

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**  
**BELAGAVI**



**Scheme of Teaching and Examinations (2026)**

**M.Tech., in Civil Engineering**

**Common Scheme for I semester for all programmes under same stream**

Choice-Based Credit System (CBCS) and Outcome-Based Education (OBE)

I SEMESTER (Common to all specialized programmes under one stream)													
Sl. No	Course Type	Course Code	Course Title	Teaching & Learning Scheme					Examination				Credits
				CI		LI	TW & SL	Total Hours/Sem	Duration in hours	CIE Marks	SEE Marks	Total Marks	
				L	T	P							
1	MAT/PCC	1MCV101	Advanced Engineering Mathematics and Data Analytics	42	0	0	48	90	03	50	50	100	3
2	PCC	1MCV102	Sustainable and Climate Resilient Planning and Design	42	0	0	48	90	03	50	50	100	3
3	PCC	1MCV103	AI, Machine Learning and Emerging Digital Tools	42	0	0	48	90	03	50	50	100	3
4	IPCC	1MCV104X	<b>Integrated Professional Core Courses (IPCC) -I</b>	42	0	28	50	120	03	50	50	100	4
5	PEC-I	1MCV105X	Professional Elective–I (Common Elective Basket)	42	0	0	48	90	03	50	50	100	3
6	PEC-II	1MCV106X	Professional Elective–II (Common Elective Basket)	42	0	0	48	90	03	50	50	100	3
7	PCCL	1MCVL107X	Professional Core Course Lab	0	0	28	02	30	03	50	50	100	1
8	NCMC	1MRMI108	Research Methodology and IPR (VTU Online Course)	Online courses (online.vtu.ac.in)									PP
<b>TOTAL</b>									<b>350</b>	<b>350</b>	<b>700</b>	<b>20</b>	
<p><b>Professional Elective Courses (PECs):</b> Professional Elective Courses – PEC–I and PEC–II – are common to all branches of specialization within a particular Engineering stream. Students may choose the most appropriate elective based on their field of specialization and academic requirements. <i>Note: The number of courses listed under each PEC group may exceed four, depending on the specializations under one stream.</i></p> <p><b>Integrated Professional Core Courses (IPCC):</b> The 1Mxx104x Group comprises specialization-specific core courses that are integrated with a practical component, ensuring application-oriented learning aligned with industry and research needs. The number of courses in the group depends on the number of specializations offered under a particular engineering stream.</p>													

**Integrated Professional Core Courses (IPCC):** The 1Mxx104x Group comprises specialization-specific core courses that are integrated with a practical component, ensuring application-oriented learning aligned with industry and research needs. The number of courses in the group depends on the red under a particular engineering stream.

<b>1MCV104X: Integrated Professional Core Course (IPCC)</b>		<b>1MCV105X: Professional Elective Courses-I</b>	
<b>Code</b>	<b>Title of the Course</b>	<b>Code</b>	<b>Title of the Course</b>
1MCV104A	Building Information Modeling for Structural Systems	1MCV105A	Advanced Remote Sensing and GIS
1MCV104B	BIM for Construction Sequencing and Resource Modeling	1MCV105B	Applied Statistics & Uncertainty Modeling
1MCV104C	Remote Sensing and GIS for Transport Modeling	1MCV105C	Climate Change Modeling & Disaster Risk Reduction
1MCV104D	Geo BIM for Geotechnical Modeling and Underground Infrastructures	1MCV105D	Sustainable Materials & Circular Economy
1MCV104E	Geospatial Environmental Monitoring and Modeling	1MCV105E	Project Feasibility and Report Writing
1MCV104F	BIM and Hydro-GIS Modeling for River Basin Systems	1MCV105F	Sustainable Infrastructure Planning & Policy
1MCV104G	BIM for Infrastructure Engineering and Management	1MCV105 G	Occupational Health and Safety Engineering
1MCV104H	Integrated BIM & Computer Aided Design for Transportation Systems	1MCV105 H	Sustainable Geo-mechanics and Engineering
1MCV104I	Geospatial Database Management Systems and Programming Skills	1MCV105I	Geospatial Data Standards and Policy

<b>1MCV106X: Professional Elective Courses-II</b>		<b>1MCVL107X: Professional Core Course Lab (PCCL)</b>	
<b>Code</b>	<b>Title of the Course</b>		
1MCV106A	Digital Twin Technologies	1MCVL107A	Computational Structural Modeling and Analysis Laboratory
1MCV106B	Optimization Techniques for Civil Systems	1MCVL107B	BIM- based Planning and Scheduling Laboratory
1MCV106C	Smart Cities & Urban Analytics	1MCVL107C	GIS- based Alignment and Traffic Analytics Laboratory
1MCV106D	Robotics & Automation in Construction	1MCVL107D	Geotechnical Engineering Studio
1MCV106E	IOT and Smart Sensors for Civil Engineering	1MCVL107E	Hydraulic and Wastewater Network Modeling Laboratory
1MCV106F	Smart Solid Waste Management and Circular Economy Systems	1MCVL107F	Watershed and Irrigation Network Modeling Laboratory
1MCV106G	Cloud Platforms & Big Data for Geospatial Applications	1MCVL107G	BIM for Buildings and Infrastructure Modeling
		1MCVL107H	Digital Satellite Image Processing Lab