

Draft Report of the Core Curriculum Committee

Second Semester of the Year 2026-27

1. Guidelines for Drawing Instructors and Tutors from Various Departments (As per the New Guidelines 2024 for preparation of CCC report).

Table 1: List of Core Courses and respective Departments handling them as per Committee and/or agreements between/among departments when Instructors are drawn from multiple Departments.

Course No. and Title	Departments					
	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
TA111(Engineering Graphics)	CE	CE	ME	ME	AE	AE
ESO201(Thermodynamics)	AE	CHE	CHE	ME	CHE	CHE
ESO202(Solid Mechanics)	ME	ME	AE	AE	CE	CE
ESO204(Fluid Mechanics)	CHE	AE	CHE	CHE	ME	CHE

Table 2: List of Core Courses and respective Departments handling them as per Committee when Instructors are drawn from a fixed Department.

Department	Course(s)
BSBE	LIF111
CHM	CHM111, CHM112M, CHM113M
CSE	ESC111M, ESC112M, ESO207
DMS	DMS201
ECO	ECO111
EE	ESC201, ESO203
HSS	HSS-1, HSS-2
ME	TA212
MSE	TA211
MTH	MTH111M, MTH112M, MTH113M, MTH114M
SDS	MSO201
PHY	PHY111, PHY112, PHY113, PHY114, PHY115, PSO201
SEE	SEE211

Table 3: List of Core Courses and Respective Departments that will provide Theory and Lab Tutors / Instructors

Course no.	Course Name	Departments That Provide Tutors / LabInstructors
CHM111	Chemistry Lab	CHM
CHM112M	General Chemistry: Physical Chemistry	CHM
CHM113M	General Chemistry: Inorganic & Organic Chemistry	CHM
ESC111M	Fundamentals of Computing - I	CSE
ESC112M	Fundamentals of Computing - II	CSE
ESC113M	Computer Methods for Engineers	CHE
ESC201	Introduction to Electronics	EE
ESO201	Thermodynamics	AE
ESO202	Mechanics of Solids	ME
ESO203	Introduction to Electrical Engineering	EE
ESO207	Data Structure & Algorithm	CSE
ETH111	Practical Ethics	All dept.
HSS-I	Humanities-I	HSS
HSS-II	Humanities-II	HSS
LIF111	Introduction to Biology	BSBE
MSO201	Probability and Statistics	EE, PHY
MTH111M	Single Variable Calculus	MTH
MTH112M	Application of Single Variable Calculus & Several Variable Calculus	MTH
MTH113M	Linear Algebra	MTH
MTH114M	Ordinary Differential Equations	MTH
PHY111	Physics Laboratory	PHY
PHY112	Classical Dynamics	PHY
PHY113	Classical Electrodynamics	PHY
PHY114	Quantum Physics	PHY
PHY115	Oscillations and Waves	PHY
PSO201	Quantum Physics	PHY
EME-DMS211	Introduction to Management	DMS
EME-ECO111	Economy, Society & Public Policy	ECO
EME-SEE211	Energy, Climate Change & Sustainability	SEE
TA111	Engineering Graphics	AE, CE, ME, MSE
TA211	Manufacturing Processes I	MSE
TA212	Manufacturing Processes II	ME

2.Estimate of Number of Students in Core Courses in Second (II) Semester during the Year 2026-27

Table 4: List of core courses and estimate of number of students.

