Self-Study Report (SSR) - Criterion-1

Information to be submitted by Departments/Directorates/Centres for Each Programme Offered

1	Department/Directorate/Centre/Institute:	Civil Engineering Department, Institute of Technology, University of Kashmir, Zakura Campus	
2	Name of the Programme Offered:	B. Tech (Civil Engineering)	
3	Departmental website link of the complete/updated syllabus:	https://iotce.uok.edu.in/Main/Default.aspx#?active=lnk2	
4	Number of Courses in the Programme?		76
5A	Number of New Courses introduced in the Programme since 2019?		9
5B	List of New Courses introduced since 2019		
	Course Code	*Course Title*	*Brief Description*
	CVL-704	Waste Management Technology	a) To get knowledge on the working principles and design of various physical, chemical, and biological treatment systems for water and wastewater, including sludge. b)To get knowledge about the various modes of conveyance of wastewater from the source of its generation to the treatment plant.
	CVL-802	Earthquake resistant Design	a) To provide a coherent development to the students for the courses in earthquake engineering. b)To involve the application of scientific and technological principles of planning, analysis, design of buildings according to earthquake design philosophy.
	CVL-P07	Assessment and repair of structures	1. Know about various deterioration and disintegration mechanisms in S• To obtain knowledge of various Repair and retrofitting techniques 2. To gain knowledge of maintenance of Buildings 3. To obtain knowledge of various maintenance models for structures
	CVL-0E3	Disaster Management	Students will be able to Understand basic concepts in Disaster Management ,Types, Categories of Disasters and mitigation policies.
	CVL-P10	Disaster Management and Preparedness	1. To Understand basic concepts in Disaster Management. 2. To Understand Definitions and Terminologies used in Disaster Management. 3. To Understand Types and Categories of Disasters. 4. To Understand the Challenges posed by Disasters. 5. To understand Impacts of Disasters Key Skills.
	CVL-P17	Prestressed concrete	1.To introduce the students to the basic concepts and principles of Prestressed concrete structures. 2.Be able to perform analysis and design of prestressed concrete members. 3.To give an experience in the implementation of engineering concepts that are applied in field of Prestressed Concrete. 4.To introduce the students to various prestressing techniques and their application in civil engineering structures.
	CVL-P18	Environmental Impact Assessment and Audit	1. Formulate objectives of the EIA studies. 2. Identify the need to assess and evaluate the impact on environment. 3. Know about Environmental audit and Environmental Impact Assessment.
	CVL-OE1	Civil Engineering Materials and construction techniques	1.Develop knowledge of various building materials used in construction. 2.Provide procedural knowledge of the testing methods of materials and adopt suitable methods to enhance durability of buildings. 3.Understand properties and role of ingredients like cement, aggregate etc. to produce better quality concrete. 4.Understand the behavior of concrete and apply design mix to produce concrete with adequate strength.
	CVL-OE2	Metro System and Engineering	To provide basic knowledge in design for a metro station layout, track alignments including tracks, tunnels, and stations. Develop strategies f
5C	Departmental website link in support of New Courses introduced in the Programme since **2019**.	https://iotce.uok.edu.in/Files/74bbc79d-cd6b-4368-aa23-6ff706b9e9ce/Menu/B_8b7cace5-6c85-411a-b5dc-f7840ab2c4e5.pdf https://iotce.uok.edu.in/Files/74bbc79d-cd6b-4368-aa23-6ff706b9e9ce/Menu/Civil_Engineering_Syllabus_Batch_2020_and_Onwards_1st_and_2nd_Semester_946244f7-f64e-4a07-a7fd-df64354c9388.pdf	
6A	Dates of syllabus revisions during the last five years. (2019-2023)	2020-2021 (B.Tech)	2021(M.Tech)
6B	Departmental website link in support of syllabus revisions.	https://iotce.uok.edu.in/Files/74bbc79d-cd6b-4368-aa23-6ff706b9e9ce/Menu/B_8b7cace5-6c85-411a-b5dc-f7840ab2c4e5.pdf https://iotce.uok.edu.in/Files/74bbc79d-cd6b-4368-aa23-6ff706b9e9ce/Menu/Civil_Engineering_Syllabus_Batch_2020_and_Onwards_1st_and_2nd_Semester_946244f7-f64e-4a07-a7fd-df64354c9388.pdf	
7	Are Programme Outcomes (POs) clearly mentioned in the syllabus? **(Y/N)**		N
8	Are the Course Outcomes (COs) mentioned for each course of the programme? **(Y/N)**		Y
9A	**Does POs & COs have relevance to local, regional & global developmental needs? (Y/N)**		Y
9B	List of courses addressing **Local Needs**:		
	Course Code	*Course Title*	*Brief Justification*
	CVL-302	Surveying Measurements and Adjustments	1. To impart practical knowledge in the field- Measuring distances, Directions, Angles and determining R.L.'s, Areas and Volumes. 2. To Find out or lay down the Elevations of the points, traverse the area and draw Plans and Maps. 4. To develop skills of setting and adjust the required instruments.
	CVL-303	Fluid Mechanics	1) To develop the understanding of basic principles of mechanics of fluids at rest and in motion and their applications in solving the real engineering problems 2) To imbibe basic laws and equations used for the analysis of static and dynamic fluids.
	CVL-304	Building Materials and Construction	1. To aid practicing engineers in materials selection and design by understanding the interplay among structure, processing, properties, and performance. 2.Introduction about basic building units and their suitability. 3.To assess and evaluate the differences in material composition. 4.To provides a broad overview of the field and serves. 5.To know the pattern of lying of building units.

