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REGISTRAR

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REF: VTU/BGM/879/AE-Feedback/2025-26/ 5073.

DATE:

26 DEC 2025

CIRCULAR

To

The Principals / Heads of Department,
Aeronautical Engineering Departments,
All Affiliated Colleges of VTU.

Subject: Request for Feedback on UG Draft 2025 scheme of 3-8 semesters - Aeronautical Engineering, Aerospace Engineering and PG draft 2026 scheme of 1-2 semesters-Aerospace Propulsion Technology regarding...

Reference: Chairperson's email dated: 24.12.2025

Dear Sir/Madam,

The Board of Studies in Aeronautical Engineering of Visvesvaraya Technological University (VTU), Belagavi has prepared the UG Draft 2025 scheme of 3-8 semesters - Aeronautical Engineering, Aerospace Engineering and PG draft 2026 scheme of 1-2 semesters-Aerospace Propulsion Technology

The University seeks constructive feedback from faculty members of all affiliated colleges. Your insights and suggestions will be invaluable in refining the schemes to ensure they meet contemporary academic standards, industry requirements, and the evolving needs of students.

You are kindly requested to:

- Review the draft schemes thoroughly.
- Provide specific comments, suggestions, or recommendations regarding the structure, content, and examination framework.
- Submit consolidated feedback from your institution to the University by 03.01.2026

Feedback may be sent electronically to **[sbhvtuso2022@gmail.com]** or in hard copy to the undersigned.

We sincerely appreciate your cooperation and contribution in this academic exercise. Your active participation will help us strengthen the teaching-learning process and uphold the quality benchmarks of VTU.

Thank you for your support.

Sd/-

Registrar

To,

1. The Principals of all Affiliated Autonomous/Non-Autonomous/Constituent Engineering Colleges under the ambit of the university
2. The Chairpersons/ Programme Coordinator, University Departments at Kalaburgi, Mysuru, and Bengaluru(Muddenhalli)

Copy to:

- The Hon'ble Vice-Chancellor, through the Secretary to the VC, for information
- The Dean, Faculty of Engineering, VTU, & Chairperson BoS in EEE VTU, Belagavi for information
- The Registrar (Evaluation) for information
- The Director ITI SMU, VTU Belagavi, for information and request to make the arrangement to upload the circular on VTU's web portal
- Office file

Paul/26/12/25

REGISTRAR

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VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangam, Machhe, Belagavi-590018



Scheme of Teaching and Examinations 2025

Outcome-Based Education (OBE) and Choice-Based Credit System (CBCS)
(Effective from the academic year 2025-26)

B.E. in Aeronautical Engineering, Scheme of Teaching and Examinations 2025													
Outcome-Based Education (OBE) and Choice-Based Credit System (CBCS) (Effective from the academic year 2025-26)													
III SEMESTER													
Sl. No	Course	Course Code	Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week				Examination			Total Marks	Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Self- Learning	Duration in h hours	CIE Marks	SEE Marks		
1	ASC	1BMAT301	Applied Mathematics	TD /PSB: Mathematics/Mathematics	3	2	0		5	50	50	100	4
2	IPCC	1BAE302 / 1BAS302	Aerospace Materials	TD/PSB: AE/AE	3	0	2		5	50	50	100	4
3	PCC	1BAE303 / 1BAS303	Mechanics of Materials	TD/PSB: AE/AE	3	2	0		5	50	50	100	4
4	PCC	1BAE304/ 1BAS304	Fluid Mechanics	TD/PSB: AE/AE	3	0	0		3	50	50	100	3
5	PCC	1BAE305	Introduction to UAV Systems and Technologies	TD/PSB: AE/AE	3	0	0		3	50	50	100	3
6	PCCL	1BAEL306	Computer-Aided Aircraft Drawing	TD/PSB: AE/AE	0	0	2		2	50	50	100	1
7	AEC	1BAEL307x	Ability Enhancement Course Laboratory**	TD/PSB: AE/CSE/EC /AE / CSE/ EC	0	0	2		2	50	50	100	1
8	SDC	1BCP308	Community Project (Project-Based Learning)	Any Department / Respective Engineering Dept.	0	0	0	2	2	50	50	100	1
9	NCMC	1BNSS309	National Service Scheme (NSS)	Campus	NSS coordinator								
		1BPE309	Physical Education (PE) (Sports and Athletics)		Physical Education Director		0	0	2				
		1BYOG309	Yoga		Yoga Teacher					--	100	---	100
		1BMUK309	Music		Music Teacher								PP
10	NCMC	1BMATDIP310	Mathematics course for Lateral Entry Students	TD -Maths Dept/ VTU Online (COE). CIE by VTU online COE	3	0	0	3	3	100	---	100	PP
Total										600	400	1000	21

Ability Enhancement Course (Laboratory) 1BAEL307x			
1BAEL307A	Web Designing and App Development	1BAEL307C	Drone Piloting
1BAEL307B	Experimental Fluid Mechanics	1BAE307D	Spreadsheet for Engineers with VBA

** The course 1BXXL307 – Ability Enhancement Course Laboratory can be offered either as a single compulsory course. Alternatively, the course 1BXXL307 – Ability Enhancement Course Laboratory shall be offered as multiple elective options under the course codes 1BXXL307x (where x = A, B, C, D).

Note to Chairpersons: If only one course is selected, the title of the course may please be entered at serial number 7 of the Scheme of Teaching and Examinations and the above table along with this row shall be deleted. In case, multiple courses are selected the above table shall be filled with the course titles and this row shall be deleted.