Course Group	Course No.	Course Title	L	T	P	Credit	Full (F) or Modular (M)	Inst. Unit/ 90 Students	Tutorial Unit per Section	Estimated number of New Students	No. of students having fail backlogs	No. of students registered in 2025-26-II
2nd Semester IC Courses	CHM111	Chemistry Lab	0	0	3	3		1.5	1.5	619	3	613
	CHM112M	General Chemistry: Physical Chemistry	2	1	0	4	M	1.25	0.25	626	33	623
	CHM113M	General Chemistry: Inorganic & Organic Chemistry	2	1	0	4	M	1.25	0.25	626	23	619
	MTH113M	Linear Algebra	3	1	0	6	M	1.75	0.25	1245	101	1238
	MTH114M	Ordinary Differential Equations	3	1	0	6	M	1.75	0.25	1245	91	1270
	PHY111	Physics Laboratory	0	0	3	3		1.5	1.5	626	9	614
	PHY112	Classical Dynamics	3	1	0	11		3.5	0.5	373	39	338
	PHY113	Classical Electrodynamics	3	1	0	11		3.5	0.5	367	37	382
	PHY114	Quantum Physics	3	1	0	11		3.5	0.5	284	21	290
	PHY115	Oscillations And Waves	3	1	0	11		3.5	0.5	217	20	245
	ESC111M	Fundamentals Of Computing - I	3	1	3	7	M	2.5	1	626	22	605
	ESC112M	Fundamentals Of Computing - II	3	1	3	7	M	2.5	1	514	23	503
	ESC113M	Computer Methods for Engineers	3	1	3	7	M	2.5	1	105	11	104
	LIF111	Introduction To Biology	2	0	0	6		2		620	20	611
	TA111	Engineering Graphics	2	0	3	9		3.5	1.5	620	34	632
	ETH111	Practical Ethics*	1	0	0	3		1		620	51	610
	ELC112/113	English Language & Communication								626	4	611
	PE112	Morning Exercise								1246	31	1246

Course Group	Course No.	Course Title	L	T	P	Credit	Full (F) or Modular (M)	Inst. Unit/ 90 Students	Tutorial Unit per Section	Estimated number of New Students	No. of students having fail backlogs	No. of students registered in 2025-26-II
Engineering Science Options	ESO201	Thermodynamics	3	1	0	11		3.5	0.5	69	40	101
	ESO202	Solid Mechanics	3	1	0	11		3.5	0.5	149	61	188
	ESO203	Intro Electrical Engg.	3	1	2	13		4.5	1.5	192	6	216
	ESO207	Data Structures and Algorithms	3	0	3	12		4.5		32	23	248
	MSO201	Probability And Statistic	3	1	0	11		3.5	0.5	237	13	264
	PSO201	Quantum Physics	2	1	0	8		2.5	0.5	45	5	45
	ESC201	Introduction to Electronics	3	1	3	14		5	2	600	35	521
	TA211	Manufacturing Processes I	0	0	3	3		1.5	1.5	192	3	199
	TA212	Manufacturing Processes II	0	0	3	3		1.5	1.5	217	8	221
SCHEME Course	ECO111	Economy, Society and Public Policy	3	1	0	11		3.5	0.5	200	6	285
	DMS201	Introduction to Management	3	0	0	9		3		200	6	209
	SEE211	Energy, Climate Change and Sustainability	3	0	0	9		3		200	2	148
	HSS-I	Humanities-I	3	1	0	11		3.5	0.5	600	70	430
	HSS-II	Humanities-II	3	0	0	9		3		1800	150	1800
Backlog Courses	MTH111M	Single Variable Calculus	3	1	0	6	M	1.75	0.25		136	130
	MTH112M	Application of Single Variable Calculus & Several Variable Calculus	3	1	0	6	M	1.75	0.25		122	70

3. Department/IDP-wise Breakup of Instruction Unit and Tutorial Unit for Core Courses in Second (II) Semester during the Year 2026-27

Instruction Unit (IU) for a course with less than or equal to 90 students is defined as follows¹:

$$IU = 1L + 0.5T + 0.5P$$

where number of 50 minutes lecture, number of 50 minutes tutorial, and number of 50 minutes practical. The number 90 is based on the IPSA model. For a course with students' strength, is defined as follows:

$$IU = \left\lceil \frac{N}{90} \right\rceil \times (1L + 0.5T + 0.5P)$$

where the smallest integer greater than or equal to. for each section of theory tutorial or laboratory instruction is defined as follows **Error! Unknown switch argument.:**

$$TU = 0.5T + 0.5P$$

where and are as defined earlier. For modular courses, the and calculated above will be multiplied by.