	CVL-404	Concrete Technology	To impart knowledge to the students on the properties of materials for concrete by suitable tests, mix design for concrete, and special concretes.
	CVL-502	Geotechnical Engineering	To develop analytical and experimental skills to determine various stresses acting on soil materials.
	CVL-504	Engineering Hydrology	1.To impart the knowledge for understanding elementary aspects of hydrology. 2.To know diverse methods of collecting the hydrological information, which is essential to understand surface and groundwater hydrology. 3.To know the basic principles and movement of groundwater and properties of groundwater flow. 4.To impart the knowledge of Fluvial Hydraulics for use in the planning, design, and management of water resources projects.
	ELE-20103	Principles of Electrical Engineering	1. The basic concepts and terminologies of Elelctrical circuits (AC and DC) and various laws governing the behaviour of voltage and current in simple and complex circuits. 2. Various electrical components, sources and their mathematical relations. 3. basic concepts and laws of magnetism produced in an electrical circuit. 4. Basics of Electrical machines (Transformers, Generators and motors) and Measrement devices (Ammeter, Voltmeter etc.)
	CHM-20104	Environmental Science	This course will make students familiar with factors affecting Environment, the composition of Atmosphere, sources and effects of Air pollution, Global warming and its causes and impacts, climate change, acid rain, ozone layer depletion, hydrosphere, causes and effects of water pollution,Conservation and treatment of water, Sustainable Development and various Social and economic issues.
	ECE-20203	Fundamentals of Electronic Engineering	This course will give students an understanding of electronics and applications of electronic systems in real life. It will also enable students to understand basic concepts and terminologies regarding semiconductor materials.Students will acquire theoretical knowledge about various diodes, transistors and electronic measurement devices. Basic concepts of digital electronics and other devices like microprocessors and microcontrollers.
	ECE-20203L	Fundamentals of Elec	The experiments for this Laboratory sessions are designed to give the students a hands-on training experience with various diodes and their circuits for various applications, various transistor configurations and circuits, logic gates and combinational/sequential circuits.
	MEC20105-	Engineering Mechanics	This course focuses to provide an introductory treatment of Engineering Mechanics to the students with a view to prepare a good foundation for taking up advanced courses in the area in the subsequent semesters. Also provide a working knowledge of statics with emphasis on force equilibrium and free body diagrams and understanding of different kinds of stress and deformation and how to determine them in a wide range of simple, practical structural problems, and an understanding of the mechanical behaviour of materials under various load conditions.
	CSE-20204	Computer Programming with C	This course introduces the concept of problem solving through programming and the basics of C language character set, data types, operators, expressions and statements, control structure of C including branches and loops, concept of arrays, pointers and functions, and illustrate their use in real world problems. It also makes students familiar with structures, unions and basic operations on files.
	CVL-704	Waste Management Technology	1.To get knowledge on the working principles and design of various physical, chemical, and biological treatment systems for water and wastewater, including sludge. 2. To get knowledge about the various modes of conveyance of wastewater from the source of its generation to the treatment plant.
9D	List of courses addressing **Global Needs**:		
	Course Code	*Course Title*	*Brief Justification*
	CVL-405	Aided Civil Engineerin	To develop the skills and knowledge of 2D as well as 3D modelling in civil engineering drawing.
	CVL-802	thquake Resistant Desi	1. To provide a coherent development to the students for the courses in earthquake engineering. 2. To involve the application of scientific and technological principles of planning, analysis, design of buildings according to earthquake design philosophy.
	CVL-705	Traffic engineering and road facilities	1. Students will learn and use software such as Highway Capacity Software and Synchro in traffic engineering projects. 2. To learn the fundamentals of transportation Engineering. 3. To introduce fundamental knowledge of traffic engineering so that students can understand and deal with traffic issues, including safety, planning, design, operation, and control.
	CVL-704	Waste Management Technology	1.To get knowledge on the working principles and design of various physical, chemical, and biological treatment systems for water and wastewater, including sludge. 2. To get knowledge about the various modes of conveyance of wastewater from the source of its generation to the treatment plant.
	CVL-702	Irrigation and Hydraulic structures	This course is intended to develop the basic concept of irrigation and principles of design of irrigation and Hydraulic structures
10A	List of Entrepreneurship Development Courses:		
10B	*Course Code*		
	Course Code	*Course Title*	*Brief Justification*
	CVL-302	Surveying Measurements and Adjustments	1.To impart practical knowledge in the field- Measuring distances, Directions, Angles and determining R.L.'s, Areas and Volumes 2. To develop skills of setting and adjust the required instruments"
	CVL-303	Fluid Mechanics	1. To develop the understanding of basic principles of mechanics of fluids at rest and in motion and their applications in solving the real engineering problems 2.To imbibe basic laws and equations used for the analysis of static and dynamic fluids.
	CVL-304	Building Materials and Construction	To aid practicing engineers in materials selection and design by understanding the interplay among structure, processing, properties, and performance.
	CVL-404	Concrete Technology	To impart knowledge to the students on the properties of materials for concrete by suitable tests, mix design for concrete, and special concretes
	CVL-502	Geotechnical Engineering	To develop analytical and experimental skills to determine various stresses acting on soil material.
	CVL-504	Engineering Hydrology	1.To impart the knowledge for understanding elementary aspects of hydrology. 2.To know diverse methods of collecting the hydrological information, which is essential to understand surface and groundwater hydrology.
	CVL-704	Waste Management Technology	1.To get knowledge on the working principles and design of various physical, chemical, and biological treatment systems for water and wastewater, including sludge. 2. To get knowledge about the various modes of conveyance of wastewater from the source of its generation to the treatment plant.
	CSE -104	Computer Programming with C	This course introduces the concept of problem solving through programming and the basics of C language character set, data types, operators, expressions and statements, control structure of C including branches and loops, concept of arrays, pointers and functions, and illustrate their use in real world problems. It also makes students familiar with structures, unions and basic operations on files.
10C	List of **Entrepreneurship Development Courses**:		

