

# **REPORT OF CORE CURRICULUM COMMITTEE**

**First (I) Semester of the Year 2018 -19**

## **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	Department			
	2018-19 & 2019-20	2020-21 & 2021-22	2022-23 & 2023-24	2024-25 & 2025-26
TA101(Engineering Graphics)	CE	ME	CE	AE
ESO201(Thermodynamics)	AE	CHE	ME	CHE
ESO202(Solid Mechanics)	ME	CE	AE	CE
ESO204(Fluid Mechanics)	CHE	AE	CHE	ME
HSS-1	HSS/ECO	HSS/ECO	HSS/ECO	HSS/ECO
HSS-2	HSS/ECO	HSS/ECO	HSS/ECO	HSS/ECO

**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
ES	ESO213
HSS	ENG112, 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, ECO
ESC201	Electronics	EE
TA201	Manufacturing Lab	MSE
TA202	Mechanical Lab	ME
COM200	Communication	CE, IME, HSS, ES, ECO
HSS-I(2)	Humanities-I	HSS
HSS-II	Humanities-II	HSS, ECO
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, CHE, ME, MSE, MTH, EE
MTH102R	Mathematics-II	MTH
CHM102R	General Chemistry	CHM

Note: Table constructed largely using data from previous years.

### 2. Estimate of Number of Students in Core Courses in First (I) Semester during the Year 2018-19

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Course Group	Course No.	Course Name	Estimated Number of New Students	No. of Students having Failed backlogs	No. of Students Registered in 2017-18-I	Final Estimate for 2018-19 – I
<b>First Semester Courses</b>	CHM101	Chemistry Lab	420	01	407	421
	MTH101	Mathematics-I	840	75	871	915
	PHY101	Physics Lab	420	02	425	422
	PHY102	Physics-I	420	46	472	466
	PHY103	Physics-II	420	70	420	490
	ESC101	Fundamental Computing	420	35	449	455
	LIF101	Life Sciences	420	29	440	449
	TA101	Engineering Graphics	420	05	441	425
	ENG112	English Language	90	02	428	92
<b>Third Semester Courses</b>	ESC201	Introduction to Electronics	420	20	435	440
	TA201	Manufacturing Lab Mechanical Lab Communication Skill Humanities-I	420	01	428	421
	TA202	Mechanical Lab	420	19	404	439
	COM200	Communication Skill	510		599	510
<b>HSS Courses</b>	HSS-I(1st year)	Humanities-I	800	30		830
	HSS-I(2nd year)	Humanities-I	450			450
	HSS -11	Humanities-II	1250			1250
<b>Engineering Science Options</b>	ESO201	Thermodynamics		31	270	301
	ESO202	Mechanics of Solids		35	180	215
	ESO203	Introduction Elect. Engg.		03	32	70
	ESO204	Fluid Mech.		43	365	408
	ESO205	Properties of Materials		16	169	185
	ESO206	Biotechnology		23	107	130
	ESO207	Data Structures		28	235	263
	ESO208	Numerical Methods		42	338	380
	ESO209	Dynamics		35	192	227
	ESO213	Fundamentals of ES		02	110	112

<b>Science Options Repeat</b>	MSO202a	Complex Analysis	350	21	383	371
	MSO203b	Partial Differential Eqns	444	104	522	549
	MTH102R	Mathematics-II		--	09	09
	CHM102R	Gen. Chemistry		--	05	05

