



# ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ

ವಿಟಿಯು ಅಧಿನಿಯಮ ೧೯೯೪ ರ ಅಡಿಯಲ್ಲಿ ಕರ್ನಾಟಕ ಸರ್ಕಾರದಿಂದ ಸ್ಥಾಪಿತವಾದ ರಾಜ್ಯವಿಶ್ವವಿದ್ಯಾಲಯ

## VISVESVARAYA TECHNOLOGICAL UNIVERSITY

State University of Government of Karnataka Established as per the VTU Act, 1994 "JnanaSangama" Belagavi-590018, Karnataka, India

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REGISTRAR

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REF: VTU/BGM/BOS/AEC-SEE details/2023-24/4982

DATE: 19 DEC 2023

### CIRCULAR

**Subject:** SEE details of the courses of AEC of 3<sup>rd</sup> semester 2022 scheme regarding...  
**Reference:** Approved by the Chairpersons BoS VTU Belagavi.

The 2022 scheme contains one credit course under the Ability enhancement/Skill enhancement category, out of which employ the semester-end evaluation (SEE) pattern, either MCQ / Practical /Theory. This circular includes a list of AEC courses of the 3<sup>rd</sup> semester 2022 scheme UG programs, as well as SEE information.

All the principals of affiliated and constituent engineering colleges are hereby informed to bring the content of the circular to the notice of all students and teachers concerned. If any clarification is needed email to [sbhalbhavi@vtu.ac.in](mailto:sbhalbhavi@vtu.ac.in).

Thanking you

*R. Rangaswamy*  
REGISTRAR

To,

1. All the Principals of all affiliated, constituent Engineering Colleges under the ambit of the university.
2. The Chairpersons /Program Coordinator of the University departments at Kalaburagi, Mysuru Belagavi, and Muddenhalli Bengaluru

CC to

- The Hon'ble Vice-Chancellor through the secretary to VC for information
- The Registrar (Evaluation) for information
- The Dean Faculty of Engineering, VTU Belagavi
- The Director ITI, SMU VTU Belagavi for information and request to upload the circular on VTU web portal.
- The Office copy

