1.3 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
CHM101	Chemistry Lab	CHM
MTH101	Mathematics-I	MTH
PHY101	Physics Lab	PHY
PHY102	Physics-I	PHY
PHY103	Physics-II	PHY
ESC101	Intro to Computing	CSE
LIF101	Life Science	BSBE
TA101	Engineering Graphics	AE, CE, ME
ENG112	English Language	HSS
HSS-I(1)	Humanities-I	HSS
ESC201	Electronics	EE
TA201	Manufacturing Lab	MSE
TA202	Mechanical Lab	ME
COM200	Communication	CE, IME, HSS, ES
HSS-I(2)	Humanities-I	HSS
ESO201	Thermodynamics	AE, CHE, ME
ESO202	Mechanics of Solids	AE, CE, ME
ESO203	Intro Electrical Engg.	EE
ESO204	Mechanics of Fluids	AE, CHE, ME
ESO205	Nature of Materials	CHE, MSE
ESO206	Biotechnology	BSBE
ESO207	Data Structures	CSE
ESO208	Numerical Methods	CHE, CE, ME
ESO209	Dynamics	AE, ME
ESO213	Fundamentals of ES	ES
MSO202a	Complex Analysis	CSE, ME, MTH, EE, AE
MSO203b	Partial Diff. Eqns	AE, CE, ME, MSE, MTH,EE
MTH102R	Mathematics-II	MTH
CHM102R	General Chemistry	CHM

Note:Table constructed using data from previous years.

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2.Estimate of Number of Students in Core Courses in First (I) Semester during the Year 2017-18

CourseGroup	Course No.	Course Name	Estimated Number of New Students	No. of Students Failed in 2016-17(I)	No. of Students Registered in 2016-17 (I)	Final Estimate for 2017-18 – Sem. I
First Semester Courses	CHM101	Chemistry Lab	420			420
	MTH101	Mathematics-I	840	89		929
	PHY101	Physics Lab	420	3		423
	PHY102	Physics-I	420	42		462
	PHY103	Physics-II	420	37		457
	ESC101	Computing	420	26		446
	LIF101	Life Sciences	420	21		441
	TA101	Engineering Graphics	420	7		427
	ENG112	English Language	90	10		100
	HSS-I(1)	Humanities-I	750	50		800
Third Semester Courses	ESC201	Intro. to Electronics	420	28		448
	TA201	Manufacturing Lab	420	5		425
	TA202	Mechanical Lab	420	46		466
	COM200	Communication Skill	510	-		510
	HSS-I(2)	Humanities-I	420	-		420
Engineering Science Options	ESO201	Thermodynamics		40	274	325
	ESO202	Mechanics of Solids		24	200	225
	ESO203	Intro. to Elect. Engineering		6	125	150
	ESO204	Fluid Mechanics		28	321	350
	ESO205	Properties of Materials		6	165	200
	ESO206	Biotechnology		13	138	150
	ESO207	Data Structures		8	180	225
	ESO208	Numerical Methods		56	331	350
	ESO209	Dynamics		15	192	225
	ESO213	Fundamentals of Earth Science		15	116	125
Science Options Repeat	MSO202a	Complex Analysis	450	9	425	459
	MSO203b	Partial Differential Eqns	500	64	540	564
	MTH102A	Mathematics-II			0	100
	CHM102A	Gen. Chemistry			5	20

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3.Core Course Teaching Support Requirement in First (I) Semester during the Year 2017-18

Course(s)	Course No.	Course Name	Units	Estimated No. of Students	Students per section(Appx)	No. of Sections	Theory Tutors	Lab. Tutors	Instruction Units	Total (Instruction + max(Tutorial, Lab)) Units
First Semester Courses	CHM 101	Chemistry Lab	0-0-3 [03]	420	35	12	-	12	--	12.0
	MTH 101	Mathematics-I	3-1-0 [11]	929	100	09	09	-	4.0	13.0
	PHY101	Physics Lab	0-0-3 [03]	423	35	12	-	12	--	12.0
	PHY102	Physics-I	3-1-0 [11]	462	90	05	05	-	2.0	7.0
	PHY103	Physics -II	3-1-0 [11]	457	90	05	05	-	2.0	7.0
	ESC101	Fund. Of Computing	3-1-3 [14]	446	30	14	14	14	2.0	16.0
	LIF101	Life Sciences	2-0-0 [06]	441	-	-	-	-	1.5	1.5
	TA101	Engineering Graphics	2-0-3 [09]	427	35	13	-	13	1.5	14.5
	ENG112	English Language	3-1-0 [11]	100	35	03	03	-	1.5	4.5
	HSS-I (1)	Humanities-I	3-1-0-[11]	800	40	20	20	-	4.0	24
Third Semester Courses	ESC201	Intro. To Electronics	3-1-3 [14]	448	30	15	15	15	2.0	17.0
	TA201	Manufact. Proc. (MSE)	1-0-3 [06]	425	85	05	-	05	1.0	6.0
	TA202	Manufact. Proc. (ME)	1-0-3 [06]	466	90	05	-	05	1.0	6.0
	COM200	Communication Skills	1-0-2 [05]	510	35	15	-	15	1.0	16.0
	HSS-I (2)	Humanities-I	3-1-0 [11]	420	35	12	12	-	2.0	14.0
Engineering Science Options	ESO201	Thermodynamics	3-1-0 [11]	325	35	10	10	--	2.0	12.0
	ESO202	Mechanics of Solids	3-1-0 [11]	225	35	07	07	--	2.0	9.0
	ESO203	Intro. Electrical Engg.	3-1-2 [13]	150	35	04	04	04	2.0	6.0
	ESO204	Fld. Mech. and Rate Proc.	3-1-0 [11]	350	35	10	10	--	2.0	12.0
	ESO205	Nat. and Prop. of Mat.	3-1-3 [14]	200	40	05	05	05	2.0	7.0
	ESO206	Biotechnology	3-1-0 [11]	150	40	04	04	--	2.0	6.0
	ESO207	Data Structures	3-0-3 [12]	225	-	-	--	--	2.0	2.0
	ESO208	Numerical Methods	3-1-0 [11]	350	40	09	09	--	2.0	11.0
	ESO209	Dynamics	2-1-0 [08]	225	40	06	06	--	2.0	8.0
	ESO213	Fundamentals of ES	3-0-0 [09]	125	-	-	-	--	1.5	1.5
Science Options	MSO202a	Complex Analysis	3-1-0 [11]	459	90	05	05	-	2.0	7.0
	MSO203b	Partial Diff. Equations	3-1-0 [11]	564	90	06	06	-	2.0	8.0
Repeat	MTH102R	Mathematics-II	3-1-0 [11]	100	35	03	03	-	1.5	4.5
	CHM102R	General Chemistry	2-1-0 [08]	20	20	01	01	-	1.0	2.0

