Report of the Core Curriculum Committee

First (I) Semester of the Year 2022-23 for New Students

1. Guidelines for Drawing Instructors and Tutors from Various Departments

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

Course No. and Title	Departments			
	2020-21 & 2021-22	2022-23 & 2023-24	2024-25 & 2025-26	2026-27 & 2027-28
TA111(Engineering Graphics)	ME	CE	AE	CE

1.2 List of Core Courses and Respective Departments that will provide Theory and Lab Tutors / Instructors

Course no.	Course Name	Departments That Provide Tutors / Lab Instructors
CHM111	CHEMISTRY LABORATORY	CHM
CHM112	GENERAL CHEMISTRY: PHYSICAL CHEMISTRY	CHM
CHM113	GENERAL CHEMISTRY: INORGANIC & ORGANIC CHEMISTRY	CHM
MTH111	SINGLE VARIABLE CALCULUS	MTH
MTH112	APPLICATION OF SINGLE VARIABLE CALCULUS & SEVERAL VARIABLE CALCULUS	MTH
MTH113	LINEAR ALGEBRA	MTH
MTH114	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
ESC111	FUNDAMENTALS OF COMPUTING - I	CSE
ESC112	FUNDAMENTALS OF COMPUTING - II	CSE
LIF111	INTRODUCTION TO BIOLOGY	BSBE
TA111	ENGINEERING GRAPHICS	CE, AE, ME
ETH111	PRACTICAL ETHICS	
ELC111	ENGLISH LANGUAGE & COMMUNICATION (BASIC) (SCHEME)	
ELC112	ENGLISH LANGUAGE & COMMUNICATION (INTERMEDIATE) (SCHEME)	
ELC113	ENGLISH LANGUAGE & COMMUNICATION (ADVANCED) (SCHEME)	

Note: Table is constructed largely using data from previous years.

2. Estimate of Number of Students in Core Courses in First (I) Semester during the Year 2022-23

Course Group	Course No.	Course title	Estimated number of New students	No. of students having fail backlogs	No. of students registered in 2021-22-I	Final estimate for 2022-23–I
First Semester Courses	CHM111	CHEMISTRY LABORATORY	650	00	00	650
	CHM112	GENERAL CHEMISTRY: PHYSICAL CHEMISTRY	650	00	00	650
	CHM113	GENERAL CHEMISTRY: INORGANIC & ORGANIC CHEMISTRY	650	00	00	650
	MTH111	SINGLE VARIABLE CALCULUS	1250	00	1200	1250
	MTH112	APPLICATION OF SINGLE VARIABLE CALCULUS & SEVERAL VARIABLE CALCULUS	1250	00	1200	1250
	MTH113	LINEAR ALGEBRA	For second sem			
	MTH114	ORDINARY DIFFERENTIAL EQUATIONS	For second sem			
	PHY111	PHYSICS LABORATORY	650	00	00	650
	PHY112	CLASSICAL DYNAMICS	370	00	-	370
	PHY113	CLASSICAL ELECTRODYNAMICS	386	00	-	386
	PHY114	QUANTUM PHYSICS	214	00	-	214
	PHY115	OSCILLATIONS AND WAVES	240	00	-	240
	ESC111	FUNDAMENTALS OF COMPUTING - I	650	00	-	650
	ESC112	FUNDAMENTALS OF COMPUTING - II			-	
	ESC113	COMPUTER METHODS FOR ENGINEERS			-	
	LIF111	INTRODUCTION TO BIOLOGY	600	00	590	600
	TA111	ENGINEERING GRAPHICS	600	00	594	600
	ETH111	PRACTICAL ETHICS	650	00	00	650
	ELC111	ENGLISH LANGUAGE & COMMUNICATION (BASIC) (SCHEME)				
	ELC112	ENGLISH LANGUAGE & COMMUNICATION (INTERMEDIATE) (SCHEME)				
	ELC113	ENGLISH LANGUAGE & COMMUNICATION (ADVANCED) (SCHEME)				

