

## Report of Core Curriculum Committee Second (II) Semester of the Year 2019-20

### 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
HSSO201(Applied Probability & Statistics)	CE & ECO	ECO & CE	ECO	CE & ECO
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, CSO203
CE	ESO208, HSO201
CSE	ESC101, ESO207
EE	ESC201, ESO203
ES	ESO213
HSS	COM200
ME	TA202, ESO209
MSE	TA201, ESO205
MTH	MTH101, MTH101R, MTH102, MTH102R, MSO201, MSO202a, MSO203b
PHY	PHY101, PHY102, PHY103, PSO201
ECO	HSSO201

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
CHM102A	General Chemistry	CHM
MTH101	Mathematics-I	MTH
MTH101	Mathematics-II	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
HSS-I	Humanities-I	HSS
ESC201	Electronics	EE
TA201	Manufacturing Lab	MSE
TA202	Mechanical Lab	ME
COM200	Communication	CE, IME, HSS, ES
ESO201	Thermodynamics	AE, CHE, ME
ESO202	Mechanics of Solids	AE, CE, ME
ESO203	Intro Electrical Engg.	EE
ESO207	Data Structures	CSE
MSO201A	Probability and Statistics	MTH, EE
PSO201A	Quantum Physics	PHY
HSO201A	Applied Probability and Statistics	ECO, CE
CSO201A	Organic Chemistry: Fundamentals and Applications	CHM
CSO203A	Inorganic Molecules, Materials & Medicine	CHM

**Note:** Table constructed using data from previous years.

## 2. Estimate of Number of Students in Core Courses in Second (II) Semester during the Year 2019-20

Course Group	Course No.	Course Name	Estimated Number of New Students	No. of Students Failed in 2018-19(II)	No. of Students Registered in 2018-19(II)	Final Estimate for 2019-20 – Sem. II
Second Semester Courses	CHM101	Chemistry Lab	500	02	457	502
	CHM102	Gen. Chemistry	1000	12	897	1012
	MTH102	Mathematics-II	1000	52	854	1052
	PHY101	Physics Lab	500	06	430	506
	PHY102	Physics-I	500	07	443	507
	PHY103	Physics-II	500	78	460	575
	ESC101	Computing	500	05	481	505
	LIF101	Life Sciences	500	79	436	580
	TA101	Engineering Graphics	500	16	433	513
Fourth Semester Courses	ESC201	Electronics	450	56	435	510
	TA201	Manufacturing Lab	450	14	397	465
	TA202	Mechanical Lab	450	14	467	465
	COM200	Communication Skill	350	02	275	350
Engineering Science options	ESO201	Thermodynamics Mechanics of Solids	150	14	157	150
	ESO202		210	09	203	210
	ESO203	Intro Elect. Engineering	250	06	253	250
	ESO207	Data Structures	250	09	133	250
Science options	MSO201	Probability & Statistics	350	04	284	350
	PSO201	Quantum Physics	150	11	139	150
	CSO201	Organic Chemistry:	210	0	0	210
	CSO203	Inorganic Molecules, Materials & Medicine	210	0	196	210
	HSO201	Applied Probability and Statistics	150	05	155	210
Repeat	MTH101	Mathematics-I	75	08	57	100
HSS Courses	HSS-I	Humanities-I	500			500
	HSS-II	Humanities-II	1450			1450

### 3. Teaching Support Requirement

Course No.	Course Name	Units	No. of Students (Estimate)	Student per Section (Appx)	Number of tutors required		Total Units (Inst.+tut/lab)	
					Theory Tutors	Lab. Tutors	Instruction Units	Total Units
CHM101A	Chemistry lab	0-0-3[3]	510	35		14	1	14+1=15
CHM102A	Gen. Chemistry	2-1-0[8]	1010	38	26		3	26+3=29
MTH102A	Mathematics-II	3-1-0[11]	1010	100	10		4	10+4=14
PHY101A	Physics Lab	0-0-3[3]	510	35		14	1	14+1=15
PHY102A	Physics-I	3-1-0[11]	510	100	6		2	6+2=8
PHY103A	Physics-II	3-1-0[11]	580	100	6		2	6+2=8
ESC101A	Computing	3-1-3[14]	510	35	14	14	2	14+2=16
LIF101A	Life Science	2-0-0[6]	510	35			1.5	0+1.5=1.5
TA101A	Engineering Graphics	2-0-3[9]	510	35		14	1.5	14+1.5=15.5
ESC201A	Electronics	3-1-3[14]	510	35	15	15	2	15+2=17
TA201A	Manufacturing Lab	1-0-3[6]	465	90		5	1	5+1=6
TA202A	Mechanical Lab	1-0-3[6]	465	90		5	1	5+1=6
COM200	Communication Skill	1-0-2[5]	350	35		10	1	10+1=11
ESO201A	Thermodynamics	3-1-0[11]	150	35	4		2	4+2=6
ESO202A	Mechanics of Solids	3-1-0[11]	210	35	6		2	6+2=8
ESO203A	Intro Elect. Engineering	3-1-2[13]	250	35	7	7	2	7+2=9
ESO207A	Data Structure	3-0-0[09]	250				2	0+2=2
MSO201A	Probability and Statist	3-1-0[11]	310	100	3		2	3+2=5
PSO201A	Quantum Mechanics	2-1-0[8]	150	35	4		1.5	4+1.5=5.5
CSO201A	Basic Org. Chem.	3-1-0[11]	210	35	6		2	6+2=8
CSO203A	Inorg. Molecules, Mat. & Medicine	3-1-0[11]	210	35	6		2	6+2=8
HSO201A	Applied Prob. & Stat.	3-1-0[11]	210	70	3		2	3+2=5
MTH101R	Mathematics-I	3-1-0[11]	75	100	1		1.5	1+1.5=2.5
HSS-I (1)	Humanities-I	3-1-0-[11]	500	40	12		2	12+2=14
HSS-II	Humanities-II	3-0-0-[09]	1450				4	4