B.E. in Aeronautical Engineering, Scheme of Teaching and Examinations-2025 Outcome-Based Education (OBE) and Choice-Based Credit System (CBCS) (Effective from the academic year 2025-26)																		
IV SEMESTER																		
Sl. No	Course and Course Code		Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week				Examination				Credits					
					L	T	P	SL	Duration in hours	CIE Marks	SEE Marks	Total Marks						
1	PCC	1BAE401	Mechanisms and Machine Theory	TD/PSB:AE/AE	3	0	0		3	50	50	100	3					
2	IPCC	1BAE402 / 1BAS402	Engineering Thermodynamics	TD/PSB: AE/AE	3	0	2		5	50	50	100	4					
3	PCC	1BAE403 / 1BAS403	Aerodynamics	TD/PSB: AE/AE	3	2	0		5	50	50	100	4					
4	PCC	1BAE404 / 1BAS404	Manufacturing Techniques	TD/PSB: AE/AE	3	0	0		3	50	50	100	3					
5	PCCL	1BAEL405	Aerodynamics Lab	TD/PSB: AE/AE	0	0	2		2	50	50	100	1					
6	AEC	1BAEL406X	Ability Enhancement Course Laboratory**	TD/PSB: AE/AE	0	0	2		2	50	50	100	1					
7	BSC	1BAE407	Programme Specific Biology	TD / PSB: Basic Sciences / Basic Sciences	2	0	0		3	50	50	100	2					
8	SDC	1BEP408	Environmental Science Project	TD/PSB: AE/AE	0	0	0	2	2	50	50	100	1					
9	NCMC	1BNSK409	National Service Scheme (NSS)	Campus	NSS coordinator				--	100	---	100	PP					
		1BPEK409	Physical Education (PE) (Sports and Athletics)		Physical Education Director													
		1BYOK409	Yoga		Yoga Teacher													
		1BMUS409	Music		Music Teacher													
10	NCMC	1BMATDIP410	Mathematics course for Lateral Entry Students	TD -Maths Dept/ VTU Online (COE). CIE by VTU online COE	3	0	0	3	3	100	--	100	PP					
Total										600	400	1000	19					

Ability Enhancement Course (Laboratory) 1BAEL406x			
1BAEL406A	GenAI Enabled Python Programming	1BAEL406C	Measurements and Instrumentation
1BAEL406B	VR and AR in Aerospace Engineering	1BAEL406D	Smart Manufacturing and Robotics

** The course 1BXXL406x – Ability Enhancement Course Laboratory can be offered either as a single compulsory course. Alternatively, the Ability Enhancement Course Laboratory course can be offered with multiple elective options under the course codes 1BXXL406x (where x = A, B, C, D). Note to Chairpersons: If only one course is selected, the title of the course may please be entered at serial number 6 of the Scheme of Teaching and Examinations and the above table along with this row shall be deleted. In case, multiple courses are selected the above table shall be filled with the course titles and this row shall be deleted.

B.E. in Aeronautical Engineering, Scheme of Teaching and Examinations 2025 Outcome-Based Education (OBE) and Choice-Based Credit System (CBCS) (Effective from the academic year 2025-26)													
V SEMESTER													
Sl. N o	Course and Course Code	Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week				Examination				Credits	
				L	T	P	SL	Duration in hours	CIE Marks	SEE Marks	Total Marks		
1	HSMC	1BAE501	Aviation Management	TD/PSB:AE/AE	3	0	0	3	50	50	100	3	
2	IPCC	1BAE502	Avionic Systems	TD/PSB: AE/AE	3	0	2	5	50	50	100	4	
3	PCC	1BAE503	Aircraft Propulsion	TD/PSB: AE/AE	3	0	0	3	50	50	100	3	
4	PCC	1BAE504	Aircraft Structures	TD/PSB:AE/AE	3	0	0	3	50	50	100	3	
5	PEC	1BAE505x	Professional Elective Course-I	TD/PSB: AE/AE	3	0	0	3	50	50	100	3	
6	BSC	1BRM506	Research Methodology and IPR (Online)	VTU online CoE CIE and SEE by COE	2	0	0	02	50	50	100	2	
7	PCCL	1BAEL507	Aircraft Propulsion Lab	TD/PSB	0	0	2	02	50	50	100	1	
8	SDC	1BAE508	Hackathon-Based Project	CIE: By Departments SEE: Evaluation by industry experts	0	0	0	2	--	50	50	100	2
								Total		400	400	800	21
Professional Elective Course-I													
1BAE505A	Helicopter Dynamics			1BAE505C	Space Mechanics								
1BAE505B	Cryogenic Engineering			1BAE505D	Turbo Machines								

B.E. in Aeronautical Engineering, Scheme of Teaching and Examinations-2025 Outcome-Based Education (OBE) and Choice-Based Credit System (CBCS) (Effective from the academic year 2025-26)													
VI SEMESTER													
Sl. No	Course and Course Code	Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week				Examination				Credits	
				L	T	P	SL	Duration in hours	CIE Marks	SEE Marks	Total Marks		
1	IPCC	1BAE601	Control Engineering	TD/PSB- AE/AE	3	0	2		5	50	50	100	4
2	PCC	1BAE602	Aircraft Performance and Stability	TD/PSB- AE/AE	3	0	0		3	50	50	100	3
3	PCC	1BAE603	Flight Vehicle Design	TD/PSB- AE/AE	3	0	0		3	50	50	100	3
4	PCC	1BAE604	Finite Element Methods	TD/PSB- AE/AE	3	0	0		3	50	50	100	3
5	PEC	1BAE605x	Professional Elective Courses-II	TD/PSB- AE/AE	3	0	0		3	50	50	100	3
6	PCCL	1BAEL606	Aircraft Structures Lab	TD/PSB- AE/AE	0	0	2		2	50	50	100	1
7	AEC	1BAEL607	Finite Element Analysis Lab	TD/PSB- AE/AE	0	0	2		2	50	50	100	1
8	SDC	1BAE608	Capstone Project - Phase I	TD/PSB- AE/AE	0	0	0	6	3	100	--	100	3
9	NCMC	1BAE609	Universal Human Value (VTU ONLINE Course)	CIE: By VTU online COE	1	0	0	0		100	---	100	PP
				Total						550	350	900	21
Professional Elective Course-II													
1BXX605A	Fundamentals of Systems Engineering			1BXX605C		Structural Dynamics							
1BXX605B	Aircraft Maintenance, Repair and Overhaul			1BXX605D		Gas Turbine Technology							

