Report of Core Curriculum Committee for 2015-16-I Semester

March 13, 2015

1 Guideline for drawing Instructor and Tutors from various departments

1.1 Instructor from Multi-Department

Course No. and Title	Department			
	2010-11 & 2011-12	2012-13 & 2013-14	2014-15 & 2015-16	2016-17 & 2017-18
TA101 (Engineering Graphics)	CE	ME	CE	AE
ESO201 (Thermodynamics)	AE	CHE	ME	CHE
ESO202 (Solid Mechanics)	ME	CE	AE	CS
ESO204 (Fluid Mechanics)	CHE	AE	CHE	ME

1.2 Instructor 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, ENG112R, HSS-II
ME	TA202, ESO209
MSE	TA201, ESO205
MTH	MTH101, MTH101R, MTH102, MTH102R, MSO201, MSO202a, MSO203b
PHY	PHY101, PHY102, PHY103, PSO201

1.3 Tutors from Various Departments

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 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
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
MSO203b	Partial Diff. Eqns	AE, CE, ME, MSE, MTH
MTH102R	Mathematics-II	MTH
CHM102R	General Chemistry	CHM

Note: This is constructed based solely on the past years' data.

2 Estimate of the Number of Students in Courses in 2015-16 I

Course Group	Course No.	Course Name	No. Of new Students (Est)	Failed in 2014-15I	Registered in 2014-15I	Estimate for 2015-16I
First	CHM101	Chemistry Lab	420	2		420
Semester	MTH101	Mathematics-I	840	34		875
Courses	PHY101	Physics Lab	420	6		425
	PHY102	Physics-I	420	59		480
	PHY103	Physics-II	420	165		585
	ESC101	Computing	420	112		530
	LIF101	Life Sciences	420	36		455
	TA101	Engineering Graphics	420	25		445
	ENG112	English Language	90	?		90
	HSS-I(1)	Humanities-I	750	?		750
Third	ESC201	Electronics	420	7		425
Semester	TA201	Manufacturing Lab	420	2		425
Courses	TA202	Mechanical Lab	420	24		445
	COM200	Communication Skill	420	81		500
	HSS-I(2)	Humanities-I	420	?		420
Engineering	ESO201	Thermodynamics			342	350
Science	ESO202	Mechanics of Solids			215	225
Options	ESO203	Intro Elect. Engineering			69	100
	ESO204	Fluid Mech			281	300
	ESO205	Properties of Materials			179	185
	ESO206	Biotechnology			99	125
	ESO207	Data Structures			182	200
	ESO208	Numerical Methods			351	350
	ESO209	Dynamics			166	175
Science	MSO202a	Complex Analysis	500	12		510
Options	MSO203b	Partial Differential Eqns	500	70		570
Repeat	MTH102R	Mathematics-II			41	50
	CHM102R	Gen. Chemistry			7	20