#### Note

- When a course has tutorials and lab, then the tutor is supposed to take care of both.
- 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
- 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 Instructor's and/or Tutors for Core Courses in Second (II) Semester during the Year 2019-20

Course No.	Course Name	Units Req'd	AE	BSBE	CHE	CE	CSE	EE	IME	ME	MSE	CHM	MTH	PHY	HSS	ECO	ES	TOTAL
CHM 101	Chemistry Lab	15										14 + 1						13+1=15
CHM 102	Gen Chemistry	29										26 + 3						26+3=29
MTH 102	Mathematics-II	14											10+4					10+4=14
PHY101	Physics Lab	15												14 +1				14+1=15
PHY102	Physics-I	8												6+2				6+2=8
PHY103	Physics -II	8												6+2				6+2=8
ESC101	Fund. of Computing	16					14+2											14+2=16
LIF101	Life Sciences	1.5		0+1.5														0+1.5=1.5
TA101	Engineering Graphics	15.5	5+0			4+1.5				5+0								14+1.5=15.5
ESC201	Electronics	17						15+2										15+2=17
TA201	Manufact. Proc. (MSE)	6									5+1							5+1=6
TA202	Manufact. Proc. (ME)	6								5+1								5+1=6
COM200	Communication Skills	11				2+0			6+0						2+1			10+1=11
ESO201	Thermodynamics	6	0+2		1+0					3+0								4+2=6
ESO202	Mechanics of Solids	8	1+0			3+0				1+2	1+0							6+2=8
ESO203	Intro. Electrical Engg.	9						7+2										7+2=9
ESO207	Data Structures	2					0+2											0+2=2
MSO201	Probability & Statistics	5						2+0					1+2					3+2=5
PSO201	Quantum Mechanics	5.5									2+0			2+1.5				4+1.5=5.5
CSO201	Basic Org. Chem.	8										6+2						6+2=8
CSO203	Inorg. Molecules, Mat.	8										6+2						6+2=8
HSO201	Applied Prob. & Stat.	5				0+2										2+1		2+3=5
MTH101R	Mathematics-I	2.5											1+1.5					1+1.5=2.5
HSS-I	Humanities-I (*)	14													1+12	1+0		2+12=14
HSS-II	Humanities-II (*)	4													3+0	1+0		4+0
<b>Total Load Assigned</b>			<b>8</b>	<b>1.5</b>	<b>1</b>	<b>12.5</b>	<b>18</b>	<b>28</b>	<b>6</b>	<b>17</b>	<b>9</b>	<b>60</b>	<b>19.5</b>	<b>34.5</b>	<b>19</b>	<b>5</b>		<b>239</b>
<b>Approximate Faculty Strength</b>			<b>28</b>	<b>17</b>	<b>22</b>	<b>37</b>	<b>32</b>	<b>44</b>	<b>17</b>	<b>41</b>	<b>25</b>	<b>35</b>	<b>45</b>	<b>41</b>	<b>28</b>	<b>13</b>	<b>14</b>	
<b>Ratio of Load assigned : Faculty</b>			<b>0.28</b>	<b>0.08</b>	<b>0.04</b>	<b>0.33</b>	<b>0.56</b>	<b>0.64</b>	<b>0.35</b>	<b>0.41</b>	<b>0.36</b>	<b>1.71</b>	<b>0.43</b>	<b>0.84</b>	<b>0.67</b>	<b>0.39</b>		

- 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

### **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 15.0, CHM slots these labs four days a week with slightly increased involvement of Tutors.