B.E. in Aeronautical Engineering, Scheme of Teaching and Examinations 2025 Outcome-Based Education (OBE) and Choice-Based Credit System (CBCS) (Effective from the academic year 2025-26)													
VII SEMESTER (Swappable VII and VIII SEMESTER) (SCHEME-A)													
Sl. No	Course and Course Code	Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week				Examination				Credits	
				Theory Lecture	Tutorial	Practical/ Drawing	Self- Learning	Duration in hours	CIE Marks	SEE Marks	Total Marks		
				L	T	P	SL						
1	IPCC	1BAE701	Computational Fluid Dynamics	TD/PSB- AE/AE	3	0	2		5	50	50	100	4
2	PEC	1BAE702x	Professional Elective Course-III	TD/PSB- AE/AE	3	0	0		3	50	50	100	3
3	PEC	1BAE703x	Professional Elective Course -IV	TD/PSB- AE/AE	3	0	0		3	50	50	100	3
4	OEC	1BAE704x	Open Elective Course-I	TD/PSB- AE/AE	3	0	0		3	50	50	100	3
5	SDC	1BAE705	Capstone Project - Phase-II	TD/PSB- AE/AE	0	0	0	14	3	100	100	200	7
6	NCMC	1BIKS706	Indian Knowledge System (VTU online Course)	VTU Online CoE, CIE: By COE	1	0	0	0	---	100	–	100	PP
				Total					15	400	300	700	20
Professional Elective Course-III													
1BAE702A	Flight Testing			1BAE702C		Advanced Aerospace Structural Design							
1BAE702B	Introduction to Aeroelasticity			1BAE702D		Optimization Techniques in Engineering							
Professional Elective Course-IV													
1BAE703A	Mechanics of Composite Materials			1BAE703C		Guidance and Navigation							
1BAE703B	Concepts In AI for Aerospace Applications			1BAE703D		Smart Aircraft Health Systems							
Open Elective Course-I													
1BAE704A	Introduction to Drone Technology			1BAE704C		Aircraft systems and Instrumentation							
1BAE704B	Introduction to Space Technology			1BAE704D		Foreign Language (NPTEL/SWAYAM/online VTU)							

<p style="text-align: center;">B.E. in Aeronautical Engineering, Scheme of Teaching and Examinations 2025</p> <p style="text-align: center;">Outcome-Based Education (OBE) and Choice-Based Credit System (CBCS) (Effective from the academic year 2025-26)</p>													
Sl. No	Course and Course Code		Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week				Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Self- Learning	Duration in hours	CIE Marks	SEE Marks	Total Marks	
	L	T	P	SL									
1	PEC	1BAE801x	Professional Elective-V (NPTEL/VTU Online Course)	Online Evaluation					3	50	50	100	3
2	OEC	1BAE802x	Open Elective-II (NPTEL/VTU Online Course)	Online Evaluation					3	50	50	100	3
3	SDC	1BAE803x	Internship (15 weeks or 90 working days)	--	--	--	--	--	3	100	100	200	12
Total									9	200	200	400	18
Professional Elective Course (Online courses)-V													
1BAE801A	NPTEL/VTU Online Course			1BAE801C	NPTEL/VTU Online Course								
1BAE801B	NPTEL/VTU Online Course			1BAE801D	NPTEL/VTU Online Course								
Open Elective Courses -II (Online Courses)													
1BAE802A	NPTEL/VTU Online Course			1BAE802C	NPTEL/VTU Online Course								
1BAE802B	NPTEL/VTU Online Course			1BAE802D	Foreign Language (NPTEL/SWAYAM/online VTU)								
<p>Types of Internships (Course Code: 1Bxx803x)</p> <p>Students shall undertake one of the following internship types during the eighth semester, as per academic guidelines:</p> <ol style="list-style-type: none"> 1BAE803A - Industry Internship: Shall involve practical exposure and training within an industrial or corporate setting. 1BAE803B - Research Internship: Shall focus on academic or applied research under the guidance of faculty or research institutions. 1BAE803C - Post-Placement Internship: Shall be undertaken by students who have secured placement, aligning with their future employment domain. 1BAE803D - Societal Internship: Shall engage students in community-based or social impact projects with NGOs, government bodies, or civic organizations. 1BAE803E - Online Internship: Shall be conducted through recognized digital platforms offering structured internship modules. 1BAE803F - Skill Enhancement Internship: Shall be opted by students unable to secure internships, offering credit equivalence through curated online courses available at http://www.online.vtu.ac.in 													

To ensure uniformity, quality, and transparency in the internship process, VTU has launched a centralized web portal that serves as a single platform for all internship opportunities. Reputed industries, Centres of Excellence, Research Laboratories, and other recognized bodies will be registered on this portal. Students must choose internships exclusively through this portal. No other mode of internship selection will be permitted

B.E. in Aeronautical Engineering,

Scheme of Teaching and Examinations 2025

Outcome-Based Education (OBE) and Choice-Based Credit System (CBCS) (Effective from the academic year 2025-26)

