

Report of Core Curriculum Committee
First (I) Semester of the Year 2016 -17

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 When Instructors are drawn from Multiple Departments

Course No.and Title	Department			
	2010-11 & 2011-12	2012-13 & 2013-14	2014-15 & 2015-16	2016-17 & 2017-18
TA101(EngineeringGraphics)	CE	ME	CE	AE
ESO201(Thermodynamics)	AE	CHE	ME	CHE
ESO202(SolidMechanics)	ME	CE	AE	CE
ESO204(FluidMechanics)	CHE	AE	CHE	ME

1.2 List of Core Courses and respective Departments handling them as per MA Committee When Instructors are drawn from a Fixed Department

Department	Course(s)
BSBE	LIF101, ESO206
CHM	CHM101, CHM102, CHM102R, CSO201, CSO202
CE	ESO208
CSE	ESC101, ESO207
EE	ESC201, ESO203
HSS	HSS-I, ENG112, HSS-II, COM200
ME	TA202, ESO209
MSE	TA201, ESO205
MTH	MTH101, MTH101R, MTH102, MTH102R, MSO201, MSO202a, MSO203b
PHY	PHY101, PHY102, PHY103, PSO201

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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, PHY
ESO206	Biotechnology	BSBE
ESO207	Data Structures	CSE
ESO208	Numerical Methods	CHE, CE, ME
ESO209	Dynamics	AE, ME
MSO202a	Complex Analysis	CSE, ME, MTH,EE
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 2016-17

Course Group	Course No.	Course Name	Estimated Number of New Students	No. of Students Failed in 2015-16(I)	No. of Students Registered in 2015-16 (I)	Final Estimate for 2016-17 – Sem. I
First Semester Courses	CHM101	Chemistry Lab	420	5		425
	MTH101	Mathematics-I	840	87		927
	PHY101	Physics Lab	420	7		427
	PHY102	Physics-I	420	65		485
	PHY103	Physics-II	420	110		530
	ESC101	Computing	420	60		480
	LIF101	Life Sciences	420	35		455
	TA101	Engineering Graphics	420	25		445
	ENG112	English Language	<u>100*</u>	-		<u>100*</u>
	HSS-I(1)	Humanities-I	<u>800*</u>	-		<u>800*</u>
Third Semester Courses	ESC201	Electronics	420	92		512
	TA201	Manufacturing Lab	420	5		425
	TA202	Mechanical Lab	420	30		450
	COM200	Communication Skill	420	90		510
	HSS-I(2)	Humanities-I	420	-		420
Engineering Science Options	ESO201	Thermodynamics			314	350
	ESO202	Mechanics of Solids			220	225
	ESO203	Intro Elect. Engineering			175	200
	ESO204	Fluid Mech.			329	350
	ESO205	Properties of Materials			192	200
	ESO206	Biotechnology			83	125
	ESO207	Data Structures			290	300
	ESO208	Numerical Methods			321	350
	ESO209	Dynamics			206	250
Science Options Repeat	MSO202a	Complex Analysis	500	14		514
	MSO203b	Partial Differential Eqns	500	90		590
	MTH102A	Mathematics-II			16	<u>100**</u>
	CHM102A	Gen. Chemistry			2	20

Highlighted numbers are showing the students registered in 2015-16-I Semester. * Estimate for previous year was 90 (ENG112) and 750 (HSS-I(1)).