3 Teaching Support Requirement

Course No.	Course Name	Units	No. Of Students (Estimate)	Students per section Appx	No. of Tutors	No. of Lab Inst.	No of Instructors	Total Units (Inst.+tut/lab)
CHM101	Chemistry Lab	0-0-3[3]	420	35	0	12	0	0+12=12
MTH101	Mathematics-I	3-1-0[11]	875	100	9		4	4+9=13
PHY101	Physics Lab	0-0-3[3]	425	35		12	0	0+12=12
PHY102	Physics-I	3-1-0[11]	480	100	5		2	2+5=7
PHY103	Physics-II	3-1-0[11]	585	100	6		2	2+6=8
ESC101	Computing	3-1-3[14]	530	35	15	15	2	2+15=17
LIF101	Life Sciences	2-0-0[6]	455	-			1.5	1.5+0=1.5
TA101	Engineering Graphics	2-0-3[9]	445	35		13	1.5	1.5+13=14.5
ENG112	English Language	3-1-0[11]	90	35	3		1.5	1.5+3=4.5
HSS-I(1)	Humanities-I	3-1-0[11]	750	40	19		4	4+19=23
ESC201	Electronics	3-1-3[14]	425	35	12	12	2	2+12=14
TA201	Manufacturing Lab	1-0-3[6]	425	90		5	1	1+5= 6
TA202	Mechanical Lab	1-0-3[6]	445	100		5	1	1+5= 6
COM200	Communication Skill	1-0-2[5]	500	35		14	1	1+14=15
HSS-I(2)	Humanities-I	3-1-0[11]	420	35	12		2	2+12=14
ESO201	Thermodynamics	3-1-0[11]	350	35	10		2	2+10=12
ESO202	Mechanics of Solids	3-1-0[11]	245	35	7		2	2+7= 9
ESO203	Intro Elect. Engineering	3-1-2[13]	80	35	2	2	1.5	1.5+2= 3.5
ESO204	Fluid Mech	3-1-0[11]	300	100	3		2	2+3= 5
ESO205	Properties of Materials	3-1-3[14]	185	35	5	5	2	2+5= 7
ESO206	Biotechnology	3-1-0[11]	110	35	3		1.5	1.5+3= 4.5
ESO207	Data Structures	3-0-0[9]	200	-			2	2+0= 2
ESO208	Numerical Methods	3-1-0[11]	350	35	10		2	2+10=12
ESO209	Dynamics	2-1-0[8]	185	40	5		1.5	1.5+5= 6.5
MSO202a	Complex Analysis	3-1-0[6]	510	100	5		1	(1+5)/2=3
MSO203b	Partial Differential Eqns	3-1-0[6]	570	100	6		1	(1+6)/2=3.5
MTH102R	Mathematics-II	3-1-0[11]	50	35	1		1	1+1= 2
MTH102R	Gen. Chemistry	2-1-0[8]	20	35	1		1	1+1= 2

Engineering Science Units = 61.5, Science Units = 62.5, Other Units = 115.5, Total Units = 239.5

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 ($60 \leq$class size < 150): 1.5; Lecture Course ($150 \leq$class size < 600): 2.0 (3 lec/wk), 1.5 (2 lec/wk), 1.0 (1 lec/wk);

Lecture Course ($600 \leq$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.

4 Department/IDP wise breakup of instructors/tutors requirement

Course no.	Course Name	AE	BSBE	CHE	CE	CSE	EE	IME	ME	MSE	MSP	CHM	MTH	PHY	HSS	ES	TOTAL
CHM101	Chemistry Lab											0+12					0+12
MTH101	Mathematics-I												4+9				4+9
PHY101	Physics Lab													0+12			0+12
PHY102	Physics-I													2+5			2+5
PHY103	Physics-II													2+6			2+6
ESC101	Intro Computing					2+15											2+15
LIF101	Life Science		1.5+0														1.5+0
TA101	Engineering Graphics	0+4			1.5+6				0+3								1.5+13
ENG112	English Language														1.5+3		1.5+3
HSS-I(1)	Humanities-I														4+19		4+19
ESC201	Electronics						2+12										2+12
TA201	Manufacturing Lab									1+5							1+5
TA202	Mechanical Lab								1+5								1+5
COM200	Communication							0+10				0+2	0+2		1+0		1+14
HSS-I(2)	Humanities-I														2+12		2+12
ESO201	Thermodynamics	0+3		0+3					2+4								2+10
ESO202	Mechanics of Solids	2+1			0+4				0+2								2+7
ESO203	Intro electrical engg.						1.5+2										1.5+2
ESO204	Mechanics of Fluids	0+1		2+1	0+1												2+3
ESO205	Nature of Materials			0+1						2+4							2+5
ESO206	Biotechnology		1.5+3														1.5+3
ESO207	Data Structures					2+0											2+0
ESO208	Numerical Methods	0+1		0+4	2+4				0+1								2+10
ESO209	Dynamics	0+2							1.5+3								1.5+5
MSO202a	Complex Analysis						0+2						1+0				1+2
MSO203b	Partial Diff. Eqns				0+1					0+1.5			1+0				1+2.5
MTH102R	Mathematics-II												1+1				1+1
CHM102R	General Chemistry											1+1					1+1
Total Load Assigned		14	6	11	19.5	19	19.5	10	22.5	13.5	0	16	19	27	42.5	0	239.5
Appx. Faculty Strength		21	15	19	33	24	39	17	33	23	1?	30	36	37	34	2	
Load per faculty		0.67	0.40	0.58	0.59	0.79	0.50	0.59	0.68	0.59	0	0.53	0.53	0.73	1.25	0	

Units are assigned as lecturer-units + tutor units. In addition DOFA may be requested for tutors via spouse employment cell although none are requested here.