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National Institute of Technology Srinagar



COURSES & SYLLABI (Batch 2019 onwards)

Chemical Engineering Department



Scheme of Courses for B.Tech. Chemical Engineering (3rd to 8th Semester)
[2019 Batch onwards]

3 rd Semester						
S. No.	Course No.	Subjects	L	T	P	Credits
1.	CET201	Introduction to Chemical Engineering	3	1	0	4
2.	CET202	Material and Energy Balance	3	1	0	4
3.	CET203	Process Fluid Mechanics	3	1	0	4
4.	CET204	Thermodynamics and Chemical Kinetics	3	1	0	4
5.	ECT205	Basic Electronics Engineering	2	1	0	3
6.	HST201	Ethics & Self Awareness	2	0	0	2
7.	MAT211	Chemical Engineering Mathematics-I	3	1	0	4
TOTAL = 19 + 6 + 0 = 25			19	6	0	25
4 th Semester						
S. No.	Course No.	Subjects	L	T	P	Credits
1.	CET250	Chemical Engineering Thermodynamics	3	1	0	4
2.	CET251	Heat Transfer	3	1	0	4
3.	CET252	Mechanical Operations	3	1	0	4
4.	CET253	Material Science & Technology	3	1	0	4
5.	CET254	Process Instrumentation	3	0	0	3
6.	MAT250	Chemical Engineering Mathematics –II	3	1	0	4
7.	CEL255	Fluid Mechanics & Mechanical Operations Lab.	0	0	2	1
8.	ECL256	Basic Electronics Engineering Lab.	0	0	2	1
TOTAL = 18 + 5 + 4 = 27			18	5	4	25
5 th Semester						
S. No.	Course No.	Subjects	L	T	P	Credits
1.	CET305	Process Equipment Design – I	3	1	0	4
2.	CET306	Chemical Reaction Engineering	3	1	0	4
3.	CET307	Mass Transfer-I	3	1	0	4
4.	CET308	Chemical Technology – I	3	1	0	4
5.	HST309	Basic Management Principles	3	0	0	3
6.	MAT310	Numerical Methods	3	1	0	4
7.	CEL311	Heat Transfer Lab	0	0	2	1
8.	CEL312	Computer Simulation Lab	0	0	2	1
TOTAL = 18 + 5 + 4 = 27			18	5	4	25
6 th Semester						
S. No.	Course No.	Subjects	L	T	P	Credits
1.	CET355	Process Equipment Design –II	3	1	0	4
2.	CET356	Mass Transfer – II	3	1	0	4
3.	CET357	Chemical Technology – II	3	0	0	3
4.	CET358	Energy Technology	3	0	0	4
5.	CET359	Chemical Process Safety	3	0	0	3
6.	CET360	Transport Phenomena	3	1	0	4
7.	CEL361	Energy Technology Lab	0	0	2	1
8.	CEL362	Thermodynamics & Reaction Engineering Lab	0	0	2	1
9.	CEI363	Industrial Training & Presentation	0	0	2	1
TOTAL = 18 + 3 + 8 = 29			18	3	8	25

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7 th Semester						
S. No.	Course No.	Subjects	L	T	P	Credits
1.	CEP413	Pre-project work	0	0	4	2
2.	CES414	Seminar	0	0	2	1
3.	CET415	Process Dynamics & Control	3	1	0	4
4.	CET416	Process Economics & Plant Design	3	1	0	4
5.	CET417	Biochemical Engineering	3	1	0	4
6.	CEL418	Process Dynamics & Control Lab	0	0	2	1
7.	CEL419	Mass Transfer Lab	0	0	2	1
8.	Elective – I (Any one) Elective I		3	1	0	4
	CET4020	Polymer Science and Engineering				
	CET4021	Computational Fluid Dynamics				
	CET4022	Advanced Separation Processes				
	MAT4023	Operations Research				
	CET4024	Process Heat Integration				
9.	Elective – II (Any one) Elective II		3	1	0	4
	CET4025	Cement Technology				
	HST4026	Managerial Economics for Engineers				
	CET4027	Multi-component Distillation				
	CET4028	Optimization Techniques in Chemical Engineering				
	CET4029	Heterogeneous Catalysis & Catalytic Processes				
	CET4030	Online course				
		TOTAL = 15 + 5 + 10 = 30	15	5	10	25
8 th Semester						
S. No.	Course No.	Subjects	L	T	P	Credits
1.	CEP464	Project Work	0	0	16	8
2.	CET465	Bioresource Technology	3	1	0	4
3.	CEL466	Biochemical Engineering Lab	0	0	2	1
4.	CET467	Modeling & Simulation of Chemical Process Systems	3	0	0	3
5.	CET-468	Industrial Pollution Abatement	3	0	0	3
7.	Elective – III (Any one) Elective-III /online		3	0	0	3
	CET4069	Petroleum Refining				
	CET4070	Clean Technology in Process industries				
	CET4071	Online course				
8.	Elective – IV (Any one) Elective-IV/online		3	0	0	3
	CET4073	Food Technology				
	CET4074	Instrumental methods of Analysis				
	CET4075	Nano Science & Technology				
		TOTAL = 15 + 0 + 20 = 35	15	0	20	25

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NATIONAL INSTITUTE OF TECHNOLOGY SRINAGAR
DEPARTMENT OF CIVIL ENGINEERING

REVISED SCHEME

For

UNDER GRADUATE PROGRAMME

(Bachelor of Technology)

IN

CIVIL ENGINEERING

(EFFECTIVE FROM: 2019 BATCH)

DEPARTMENT OF CIVIL ENGINEERING
NATIONAL INSTITUTE OF TECHNOLOGYSRINAGAR
HAZRATBAL, SRINAGAR, KASHMIR, J&K, INDIA - 190006