VII and VIII semesters for the candidates who opt for a two-semesters internship along with Capstone Project (Scheme B)

Sl. No	Course and Course Code	Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week				Examination			Credits		
				Theory Lecture	Tutorial	Practical/ Drawing	Self-Learning	Duration in hours	CIE Marks	SEEE Marks			
L	T	P	SL										
1	IPCC	1BAE701	To be completed in the Summer Semester after 6 th semester					3	50	50	100	4	
2	PEC	1BAE702x	Professional Elective Course-III (NPTEL/VTU Online Course)	Online Evaluation				--	50	50	100	3	
3	PEC	1BAE703x	Professional Elective Course-IV (NPTEL/VTU Online Course)	Online Evaluation				--	50	50	100	3	
4	OEC	1BAE704x	Open Elective Course (NPTEL/VTU Online course)-I	Online Evaluation				---	50	50	100	3	
5	SDC	1BAE705	Capstone Project - Phase-II***	TD: PSB:				3	100	100	200	7	
6	NCMC	1BIKS706	Indian Knowledge System (VTU online)		1	0	0	0	--	100	--	100	PP
Total				6	400	300	700	20					
1	PEC	1BAE801x	Professional Elective-V (NPTEL/VTU Online Course)	Online Evaluation				---	50	50	100	3	
2	OEC	1BAE802x	Open Elective-II (NPTEL/VTU Online Course)	Online Evaluation				---	50	50	100	3	
3	SDC	1BAE803x	Internship (Two- semester internship for a minimum Period of 180 working days or -30 weeks)					3	50	50	100	12	
Total				3	150	150	300	18					

7 th semester and 8 th semester Credits Total				38
NPTEL/VTU Online Professional Elective Course - III				
1BAE703A	NPTEL/VTU Online Courses	1BAE703C	NPTEL/VTU Online Courses	
1BAE703B	NPTEL/VTU Online Courses	1BAE704D	NPTEL/VTU Online Courses	
NPTEL/VTU Online Open Elective Courses - I				
1BAE704A	NPTEL/VTU Online Courses	1BAE704C	NPTEL/VTU Online Courses	
1BAE704B	NPTEL/VTU Online Courses	1BAE704D	NPTEL/VTU Online Courses	
NPTEL/VTU Online Professional Elective Course (Online Courses)-IV				
1BAE801A	NPTEL/VTU Online Courses	1BAE801C	NPTEL/VTU Online Courses	
1BAE801B	NPTEL/VTU Online Courses	1BAE801D	NPTEL/VTU Online Courses	
NPTEL/VTU Online Open Elective Courses (Online Courses)-III				
1BAE802A	NPTEL/VTU Online Courses	1BAE802C	NPTEL/VTU Online Courses	
1BAE802B	NPTEL/VTU Online Courses	1BAE802D	Foreign Language (NPTEL/MOOC/online VTU)	

Types of Internships (Course Code: 1BAE803)

Students shall undertake one of the following internship types during the eighth semester, as per academic guidelines:

1. **1BAE803A - Industry Internship:** Shall involve practical exposure and training within an industrial or corporate setting.
2. **1BAE803B - Research Internship:** Shall focus on academic or applied research under the guidance of faculty or research institutions.
3. **1BAE803C - Post-Placement Internship:** Shall be undertaken by students who have secured placement, aligning with their future employment domain.
4. **1BAE803D - Societal Internship:** Shall engage students in community-based or social impact projects with NGOs, government bodies, or civic organizations.
5. **1BAE803E - Online Internship:** Shall be conducted through recognized digital platforms offering structured internship modules.
6. **1BAE803F - Skill Enhancement Courses (SEC):** Shall be opted by students unable to secure internships, offering credit equivalence through curated online courses available at <http://www.online.vtu.ac.in>

To ensure uniformity, quality, and transparency in the internship process, **VTU has launched a centralized web portal** that serves as a **single platform** for all internship opportunities. Reputed **industries, Centres of Excellence, Research Laboratories**, and other recognized bodies will be registered on this portal. **Students must choose internships exclusively through this portal. No other mode of internship selection will be permitted.**



VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangam, Machhe, Belagavi-590018



Scheme of Teaching and Examinations 2025

Outcome-Based Education (OBE) and Choice-Based Credit System (CBCS)
(Effective from the academic year 2025-26)

B.E. in Aerospace Engineering, Scheme of Teaching and Examinations 2025																				
Outcome-Based Education (OBE) and Choice-Based Credit System (CBCS) (Effective from the academic year 2025-26)																				
III SEMESTER																				
Sl. No	Course	Course Code	Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week				Examination				Credits							
					L	T	P	SL	Duration in h ours	CIE Marks	SEE Marks	Total Marks								
1	ASC	1BMAT301	Applied Mathematics	TD /PSB: Mathematics/ Mathematics	3	2	0		5	50	50	100	4							
2	IPCC	1BAS302 / 1BAE302	Aerospace Materials	TD/PSB: AS/AS	3	0	2		5	50	50	100	4							
3	PCC	1BAS303 / 1BAE303	Mechanics of Materials	TD/PSB: AS/AS	3	2	0		5	50	50	100	4							
4	PCC	1BAS304 / 1BAE304	Fluid Mechanics	TD/PSB: AS/AS	3	0	0		3	50	50	100	3							
5	PCC	1BAS305	Mechanisms and Machine Theory	TD/PSB: AS/AS	3	0	0		3	50	50	100	3							
6	PCCL	1BASL306	Computer Aided Aircraft Drawing	TD/PSB: AS/AS	0	0	2		2	50	50	100	1							
7	AEC	1BASL307x	Ability Enhancement Course Laboratory**	TD/PSB: AS/AS/CSE/ ECE	0	0	2		2	50	50	100	1							
8	SDC	1BCP308	Community Project (Project-Based Learning)	Any Department/ Respective Engineering Dept.	0	0	0	2	2	50	50	100	1							
9	NCMC	1BNSS309	National Service Scheme (NSS)	Campus	NSS coordinator		0	2	--	100	---	100	PP							
		1BPE309	Physical Education (PE) (Sports and Athletics)		Physical Education Director															
		1BYOG309	Yoga		Yoga Teacher															
		1BMUK309	Music		Music Teacher															
10	NCMC	1BMATDIP310	Mathematics course for Lateral Entry Students	TD -Maths Dept/ VTU Online (COE). CIE by VTU online COE	3	0	0	3	3	100	---	100	PP							
					Total					600	400	1000	21							