**Ability Enhancement Course / Skill Enhancement Course**

**CIVIL ENGINEERING**

S.NO.	Subject Code	Subject Title	SEE Options	SEE Duration	REMARKS
1	BCV358A	Data analytics with Excel - IBM	Practicle	2 Hours	
2	BCV358B	Smart Urban Infrastructure	MCQ	1 Hour	
3	BCV358C	<b>Problem Solving with PYTHON</b>	<b>Practical</b>	<b>1 Hour</b>	<b>Practical as per BoS Ch.</b>
4	BCV358D	Personality Development for Civil Engineers	MCQ	1 Hour	
<b>Mining Engineering</b>					
1	BMNL358A	Mastering Office	Practicle	2 Hours	
2	BMN358B	Personality Development and Soft Skills	MCQ	1 Hour	
3	BMNL358C	Programming in C++	MCQ	1 Hour	
<b>Computer Science &amp; Engineering</b>					
1	BCS358A	Data analytics with Excel	Practicle	2 Hours	
2	BCS358B	R Programming	Practicle	2 Hours	
3	BCS358C	Project Management with Git	Practicle	2 Hours	
4	BCS358D	Data Visualization with Python	Practicle	2 Hours	
<b>Computer Engineering</b>					
1	BCE358A /BCE358A	Data analytics with Excel	Practicle	2 Hours	
2	BCE358B /BCE358B	R Programming	Practicle	2 Hours	
3	BCE358C/BCE358C	Project Management with Git	Practicle	2 Hours	
4	BCE358D /BCE358D	Data Visualization with Python	Practicle	2 Hours	
<b>Artificial Intelligence &amp; Data Science</b>					
1	BAD358A	Data Analytics with Excel	Practical	3 Hours	
2	BAD358B	<b>Ethics and Public Policy for AI</b>	<b>Theory</b>	<b>2 Hours</b>	
3	BAD358C	Project Management with Git	Practicle	2 Hours	
4	BAD358D	PHP Programming	Practicle	2 Hours	
<b>Artificial Intelligence and Machine Learning</b>					
1	BAI358A	Data Analytics with Excel	Practical	3 Hours	
2	BAI358B	<b>Ethics and Public Policy for AI</b>	Theory	2 Hours	
3	BAI358C	Project Management with Git	Practicle	2 Hours	
4	BAI358D	PHP Programming	Practicle	2 Hours	
<b>Biotechnology</b>					
1	BBT358A	Bio-Lab Management and Risk Assessment	MCQ	1 Hour	
2	BBT358B	Data presentation, Error Analysis and Inferences	MCQ	1 Hour	
3	BBTL358C	Analysis Of Dairy Products Lab	Practicle	2 Hours	
4	BBT358D	Biodiversity and Conservation Law	MCQ	1 Hour	
<b>Computer &amp; Communication Engineering</b>					
1	BCM358A	Data analytics with Excel	Practicle	2 Hours	
2	BCM358B	R-Programming	Practicle	2 Hours	
3	BCM358C	Project management with Git	Practicle	2 Hours	
4	BCM358D	Data Visualization with Python	Practicle	2 Hours	
<b>Computer Science &amp; Business System</b>					
1	BCB358A	Data analytics with Excel	Practicle	2 Hours	
2	BCB358B	R-Programming	Practicle	2 Hours	
3	BCB358C	Project management with Git	Practicle	2 Hours	
4	BCB358D	Data Visualization with Python	Practicle	2 Hours	
<b>Computer Science &amp; Design</b>					
1	BCG358A	Web Application Design with HTML and PHP	Practicle	2 Hours	
2	BCG358B	R-Programming	Practicle	2 Hours	
3	BCG358C	Project Management with Git	Practicle	2 Hours	
4	BCG358D	Data Visualization with Python	Practicle	2 Hours	
<b>Computer Science &amp; Engineering (IoT)</b>					
1	BCO358A	Embedded C	Practicle	2 Hours	
2	BCO358B	R-Programming	Practical	2 Hours	
3	BCO358C	Project Management with Git	Practical	2 Hours	
4	BCO358D	Data Visualization with Python	Practical	2 Hours	
<b>CSE (Artificial Intelligence &amp; Machine Learning)</b>					
1	BCI358A	Data Analytics with Excel	Practicle	2 Hours	
2	BCI358B	Ethics and Public Policy for AI	Theory	3 Hours	
3	BCI358C	Project Management with Git	Practicle	2 Hours	
4	BCI358D	PHP Programming	Practicle	2 Hours	
<b>CSE (Artificial Intelligence)</b>					
1	BCA358A	Data Analytics with Excel	Practicle	2 Hours	
2	BCA358B	Ethics and Public Policy for AI	Theory	3 Hours	
3	BCA358C	Project Management with Git	Practicle	2 Hours	
<b>CSE (Cyber Security)</b>					
1	BCY358A	Cyber Crime & Cyber Laws	Theory	2 Hours	
2	BCY358B	Incident Management in Cyber Security	Theory	2 Hours	
3	BCY 358C /BS358C	Project Management with Git	Practical	2 Hours	
4	BCY 358D /BCS358D	Data Visualization with Python	Practical	2 Hours	
<b>CSE (Data Science)</b>					
1	BCD358A /BCS358A	Data Analytics with Excel	Practicle	3 hours	
2	BCD358B /BCS358B	Ethics and Public Policy for AI	Theory	2 Hours	
3	BCD358C /BCS358C	Project Management with Git	Practical	2 Hours	
4	BCD358D /BCS358D	PHP Programming	Practicle	2 Hours	
<b>CSE (IoT &amp; Cyber Security including Block Chain Technology)</b>					
1	BIC358A /BCY358A	Cyber Crime & Cyber Laws	Theory	2 Hours	
2	BIC358B/BCY358B	Incident Management in Cyber Security	Theory	2 Hours	
3	BIC358C/BCY358C	Project Management with Git	Practical	3 hours	
4	BIC358D/BCY358D	Data Visualization with Python	Practical	3 hours	
<b>Data Science</b>					
1	BDS358A	Data Analytics with Excel	Practicle	2 Hours	
2	BDS358B	Ethics and Public Policy for AI	Theory	3 Hours	
3	BDS358C	Project Management with Git	Practical	2 Hours	
4	BDS358D	Data Visualization with Python	Practical	2 Hours	
<b>Information Science &amp; Engineering</b>					
1	BIS358A/BCS358A	Data analytics with Excel	Practicle	2 Hours	
2	BIS358B /BCS358B	R programming	Practicle	2 Hours	
3	BIS358C/BCS358C	Project Management with Git	Practical		