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DEPARTMENT OF CIVIL ENGINEERING

B.TECH.3rd SEMESTER (CIVIL)

Course No.	Course title	L	T	P	C
CVT201 ✓	Structural Analysis- I ✓	2 ✓	2	0	4 ✓
CVL201 ✓	Structural Analysis Lab- I ✓	0	0	2	1 ✓
CVT202 ✓	Fluid Mechanics ✓	2	1	0	3 ✓
CVL202 ✓	Fluid Mechanics Lab-I ✓	0	0	2	1 ✓
CVT203 ✓	Surveying-I ✓	2	1	0	3 ✓
CVL203 ✓	Surveying Lab-I ✓	0	0	4	2 ✓
MAT201 ✓	Mathematics-I ✓	3	1	0	4 ✓
CVT204 ✓	Building Materials and Construction ✓	3	1	0	4 ✓
HST202 ✓	Basics of Industrial Economics and Management	2	1	0	3 ✓
Total Lecture Hours and Credits		27			25

B.TECH. 4th SEMESTER (CIVIL)

Course No.	Course title	L	T	P	C	Remarks
CVT250 ✓	Structural Analysis- II ✓	2	1	0	3 ✓	* Two weeks survey camp immediately after exam. of 4 th semester (July)
CVT251 ✓	Fluid Flow in Pipes and Channels ✓	2	1	0	3 ✓	
CVL251 ✓	Fluid Mechanics Lab-II ✓	0	0	2	1 ✓	
CVT252 ✓	Surveying-II ✓	2	1	0	3 ✓	
CVL252 ✓	Surveying Lab-II ✓	0	0	2	1 ✓	
CVL255 ✓	Surveying Camp* ✓	0	0	4	2 ✓	
CVT253 ✓	Engineering Geology ✓	2	1	0	3 ✓	
CVL253	Geology Lab. ✓	0	0	2	1 ✓	
CVT254 ✓	Civil Engineering Drawing ✓	1	0	6	4 ✓	
MAT256 ✓	Mathematics-II ✓	3	1	0	4 ✓	
Total Lecture Hours and Credits		27			25	

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DEPARTMENT OF CIVIL ENGINEERING

BTECH. 5th- SEMESTER (Civil)

Course No.	Course title	L	T	P	C
CVT301 ✓	Design of Structures-I ✓	2	2	0	4 ✓
CVL301 ✓	Concrete Laboratory ✓	0	0	2	1 ✓
CVT302 ✓	Highway Engineering and PMS ✓	3	1	0	4 ✓
CVL302 ✓	Highway Laboratory ✓	0	0	2	1 ✓
CVT303 ✓	Geotechnical Engineering-I ✓	2	2	0	4 ✓
CVL303 ✓	Geotechnical Laboratory-I ✓	0	0	2	1 ✓
CVT304 ✓	Water Resources Engineering ✓	2	2	0	4 ✓
CVT305 ✓	Structural Analysis-III ✓	2	1	0	3 ✓
	Elective I				
CVT3007	Architecture and Town Planning				
CVT3008 ✓	Concrete Technology	2	1	0	3 ✓
CVT3009	Engineering Seismology				
Total Lecture Hours and Credits		28			25

B.TECH. 6th SEMESTER (Civil)

Course No.	Course title	L	T	P	C
CVT350	Design of Structures-II	2	2	0	4
CVL350	Structural Engineering Lab.-II	0	0	2	1
CVT351	Traffic Engineering and Road Facilities	2	2	0	4
CVL351	Traffic Engineering Laboratory	0	0	2	1
CVT352	Geotechnical Engineering-II	2	2	0	4
CVL352	Geotechnical Laboratory-II	0	0	2	1
CVT353	Irrigation and Hydraulic Structures	2	1	0	3
CVI353	Industrial Training & Presentation	0	0	0	1
	Elective II				
CVT3054	Water Shed Management	2	1	0	3
CVT3055	Numerical Methods in Civil Engineering				
MAT3050	Operations Research				
	Elective III				
CVT3056	Computer Aided Design	2	1	0	3
CVT3057	Disaster Management				
CVT3058	Applied Hydrology				
Total Lecture Hours and Credits		27			25

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DEPARTMENT OF CIVIL ENGINEERING

B. TECH. 7th SEMESTER (Civil)

Course No.	Course title	L	T	P	C
CVT401	Environmental Engineering-I	2	1	0	3
CVL401	Water Quality Lab	0	0	2	1
CVT402	Structural Dynamics	3	1	0	4
CVT403	Construction Technology & Management	2	1	0	3
CVT404	Design of Structures-III	2	2	0	4
CVT405	Quantity Surveying and Cost Evaluation	2	1	0	3
CVS405	Seminar	0	2	0	2
CVP406	Project Pre-Work	0	1	2	2
Elective IV					
CVT4006	Railway and Airport Engineering	2	1	0	3
CVT4007	Fluvial Hydraulics				
CVT4008	Advanced Geotechnical Engineering				
CVT4009	Online Course				
Total Lecture Hours and Credits		28			25

B TECH. 8th SEMESTER (Civil):

Course No.	Course title	L	T	P	C
CVT450	Hydropower Engineering	2	2	0	4
CVT451	Bridge Design	3	1	0	4
CVP452	Project*	0	4	12	10
Elective V					
CVT4054	Rock Mechanics and Tunneling Technology	2	1	0	3
CVT4055	Transportation Planning and Economics				
CVT4056	Advanced Structural Analysis				
Elective VI					
CVT4057	Ground Improvement Techniques	3	1	0	4
CVT4058	Earthquake Resistant Design				
CVT4059	Environmental Engineering-II				
CVT4060	Online Course				
Total Lecture Hours and Credits		30			25

*The evaluation will be done as per statutes.