Ability Enhancement Course (Laboratory) 1BASL307x			
1BASL307A	Web Designing and App Development	1BASL307C	Drone Piloting
1BASL307B	Experimental Fluid Mechanics	1BAS307D	Spreadsheet for Engineers with VBA
** The course 1BXXL307 – Ability Enhancement Course Laboratory can be offered either as a single compulsory course. Alternatively, the course 1BXXL307 – Ability Enhancement Course Laboratory shall be offered as multiple elective options under the course codes 1BXXL307x (where x = A, B, C, D).			
Note to Chairpersons: If only one course is selected, the title of the course may please be entered at serial number 7 of the Scheme of Teaching and Examinations and the above table along with this row shall be deleted. In case, multiple courses are selected the above table shall be filled with the course titles and this row shall be deleted.			

B.E. in Aerospace Engineering, Scheme of Teaching and Examinations-2025													
Outcome-Based Education (OBE) and Choice-Based Credit System (CBCS) (Effective from the academic year 2025-26)													
IV SEMESTER													
Sl. No	Course and Course Code		Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week				Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Self- Learning	Duration in hours	CIE Marks	SEE Marks	Total Marks	
L	T	P	SL										
1	PCC	1BAS401	Space Mechanics	TD/PSB: AS/AS	3	0	0		3	50	50	100	3
2	IPCC	1BAS402 / 1BAE402	Engineering Thermodynamics	TD/PSB: AS/AS	3	0	2		5	50	50	100	4
3	PCC	1BAS403 / 1BAE403	Aerodynamics	TD/PSB: AS/AS	3	2	0		5	50	50	100	4
4	PCC	1BAS404 / 1BAE404	Manufacturing Techniques	TD/PSB: AS/AS	3	0	0		3	50	50	100	3
5	PCCL	1BASL405	Aerodynamics Lab	TD/PSB: AS/AS	0	0	2		2	50	50	100	1
6	AEC	1BASL406x	Ability Enhancement Course Laboratory**	TD/PSB: AS/AS	0	0	2		2	50	50	100	1
7	BSC	1BAS407	Programme Specific Biology	TD / PSB: Basic Sciences / Basic Sciences	2	0	0		2	50	50	100	2
8	SDC	1BEP408	Environmental Science Project	TD/PSB: AS/AS	0	0	0	2	2	50	50	100	1
9	NCMC	1BNSK409	National Service Scheme (NSS)	Campus	NSS coordinator								
		1BPEK409	Physical Education (PE) (Sports and Athletics)		Physical Education Director								
		1BYOK409	Yoga		Yoga Teacher								
		1BMUS409	Music		Music Teacher								
10	NCMC	1BMATDIP410	Mathematics course for Lateral Entry Students	TD -Maths Dept/ VTU Online (COE). CIE by VTU online COE	3	0	0	3	3	100	--	100	PP
Total										600	400	1000	19

Ability Enhancement Course (Laboratory) 1BASL406x			
IBAEL406A	GenAI Enabled Python Programming	IBAEL406C	Measurements and Instrumentation
IBAEL406B	VR and AR in Aerospace Engineering	IBAEL406D	Smart Manufacturing and Robotics
** The course 1BXXL406x - Ability Enhancement Course Laboratory can be offered either as a single compulsory course. Alternatively, the Ability Enhancement Course Laboratory course can be offered with multiple elective options under the course codes 1BXXL406x (where x = A, B, C, D). Note to Chairpersons: If only one course is selected, the title of the course may please be entered at serial number 6 of the Scheme of Teaching and Examinations and the above table along with this row shall be deleted. In case, multiple courses are selected the above table shall be filled with the course titles and this row shall be deleted.			

B.E. in Aerospace Engineering, Scheme of Teaching and Examinations 2025 Outcome-Based Education (OBE) and Choice-Based Credit System (CBCS) (Effective from the academic year 2025-26)													
V SEMESTER													
Sl. N o	Course and Course Code	Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week				Examination				Credits	
				L	T	P	SL	Duration in hours		CIE Marks	SEE Marks	Total Marks	
1	HSMC	1BAS501	Aviation Management	TD/PSB:AS/AS	3	0	0		3	50	50	100	3
2	IPCC	1BAS502	Avionics and Communication Systems	TD/PSB: AS/AS	3	0	2		5	50	50	100	4
3	PCC	1BAS503	Aerospace Propulsion	TD/PSB: AS/AS	3	0	0		3	50	50	100	3
4	PCC	1BAS504	Aerospace Structures	TD/PSB: AS/AS	3	0	0		3	50	50	100	3
5	PEC	1BAS505x	Professional Elective Course-I	TD/PSB: AS/AS	3	0	0		3	50	50	100	3
6	BSC	1BRM506	Research Methodology and IPR (Online)	VTU online CoE CIE and SEE by COE	2	0	0		02	50	50	100	2
7	PCCL	1BxxL507	Aerospace Structures Lab	TD/PSB	0	0	2		02	50	50	100	1
8	SDC	1BXX508	Hackathon-Based Project	CIE: By Departments SEE: Evaluation by industry experts	0	0	0	2	--	50	50	100	2
				Total						400	400	800	21
Professional Elective Course-I													
1BXX505A	Helicopter Dynamics			1BXX505C	Boundary Layer Theory								
1BXX505B	Aircraft Maintenance, Repair and Overhaul			1BXX505D	Structural Dynamics								

