20 July 2021

Course Template M.S. (R)

					Template No. SEE-3	
Courses	Semester →	1	2	Summer Term	3	4
	Recommended UG course	**PG Component**				
	Technical communications course [1]	**SEE-601* [9]**	**SEE-604** [9]**	PhD Thesis (SEE899) [9]		
		SEE-602* [9]	**SEE-605** [9]**			
		SEE-603* [9]	**SEE690 course [0]**		**SEE691 course [0]**	
		0-3 Elective courses#	0-2 Elective courses#			
		0-3 Research units (SEE899)	0-2 Research units (SEE899)		4 Research units (SEE899)	3 Research units (SEE899)
	Credits →	36	36	9	36	27
					Total Credits (PG) →	144

Remarks

1) [1] It is highly recommended that the students audit a communications UG course. Some examples are as follows: AE401A-Technical Communication, BSE301A-Scientific & Professional Communication, CHE300a-Chemical Engineering Communication Skills, CHM361a-Chemistry Communication Skills, CE341A-Civil Engineering Communication Skills.
2) * One of the three courses is compulsory. Students can take the other courses as electives (DE-PG-1,2).
3) ** The following two courses are compulsory: SEE-604 [9], SEE-605 [9].
4) No. of compulsory courses: 5 (including zero credit courses: SEE690 & SEE691).
5) Minimum no. of electives: 1.
6) The template is designed keeping in view the students joining in July/Aug. For students joining in even semester, the students are advised to consult the DPGC.
7) It is highly recommended that student chose electives from Basket-A1, Basket-B1, Basket-A2 or Basket-B2 (in consultation with the guide).
8) Students are strongly recommended to take more courses than the minimum requirement (especially in the first four semesters). I.e. In addition to minimum course credit requirement as mandated by the Department, a PhD student can credit extra courses depending on his/her requirement at any time in their programme.

Basket-A1	Basket-B1
	SEE-609: Computational Methods in Engineering**
SEE-606: Electrochemical Energy Systems	SEE-610: Introduction to Materials Modelling and Simulations[$]
SEE-607: Hydrogen Energy: Production, Storage and Utilization	SEE-611: Energy Systems: Modelling and Analysis
SEE-608: Introduction to Bioenergy and Biofuels	SEE-612: Manufacturing of energy systems
One of the following courses which has not been taken as compulsory course: SEE-601, SEE-602, SEE-603	SEE 613: Solar Photovoltaics
	SEE-614: Wind Energy
	SEE-615: Solar Thermal Engineering
	SEE-616: Essential Electrical Engineering for Renewables Integration
	SEE-617: Introduction to sustainable energy policy
Basket-A2	**Basket-B2**
EE698D: Smart Grid Technology	CHE642A: Numerical Methods**
EE630A: Simulations of Power Systems	ME685A: Applied Numerical Methods**
EE660A: Basics of Power Electronic Converters	AE603: Introduction to Scientific Computing**
EE631A: Advanced Power System Stability	CHE622A: Molecular Simulations[$]
MSE673: Fundamentals and Applications of Electrochemistry	ChE626A: Practical Introduction to Quantum Mechanical Methods for Scientists and Engineers[$]
	ME743: Fuel Cells

**,[$]Students should take only one of these courses

(i.e. Students can take ONLY one of the following set: CHE642A, ME685A, AE603, SEE-609 and ONLY one of the following two: CHE622A, ChE626A).

Minimum credit requirement for M.S.(R).

Coursework	36
Thesis	108
Total	144