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COURSES & SYLLABI (Batch 2019 onwards)

Computer Science & Engineering Department

National Institute of Technology Srinagar

Hazratbal, Srinagar, Kashmir, 190006 India.

Computer Science & Engineering Department

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**Department of Computer Science & Engineering
National Institute of Technology Srinagar**

Course Structure for B.Tech. Computer Science & Engineering

(Batch 2019 onwards)

Semester: 3rd

S.No.	Subject	Code	L	T	P	Credits
1	Object Oriented Programming	CST201	3	1	0	4
2	Object Oriented Programming -Lab	CSL202	0	0	2	1
3	Internet & Web Technologies	ITL206	1	0	2	2
4	Signals & Systems	ECT 209	3	1	0	4
5	Basic Electronics	ECT 208	3	1	0	4
6	Basic Electronics Lab	ECL208	0	0	2	1
7	Database Management Systems	CST203	3	1	0	4
8	Database Management Systems - Lab	CSL204	0	0	2	1
9	Discrete Mathematics	MAT203	3	1	0	4
	Total Credits					25

Semester: 4th

S.No.	Subject	Code	L	T	P	Credits
1	Data Structures	CST250	3	1	0	4
2	Data Structures – Lab	CSL251	0	0	2	1
3	Introduction to Probability Theory & Statistics	MAT252	3	0	0	3
4	Digital Electronics & Logic Design	ECT 255	3	1	0	4
5	Digital Electronics & Logic Design – Lab	ECL254	0	0	2	1
6	Software Engineering	ITT255	3	1	0	4
7	Communication Systems	ECT253	3	1	0	4
8	Communication Systems – Lab	ECL255	0	0	2	1
9	Control Systems	EET254	3	0	0	3
	Total Credits					25

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Semester: 5th

S.No.	Subject	Code	L	T	P	Credits
1	Computer Organization & Architecture	CST305	3	1	0	4
2	Design & Analysis of Algorithms	CST306	3	1	0	4
3	Microprocessor	CST307	3	0	0	3
4	Microprocessor - Lab	CSL308	0	0	2	1
5	Operating Systems	CST309	3	1	0	4
6	Python Programming	CST310	3	1	0	4
7	Python Programming - Lab	CSL311	0	0	2	1
8	Data Communication	CST312	3	1	0	4
	Total Credits					25

Semester: 6th

S.No.	Subject	Code	L	T	P	Credits
1	Artificial Intelligence	CST352	3	1	0	4
2	Artificial Intelligence - Lab	CSL353	0	0	2	1
3	Computer Networks	CST354	3	1	0	4
4	Computer Networks - Lab	CSL355	0	0	2	1
5	Theory of Computation	CST356	3	1	0	4
6	Computer Graphics	CST357	3	0	0	3
7	Computer Graphics -Lab	CSL358	0	0	2	1
8	Java Programming	CST359	2	0	2	3
9	Practical Training & Tour	CSI360		-		1
10	Elective I	CST0XX	3	0	0	3
	Total Credits					25

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Semester: 7th

S.No.	Subject	Code	L	T	P	Credits
1	Compiler Design	CST415	3	1	0	4
2	Compiler Design - Lab	CSL416	0	0	2	1
3	Network Security	CST417	3	1	0	4
4	Network Security - Lab	CSL418	0	0	2	1
5	Pre-Project	CSP419	0	0	4	2
6	Seminar	CSS420	0	0	2	1
7	Elective II	CST0XX	3	0	0	3
8	Elective III	CST0XX	3	0	0	3
9	Elective IV/Online Course	CST0XX	3	0	0	3
10	Operations Research & Optimization	MAT441	3	0	0	3
Total Credits						25

Semester: 8th

S.No.	Subject	Code	L	T	P	Credits
1	Project	CSP460	0	0	12	10
2	Elective V	CST0XX	3	0	0	3
3	Elective VI	CST0XX	3	0	0	3
4	Elective VII/ Online Course	CST0XX	3	0	0	3
5	Elective VIII/Online Course	CST0XX	3	0	0	3
6	Industrial Organization & Management	HST493	3	0	0	3
Total Credits						25

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List of Electives

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S.No.	Subject	Code
1.	Simulation & Modeling	CST001
2.	Graph Theory	CST002
3.	Digital Signal Processing	CST003
4.	Multimedia Technology	CST004
5.	Logic Programming	CST005
6.	Embedded Systems	CST006
7.	Advanced Java & Android Programming	CST007
8.	System on Chip (SoC)	CST008
9.	Advanced Internet Technologies	CST009
10.	Wireless Communication	CST010
11.	Fault Tolerant Computing	CST011
12.	Image Processing	CST012
13.	System Design using HDL	CST013
14.	Real Time Systems	CST014
15.	Unix & Shell Programming	CST015
16.	High Speed Networks	CST016
17.	Advanced Algorithms	CST017
18.	Reconfigurable Computing	CST018
19.	Computer Vision	CST019
20.	Advanced Computer Networks	CST020
21.	Advanced Computer Graphics	CST021
22.	Advanced DBMS	CST022
23.	Advanced Computer Architecture	CST023
24.	Advanced Compilation Techniques	CST024
25.	Principles of Cryptography	CST025
26.	Neural Networks	CST026
27.	Pervasive Computing	CST027
28.	Distributed and Parallel Computing	CST028
29.	Cloud Computing	CST029
30.	Software Project Management	CST030
31.	Big Data	CST031
32.	Cyber laws and Forensics	CST032
33.	Expert Systems	CST033
34.	Mobile Computing	CST034
35.	Green Computing	CST035
36.	Introduction to Robotics	CST036
37.	Data Analytics	CST037
38.	Computational Biology	CST038
39.	Special topics in Computer Science	CST039
40.	System & Network Administration	CST040
41.	Pattern Recognition	CST041
42.	Natural Language Processing	CST042
43.	Quantum Computing	CST043
44.	Deep Learning	CST044