3. Core Course Teaching Support Requirement in First (I) Semester during the Year 2022-23

Course(s)	Course No.	Course title	Credits	Estimated No. of students	Students per Section (approx.)	No. of sections	Theory tutors	Lab. tutors	Instruction units	Total (Instruction and tutorial/lab) units
First Semester Courses	CHM111	CHEMISTRY LAB	0-0-3 [03]	650	33	20	--	20	1.0	20+1=21
	CHM112 (M)	GENERAL CHEMISTRY: PHYSICAL CHEMISTRY	2-1-0 [04]	650	100	6	6		3.0	3+6=9/2
	CHM113 (M)	GENERAL CHEMISTRY: INORGANIC & ORGANIC CHEMISTRY	2-1-0 [04]	650	100	6	6		3.0	3+6=9/2
	MTH111 (M)	SINGLE VARIABLE CALCULUS	3-1-0 [6]	1250	100	12	12	--	4.0	12+4=16/2
	MTH112 (M)	APPLICATION OF SINGLE VARIABLE CALCULUS & SEVERAL VARIABLE CALCULUS	3-1-0 [6]	1250	100	12	12		4.0	12+4=16/2
	PHY111	PHYSICS LABORATORY	0-0-3 [03]	650	33	20	--	20	1.0	20+1=21
	PHY112	CLASSICAL DYNAMICS	3-1-0 [11]	370	100	04	04	--	2.0	4+2=6
	PHY113	CLASSICAL ELECTRODYNAMICS	3-1-0 [11]	386	100	04	04		2.0	4+2=6
	PHY114	QUANTUM PHYSICS	3-1-0 [11]	214	100	02	02		2.0	2+2=4
	PHY115	OSCILLATIONS AND WAVES	3-1-0 [11]	240	100	02	02	--	2.0	2+2=4
	ESC111 (M)	FUND. OF COMPUTING - I	3-1-3 [7]	650	33	20	20	20	4.0	20+20+4=44/2
	ESC112 (M)	FUND. OF COMPUTING - II	3-1-3 [7]	650	33	20	20	20	4.0	20+20+4=44/2
	LIF111	INTRODUCTION TO BIOLOGY	2-0-0 [06]	650	-	--	--	--	3.0	03.0
	TA111	ENGINEERING GRAPHICS	2-0-3 [09]	650	33	20	--	20	3.0	20+3=23
	ETH111	PRACTICAL ETHICS	1-0-0 [3]	650	33	20	20	--	2.0	2+20=22†
	ELC111	ENGLISH LANGUAGE & COMMUNICATION (BASIC) (SCHEME)	2-1-1-[9]		**Instructor for ELC111/112/113 will be provided by the DOAA office. However, all the departments need to provide TAs to manage this course.**					
	ELC112	ENGLISH LANGUAGE & COMMUNICATION (INTERMEDIATE) (SCHEME)	2-1-1-[9]							
	ELC113	ENGLISH LANGUAGE & COMMUNICATION (ADVANCED) (SCHEME)	2-1-1-[9]							
Total Units Required =		**Science Units =**		**Engineering Science Units =**		**Other Units =**				

Note:

1. When a course has tutorials and lab, then the tutor is supposed to take care of both.
2. Instruction Units:
   Only lab course: 1.0; Lecture Course (class size < 60): 1.0;
   Lecture Course (60 _class size < 150): 1.5; Lecture Course (150 _class size < 600): 2.0 (3 lec/wk), 1.5 (2 lec/wk), 1.0 (1 lec/wk);
   Lecture Course (600 _class size): 4.0 (3 lec/wk), 3.0 (2 lec/wk), 2.0 (1 lec/wk); Tutorials: 1.0
3. TA201 lab capacity is 120 and it is split into 4 sections. One instructor handles all the 4 sections simultaneously. In all other courses the section size may be increased by at most 5.
4. **(M)** indicates modular courses.
5. **ELC111/ELC112/ELC113 will be managed by DOAA but TAs will be provided by all the departments.**

†It should be counted as 20 units only though calculation also includes 2 instruction units as per the formula.

4. Department/IDP-wise Breakup of Instructor's and/or Tutors for Core Courses in First (I) Semester during the Year 2022-23

Course No.	Course Name	Units Req.	AE	BSBE	CHE	CE	CSE	EE	IME	ME	MSE	CHM	MTH	PHY	HSS	ES	ECO	SEE	DP	CGS	SSA	TOTAL
ETH111	Ethics	20.0	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20+0
CHM111	CHEMISTRY LAB	20+1=21										1+20										1+20
CHM112 (M)	General Chemistry: Physical Chemistry	3+6=9/2										3+6										3+6
CHM113 (M)	General Chemistry: Inorganic & Organic Chemistry	3+6=9/2										3+6										3+6
MTH111 (M)	Single Variable Calculus	12+4=16/2											4+12									4+12
MTH112 (M)	Application Of Single Variable Calculus & Several Variable Calculus	12+4=16/2											4+12									4+12
PHY111	Physics Laboratory	20+1=21												1+20								1+20
PHY112	Classical Dynamics	4+2=6												2+4								2+4
PHY113	Classical Electrodynamics	4+2=6												2+4								2+4
PHY114	Quantum Physics	2+2=4												2+2								2+2
PHY115	Oscillations And Waves	2+2=4												2+2								2+2
ESC111 (M)	Fund. Of Computing - I	20+20+4=44/2					4+20															4+20
ESC112 (M)	Fund. Of Computing - II	20+20+4=44/2					4+20															4+20
LIF111	Introduction To Biology	3.0		3+0																		3+0
TA111	Engineering Graphics	20+3=23	0+5			3+6				0+9												3+20
ELC111	English Language																					
ELC112	English Language																					
ELC113	English Language																					
Total Load Assigned		177	6	4	1	11	45	1	1	10	1	31	17	42	1	1	1	1	1	1	1	177
Approximate Faculty Strength		-	28	19	23	40	32	46	17	41	26	37	47	41	28	10	13	7	5	5	2	467
Ratio of Load Assigned: Faculty			0.21	0.21	0.04	0.28	1.41	0.02	0.06	0.24	0.04	0.83	0.36	1.02	0.04	0.1	0.08	0.14	0.2	0.2	0.5	

- Units are assigned as 'm + n', where 'm' indicate instructor units and 'n' indicates tutor units.
- $ The unit assigned is halved for half semester courses
- Economic Sciences shall offer one HSS I and one HSS II each semester.

Appendix

Important Information Regarding Individual Section Sizes for Various Courses and Work Load

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 33 students) for PHY111 and CHM111 laboratory sessions.
3. Tutors assigned for ESC111, ESC112, tutorials will also take care of the laboratory sessions of the same sections.
4. Increasing the number of sections in any course is undesirable.
5. Student number in each section may be increased slightly, i.e., up to 40 in sections normally having 35 students and up to 120 in sections normally having 100 students to prevent increase in the number of sections.
6. The total registration in some courses has to be restricted considering seating capacity of the lecture hall assigned for the course.

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