

SEMESTER WISE COURSE STRUCTURE  
AND  
SUBJECT WISE COURSE CONTENT

FOR

M. Tech. PROGRAMME  
(ELECTRICAL POWER & ENERGY SYSTEMS)  
(1<sup>st</sup> to 4<sup>th</sup> Semester)

IN

ELECTRICAL ENGINEERING  
APPLICABLE FOR BATCH 2015 AND ONWARDS

APPROVED BY BOARD OF STUDIES  
On 27<sup>th</sup> of August, 2014



NATIONAL INSTITUTE OF TECHNOLOGY SRINAGAR  
HAZRATBAL, SRINAGAR, KASHMIR – 190 006

SEMESTER WISE COURSE STRUCTURE  
AND  
SUBJECT WISE COURSE CONTENT



(1<sup>st</sup> to 4<sup>th</sup> Semester)  
[M. TECH. BATCH 2015 ONWARDS]

Department of Electrical Engineering

**Department of Electrical Engineering,  
National Institute of Technology Srinagar**

**Course Structure for M. Tech.  
“Electrical Power & Energy Systems”**

Teaching Scheme				Contact Hrs. Per week			Exam. Duration		Relative Weightage (%) (Hrs.)			
S. No.	Course Code	Course Title	No. of Credits	L	T	P	Th	Pr	CW	PR	MTE	ETE
<b>1<sup>st</sup> YEAR I SEMESTER (AUTUMN)</b>												
1.	EEM-101	Advanced Power System Analysis	4	3	1	-	2	-	10	-	40	50
2.	EEM-102	Power Quality Problems & Solutions	3	3	-	-	2	-	10	-	40	50
3.	EEM-103	Control of Electrical Energy Systems	3	3	-	-	2	-	10	-	40	50
4.	MTM-101	Optimization Techniques	3	3	-	-	2	-	10	-	40	50
5.	EEM- 104	Power System Simulation Lab.-I	2	-	-	4	-	1	-	25	25	50
6.	EEM-113-124 & ECEM-159	Elective-I	3	3	-	-	2	-	10	-	40	50
<b>Sub Total</b>			<b>18</b>									

<b>II SEMESTER (SPRING)</b>												
S. No.	Course Code	Course Title	No. of Credits	L	T	P	Th	Pr	CW	PR	MTE	ETE
1.	EEM-105	Power System Dynamics & Stability	3	3	-	-	2	-	10	-	40	50
2.	EEM-106	Power System Optimization	3	3	-	-	2	-	10	-	40	50
3.	EEM-107	Stand-Alone Energy Systems	3	3	-	-	2	-	10	-	40	50
4.	EEM-108	HVDC Systems	3	3	-	-	2	-	10	-	40	50
5.	EEM- 109	Power System Simulation Lab.-II	2	-	-	4	-	1	-	25	25	50
6.	EEM-113-124 & ECEM-159	Elective-II	3	3	-	-	2	-	10	-	40	50
<b>Sub Total</b>			<b>17</b>									

**2nd YEAR**

**III SEMESTER (AUTUMN)**

Teaching Scheme				Contact Hrs. Per week			Exam. Duration		Relative Weightage (%) (Hrs.)			
S. No	Course Code	Course Title	No. of Credits	L	T	P	Th	Pr	CW	PR	MTE	ETE
1.	EEM-110	Seminar	2	-	-	-	-	-	-	-	-	-
2.	EEM-111	Minor Project	5	-	-	-	-	-	-	-	-	-
3.	EEM-113-124 & ECEM-159	Elective -III	3	3	-	-	2	-	10	-	40	50
4.	EEM-113-124 & ECEM-159	Elective-IV	3	3	-	-	2	-	10	-	40	50
<b>Sub Total</b>			<b>13</b>									

<b>IV SEMESTER (SPRING)</b>												
1.	EEM-112	Dissertation	12	-	-	-	-	-	-	-	-	-
<b>Sub Total</b>			<b>12</b>									
<b>Total</b>			<b>60</b>									

**Abbreviations:**

L	–	Lecture,
T	–	Tutorial, P – Practical,
Th	–	Theory
Exam.,	–	Pr – Practical Exam.
CW	–	Class Work Assessment,
PR	–	Practical Work
Assessment,		
MTE	–	Mid -Term Exams.,
ETE	–	End-Term Exam.

# Electives for M. Tech I, II, III Semesters (Electrical)

## “Electrical Power & Energy Systems”

**BATCH 2015 ONWARDS**

**Electives –I, II, III, IV**

**3 Credits each**

Teaching Scheme			Contact Hrs. Per week				Exam. Duration		Relative Weightage (%) (Hrs.)			
S.No	Course Code	Course Title	No. of Credits	L	T	P	Th	Pr	CW	PR	MTE	ETE
1	EEM-113	Advanced Instrumentation Technology	3	3	-	-	2	-	10	-	40	50
2.	EEM-114	SCADA Systems	3	3	-	-	2	-	10	-	40	50
3.	EEM-115	Energy Management & Energy Audit	3	3	-	-	2	-	10	-	40	50
4.	EEM-116	Modeling & Simulation of Power System Components	3	3	-	-	2	-	10	-	40	50
5	EEM-117	Selected Topics in Power & Energy Systems	3	2	-	2	2	1	10	20	40	50
6	EEM-118	Power System Reliability	3	2	-	2	2	1	10	20	40	50
7	EEM-119	Soft Computing	3	3	-	-	2	-	10	-	40	50
8	EEM-120	Flexible AC Transmission Systems	3	3	-	-	2	-	10	-	40	50
9	EEM-121	Advanced Power System Protection	3	3	-	-	2	-	10	-	40	50
10	EEM-122	Intelligent Control of Electrical Energy Systems	3	3	-	-	2	-	10	-	40	50
11	EEM-123	Energy System Planning	3	3	-	-	2	-	10	-	40	50
12	EEM-124	Power System Restructuring & De-Regulation	3	3	-	-	2	-	10	-	40	50
13	ECEM- 159	Embedded Systems & Real Time Applications	3	3	-	-	2	-	10	-	40	50