4	BIS358D/BCS358D	Data Visualization with Phyton	Practicle	2 Hours	
<b>Computer Science</b>					
1	BCS358A	Data analytics with Excel	Practicle	2 Hours	
2	BCS358B	R programming	Practical	2 Hours	
3	BCS358C	Project Management with Git	Practical	2 Hours	
4	BCS358D	Data Visualization with Python	Practicle	2 Hours	
<b>Electronics &amp; Communication Engg</b>					
1	BEC358A	LABVIEW programming	Practical	2 Hours	
2	BEC358B	MATLAB Programming	MCQ	1 Hours	
3	BEC358C	C++ Basics	Practical	2 Hours	
4	BEC358D	IOT for Smart Infrastructure	MCQ	1 Hours	
<b>Biomedical Engineering</b>					
1	BBM358A	Human Anatomy and Physiology	MCQ	1 Hours	
2	BBM358B	Network Analysis	MCQ	1 Hours	
3	BBML358C	Digital Design Lab using Pspice / MultiSIM	Practicle	2 Hours	
4	BBML358D	AEC Lab using Pspice / MultiSIM	Practicle	2 Hours	
<b>Electrical &amp; Electronics Engineering</b>					
1	BEEL358A	SCI LAB/MATLAB for Transformers and Generators	Practicle	3 Hours	
2	BEEL358B	555 IC Laboratory	Practicle	3 Hours	
3	BEEL358C	Circuit Laboratory using P Spice	Practicle	3 Hours	
4	BEEL358D	Electrical Hardware Laboratory	Practicle	3 Hours	
<b>Electronics &amp; Instrumentation Engineering</b>					
1	BEI358A	Static & Dynamic Characteristics and Error Analysis in Instrumentation Systems	MCQ	1 Hour	
2	BEI358B	Network Analysis	MCQ	1 Hour	
3	BEI358C	Digital Design Lab using Pspice / MultiSIM	Practicle	2 Hours	
4	BEI358D	AEC LAB USING PSPICE /MULTISIM / COMSOL	Practicle	2 Hours	
<b>Electronics &amp; Telecommunication Engg</b>					
1	BEC358A	LABVIEW programming	Practical	2 Hours	
2	BEC358B	MATLAB Programming	MCQ	1 Hours	
3	BEC358C	C++ Basics	Practical	2 Hours	
4	BEC358D	IOT for Smart Infrastructure	MCQ	1 Hour	
<b>Industrial IoT</b>					
1	BIO358A	Robotics and Industrial Automation Lab-Design Robots-Level1			
2	BIO358B	Lab VIEW -Graphical Programming -Level1			No Syllabus
3	BIO358C	IOT-Connecting the World - Level1			
<b>Electronics Engg (VLSI Design and Technology)</b>					
1	BEC358A	UNIX Programming	Practical	2 Hours	
2	BEC358B	Circuit Laboratory using P-spice	Practical	2 Hours	
3	BEC358C	Digital Engineering Course (NASSCOM)			
4	BEC358D	IoT (Internet of Things) Lab	Practical	2 Hours	
<b>Electronics and Computer Engineering</b>					
1	BUEL358A	Applications of 8051 Microcontroller	Practical	2 Hours	
2	BUEL358B	Risk Management in IoT Implementation	MCQ	1 Hours	
3	BUEL358C	PCB Design using EDA Tool	MCQ	1 Hours	
<b>Aeronautical Engineering</b>					
1	BAE358A/ BAS358A	Development of Soft Skills for Engineers	MCQ	1 Hour	
2	BAE358B/ BAS358B	Ethics, Technology and Engineering	MCQ	1 Hour	
3	BAE358C	Digitalization in Aeronautics	MCQ	1 Hour	
4	BAE358D/ BAS358D	Coding literacy	MCQ	1 Hour	
<b>Aerospace Engineering</b>					
1	BAS358A/ BAE358A	Development of Soft Skills for Engineers	MCQ	1 Hour	
2	BAS358B/ BAE358B	Ethics, Technology and Engineering	MCQ	1 Hour	
3	BAS358C	Digitalization in Aerospace Engineering	MCQ	1 Hour	
4	BAS358D/ BAE358D	Coding Literacy	MCQ	1 Hour	
<b>Agricultural Engineering</b>					
1	BAGL358A	Advanced Python Programming [0-0-2]	MCQ	1 Hour	
2	BAG358B	Fundamentals of Virtual Reality [0-2-0]	MCQ	1 Hour	
3	BAGL358C	Spreadsheet for Engineers [0-0-2]	Practicle	2 Hours	
4	BAGL358D	Tools in Scientific Computing [0-0-2]	Practicle	2 Hours	
<b>Automation and Robotics</b>					
1	BRA358A	Introduction to Python	Practicle	3 Hours	
2	BRA358B	Applications of MATLAB	Practical	3 hours	
3	BRA358C	Fundamentals of Virtual Reality APP Development	MCQ	1 Hours	
4	BRA358D	Introduction to C ++	MCQ	1 Hours	
<b>Automobile Engineering</b>					
1	BAU358A	Rural Development	MCQ	1 Hour	
2	BAU358B	BHARAT STAGES (BS) OF EMISSION STANDARDS	MCQ	1 Hours	
3	BAU358C	EXCEL SHEET FOR ENGINEERS	Practical	2 Hours	
4	BAU358D	Clay modelling	MCQ	1 Hour	
<b>Chemical Engineering</b>					
1	BCHL358A	Advanced MS Excel for Chemical Engineers	Practical	3 hours	
2	BCH358B	Personality Development Skills	MCQ	1 Hours	
3	BCH358C	Understanding equipment Data Sheet	Theory	2 Hours	
4	BCH358D	Career Options after Engineering	Theory	2 Hours	
<b>Industrial &amp; Production Engineering</b>					
1	BIP358A	(1:0:0) An Overview of Emerging Technologies	MCQ	1 Hours	
2	BIP358B	(1:0:0) Basics of Industrial Safety	MCQ	1 Hours	
3	BIP358C	(1:0:0) Introduction to Risk Management	MCQ	1 Hours	
4	BIPL358D	(0:0:2) Spreadsheet for Engineers (Laboratory)	Practical	3 hours	
<b>Industrial Engineering &amp; Management</b>					
1	BIM358A	An Overview of Emerging Technologies	MCQ	1 Hours	
2	BIM358B	Basics of Industrial Safety	MCQ	1 Hours	
3	BIM358C	Introduction to Risk Management	MCQ	1 Hours	
4	BIML358D	Spreadsheet for Engineers	Practical	2 Hours	
<b>Marine Engineering</b>					
1	BMRL358A	Spreadsheet for Engineers ( 0-0-2-0)	Practicle	2 Hours	
2	BMRL358B	Microcontrollers ( 0-0-2-0)	Practicle	2 Hours	
3	BMR358C	Chartering ( 1-0-0-0)	MCQ	1 Hour	
4	BMRL358D	Tools in Scientific Computing [0-0-2-0]	Practicle	2 Hours	