** As per Head MTH

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3.Core Course Teaching Support Requirement in First (I) Semester during the Year 2016-17

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 and Tutorial/Lab) Units
First Semester Courses	CHM 101	Chemistry Lab	0-0-3 [03]	425	35	12	-	12	--	12.0
	MTH 101	Mathematics-I	3-1-0 [11]	927	100	09	09	-	4.0	13.0
	PHY101	Physics Lab	0-0-3 [03]	427	35	12	-	12	--	12.0
	PHY102	Physics-I	3-1-0 [11]	485	100	05	05	-	2.0	7.0
	PHY103	Physics -II	3-1-0 [11]	530	100	05	05	-	2.0	7.0
	ESC101	Fund. Of Computing	3-1-3 [14]	480	35	14	14	14	2.0	16.0
	LIF101	Life Sciences	2-0-0 [06]	455	-	-	-	-	2.0	2.0
	TA101	Engineering Graphics	2-0-3 [09]	445	35	13	-	13	2.0	15
	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	Electronics	3-1-3 [14]	512	35	15	15	15	2.0	17.0
	TA201	Manufact. Proc. (MSE)	1-0-3 [06]	425	90	05	-	05	2.0	7.0
	TA202	Manufact. Proc. (ME)	1-0-3 [06]	450	100	05	-	05	2.0	7.0
	COM200	Communication Skills	1-0-2 [05]	510	35	15	-	15	2.0	17.0
	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]	350	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]	200	35	06	06	06	2.0	8.0
	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	35	06	06	06	2.0	8.0
	ESO206	Biotechnology	3-1-0 [11]	125	35	04	04	--	1.5	5.5
	ESO207	Data Structures	3-0-0 [09]	300	-	-	--	--	2.0	2.0
	ESO208	Numerical Methods	3-1-0 [11]	350	35	10	10	--	2.0	12.0
	ESO209	Dynamics	2-1-0 [08]	250	40	06	06	--	2.0	8.0
Science Options	MSO202a	Complex Analysis	3-1-0 [11]	514	100	05	05	-	2.0	7.0
	MSO203b	Partial Diff. Equations	3-1-0 [11]	590	100	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	35	01	01	-	1.0	2.0
Total Units Required				272.50 ;	Science Units = 72.5		Engineering Science Units = 76.5		Other Units = 123.5	

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 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 2016-17

Course No.	Course Name	Units Req'd	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	2.0		2+0													2+0
TA101	Engineering Graphics	15	2+3			0+6				0+4							2+13
ENG112	English Language	4.5													1.5+3		1.5+3
HSS-I (1)	Humanities-I	24													4+20		4+20
ESC201	Electronics	17.0						2+15									2+15
TA201	Manufact. Proc. (MSE)	7.0									2+5						2+5
TA202	Manufact. Proc. (ME)	7.0								2+5							2+5
COM200	Communication Skills	17.0				0+1			0+10						2+3	0+1	2+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.	8.0						2+6									2+6
ESO204	Fld. Mech. and Rate Proc.	12.0	0+3		0+3					2+4							2+10
ESO205	Nat. and Prop. of Mat.	8.0			0+1						2+3			0+2			2+6
ESO206	Biotechnology	5.5		1.5+4													1.5+4
ESO207	Data Structures	2.0					2+0										2+0
ESO208	Numerical Methods	12.0			0+4	2+5				0+1							2+10
ESO209	Dynamics	8.0	0+1							2+5							2+6
MSO202a	Complex Analysis	7.0					0+1	0+1		0+1			2+2				2+5
MSO203b	Partial Diff. Equations	8.0	0+2			0+1		0+1		0+0	0+1		2+1				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			17	7.5	14	20	19	27	10	30	13	14	24.5	28	47.5	1	272.50
Approximate Faculty Strength			20	15	18	31	27	39	17	37	25	28	36	37	39	7	
Ratio of Load Assigned : Faculty			0.85	0.50	0.77	0.64	0.70	0.69	0.58	0.81	0.52	0.50	0.68	0.75	1.21	0.14	

Units are assigned as 'm + n', where 'm' indicate instructor units and 'n' indicates tutor units. * See Appendix (Bullet 9) for Notes on Work Load for CHM

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Appendix

A.1: Important Information Regarding Individual Section Sizes for Various Courses and Work Load

1. Tutorial section sizes have been fixed based on last year's SCCC data/report and with inputs from respective HODs.
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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