learn/vlsi-cad-layout **Unit 4:** https://onlinecourses.nptel.ac.in/noc22_ee08 **Unit 2:** https://www.coursera.org/learn/intro-fpga-design-embedded-systems
3	VI	HEC03	VLSI Design for Testability (VDFT)	https://nptel.ac.in/courses/117/105/117105137/ July to October (12 Weeks)
4	VII	HEC04	Embedded Networks and Protocols (ENP)	https://nptel.ac.in/courses/117/105/117105137/ January to April (12 Weeks)
5	MOOCS-1			
6	MOOCS-2/Mini-Project			

MOOCS-1	
1	Microelectronics: Devices to Circuits (Source: IIT Kanpur & NPTEL via SWAYAM)
2	Integrated Photonics Devices and Circuits (Source: IIT Madras & NPTEL via SWAYAM)
3	Mathematical Aspects of Biomedical Electronic System Design (Source: IISc Bangalore & NPTEL via SWAYAM)
4	Signal Processing for mm Wave communication for 5G and beyond (Source: IIT Kharagpur & NPTEL via SWAYAM)
MOOCS-2	
1	Deep Learning for Computer Vision (Source: NPTEL)
2	Big Data Computing (Source: IIT Patna & NPTEL via SWAYAM)
3	Fabrication Techniques for MEMS-based sensors: clinical perspective (Source: IISc Bangalore & NPTEL via SWAYAM)
4	Introduction to Industry 4.0 and Industrial Internet of Things (Source: IIT Kharagpur & NPTEL via SWAYAM)

Sd/ HOD- ECE

Honors in Computer Science & Business Systems (CSBS)

Scheme of instruction and examination

(Effective from 2020-2021)

S No.	Semester	Course Title	Credits	MOOC's Equivalent Course
1	**IV**	Introduction to Cyber Security	4	➢ Uttarakhand open university via Swayam https://onlinecourses.swayam2.ac.in/nou22_cs04/preview (Commences from February)
2	**V**	Python for Data Science	4	➢ University of Michigan via Coursera https://www.coursera.org/learn/python-data-analysis/home/welcome ➢ IIT Rourkee and NPTEL via swayam https://onlinecourses.nptel.ac.in/noc22_cs08/preview ➢ IIT Madras and NPTEL via swayam https://onlinecourses.nptel.ac.in/noc22_cs32/preview
3	**VI**	Big Data Analytics	4	➢ Yandex via Coursera https://www.coursera.org/learn/big-data-essentials
4	**VII**	Natural Language Processing	4	➢ DeepLearning.ai through Coursera https://www.coursera.org/specializations/natural-language-processing ➢ HSE University through Coursera https://www.coursera.org/learn/language-processing
5		MOOC – 1	2	
6		MOOC – 2 / Mini Project	2	
		Total	**20**	

MOOCS - 1	
1	Scalable Data Science (Source : IBM Watson via Coursera)
2	Introduction to Block Chain Technologies (Source:AICPA&CIMA via courser)
3	Reinforcement Learning (Source: IIT Madras via NPTEL)
4	Embedded Systems (Source: IIT Kharagpur via NPTEL)
MOOCS – 2 / Mini Project	
1	Computer Vision (Source: IIT Guwahati via Swayam)
2	Virtual Reality (Source : University of London via Coursera)
3	Database security (Source : Udemy)
4	Fuzzy Logic & Neural Networks (Source : IIT Kharagpur & NPTEL via Swayam)

Honors in Computer Science & Technology (CST)

Scheme of instruction and examination

(Effective from 2020-2021)

S No.	Semester	Course Title	Credits	MOOC's Equivalent Course
1	**IV**	Foundations of AI & Machine Learning	4	➢ Royal Institute of Technology via Swayam https://onlinecourses.nptel.ac.in/noc22_cs24/preview (Commences from February to April) IIT Delhi & NPTEL via Swayam https://onlinecourses.nptel.ac.in/noc22_cs56/preview (Commences from january to April)
2	**V**	Python for Data Science	4	➢ University of Michigan via Coursera https://www.coursera.org/learn/python-data-analysis/home/welcome ➢ IIT Rourkee and NPTEL via swayam https://onlinecourses.nptel.ac.in/noc22_cs08/preview ➢ IIT Madras and NPTEL via swayam https://onlinecourses.nptel.ac.in/noc22_cs32/preview
3	**VI**	Social Data Analytics	4	➢ University of Washington through Coursera https://www.coursera.org/learn/social-media-data-analytics/home/welcome
4	**VII**	Natural Language Processing	4	➢ DeepLearning.ai through Coursera https://www.coursera.org/specializations/natural-language-processing ➢ HSE University through Coursera https://www.coursera.org/learn/language-processing
5		MOOC – 1	2	
6		MOOC – 2 / Mini Project	2	
		Total	**20**	

MOOCS - 1	
1	Scalable Data Science (Source : IBM Watson via Coursera)
2	Information Security (Source : IIT Madras & NPTEL via Swayam)
3	Cyber Security (Source : Uttarakhand Open University via Swayam) OR (Source : Dr.Baba Saheb Ambedkar Open University via Swayam)
4	Internet of things (Source : IIT Kharagpur & NPTEL via Swayam)
MOOCS – 2 / Mini Project	
1	Computer Vision (Source : IIT Guwahati & NPTEL via Swayam)
2	Virtual Reality (Source : University of London via Coursera)
3	Database security (Source : Udemy)
4	Fuzzy Logic & Neural Networks (Source : IIT Kharagpur & NPTEL via Swayam)