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45	Introduction to Data Science	CST045
46.	Internet of Things (IoT)	CST046
47.	Advanced Cryptography	CST047
48.	Data Mining	CST048
49.	Advanced Graph Algorithms	CST049
50.	Advanced Java	CST050
51.	Numerical Methods	MAT051
52.	Online Course	CST051
53	Online Course	CST052
54	Online Course	CST053

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List of Swayam Online Courses

S.No	Course Name	Course Duration
1.	Animations	15 weeks
2.	Web based Technologies & multimedia	15 weeks
3.	Applied Natural Language Processing	12 weeks
4.	Art of C Programming	12 weeks
5.	Artificial Intelligence	12 weeks
6.	Artificial Intelligence Search Methods for Problem Solving	12 weeks
7.	Bandit Algorithm	12 weeks
8.	Computer Fundamentals	12 weeks
9.	Computational Number Theory and Algebra	12 weeks
10.	Computer Networks	12 weeks
11.	Computer Architecture & Organization	12 weeks
12.	Cyber Security	12 weeks
13.	Cyber Security	12 weeks
14.	Concrete Technology	12 weeks
15.	Data Mining	12 weeks
16.	Data Structure and Algorithm in Java	12 weeks
17.	Deep Learning	12 weeks
18.	Deep Learning in Computer Vision	12 weeks
19.	Design and Analysis of Algorithms	12 weeks
20.	Discrete Math	12 weeks
21.	Ecommerce Technologies	12 weeks
22.	Electricity and Safety Measures	12 weeks
23.	Energy Resources and Conversion Processes	14 weeks
24.	Fundamentals of computer systems	12 weeks
25.	Introduction to IT	12 weeks
26.	Linux for Sys-Ads	12 weeks
27.	Linux Bash	12 weeks
28.	Linux Operating System	12 weeks

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COURSES & SYLLABI (Batch 2019 onwards)

Electronics and Communication Engineering
Department

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DEPARTMENT OF ELECTRONICS & COMMUNICATION

3rd Semester

S. No.	Course Code	Course Title	Credit	Contact Hours			
				L	T	P	Total
1	ECT201	Electronics I ✓	4 ✓	3	1	0	4
2	ECT202	Network Analysis ✓	4 ✓	3	1	0	4
3	ECT203	Signals and Systems ✓	4 ✓	3	1	0	4
4	CST205	Data Structures ✓	3 ✓	2	1	0	3
5	MAT205	Mathematics-III ✓	4 ✓	3	1	0	4
6	MMT210	Electronics Engineering Materials ✓	4 ✓	3	1	0	4
7	CSL206	Data Structures Laboratory ✓	1 ✓	0	0	2	2
8	ECL204	Electronics-I Laboratory ✓	1 ✓	0	0	2	2
		Total	25	17	6	4	27

4th Semester

S. No.	Course Code	Course Title	Credit	Contact Hours			
				L	T	P	Total
1	ECT250	Electronics II ✓	4 ✓	3	1	0	4
2	ECT251	Digital Electronics and Logic Design ✓	3 ✓	2	1	0	3
3	ECT252	Communications Systems-I ✓	3 ✓	2	1	0	3
4	EET255 ✓	Electrical Machines ✓	3 ✓	2	1	0	3
5	EET256 ✓	Control System ✓	4 ✓	3	1	0	4
6	MAT254 ✓	Mathematics-IV ✓	4 ✓	3	1	0	4
7	ECL253 ✓	Electronic II Laboratory ✓	1 ✓	0	0	2	2
8	ECL251 ✓	Digital Electronics and Logic Design Lab ✓	1 ✓	0	0	2	2
9	ECL257 ✓	Communications Systems I Laboratory ✓	1 ✓	0	0	2	2
10	EEL257 ✓	Electrical Machines Laboratory ✓	1 ✓	0	0	2	2
		Total	25	15	6	8	29

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Electronics & Communication Engg.

5th Semester

Course Code	Title	L	T	P	C	Faculty
ECT 301 ✓	Microprocessor ✓	3	1	0	4 ✓	
ECT 302 ✓	VLSI Design ✓	3	1	0	4 ✓	
ECT 303 ✓	Digital Communication ✓	2	1	0	3 ✓	
ECT 304 ✓	Applied EMF & Waves ✓	3	1	0	4 ✓	
ECT 305 ✓	Information Theory & coding ✓	2	1	0	3 ✓	
MAT 349 ✓	Mathematics V ✓	3	1	0	4 ✓	
ECL 306 ✓	Microprocessor Lab ✓	0	0	2	1 ✓	
ECL 307 ✓	VLSI Design Lab ✓	0	0	2	1 ✓	
ECL 308 ✓	Digital Communication Lab ✓	0	0	2	1 ✓	
Total		28			25	

6th semester

Course Code	Title	L	T	P	C	Faculty
ECT 350	Antenna and Wave Propagation	2	1	0	3	
ECT 351	Electronic Devices	3	1	0	4	
ECT 352	Computer Organization & Architecture	3	1	0	4	
ECT 353	Data Comm. & Networking	3	1	0	4	
ECT 354	Power Electronics	3	1	0	4	
	Elective-I	2	1	0	3	
ECT3050	Multimedia Information System					
ECT3051	Advanced Microprocessor					
ECT3052	VLSI Technology					
ECT3053	Network Synthesis					
CST3099	Python Programming					
MAT3099	Numerical Analysis & Techniques					
ECL 355	Electronic DA Tools I (Lab)	0	0	2	1	
ECI 356	Industrial Training				1	
EEL 3xx	Power Electronics Lab	0	0	2	1	
Total		28			25	

