

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

October 15, 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 | CE |
| 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 in which the Course is Compulsory | Departments that can Provide tutors |
|------------|----------------------------|-----------------------------------------------|-------------------------------------|
| CHM101 | Chemistry Lab | All | CHM |
| CHM102 | General Chemistry | All | CHM |
| MTH101 | Mathematics-I | All | MTH |
| MTH102 | Mathematics-II | All | MTH |
| PHY101 | Physics Lab | All | PHY |
| PHY102 | Physics-I | All | PHY |
| PHY103 | Physics-II | All | PHY |
| ESC101 | Intro Computing | All | CSE |
| LIF101 | Life Science | All | BSBE |
| TA101 | Engineering Graphics | All | AE, CE, ME |
| ENG112 | English Language | | HSS |
| HSS-I(1) | Humanities-I | | HSS |
| ESC201 | Electronics | All | EE |
| TA201 | Manufacturing Lab | All | MSE |
| TA202 | Mechanical Lab | All | ME |
| COM200 | Communication | All | CE, IME, HSS, ES |
| HSS-I(2) | Humanities-I | | HSS |
| ESO201 | Thermodynamics | AE, CHE, ME | AE, CHE, ME |
| ESO202 | Mechanics of Solids | AE, CE, MSE, ME | AE, CE, MSE, ME |
| ESO203 | Intro electrical engg. | EE, ME | EE, ME |
| ESO204 | Mechanics of Fluids | AE, CE | AE, CE |
| ESO205 | Nature of Materials | CHE, MSE | CHE, MSE |
| ESO206 | Biotechnology | BSBE | BSBE |
| ESO207 | Data Structures | MTH | CSE, MTH |
| ESO208 | Numerical Methods | CHE, CE, MSE | CHE, CE, MSE |
| ESO209 | Dynamics | AE, ME | AE, ME |
| MSO201 | Probability and Statistics | BSBE, CE, CSE, EE, ECO, MTH | BSBE, CE, CSE, EE, ECO, MTH |
| MSO202a | Complex Analysis | AE, EE, ME | AE, EE, ME, MTH |
| MSO203b | Partial Diff. Eqns | AE, CE, EE, ME, MSE | AE, CE, EE, ME, MSE, MTH |
| PSO201 | Quantum Physics | PHY, MSE | PHY, MSE |
| CSO201 | Basic Organic Chemistry | | CHM, BSBE |
| CSO202 | Atoms, Molecules, Photons | | CHM, CHE, MSP |

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

| Course Group | Course No. | Course Name | No. Of new Students (Est) | Failed in 2014-15II | Registered in 2014-15II | Estimate for 2015-16II | |
|-----------------------------|-------------------------|---------------------------|----------------------------|---------------------|-------------------------|------------------------|-----|
| Second Semester Courses | CHM101 | Chemistry Lab | 420 | 2 | | 420 | |
| | CHM102 | Gen. Chemistry | 840 | 7 | | 850 | |
| | MTH102 | Mathematics-II | 840 | 67 | | 900 | |
| | PHY101 | Physics Lab | 420 | 04 | | 425 | |
| | PHY102 | Physics-I | 420 | 05 | | 425 | |
| | PHY103 | Physics-II | 420 | 53 | | 575 | |
| | ESC101 | Computing | 420 | 19 | | 540 | |
| | LIF101 | Life Sciences | 420 | 27 | | 450 | |
| | TA101 | Engineering Graphics | 420 | 02 | | 420 | |
| | Fourth Semester Courses | ESC201 | Electronics | 420 | 04 | | 425 |
| TA201 | | Manufacturing Lab | 420 | 04 | | 425 | |
| TA202 | | Mechanical Lab | 420 | 01 | | 420 | |
| COM200 | | Communication Skill | 420 | 20 | | 440 | |
| Engineering Science Options | | ESO201 | Thermodynamics | 150 | | 90 | 120 |
| | | ESO202 | Mechanics of Solids | 245 | | 175 | 210 |
| | | ESO203 | Intro Elect. Engineering | 245 | | 262 | 250 |
| Science Options | | MSO201 | Probability and Statistics | 520 | | 550 | 550 |
| | | PSO201 | Quantum Mechanics | 210 | | 107 | 150 |
| | | CSO201 | Basic Organic Chemistry | 245 | | 214 | 225 |
| Repeat | CSO202 | Atoms, Molecules, Photons | 250 | | 119 | 175 | |
| | MTH101R | Mathematics-I | | 65 | 94 | 75 | |