	Course Code	*Course Title*	*Brief Justification*
	CVL-704	Waste Management Technology	This course is designed is to get knowledge on the working principles and design of various physical, chemical, and biological treatment systems for water and wastewater, including sludge.Further students can get knowledge about the various modes of conveyance of wastewater from the source of its generation to the treatment plant.
	CVL-405	Computer Aided Civil Engineering	To develop the skills and knowledge of 2D as well as 3D modelling in civil engineering drawing.
	CIV-106	Engineering Drawing	Students will be Introduced to engineering design and its place in society. Students will be exposed to the visual aspects of engineering design. Students will be exposed to engineering graphics standards. Students will be exposed to solid modelling. Students will be able to create working drawings.
	MEC- 205	Computer Aided Drawing	To acquire the knowledge of CAD software and its features. preparation of assembly drawings using CAD packages
	CVL-P11	Design software (Advanced)	Students would be able to: 1.Know various techniques of modeling building structures ▫ To obtain knowledge of analyzing and designing various structural elements ▫ To gain knowledge of modeling and design of masonry buildings ▫ To obtain post-processing analysis and design report and to compare with manual calculations for validation of results.
10D	List of **Skill development Courses**:		
	Course Code	*Course Title*	*Brief Justification*
	CVL-405	Computer Aided Civil Engineering Drawing	To develop the skills and knowledge of 2D as well as 3D modelling in civil engineering drawing.
	CIV-106	Engineering Drawing	Students will be Introduced to engineering design and its place in society. Students will be exposed to the visual aspects of engineering design. Students will be exposed to engineering graphics standards. Students will be exposed to solid modelling. Students will be able to create working drawings.
	CSE -104	Computer Programming with C	This course introduces the concept of problem solving through programming and the basics of C language character set, data types, operators, expressions and statements, control structure of C including branches and loops, concept of arrays, pointers and functions, and illustrate their use in real world problems. It also makes students familiar with structures, unions and basic operations on files.
	CSE- 104L	Computer Programming with C Lab	In this Lab students will work on their programming skills by creating Algorithms and programs for various tasks. Understand basics of C and its usefulness in carrying out various tasks.
	MEC-205	Computer Aided Drawing	To acquire the knowledge of CAD software and its features. preparation of assembly drawings using CAD packages
	CVP-607	Industrial Training	This will enable students to gain knowledge of various types of field projects .
11A	**Does the programme have courses addressing Professional ethics/ gender/ human values/ environment/ sustainability & other value framework enshrined in NEP2020/etc. (Y/N)**		
11B	List of courses addressing **Professional Ethics**:		
	Course Code	*Course Title*	*Brief Justification*
11C	List of courses addressing **Gender Issues**:		
	Course Code	*Course Title*	*Brief Justification*
11D	List of courses addressing **Human Value Issues**:		
	Course Code	*Course Title*	*Brief Justification*
11E	List of courses addressing **Environment Issues**:		
	Course Code	*Course Title*	*Brief Justification*
	CVL-503	Water supply Engineering	At the end of the course, students would be able: 1.To impart various aspects of the supply of pure and safe drinking water to communities and the conservation of water. 2.To make technology choices to deal with water quality issues, operate and maintain working treatment systems, and troubleshoot the problems in these systems. 3.To design, construct, operate and maintain a water conveyance system. 4. To acquire sufficient knowledge on the basic design of conventional and advanced water treatment processes.
	CVL-704	Waste Management Technology	This course is designed is to get knowledge on the working principles and design of various physical, chemical, and biological treatment systems for water and wastewater, including sludge.Further students can get knowledge about the various modes of conveyance of wastewater from the source of its generation to the treatment plant.
	CVL-OE3	Disaster Management	Students will be able to Understand basic concepts in Disaster Management ,Types, Categories of Disasters and mitigation policies.