Total Units Required 266.5 ; Science Units = 74.0 Engineering Science Units = 107.5 Other Units = 85.0

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: 0.0; 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: 0.0

3. TA201 lab capacity is 90 and it is split into 3 sections. One instructor handles all the 3 sections simultaneously. In all other courses the section size may be increased by at most 5.

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4. **Department/IDP-wise Breakup of Instructor's and/or Tutors for Core Courses in First (I) Semester during the Year 2017-18**

Course No.	Course Name	Units Reqd	AE	BSBE	CHE	CE	CSE	EE	IME	ME	MSE	CHM	MTH	PHY	HSS	ES	TOTAL
CHM 101*	Chemistry Lab	12.0										0+12					0+12
MTH 101	Mathematics-I	13.0											4+9				4+9
PHY101	Physics Lab	12.0												0+12			0+12
PHY102	Physics-I	7.0												2+5			2+5
PHY103	Physics –II	7.0												2+5			2+5
ESC101	Fund. Of Computing	16.0					2+14										2+14
LIF101	Life Sciences	1.5		1.5+0													1.5+0
TA101	Engineering Graphics	14.5	1.5+3			0+6				0+4							1.5+13
ENG112	English Language	4.5													1.5+3		1.5+3
HSS-I (1)	Humanities-I	24													4+20		4+20
ESC201	Intro. to Electronics	17.0						2+15									2+15
TA201	Manufact. Proc. (MSE)	6.0									1+5						1+5
TA202	Manufact. Proc. (ME)	6.0								1+5							1+5
COM200	Communication Skills	16.0				0+1			0+10						1+3	0+1	1+15
HSS-I (2)	Humanities-I	14.0													2+12		2+12
ESO201	Thermodynamics	12.0	0+4		2+4					0+2							2+10
ESO202	Mechanics of Solids	9.0	0+2			2+3				0+2							2+7
ESO203	Intro. Electrical Engg.	6.0						2+4									2+4
ESO204	Fld. Mech. and Rate Proc.	12.0	0+3		0+3					2+4							2+10
ESO205	Nat. and Prop. of Mat.	7.0			0+1						2+4						2+5
ESO206	Biotechnology	6.0		2+4													2+4
ESO207	Data Structures	2.0					2+0										2+0
ESO208	Numerical Methods	11.0			0+4	2+4				0+1							2+9
ESO209	Dynamics	8.0	0+1							2+5							2+6
ESO213	Fundamentals of ES	1.5														1.5+0	1.5+0
MSO202a	Complex Analysis	7.0	0+0				0+1	0+1		0+1			2+2				2+5
MSO203b	Partial Diff. Equations	8.0	0+2			0+1		0+1		0+1	0+1		2+0				2+6
MTH102R	Mathematics-II	4.5											1.5+3				1.5+3
CHM102R	General Chemistry	2.0										1+1					1+1
Total Load Assigned			16.5	7.5	14	19	19	25	10	30	13	14	23.5	26	46.5	2.5	266.5
Approximate Faculty Strength			23	14	20	28	33	42	18	37	25	30	38	37	39	7	
Ratio of Load Assigned : Faculty			0.72	0.54	0.70	0.68	0.58	0.60	0.56	0.81	0.52	0.47	0.62	0.70	1.19	0.36	

Units are assigned as 'm + n', where 'm' indicates instructor units and 'n' indicates tutor units. * See Appendix for notes on load for CHM (Items 9).

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Appendix

A.1: Important information regarding individual section sizes for various courses and workload

1. The number of tutorial sections has been fixed roughly based on last year's SCCC data/report and time table.
2. One tutor will be assigned per section (normally 35 students) for PHY101 and CHM101 laboratory sessions.
3. One tutor will be assigned per day (i.e., per three sections, i.e., ~ 90 students) for TA201 and TA202 labs.
4. Tutors assigned for ESC101, ESC201, ESO203 and ESO205 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. 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 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. It is noted that although the total Instruction Units for CHM101 is 12.0, CHM slots these labs four days a week with slightly increased involvement of Tutors.

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