3 Teaching Support Requirement

| Course No. | Course Name | Units | No. Of Students (Estimate) | Students per section Appx | No. of | | No of Instructors | Total Units (Inst.+tut/lab) |
|------------|---------------------------|-----------|-------------------------------|------------------------------|--------|------------|----------------------|--------------------------------|
| | | | | | Tutors | Lab Tutors | | |
| CHM101 | Chemistry Lab | 0-0-3[3] | 420 | 35 | 0 | 12 | 1 | 1+12=13 |
| CHM102 | Gen. Chemistry | 2-1-0[8] | 850 | 35 | 0 | 24 | 3 | 3+24=27 |
| MTH102 | Mathematics-II | 3-1-0[11] | 900 | 100 | 9 | 9 | 4 | 4+9=13 |
| PHY101 | Physics Lab | 0-0-3[3] | 425 | 35 | - | 12 | 1 | 1+12=13 |
| PHY102 | Physics-I | 3-1-0[11] | 425 | 100 | 5 | | 2 | 2+5=7 |
| PHY103 | Physics-II | 3-1-0[11] | 575 | 100 | 6 | | 2 | 2+6=8 |
| ESC101 | Computing | 3-1-3[14] | 540 | 35 | 15 | 15 | 2 | 2+15=17 |
| LIF101 | Life Sciences | 2-0-0[6] | 450 | - | - | | 1.5 | 1.5+0=1.5 |
| TA101 | Engineering Graphics | 2-0-3[9] | 420 | 35 | - | 12 | 1.5 | 1.5+12=13.5 |
| 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] | 420 | 90 | - | 5 | 1 | 1+4= 5 |
| COM200 | Communication Skill | 1-0-2[5] | 440 | 35 | - | 13 | 1 | 1+13=14 |
| ESO201 | Thermodynamics | 3-1-0[11] | 120 | 35 | 4 | | 1.5 | 4+1.5=5.5 |
| ESO202 | Mechanics of Solids | 3-1-0[11] | 210 | 35 | 6 | | 2 | 2+6=8 |
| ESO203 | Intro Elect. Engineering | 3-1-2[13] | 250 | 35 | 7 | 7 | 2 | 7+2= 9 |
| MSO201 | Probability and Statist. | 3-1-0[11] | 550 | 100 | 6 | | 2 | 2+6=8 |
| PSO201 | Quantum Mechanics | 2-1-0[8] | 150 | 35 | 4 | | 1.5 | 1.5+4=5.5 |
| CSO201 | Basic Organic Chemistry | 3-1-0[11] | 225 | 35 | 7 | | 2 | 2+7=9 |
| CSO202 | Atoms, Molecules, Photons | 3-1-0[11] | 175 | 35 | 5 | | 2 | 5+2=7 |
| MTH101R | Mathematics-I | 3-1-0[11] | 75 | 100 | 1 | | 1 | 1+1=2 |

Engineering Science Units = 22.5, Science Units = 28.5, Other Units = 254, Total Units = 205

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.

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 | | | | | | | | | | | 1+12 | | | | | 1+12 |
| CHM102 | Gen. Chemistry | | | | | | | | | | | 3+24 | | | | | 3+24 |
| MTH102 | Mathematics-II | | | | | | | | | | | | 4+9 | | | | 4+9 |
| PHY101 | Physics Lab | | | | | | | | | | | | | 1+12 | | | 1+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+4 | | | | 0+4 | | | | | | | | 1.5+12 |
| ESC201 | Electronics | | | | | | 2+12 | | | | | | | | | | 2+12 |
| TA201 | Manufacturing Lab | | | | | | | | | 1+5 | | | | | | | 1+5 |
| TA202 | Mechanical Lab | | | | | | | | 1+5 | | | | | | | | 1+5 |
| @COM200 | Communication | | | | 0+2 | | | 0+10 | | | | | | | 1+0 | 0+1 | 1+13 |
| ESO201 | Thermodynamics | | | 0+3 | | | | | 1.5+1 | | | | | | | | 1.5+4 |
| ESO202 | Mechanics of Solids | 2+1 | | | 0+2 | | | | 0+2 | 0+1 | | | | | | | 2+6 |
| ESO203 | Intro electrical engg. | | | | | | 2+5 | | 0+2 | | | | | | | | 2+7 |
| MSO201 | Probability and Stat. | | | | 0+1 | 0+1 | 0+1 | | | | | | 2+2 | | 0+1 | | 2+6 |
| PSO201 | Quantum Mechanics | | | | | | | | | 0+1 | | | | 1.5+3 | | | 1.5+4 |
| CSO201 | Basic Organic Chem. | | | | | | | | | | | 2+7 | | | | | 2+7 |
| CSO202 | Atoms, Mol., Phot. | | | 0+3 | | | | | | | | 2+2 | | | | | 2+5 |
| MTH101R | Mathematics-I | | | | | | | | | | | | 1+1 | | | | 1+1 |
| Total Load Assigned | | 7 | 1.5 | 6 | 10.5 | 18 | 22 | 10 | 16.5 | 8 | 0 | 53 | 19 | 32.5 | 2 | 1 | 207 |
| Appx. Faculty Strength | | 21 | 14 | 19 | 34 | 26 | 40 | 20 | 37 | 21 | 0 | 31 | 36 | 38 | 40 | 7 | 384 |
| Load per faculty | | 0.33 | 0.11 | 0.32 | 0.31 | 0.69 | 0.55 | 0.50 | 0.45 | 0.38 | 0 | 1.71 | 0.53 | 0.86 | 0.05 | 0.14 | 0.54 |

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.