B.E. in Aerospace Engineering, Scheme of Teaching and Examinations-2025													
Outcome-Based Education (OBE) and Choice-Based Credit System (CBCS) (Effective from the academic year 2025-26)													
VI SEMESTER													
Sl. No	Course and Course Code		Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week				Examination				Credits
					Theory Lecture L	Tutorial T	Practical/ Drawing P	Self- Learning SL	Duration in hours	CIE Marks	SEE Marks	Total Marks	
1	IPCC	1BAS601	Control Engineering	TD/PSB- AS/AS	3	0	2		5	50	50	100	4
2	PCC	1BAS602	Aircraft Performance and Stability	TD/PSB- AS/AS	3	0	0		3	50	50	100	3
3	PCC	1BAS603	Aerospace Vehicle Design	TD/PSB- AS/AS	3	0	0		3	50	50	100	3
4	PCC	1BAS604	Finite Element Methods	TD/PSB- AS/AS	3	0	0		3	50	50	100	3
5	PEC	1BAS605x	Professional Elective Courses-II	TD/PSB- AS/AS	3	0	0		3	50	50	100	3
6	PCCL	1BASL606	Aerospace Propulsion Lab	TD/PSB-AS/AS	0	0	2		2	50	50	100	1
7	AEC	1BASL607	Finite Element Analysis Lab	TD/PSB-AS/AS	0	0	2		2	50	50	100	1
8	SDC	1BAS608	Capstone Project - Phase I	TD/PSB-AS/AS	0	0	0	6	3	100	--	100	3
9	NCMC	1BAS609	Universal Human Value (VTU ONLINE Course)	CIE: By VTU online COE	1	0	0	0		100	---	100	PP
				Total						550	350	900	21
Professional Elective Course-II													
1BXX605A	Fundamentals of Systems Engineering			1BXX605C	Optimization Techniques in Engineering								
1BXX605B	Guidance and Navigation			1BXX605D	High Temperature Gas Dynamics								

B.E. in Aerospace Engineering, Scheme of Teaching and Examinations 2025 Outcome-Based Education (OBE) and Choice-Based Credit System (CBCS) (Effective from the academic year 2025-26)													
VII SEMESTER (Swappable VII and VIII SEMESTER) (SCHEME-A)													
Sl. No	Course and Course Code		Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week				Examination				Credits
					L	T	P	SL					
1	IPCC	1BAS701	Computational Fluid Dynamics	TD/PSB-AS/AS	3	0	2		5	50	50	100	4
2	PEC	1BAS702x	Professional Elective Course-III	TD/PSB-AS/AS	3	0	0		3	50	50	100	3
3	PEC	1BAS703x	Professional Elective Course -IV	TD/PSB-AS/AS	3	0	0		3	50	50	100	3
4	OEC	1BAS704x	Open Elective Course-I	TD/PSB-AS/AS	3	0	0		3	50	50	100	3
5	SDC	1BAS705	Capstone Project - Phase-II	TD/PSB-AS/AS	0	0	0	14	3	100	100	200	7
6	NCMC	1BIKS706	Indian Knowledge System (VTU online Course)	VTU Online CoE, CIE: By COE	1	0	0	0	---	100	–	100	PP
Total									15	400	300	700	20
Professional Elective Course-III													
1BAS702A	Flight Testing				1BAS702C	Cryogenic Engineering							
1BAS702B	Space Mission Planning and Operations				1BAS702D	Robotics and Mechatronics Fundamentals							
Professional Elective Course-IV													
1BAS703A	Mechanics of Composite Materials				1BAS703C	Fundamentals of Hypersonics							
1BAS703B	Smart Aircraft Health Systems				1BAS703D	Concepts In AI for Aerospace Applications							
Open Elective Course-I													
1BAS704A	Earth and Space Sciences				1BAS704C	Introduction to Astrophysics							
1BAS704B	Introduction to Space Technology				1BAS704D	Foreign Language (NPTEL/SWAYAM/online VTU)							