		<b>Mechanical &amp; Smart Manufacturing</b>		
1	BMM358A	<b>Introduction to Virtual Reality</b>	MCQ	1 Hours
2	BMM358B	Data Base Management Systems	MCQ	1 Hour
3	BMM358C	Introduction to Block Chain	MCQ	1 Hour
<b>Mechanical Engineering</b>				
1	BMEL358A	Advanced Python Programming [0-0-2]	Practicle	2 Hours
2	BME358B	<b>INTRODUCTION TO VIRTUAL REALITY</b>	MCQ	1 Hour
3	BMEL358C	Spreadsheet for Engineers [0-0-2]	Practicle	3 Hours
4	BMEL358D	Tools in Scientific Computing [0-0-2]	Practicle	3 Hours
<b>Mechatronics</b>				
1	BMTL358A	Programming in Python (002)	Practicle	3 Hours
2	BMT358B	Trends in Digital Manufacturing	MCQ	1 Hour
3	BMTL358C	PCB Design Technology (002)	Practicle	3 Hours
4	BMT358D	Robotics Ecosystem	MCQ	1 Hour
<b>Robotics &amp; Automation</b>				
1	BRA358A	Introduction to Python	Practicle	3 Hours
2	BRA358B	<b>Applications of MATLAB</b>	Practical	2 Hours
3	BRA358C	<b>Fundamentals of Virtual Reality APP Development</b>	MCQ	1 Hours
4	BRA358D	<b>Introduction to C ++</b>	MCQ	1 Hours
<b>Robotics and Artificial Intelligence</b>				
1	BRI358A	<b>Data Structures and Algorithms Lab</b>	Practical	2 Hours
2	BRI358B	<b>Applications of MAT LAB</b>	Practical	2 Hours
3	BRIL358C	<b>Fundamentals of Virtual Reality and App Development</b>	MCQ	1 Hours
4	BRIL358D	<b>Introduction to C++ Programming</b>	MCQ	1 Hours
<b>Silk Technology</b>				
1	BTX358A	Introduction to Polymers	MCQ	1 Hours
2	BTXL358B	Identification of Fibres-lab	Practical	3 hours
3	BTXL358C	Engineering with Microsoft Office-lab	Practical	3 hours
4	BTX358D	Medical Textiles	Theory	2 Hours
<b>Textile Technology</b>				
1	BTX358A	Introduction to Polymers	MCQ	1 Hours
2	BTXL358B	Identification of Fibres-lab	Practical	3 hours
3	BTXL358C	Engineering with Microsoft Office-lab	Practical	3 hours
4	BTX358D	Medical Textiles	Theory	2 Hours
<b>Electronics Communication Engg (Advance Communication Technology)</b>				
1	BEA358A	LICs Lab using PSPICE	No Syllabus	
2	BEA358B	Simulink Programming Basics	No Syllabus	
3	BEA358C	Digital Engineering Course (NASSCOM)	No Syllabus	
4	BEA358D	IOT for Smart Infrastructure	No Syllabus	
<b>Smart Agritech</b>				
1	BSAL358A	Advanced Python Programming	Practicle	3 Hours
2	BSA358E	Personality Development & Soft Skills	MCQ	1 Hour
3	BSAL358C	Spreadsheet for Engineers	Practicle	3 Hours
4	BSA358D	Importance of Solar Energy in Agriculture	MCQ	1 Hour