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7th Semester

Course Code	Title	L	T	P	C
ECT 401	Embedded Systems	3	1	0	3
ECT 402	Digital Signal Processing	2	1	0	3
ECT 403	Wireless Communication	2	1	0	3
ECT 404	Electronic Measurement & Instrumentation	3	1	0	4
ECT 405	Microwave Engineering	2	1	0	3
ECS 406	Seminar	0	0	2	1
ECP 406	Pre Project	0	0	4	2
	Elective II	2	1	0	3
ECT 4010	Radar Systems				
ECT 4011	System Design				
ECT 4012	Analog CMOS Design				
EET 4048	Advanced Power Electronics				
CST 4006	Design & Analysis of Algorithms				
MAT 4048	Neural Networks and Fuzzy logic				
ECT 4013	Online Course				
ECL 407	Embedded & Signal Processing Lab	0	0	2	1
ECL 408	EDA Tools II	0	0	2	1
ECL 409	Microwave Engineering Lab	0	0	2	1
Total		30			25

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8^h Semester

Course Code	Title	L	T	P	C	Faculty
ECT 450	Project Major	0	0	16	8	
ECT 451	Optical Fiber Comm.	2	1	0	3	
ECT 452	Computer & Network Security	2	1	0	3	
	Elective-III	2	1	0	3	
ECT 4054	Millimeter wave communications					
ECT 4055	Biomedical & Image Processing					
ECT 4056	Molecular Electronics					
EET 4098	Power System					
CST 4052	Artificial Intelligence & Machine Learning					
MAT 4095	Optimization Techniques					
ECT 4057	Online Course					
HSL 4xx	Industrial Organization & Management	3	1	0	4	
	Elective-IV	2	1	0	3	
ECT 4058	TV Engineering					
ECT 4060	Telemedicine					
ECT 4061	RF Design					
ECT 4062	Smart Grid Communications					
CST 4054	Computer Networks					
MAT 4096	Discrete Mathematics					
ECT 4063	Online Course					
ECT 453	Optical Fiber Comm. Lab.	0	0	2	1	
Total		34			25	

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Scheme of Courses for B.Tech. Electrical Engineering (3rd to 8th Semester

3 rd Semester						
S. No.	Course No.	Subjects	L	T	P	Credits
1.	EET201	Electrical Measurement & Instrumentation.	3	1	0	4
2.	ECT204	Electronics-I	3	1	0	4
3.	ECT205	Network Analysis	3	1	0	4
4.	PHT201	EMF & Waves	3	1	0	4
5.	MMT209	Electrical Engg. Materials	3	1	0	4
6.	MAT204	Mathematics-III	3	1	0	4
7.	ECL204	Electronics – I Lab	0	0	2	1
TOTAL CONTACT HOURS = 18 + 6 + 2 = 26			18	6	2	25
4 th Semester						
S. No.	Course No.	Subjects	L	T	P	Credits
1.	EET250	Electrical Machines-I	3	1	0	4
2.	EET251	Control Systems-I	3	1	0	4
3.	MET257	Thermal Engineering	3	1	0	4
4.	ECT256	Electronics-II	3	1	0	4
5.	CVT259	Hydraulics & Hydraulic Machines	2	1	0	3
6.	MAT253	Mathematics-IV	2	1	0	3
7.	EEL252	Electrical Machines – I Lab.	0	0	2	1
8.	EEL253	Electrical Measurement & Instrumentation-Lab	0	0	2	1
9.	ECL253	Electronics-II Lab	0	0	2	1
TOTAL CONTACT HOURS = 16 + 6 + 6 = 28			16	6	6	25
5 th Semester						
S. No.	Course No.	Subjects	L	T	P	Credits
1.	EET301	Power Systems-I	2	1	0	3
2.	EET302	Electrical Machines II	3	1	0	4
3.	EET303	Control System II	3	1	0	4
4.	ECT306	Digital Electronics & Logic Design	2	1	0	3
5.	ECT307	Communication Systems	2	1	0	3
6.	EEL301	Power Systems I Lab	0	0	2	1
7.	MAT311	Mathematics-V	2	1	0	3
8.	EEL302	Electrical Machines II Lab	0	0	2	1
9.	EEL303	Control System II & V.I. Lab	0	0	2	1
10.	EEL304	Computer Aided Simulation of Electrical Systems	0	0	2	1
11.	ECL349	Digital Electronics & Logic Design Lab	0	0	2	1
TOTAL CONTACT HOURS = 14+6+10 = 30			14	6	10	25
6 th Semester						
S. No.	Course No.	Subjects	L	T	P	Credits
1.	EET350	Power Systems II	3	1	0	4
2.	EET351	Power Electronics	3	1	0	4
3.	EET352	Microprocessors	3	1	0	4
4.	EET353	Digital Signal Processing	3	1	0	4
5.	EET354	Electric Machine Design	3	1	0	4
6.	EEL350	Power Systems II Lab	0	0	2	1
7.	EEL351	Power Electronics Lab	0	0	2	1
8.	EEL352	Microprocessors Lab	0	0	2	1
9.	EEL353	Tour and Training	0	0	4	2
TOTAL CONTACT HOURS = 15+5+10= 30			15	5	10	25

