

### Course Template for M.S. (R)

Courses	Semester →	1	2	Summer Term	3	4
			<b>SEE-601* [9]</b>	<b>SEE-604* [9]</b>		SEE899 [36]
		<b>SEE-602* [9]</b>	<b>SEE-605** [9]</b>	0-2 Research units (SEE899) <sup>#</sup>		
		<b>SEE-603* [9]</b>	<b>SEE-612* [9]</b>			
		<b>SEE-609*.&amp; [9]</b>	<b>SEE690/691** [0]</b>		<b>SEE690/691**[0]</b>	
		0-2 DE [0-18]	0-2 DE [0-18]			
		0-1 OE <sup>\$</sup> [0-9]	0-1 OE <sup>\$</sup> [0-9]			
		0-2 Research units (SEE899)	0-2 Research units (SEE899)			
	Credits →	36	36	[0-18] <sup>#</sup>	36	36
					<b>Min. Total Credits (PG)</b>	<b>144</b>

1. Total number of courses: 6 for students from 2023 batch and onwards.
2. \*\*Student must take a total of (2) two core basket courses combined from Semester I and II.
3. \*\*Compulsory course.
4. \$.& Refer to the open elective course basket for more details.
5. <sup>#</sup>Summer research credits (recommended).
6. A student should take at the least 2 DE's.

<b>Department Electives (DE)</b>	
SEE-606: Electrochemical Energy Systems	SEE-617: Introduction to sustainable energy policy
SEE-607: Hydrogen Energy: Production, Storage and Utilization	SEE-618: Energy Efficient Building Design
SEE-608: Introduction to Bioenergy and Biofuels	SEE-619A: Finite Volume Methods for Engineers
SEE-610: Introduction to Materials Modelling and Simulations <sup>§</sup>	SEE-620A: Heat Driven Cooling Systems
SEE-611: Energy Systems: Modelling and Analysis	SEE-621A: Biomass Conversion and Biorefineries
SEE-612: Manufacturing of energy systems	SEE-622: Sustainable Energy- Enabling Net Zero Emissions
SEE 613: Solar Photovoltaics	SEE-623: Fuel Cell Electrical Energy Systems
SEE-614: Wind Energy	SEE-624: Design Strategies for Net-Zero Energy Buildings
SEE-615: Solar Thermal Engineering	Any other SEE [3-0-0-9] courses that will be added later.
<b>SEE-616: Essential Electrical Engineering for Renewables Integration</b> <sup>^</sup>	
<b>Open Electives (OE)</b>	
EE698D: Smart Grid Technology	CHE642A: Numerical Methods <sup>&amp;</sup>
EE630A: Simulations of Power Systems	ME685A: Applied Numerical Methods <sup>&amp;</sup>
EE660A: Basics of Power Electronic Converters	AE603: Introduction to Scientific Computing <sup>&amp;</sup>
EE631A: Advanced Power System Stability	CHE622A: Molecular Simulations <sup>§</sup>
MSE673: Fundamentals and Applications of Electrochemistry	ChE626A: Practical Introduction to Quantum Mechanical Methods for Scientists and Engineers <sup>§</sup>
ME743: Fuel Cells	Any other department courses [3-0-0-9]

<sup>&</sup><sup>§</sup>Students can take one of these courses if they have not credited SEE 609 earlier [9].,

(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).

<sup>^</sup> Designated as an elective only for the students admitted in May-July 2023.

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

Coursework	54 (36 + 18 <sup>§</sup> )
Thesis	90 (108 - 18 <sup>§</sup> )
Total	144

<sup>§</sup>Applicable for the admitted students from 2023 and onwards.