Table 5: Department/IDP-wise Breakup of Instruction Unit

Course No.	Course Title	Total IU	AE	BSBE	CE	CHE	CHM	CGS	CSE	DMS	DP	ECO	EE	ES	HSS	ME	MSE	MTH	SDS	PHY	SEE	SSA
CHM111	Chemistry Lab	10.5					10.5															
CHM112M	General Chemistry: Physical Chemistry	10					10															
CHM113M	General Chemistry: Inorganic & Organic Chemistry	10					10															
MTH113M	Linear Algebra	26.25																26.25				
MTH114M	Ordinary Differential Equations	26.25																26.25				
PHY111	Physics Laboratory	12																		12		
PHY112	Classical Dynamics	17.5																		17.5		
PHY113	Classical Electrodynamics	17.5																		17.5		

¹The factor 0.5 for in the equation assumes equal effort from the instructor and tutor to conduct one tutorial.

CourseNo.	Course Title	Total IU	AE	BSBE	CE	CHE	CHM	CGS	CSE	DMS	DP	ECO	EE	ES	HSS	ME	MSE	MTH	SDS	PHY	SEE	SSA
PHY114	Quantum Physics	14																		14		
PHY115	Oscillations And Waves	10.5																		10.5		
ESC111M	Fundamentals Of Computing - I	20							20													
ESC112M	Fundamentals Of Computing - II	15							15													
ESC113M	Computer Methods for Engineers	5				5																
LIF111	Introduction To Biology	16		16																		
TA111	Engineering Graphics	28			28																	
ETH111	Practical Ethics*	1																				
ELC112/113	English Language & Communication	0		Instructor for ELC112/113 will be provided by the DOAA office. However, all the departments need to provide TAs to manage this course.																		
PE112	Morning Exercise	0																				
ESO201	Thermodynamics	7	7																			
ESO202	Solid Mechanics	10.5														10.5						
ESO203	Intro Electrical Engg.	13.5											13.5									
ESO207	Data Structures and Algorithms	4.5							4.5													
MSO201	Probability And Statistic	10.5																	10.5			
PSO201	Quantum Physics	2.5																		2.5		
ESC201	Introduction to Electronics	40											40									
TA211	Manufacturing Processes I	4.5															4.5					
TA212	Manufacturing Processes II	4.5														4.5						

²Requires two instructors per semester.

CourseNo.	Course Title	Total IU	AE	BSBE	CE	CHE	CHM	CGS	CSE	DMS	DP	ECO	EE	ES	HSS	ME	MSE	MTH	SDS	PHY	SEE	SSA
ECO111	Economy, Society and Public Policy	10.5										10.5										
DMS201	Introduction to Management	9								9												
SEE211	Energy, Climate Change and Sustainability	9																		9		
HSS-I	Humanities-I	28													28							
HSS-II	Humanities-II	66													66							
MTH111M	Single Variable Calculus	3.5																3.5				
MTH112M	Application Of Single Variable Calculus & Several Variable Calculus	3.5																3.5				
Total Instruction Unit			7	16	28	5	30.5	0	39.5	9	0	10.5	53.5	0	94	15	4.5	59.5	10.5	74	9	0
Approximate Faculty Strength			31	27	43	31	39	7	37	27	14	26	57	18	29	45	26	42	10	48	12	8
Total Instruction Unit per Faculty			0.23	0.59	0.65	0.16	0.78	0.00	1.07	0.33	0.00	0.40	0.94	0.00	3.24	0.33	0.17	1.42	1.05	1.54	0.75	0.00

Table 6: Department/IDP-wise Breakup of Tutor requirements

Course No.	Course Title	Total Sections	AE	BSBE	CE	CHE	CHM	CGS	CSE	DMS	DP	ECO	EE	ES	HSS	ME	MSE	MTH	SDS	PHY	SEE	SSA
CHM111	Chemistry Lab	20					20															
CHM112M	General Chemistry: Physical Chemistry	7					7															
CHM113M	General Chemistry: Inorganic & Organic Chemistry	7					7															
MTH113M	Linear Algebra	14																14				
MTH114M	Ordinary Differential Equations	14																14				
PHY111	Physics Laboratory	20																		20		
PHY112	Classical Dynamics	5																		5		
PHY113	Classical Electrodynamics	5																		5		
PHY114	Quantum Physics	4																		4		
PHY115	Oscillations And Waves	3																		3		
ESC111M	Fundamentals of Computing - I	20							20													
ESC112M	Fundamentals of Computing - II	17							17													
ESC113M	Computer Methods for Engineers	3				3																
LIF111	Introduction To Biology																					
TA111	Engineering Graphics	20	5		5											5	5					
ETH111	Practical Ethics*																					
ELC112/113	English Language & Communication																					
PE112	Morning Exercise																					
ESO201	Thermodynamics	3	3																			
ESO202	Solid Mechanics	6														6						