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		7 th Semester				
S. No.	Course No.	Sub ject s	L	T	P	Credi ts
1.	EES401	Seminar	0	0	2	1
2.	EEP401	Project Preliminary Work	0	0	2	2
3.	EET401	Power System Protection	2	1	0	3
4.	EET402	High Voltage Engineering	2	1	0	3
5.	EET403	Power Systems - III	3	1	0	4
6.	EET404	Advanced Power Electronics	3	1	0	4
7.	ECT404	Electronic Measurements & Instrumentation	2	1	0	3
8.	EET405	Power Station practice	2	1	0	3
9.	EEL401	Power System Protection Lab	0	0	2	1
10.	EEL402	High Voltage Engineering Lab	0	0	2	1
Total Contact Hours = 14+6+8= 28			14	6	8	25

8th Semester

S. No.	Course No.	Sub ject s	L	T	P	Credits
1.	EEP450	Project Work	0	0	12	10
2.	HST454	Industrial Organization & Management	3	1	0	4
3.	EET0XX	Elective - I/ (Online Course)	3	1	0	4
5.	EET0XX	Elective - II / (Online Course)	3	1	0	4
7.	EET0XX	Elective - III/ (Online Course)	3	0	0	3
TOTAL CONTACT HOURS = 12 + 3 + 12 = 27			12	3	12	25

E-I, II, III: Any three of the following electives

S. No.	Course no.	Elective courses	L	T	P	Credit
1.	EET050	Advanced Control Theory	3	0	0	3
2.	EET051	Mechatronics	3	0	0	3
3.	EET052	Renewable Sources of Electrical Energy	3	0	0	3
4.	EET053	Electric Drives	3	0	0	3
5.	EET054	Microcontroller & their Applications	3	0	0	3
6.	EET055	Maintenance & Design of Electrical Sub	3	0	0	3
7.	EET056	Power Systems Transients	3	0	0	3
8.	EET057	Distribution System Automation	3	0	0	3
9.	EET058	Industrial Process Instrumentation &	3	0	0	3
10.	EET059	Power System Reliability	3	0	0	3

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11.	EET060	Utilization & Traction	3	0	0	3
12.	EET061	Advanced Power Systems Control	3	0	0	3
13.	EET062	System planning & Load forecasting	3	0	0	3
14.	EET064	Switched Mode Power Conversion	3	0	0	3
15.	EET065	Online Course	3	0	0	3
16.	EET066	Online Course	3	0	0	3
17.	EET067	Online Course	3	0	0	3

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DEPARTMENT OF INFORMATION TECHNOLOGY
NATIONAL INSTITUTE OF TECHNOLOGY SRINAGAR



SCHEME OF COURSES
FOR
B. TECH. INFORMATION TECHNOLOGY
2019 BATCH

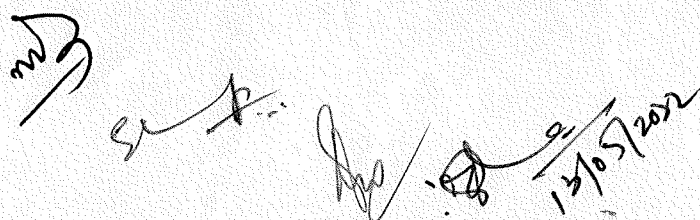
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Semester - III

S.No.	Course	Code	L T P	Credits
1	Data Structures	ITT201	3 1 0	4
2	Signal and Systems	ITT202	2 1 0	3
3	Software Engineering	ITT203	3 0 0	3
4	Discrete Mathematics and Graph Theory	ITT204	3 1 0	4
5	Object Oriented Programming I	CST201	3 1 0	4
6	Electronics	ECT207	3 1 0	4
7	Object Oriented Programming I Lab	CSL203	0 0 2	1
8	Electronics Lab	ECL209	0 0 2	1
9	Data Structures Lab	ITL205	0 0 2	1
	Total credits			25

Semester - IV

S.No.	Course	Code	L T P	Credits
1	Operating Systems	ITT250	3 1 0	4
2	Database Management System	ITT251	3 1 0	4
3	Digital Electronics & Logic Design	ECT257	3 1 0	4
4	Communication System	ECT253	3 1 0	4
5	Control System	EET258	3 1 0	4
6	Digital Electronics & Logic Design Lab	ECL257	0 0 2	1
7	Communication System Lab	ECL258	0 0 2	1
8	Operating System Lab	ITL252	0 0 2	1
9	Database Management System Lab	ITL253	0 0 2	1
10	Web Programming	ITL254	0 0 2	1
	Total credits			25



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Semester - V

S.No.	Course	Code	L T P	Credits
1	Design & Analysis of Algorithms	ITT301	3 1 0	4
2	Microprocessor	ITT302	3 1 0	4
3	Computer Organization & Architecture	ITT303	3 1 0	4
4	Theory of Computation	ITT304	3 1 0	4
5	Data Communication	ITT305	3 1 0	4
6	Introduction to Probability and Statistics	MAT301	3 0 0	3
7	Design & Analysis of Algorithms Lab	ITL306	0 0 2	1
8	Microprocessor Lab	ITL307	0 0 2	1
	Total credits			25

Semester - VI

S.No.	Course	Code	L T P	Credits
1	Computer Networks	ITT350	3 1 0	4
2	Artificial Intelligence	ITT351	3 0 0	3
3	Computer Graphics	ITT352	3 0 0	3
4	Big Data	ITT353	3 0 2	4
5	Object-Oriented Programming II with Java	ITT354	3 0 0	3
6	Computer Networks Lab	ITL355	0 0 2	1
7	Artificial Intelligence Lab	ITL356	0 0 2	1
8	Computer Graphics Lab	ITL357	0 0 2	1
9	Object-Oriented Programming II with Java Lab	ITL358	0 0 2	1
10	Elective I		3 0 0	3
	Management Information Systems	ITT3060		
	Software Project Management	ITT3061		
	Realtime Operating System	ITT3062		
	Advanced Database Management Systems	ITT3063		
	Digital Signal Processing	ITT3064		