<p style="text-align: center;">B.E. in Aerospace Engineering, Scheme of Teaching and Examinations 2025</p> <p style="text-align: center;">Outcome-Based Education (OBE) and Choice-Based Credit System (CBCS) (Effective from the academic year 2025-26)</p>																									
VIII SEMESTER (Swappable VII and VIII SEMESTER) (SCHEME-A)																									
Sl. No	Course and Course Code	Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week				Examination				Credits													
				Theory Lecture	Tutorial	Practical/ Drawing	Self- Learning	L	T	P	SL	Duration in hours	CIE Marks	SEE Marks	Total Marks										
1	PEC	1BAS801x	Professional Elective-V (NPTEL/VTU Online Course)	Online Evaluation								3	50	50	100	3									
2	OEC	1BAS802x	Open Elective-II (NPTEL/VTU Online Course)	Online Evaluation								3	50	50	100	3									
3	SDC	1BAS803x	Internship (15 weeks or 90 working days)	--	--	--	--	--	--	--	--	3	100	100	200	12									
Total												9	200	200	400	18									
Professional Elective Course (Online courses)-V																									
1BAS801A	NPTEL/VTU Online Course			1BAS801C	NPTEL/VTU Online Course																				
1BAS801B	NPTEL/VTU Online Course			1BAS801D	NPTEL/VTU Online Course																				
Open Elective Courses -II (Online Courses)																									
1BAS802A	NPTEL/VTU Online Course			1BAS802C	NPTEL/VTU Online Course																				
1BAS802B	NPTEL/VTU Online Course			1BAS802D	Foreign Language (NPTEL/SWAYAM/online VTU)																				
Types of Internships (Course Code: 1Bxx803x)																									
Students shall undertake one of the following internship types during the eighth semester, as per academic guidelines:																									
1.	1Bxx803A – Industry Internship: Shall involve practical exposure and training within an industrial or corporate setting.																								
2.	1Bxx803B – Research Internship: Shall focus on academic or applied research under the guidance of faculty or research institutions.																								
3.	1Bxx803C – Post-Placement Internship: Shall be undertaken by students who have secured placement, aligning with their future employment domain.																								
4.	1Bxx803D – Societal Internship: Shall engage students in community-based or social impact projects with NGOs, government bodies, or civic organizations.																								
5.	1Bxx803E – Online Internship: Shall be conducted through recognized digital platforms offering structured internship modules.																								
6.	1Bxx803F – Skill Enhancement Internship: Shall be opted by students unable to secure internships, offering credit equivalence through curated online courses available at http://www.online.vtu.ac.in																								

To ensure uniformity, quality, and transparency in the internship process, VTU has launched a centralized web portal that serves as a single platform for all internship opportunities. Reputed industries, Centres of Excellence, Research Laboratories, and other recognized bodies will be registered on this portal. Students must choose internships exclusively through this portal. No other mode of internship selection will be permitted

B.E. in Aerospace Engineering

Scheme of Teaching and Examinations 2025

Outcome-Based Education (OBE) and Choice-Based Credit System (CBCS) (Effective from the academic year 2025-26)

VII and VIII semesters for the candidates who opt for a two-semesters internship along with Capstone Project (Scheme B)

Sl. No	Course and Course Code	Course Title	Teaching Department (TD) and Question Paper Setting Board (PSB)	Teaching Hours /Week				Examination			Credits		
				Theory Lecture	Tutorial	Practical/ Drawing	Self-Learning	Duration in hours	CIE Marks	SEE Marks	Total Marks		
				L	T	P	SL						
1	IPCC	1BAS701	To be completed in the Summer Semester after 6 th semester					3	50	50	100	4	
2	PEC	1BAS702x	Professional Elective Course-III (NPTEL/VTU Online Course)	Online Evaluation				--	50	50	100	3	
3	PEC	1BAS703x	Professional Elective Course-IV (NPTEL/VTU Online Course)	Online Evaluation				--	50	50	100	3	
4	OEC	1BAS704x	Open Elective Course (NPTEL/VTU Online course)-I	Online Evaluation				---	50	50	100	3	
5	SDC	1BAS705	Capstone Project - Phase-II***	TD: PSB:				3	100	100	200	7	
6	NCMC	1BIKS706	Indian Knowledge System (VTU online)		1	0	0	0	--	100	--	100	PP
								Total	6	400	300	700	20
1	PEC	1BAS801x	Professional Elective-V (NPTEL/VTU Online Course)	Online Evaluation				---	50	50	100	3	
2	OEC	1BAS802x	Open Elective-II (NPTEL/VTU Online Course)	Online Evaluation				---	50	50	100	3	
3	SDC	1BAS803x	Internship (Two- semester internship for a minimum Period of 180 working days or -30 weeks)					3	50	50	100	12	
								Total	3	150	150	300	18

7 th semester and 8 th semester Credits Total				38
NPTEL/VTU Online Professional Elective Course - III				
1BAS703A	NPTEL/VTU Online Courses	1BAS703C	NPTEL/VTU Online Courses	
1BAS703B	NPTEL/VTU Online Courses	1BAS704D	NPTEL/VTU Online Courses	
NPTEL/VTU Online Open Elective Courses - I				
1BAS704A	NPTEL/VTU Online Courses	1BAS704C	NPTEL/VTU Online Courses	
1BAS704B	NPTEL/VTU Online Courses	1BAS704D	NPTEL/VTU Online Courses	
NPTEL/VTU Online Professional Elective Course (Online Courses)-IV				
1BAS801A	NPTEL/VTU Online Courses	1BAS801C	NPTEL/VTU Online Courses	
1BAS801B	NPTEL/VTU Online Courses	1BAS801D	NPTEL/VTU Online Courses	
NPTEL/VTU Online Open Elective Courses (Online Courses)-III				
1BAS802A	NPTEL/VTU Online Courses	1BAS802C	NPTEL/VTU Online Courses	
1BAS802B	NPTEL/VTU Online Courses	1BAS802D	Foreign Language (NPTEL/MOOC/online VTU)	

Types of Internships (Course Code: 1BAS803)

Students shall undertake one of the following internship types during the eighth semester, as per academic guidelines:

1. **1BAS803A – Industry Internship:** Shall involve practical exposure and training within an industrial or corporate setting.
2. **1BAS803B – Research Internship:** Shall focus on academic or applied research under the guidance of faculty or research institutions.
3. **1BAS803C – Post-Placement Internship:** Shall be undertaken by students who have secured placement, aligning with their future employment domain.
4. **1BAS803D – Societal Internship:** Shall engage students in community-based or social impact projects with NGOs, government bodies, or civic organizations.
5. **1BAS803E – Online Internship:** Shall be conducted through recognized digital platforms offering structured internship modules.
6. **1BAS803F – Skill Enhancement Courses (SEC):** Shall be opted by students unable to secure internships, offering credit equivalence through curated online courses available at <http://www.online.vtu.ac.in>