	CVL-P10	Disaster Management and Preparedness	At the end of the course, students would be able: 1.To Understand basic concepts in Disaster Management 2.To Understand Definitions and Terminologies used in Disaster Management 3.To Understand Types and Categories of Disasters 4.To Understand the Challenges posed by Disasters 5.To understand Impacts of Disasters Key Skills
	CVL-P17	Prestressed concrete	1.To introduce the students to the basic concepts and principles of Prestressed concrete structures. 2.Be able to perform analysis and design of prestressed concrete members. 3.To give an experience in the implementation of engineering concepts that are applied in field of Prestressed Concrete 4. To introduce the students to various prestressing techniques and their application in civil engineering structures.
	CVL-P18	Environmental Impact Assessment and Audit	Students would be able to : 1.Formulate objectives of the EIA studies 2.Identify the need to assess and evaluate the impact on environment. 3.Know about Environmental audit and Environmental Impact Assessment.
	CVL-P06	Green buildings	This enables the students to a) Get a comprehensive overview of materials used for sustainable buildings and be acquainted with the concepts of sustainability in the context of building and conventional engineered building materials b) Understand the effects of technology on materials and how they are used for sustainability. c) Acquire knowledge on various aspects of green buildings.
	CVL-P05	Solid waste Management	To develop required skills in the students to acquire the following competency: Plan segregation, collection, transportation, recycling, and disposal of municipal solid waste so that its impact is minimal on the environment, economy and community.