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	Embedded Systems	ITT3065		
	Compiler Design	CST3096		
11	Tour & Training	ITI359	0 0 2	1
	Total credits			25

Semester - VII

S.No.	Course	Code	L	T	P	Credits
1	Wireless & Mobile Communication	ITT401	3	1	0	4
2	Information Security	ITT402	3	1	0	4
3	Image Processing	ITT403	3	1	0	4
4	Cloud Computing	ITT404	3	1	0	4
5	Information Security Lab	ITL405	0	0	2	1
6	Image Processing Lab	ITL406	0	0	2	1
7	Cloud Computing Lab	ITL407	0	0	2	1
8	Elective II		3	0	0	3
	Geographic Information System	ITT4010				
	E-Health	ITT4011				
	System Design	ITT4012				
	Network Management & administration	ITT4013				
	Advanced Artificial Intelligence	ITT4014				
	Synthesis of Digital Systems	ITT4015				
	Advanced Algorithms	ITT4016				
	Advanced Computer Networks	ITT4017				
	Blockchain	ITT4018				
	Introduction to Logic and Functional Programming	ITT4019				
	Advanced Computer Graphics	ITT4020				
	VLSI Design	ECT4044				
	Numerical Methods	MAT4044				
	Online Course	ITT4021				
9	Pre project	ITP408	0	0	4	2
10	Seminar	ITS409	0	0	2	1
	Total credits					25

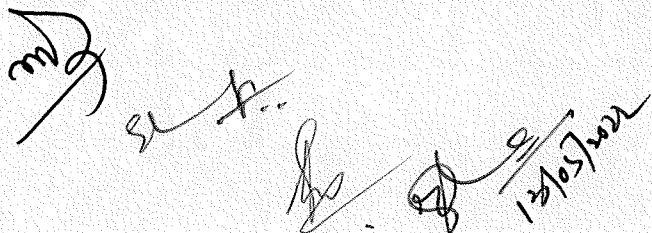
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Semester - VIII

S. No.	Course	Code	L	T	P	Credits
1	Machine Learning	ITT450	3	1	0	4
2	Elective III		3	1	0	4
	Green Computing	ITT4053				
	Bioinformatics	ITT4054				
	Biometrics and Network Security	ITT4055				
	Pervasive Computing	ITT4056				
	Advanced Image Processing	ITT4057				
	Virtualization and Cloud	ITT4058				
	Ad hoc & Wireless Sensor Networks	ITT4059				
	Natural Algorithms	ITT4060				
	Foundations of Automatic Verification	ITT4061				
	Deep learning	ITT4062				
	Operations Research	MAT4080				
	Online Course	ITT4063				
3	Elective IV		3	1	0	4
	Cyber Security & Forensics	ITT4064				
	Natural Language Processing	ITT4065				
	Distributed Computing	ITT4066				
	High Performance Computing	ITT4067				
	Computer vision and Robotics	ITT4068				
	Expert Systems	ITT4069				
	Internet of Things	ITT4070				
	Optimization Techniques	MAT4081				
	Mathematical Modeling & Simulations	MAT4082				
4	Project	ITP451	0	0	20	10
5	Economics & Business Management	HST450	3	0	0	3
	Total credits					25



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NATIONAL INSTITUTE OF TECHNOLOGY SRINAGAR
DEPARTMENT OF MECHANICAL ENGINEERING

REVISED SCHEME

For

UNDER GRADUATE PROGRAMME
(Bachelor of Technology)

IN

MECHANICAL ENGINEERING

(EFFECTIVE FROM: 2019 BATCH)

DEPARTMENT OF MECHANICAL ENGINEERING
NATIONAL INSTITUTE OF TECHNOLOGY SRINAGAR
HAZRATBAL, SRINAGAR, KASHMIR, J&K, INDIA - 190006



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NATIONAL INSTITUTE OF TECHNOLOGY SRINAGAR
DEPARTMENT OF MECHANICAL ENGINEERING

B.TECH.3rd SEMESTER (Mechanical)

S. No	Course Code	Course Title	Hours Per Week			Total Contact Hours	Credits
			L	T	P		
1.	MET201	Manufacturing Processes	3	1	0	4	4
2.	MET202	Mechanics of Solids	3	1	0	4	4
3.	MET203	Fundamentals of Dynamics	3	0	0	3	3
4.	MET204	Engineering Thermodynamics	3	1	0	4	4
5.	MET205	Fluid Mechanics - I	3	1	0	4	4
6.	MAT206	Applied Mathematics for Engineers	3	0	0	3	3
7.	MEL201	Machine Drawing & Solid Modelling	0	0	2	2	1
8.	MEL202	Mechanics of Solids Lab	0	0	2	2	1
9.	MEL203	Manufacturing Processes Lab	0	0	2	2	1
Total Credits						25	

B.TECH. 4th SEMESTER (Mechanical)

S. No	Course Code	Course Title	Hours Per Week			Total Contact Hours	Credits
			L	T	P		
1.	MET250	Applied Thermodynamics	3	1	0	4	4
2.	MET251	Mechanics of Materials	3	1	0	4	4
3.	MET252	Theory of Mechanisms and Machines	3	1	0	4	4
4.	MET253	Materials Science and Engineering	3	1	0	4	4
5.	MET254	Non-Traditional Machining and Automation	3	1	0	4	4
6.	LCI254	Basic Electronics	3	0	0	3	3
7.	MEL255	Thermo-Fluids Lab	0	0	2	2	1
8.	MEL256	Non-Traditional Machining and Automation Lab	0	0	2	2	1
Total Credits						25	

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DEPARTMENT OF MECHANICAL ENGINEERING

BTECH. 5th- SEMESTER (Mechanical)