Course No.	Course Title	Total Sections	AE	BSBE	CE	CHE	CHM	CGS	CSE	DMS	DP	ECO	EE	ES	HSS	ME	MSE	MTH	SDS	PHY	SEE	SSA
ESO203	Intro Electrical Engg.	6											6									
ESO207	Data Structures and Algorithms																					
MSO201	Probability And Statistic	3											2							1		
PSO201	Quantum Physics	1																		1		
ESC201	Introduction to Electronics	20											20									
TA211	Manufacturing Processes I	2															2					
TA212	Manufacturing Processes II	3														3						
ECO111	Economy, Society and Public Policy	3										3										
DMS201	Introduction to Management																					
SEE211	Energy, Climate Change and Sustainability																					
HSS-I	Humanities-I	20													20							
HSS-II	Humanities-II																					
MTH111M	Single Variable Calculus	2																2				
MTH112M	Application of Single Variable Calculus & Several Variable Calculus	2																2				

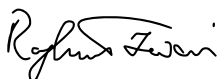
Course No.	Course Title	Total TU	AE	BSBE	CE	CHE	CHM	CGS	CSE	DMS	DP	ECO	EE	ES	HSS	ME	MSE	MTH	SDS	PHY	SEE	SSA
ESO207	Data Structures and Algorithms																					
MSO201	Probability And Statistic	1.5											1							0.5		
PSO201	Quantum Physics	0.5																		0.5		
ESC201	Introduction to Electronics	40											40									
TA211	Manufacturing Processes I	3															3					
TA212	Manufacturing Processes II	4.5														4.5						
ECO111	Economy, Society and Public Policy	1.5										1.5										
DMS201	Introduction to Management																					
SEE211	Energy, Climate Change and Sustainability																					
HSS-I	Humanities-I	10													10							
HSS-II	Humanities-II																					
MTH111M	Single Variable Calculus	0.5																0.5				
MTH112M	Application Of Single Variable Calculus & Several Variable Calculus	0.5																0.5				
Total Tutorial Unit			9	0	7.5	3	33.5	0	37	0	0	1.5	50	0	10	14.5	10.5	8	0	39.5	0	0
Approximate Faculty Strength			32	25	45	28	39	5	33	26	8	24	53	16	29	44	28	54	10	50	9	4
Total Tutorial Unit per Faculty			0.28	0.00	0.17	0.11	0.86	0.00	1.12	0.00	0.00	0.06	0.94	0.00	0.34	0.33	0.38	0.15	0.00	0.79	0.00	0.00

Appendix

Important Information Regarding Individual Section Sizes for Various Courses and Workload

1. Tutorial section sizes have been fixed based on last year's CCC data/report and with inputs from respective HODs.
2. One tutor will be assigned per section (normally 30 students) for PHY111 and CHM111 laboratory sessions.
3. One tutor will be assigned per day (i.e., per four sections, i.e., ~ 120 students) for TA211 and TA212 labs.
4. Tutors assigned for ESC111M, ESC111M and ESC201 tutorials will also take care of the laboratory sessions of the same sections.
5. Increasing the number of sections in any course is undesirable.
6. The student number in each section may be increased slightly, i.e., up to 40 in sections normally having 35 students and up to 110 in sections normally having 100 students to prevent an increase in the number of sections.
7. The total registration in some courses has to be restricted considering seating capacity of the lecture hall assigned for the course.
8. The number of sections in some ESO/SO courses may be reduced in certain cases after registration, in case the number of students registered is less than expected.
9. ELC111/ELC112/ELC113 will be managed by DOAA but TAs will be provided by all the departments.

Core Curriculum Committee Members



Dr. Raghunath Tewari



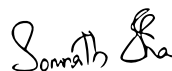
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