To ensure uniformity, quality, and transparency in the internship process, **VTU has launched a centralized web portal** that serves as a **single platform** for all internship opportunities. Reputed **industries, Centres of Excellence, Research Laboratories**, and other recognized bodies will be registered on this portal. **Students must choose internships exclusively through this portal. No other mode of internship selection will be permitted.**





VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELAGAVI



Scheme of Teaching and Examinations

M.Tech., in Aerospace Engineering

(Specialization in Aerospace Propulsion Technology)

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

I SEMESTER (Core Courses related to the main Engineering Stream)																
Sl. No	Course Type	Course Code	Course Title	Teaching Hours per Week			Examination			Credits						
				Theory	Practical/ Seminar	Tutorial/SDA	Duration in hours	CIE Marks	SEE Marks							
				L	P	T/SDA										
1	BSC	1MMAT101	Mathematical Concepts for Aerospace Engineering	3	0	0	03	50	50	100	3					
2	IPCC	1MAS102	Numerical Techniques for Propulsion Applications	3	2	0	03	50	50	100	4					
3	PCC	1MAS103	Mechanics and Thermodynamics of Propulsion	3	0	1	03	50	50	100	3					
4	PEC	1MAS104x	Professional Elective Course-I	3	0	0	03	50	50	100	3					
5	PEC	1MAS105x	Professional Elective Course-II	3	0	0	03	50	50	100	3					
6	PEC	1MAS106x	Professional Elective Course-III	3	0	0	03	50	50	100	3					
7	PCCL	MASL107x	Professional Core Courses Labs	0	2	0	03	50	50	100	1					
8	NCMC	MRMI108	Research Methodology and IPR (Online)	Online courses (online.vtu.ac.in)						PP						
										TOTAL 350 350 700 20						
Professional Elective Courses (PECs) of I, II and III are common to all branches of specialisation under a particular stream of Engineering. Students can select the appropriate course for their field of specialisation. (The number of Courses in each group may be more than 04)																

Professional Elective Courses (PECs)									
PEC-I				PEC-II					
Code	Title of the Course			Code	Title of the Course			Code	Code
MAS104A	Materials and Manufacturing for High Temperature Applications			MAS105A	Missiles and Launch Vehicles				
MAS104B	Aircraft Engine Performance and Matching			MAS105B	Reacting Flows and Combustion Modelling				
MAS104C	Gas Turbine Maintenance & Overhaul			MAS105C	Introduction to Space Technology				
MAS104D	Turbomachinery Fundamentals for Propulsion			MAS105D	Gas Dynamics				

Professional Elective Courses				Professional Core Courses Lab (PCCL)					
PEC-III				PCCL					
Code	Title of the Course			MASL107A	Aircraft Propulsion Lab				
MAS106A	Advanced Aerodynamics for Air-Breathing Engines			MASL107B	Gas Turbine Performance & Testing Lab				
MAS106B	Heat and Mass Transfer in Propulsion Systems			MASL107C	Materials & Thermal Testing Lab for Engines				
MAS106C	AI & ML in Aerospace Engineering			MASL107D	Gas Dynamics Lab				
MAS106D	Hypersonic Aerodynamics			MASL107E	Computation and Flight Simulation Lab				

Specialization in -(Aerospace Propulsion Technology)**II SEMESTER**

Sl. No	Course	Course Code	Course Title	Teaching Hours /Week			Examination			Credits	
				Theory	Practical/ Seminar	Tutorial/ Skill Development Activities	Duration in hours	CIE Marks	SEE Marks	Total Marks	
						T/SDA					
1	PCC	1MAS201	Computational Fluid Dynamics	4	0	1	03	50	50	100	4
2	PCC	1MAS202	Fuels, Combustion and Emissions in Engines	3	0	0	03	50	50	100	3
3	PCC	1MAS203	Cryogenic Engines	3	0	0	03	50	50	100	3
4	PCC	1MAS204	Electric and Hybrid Propulsion Systems	3	0	0	03	50	50	100	3
5	PCC	1MAS205	Systems Engineering Approach to Propulsion	3	0	0	03	50	50	100	3
6	PEC	1MAS206x	Professional Elective Course-IV	3	0	0	03	50	50	100	3
7	PCCL	1MASL207	Computational Fluid Dynamics Lab	0	2	0	03	50	50	100	1
8	PCC	MASS208	Technical Seminar	0	2	0	03	50	50	100	2
							Total	400	400	800	22

Professional Elective Courses (PECs)

PEC-IV		
Code	Title of the Course	
MAS206A	Advanced Combustion	
MAS206B	Mechanical Aspects of Rotating Machinery	
MAS206C	Engine Health Monitoring and Diagnostics	
MAS206D	Hypersonic Propulsion and High-Speed Air-Breathing Engines	

Regarding submission of draft Schemes

Dr. Jayaram R Pothnis <jpothnis@msrit.edu>
To: Sadashiv Halbhavi <sbhvtuso2022@gmail.com>

Thu, Dec 25, 2025 at 7:18 PM

Dear Sir,

Thank you for your email. Here are the updated files for getting feedback. I have also shared them with the other members for feedback and changes if any. If there are any major changes I will inform you. Thank you for your support.

Best Regards,

Dr. Jayaram

[Quoted text hidden]

3 attachments

 **2025- 3-8 sem -UG Scheme_Aeronautical Engg.docx**
214K

 **2025- 3-8 sem -UG Scheme_Aerospace Engineering.docx**
213K

 **2026 Scheme PG Draft Scheme_Aerospace Propulsion Technology.docx**
141K