### 3.Core Course Teaching Support Requirement in First (I) Semester during the Year 2018-19

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]	421	35	12	--	12	--	12.0
	MTH 101	Mathematics-I	3-1-0 [11]	915	100	09	09	--	04	13.0
	PHY101	Physics Lab	0-0-3 [03]	422	35	12	--	12	--	12.0
	PHY102	Physics-I	3-1-0 [11]	466	100	05	05	--	02	07.0
	PHY103	Physics -II	3-1-0 [11]	490	100	05	05	--	02	07.0
	ESC101	Fund. Of Computing	3-1-3 [14]	455	35	13	13	13	02	15.0
	LIF101	Life Sciences	2-0-0 [06]	449	-	--	--	--	1.5	01.5
	TA101	Engineering Graphics	2-0-3 [09]	425	35	13	--	13	1.5	14.5
	ENG112	English Language	3-1-0 [11]	92	35	03	03	--	1.5	04.5
	HSS-I (1)	Humanities-I	3-1-0-[11]	780	40	20	20	--	4.0	24.0
Third Semester Courses	ESC201	Electronics	3-1-3 [14]	440	35	12	12	12	2.0	14.0
	TA201	Manufact. Proc. (MSE)	1-0-3 [06]	421	90	05	--	05	1.0	06.0
	TA202	Manufact. Proc. (ME)	1-0-3 [06]	439	100	05	--	04	1.0	06.0
	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
HSS-2	HSS-II	Humanities-II	3-0-0-[09]	1250	-	-	-	--	4.0	4.0
Engineering Science Options	ESO201	Thermodynamics	3-1-0 [11]	301	40	08	08	--	2.0	10.0
	ESO202	Mechanics of Solids	3-1-0 [11]	215	35	06	06	--	2.0	08.0
	ESO203	Intro. Electrical Engg.	3-1-2 [13]	70	35	02	02	02	1.5	03.5
	ESO204	Fld. Mech. and Rate Proc.	3-1-0 [11]	408	35	12	12	--	2.0	14.0
	ESO205	Nat. and Prop. of Mat.	3-1-3 [14]	185	35	05	05	05	2.0	07.0
	ESO206	Biotechnology	3-1-0 [11]	130	35	04	04	--	2.0	6.0
	ESO207	Data Structures	3-0-0 [09]	263	-	-	--	--	2.0	02.0
	ESO208	Numerical Methods	3-1-0 [11]	380	40	10	10	--	2.0	12.0
	ESO209	Dynamics	2-1-0 [08]	227	40	07	07	--	1.5	08.5
	ESO213	Fundamentals of ES	3-0-0 [09]	112		--	--	--	1.5	01.5
	MSO202a	Complex Analysis	3-1-0 [6]	371	100	04	04/2=2	--	1.0	03.0

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Science Options	MSO203b	Partial Diff. Equations	3-1-0 [6]	549	100	05	05/2=2.5	--	2.0	4.5
Repeat	MTH102R	Mathematics-II	3-1-0 [11]	09	35	01	01	--	1.0	02.0
	CHM102R	General Chemistry	2-1-0 [08]	05	35	01	01	--	1.0	02.0
Total Units Required 257 ; 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 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 2018-19

Course No.	Course Name	Units Reqd	AE	BSBE	CHE	CE	CSE	EE	IME	ME	MSE	CHM	MTH	PHY	HSS	ES	ECO	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	07.0												2+5				2+5
PHY103	Physics -II	07.0												2+5				2+5
ESC101	Fund. Of Computing	15.0					2+13											2+13
LIF101	Life Sciences	01.5		1.5+0														1.5+0
TA101	Engineering Graphics	14.5	0+3			1.5+6				0+4								1.5+13
ENG112	English Language	04.5													1.5+3			1.5+3
HSS-I (1)#	Humanities-I(*)	24.0													3+17		1+3	4+20
HSS-II	Humanities-II(*)	4.0													3+0		1+0	4+0
ESC201	Electronics	14.0						2+12										2+12
TA201	Manufact. Proc. (MSE)	06.0									1+5							1+5
TA202	Manufact. Proc. (ME)	06.0								1+5								1+5
COM200	Communication Skills	16.0							0+10						1+3	0+1	0+1	1+15
HSS-I (2)#	Humanities-I	14.0													2+12			2+12
ESO201	Thermodynamics	10.0	2+3		0+3					0+2								2+8
ESO202	Mechanics of Solids	08.0	0+2			0+2				2+2								2+6
ESO203	Intro. Electrical Engg.	03.5						1.5+2										1.5+2
ESO204	Fld. Mech. and Rate Proc.	14.0	0+5		2+3					0+4								2+12
ESO205	Nat. and Prop. of Mat.	07.0			0+1						2+4							2+5
ESO206	Biotechnology	6.0		2.0+4														2+4
ESO207	Data Structures	02.0					2+0											2+0
ESO208	Numerical Methods	12.0			0+4	2+4				0+2								2+10
ESO209	Dynamics	08.5	0+2							1.5+5								1.5+7
MSO202a	Complex Analysis\$	3.0	0+1 (0.5)					0+1 (0.5)		0+1 (0.5)			1+1 (0.5)					1+2
MSO203b	Partial Diff. Equations\$	4.5	0+1 (0.5)			0+1 (0.5)		0+1 (0.5)		0+1 (0.5)	0+1 (0.5)		2+0					2+2.5
MTH102R	Mathematics-II	2.0											1+1					1+1
CHM102R	General Chemistry	02.0										1+1						1+1
Total Load Assigned			18	1.5	13	16	17	18.5	10	29.5	12.5	14	17.0	26	43.5	1	6	

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Approximate Faculty Strength		27	14	20	32	34	42	15	31	24	29	37	35	24	08	12
Ratio of Load Assigned : Faculty		0.67	0.54	0.65	0.5	0.5	0.44	0.67	0.95	0.52	0.48	0.46	0.74	1.81	0.13	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

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19/04/18

### 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.