11F List of courses addressing **Sustainability issues**:

Course Code	*Course Title*	*Brief Justification*
CVL-P18	Environmental Impact Assessment and Audit	Students would be able to : 1.Formulate objectives of the EIA studies 2.Identify the need to assess and evaluate the impact on environment. 3.Know about Environmental audit and Environmental Impact Assessment.
CVL-704	Waste Management Technology	1.To get knowledge on the working principles and design of various physical, chemical, and biological treatment systems for water and wastewater, including sludge. 2. To get knowledge about the various modes of conveyance of wastewater from the source of its generation to the treatment plant.
CVL-702	Irrigation and Hydraulic structures	This course is intended to develop the basic concept of irrigation and principles of design of irrigation and Hydraulic structures
CVL-P06	Green Buildings	This enables the students to a) Get a comprehensive overview of materials used for sustainable buildings and be acquainted with the concepts of sustainability in the context of building and conventional engineered building materials b) Understand the effects of technology on materials and how they are used for sustainability. c) Acquire knowledge on various aspects of green buildings.
CVL-P05	Solid Waste Management	To develop required skills in the students to acquire the following competency: Plan segregation, collection, transportation, recycling, and disposal of municipal solid waste so that its impact is minimal on the environment, economy and community.

11G List of courses addressing **Other Value Framework** enshrined **in NEP2020/etc.**:

Course Code	*Course Title*	*Brief Justification*

12A **Does the Department/Directorate/Institute/ Centre offer Diploma Programme?** (Y/N)

12B Details of the **Diploma Programmes** offered by the institutions where the students of the institution have enrolled and successfully completed during the last five years (2019-2023)

Programme Code	*Name of Diploma Programme*	*Mode of Programme (Online/Offline)*	*Year of Offering/enrolment*	*Contact hours of course*	*Number of students enrolled in the year*	*Number of Students completing the course in the year*	*Departmental website link to the relevant document*	*Number of students enrolled in the year*

13A **Does the Department/Directorate/Institute/ Centre offer Certificate Courses? (Y/N)**

13B Details of the **Certificate Courses** offered by the institutions where the students of the institution have enrolled and successfully completed during the last five years (2019-2023)

Course Code	*Name of Certificate Course*	*Mode of Course (Online/Offline)*	*Year of Offering/enrolment*	*Contact hours of course*	*Number of students enrolled in the year*	*Number of Students completing the course in the year*	*Departmental website link to the relevant document*	*Number of students enrolled in the year*

14A	**Does the Department/Directorate/Institute/ Centre offer Value-Added Courses? (Y/N)**								
14B	Details of the **Value Added Courses** offered by the institutions where the students of the institution have enrolled and successfully completed during the last five years (2019-2023)								
	Course Code	*Name of Value-Added Course*	*Mode of Course (Online/Offline)*	*Year of Offering/enrolment*	*Contact hours of course*	*Number of students enrolled in the year*	*Number of Students completing the course in the year*	*Departmental website link to the relevant document*	*Number of students enrolled in the year*
15A	**Does the Department/Directorate/Institute/ Centre offer Online Courses of MOOCs, SWAYAM/e-PG Pathshala/ NPTEL and other recognized platforms? (Y/N)**								
15B	Details of **Online Courses of MOOCs, SWAYAM/e-PG Pathshala/ NPTEL and other recognized platforms** where the students of the institution have enrolled and successfully completed during the last five years (2019-2023)								
	Course Code	*Name of the Course*	*Mode of the Course- offered by the HEI or Online (Specify the platform like MOOCS,*	*Year of Offering/enrolment*	*Contact hours of course*	*Number of students enrolled in the year*	*Number of Students completing the course in the year*	*Departmental website link to the relevant document*	*Number of students enrolled in the year*
16A	**Does the programme have Field Projects/ Research Projects /Internship in the programme? (Y/N)**								
16B	Details of components of **Field Projects / Research Projects / Internships implemented** during last five years **(2019-2023)**								
	Course Code	*Name of the course pertaining to field projects/ Research Projects /Internship*	*Number of Credits*	*Number of students undertaking course*	*Departmental website link to the relevant document*				
17	**Any other Relevant Information:**								

Sd/-
Mr. Adil Mudasir Khan
Signature of the Head/Director of the Department/Centre/Institute

General Instructions:

1. ***Kindly format the syllabus in light of the instruction and discussions held in past meetings and upload the syllabus on the Departmental Website.***
2. ***Upload valid proofs on the Departmental Website.***