S. No.	Course Code	Course Title	Hours Per Week			Total Contact Hours	Credits
			L	T	P		
1.	MET301	Heat Transfer	3	1	0	4	4
2.	MET302	Design of Machine Elements	3	1	0	4	4
3.	MET303	Mechanical Vibrations	3	1	0	4	4
4.	MET304	Industrial Engineering - I	3	1	0	4	4
5.	MET305	IC Engines	3	1	0	4	4
6.	ECT349	Microprocessors in Automation	3	0	0	3	3
7.	MEL310	Heat Transfer Lab	0	0	2	2	1
8.	MEL311	Mechanisms and Vibrations Lab	0	0	2	2	1
Total Credits						25	

B.TECH. 6th SEMESTER (Mechanical)

S. No.	Course Code	Course Title	Hours Per Week			Total Contact Hours	Credits
			L	T	P		
1.	MET351	Production Engineering	3	1	0	4	4
2.	MET352	Mathematical Methods	3	1	0	4	4
3.	MET353	Control Systems	3	1	0	4	4
4.	MET354	Fluid Mechanics – II	3	1	0	4	4
5.		Elective I	2	1	0	3	3
	MET3050	Finite Element Method					
	MET3051	Additive Manufacturing Processes					
	MET3052	Advanced Thermodynamics					
6.		Elective II	2	1	0	3	3
	MET3053	Introduction to MEMS					
	MET3054	Linear Optimization in Engineering					
	MET3055	Advanced Fluid Mechanics					
7.	MEL361	Applied Thermodynamics Lab	0	0	2	2	1
8.	MEL362	Industrial Engineering – I Lab	0	0	2	2	1
9.	MEI364	Industrial Training	-	-	-	-	1
Total Credits						25	

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DEPARTMENT OF MECHANICAL ENGINEERING

B.TECH. 7th SEMESTER (Mechanical)

S. No.	Course Code	Course Title	Hours Per Week			Total Contact Hours	Credits
			L	T	P		
1.	MET401	Mechatronics and Measurement Systems	3	1	0	4	4
2.	MET402	Industrial Engineering - II	3	1	0	4	4
3.	MET403	Machine Design	3	1	0	4	4
4.		Elective-III	3	1	0	4	4
	MET4001	Advanced Mechanics of Solids					
	MET4002	Material Testing Inspection & Characterization					
	MET4003	Refrigeration & Air conditioning					
5.		Elective-IV	3	1	0	4	4
	MET4004	Basic Fracture Mechanics					
	MET4005	Advanced Manufacturing Technology					
	MET4006	Conduction heat Transfer					
	MET4007	Online Course					
6.	MEL411	Mechatronics and Measurement Systems Lab	0	0	2	2	1
7.	MEL412	Industrial Engineering – II Lab	0	0	2	2	1
8.	MES414	Seminar	0	0	4	4	1
9.	MEP413	Major Project – Stage I	0	0	6	6	2
						Total Credits	25

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DEPARTMENT OF MECHANICAL ENGINEERING

B TECH. 8th SEMESTER (Mechanical):

S. No.	Course Code	Course Title	Hours Per Week			Total Contact Hours	Credits
			L	T	P		
1.	MET451	Operations Research	3	1	0	4	4
2.		Elective-V	3	1	0	4	4
	MET4056	Theory of thin plates & shells					
	MET4057	Entrepreneurship development & Risk Management					
	MET4058	Power Plant Engineering					
3.		Elective-VI	3	1	0	4	4
	MET4059	Theory of Elasticity					
	MET4060	Advanced welding & Allied Processes					
	MET4061	Renewable Energy Systems					
4.		Elective-VII	3	1	0	4	4
	MET4062	Mechanics of Composite Materials					
	MET4063	Value Engineering					
	MET4064	Design of fluid Thermal Systems					
	MET4065	Online Course					
5.	MEP463	Major Project – Stage II	0	0	18	-	9
						Total Credits	25

*The evaluation will be done as per statutes.

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COURSES & SYLLABI (Batch 2019 onwards)

Metallurgical and Materials Engineering Department

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5 th Semester					
S.No.	Course Code	Course Title	L-T-P	Credits	Contact Hours
1	MMT 301	Corrosion Engineering	2-1-0	3	3
2	MMT 302	Iron Making	3-1-0	4	4
3	MMT 303	Foundry Technology	2-1-0	3	3
4	MMT 304	Mechanical Working of Materials	2-1-0	3	3
5	MAT 305	Quantitative Aptitude and Analytical Reasoning	2-1-0	3	3
6	MMT3001 MAT3002 HST 3003	Elective- I Fuel, Furnace and Refractories/ Operation Research/ Principle of Management	2-1-0	3	3
7	ITT3048 CST3049	Elective- II Simulation using MATLAB and Python Data Structures	2-1-0	3	4
8	MML306	Laboratory Practice in Corrosion Engineering	0-0-2	1	2
9	MML307	Laboratory Practice in Foundry Technology	0-0-2	1	2
10	MML308	Laboratory Practice in Mechanical working of Materials	0-0-2	1	2
Total				25	29

6 th Semester					
S.No.	Course Code	Course Title	L-T-P	Credits	Contact Hours
1	MMT 351	Ceramic Technology	2-1-0	3	3
2	MMT 352	Materials Characterization	2-1-0	3	3
3	MMT 353	Transport Phenomena in Materials Engineering	2-1-0	3	3
4	MMT 354	Steel Making	3-1-0	4	4
5	MMT 355	Joining of Materials	3-1-0	4	4
6	MMT3051 HST3097 ITT3098 CST3099	Elective Failure Analysis/ Entrepreneurship for Engineers/ Object Oriented Programming with Java/ Design & Analysis Algorithm	3-1-0	4	4
7	MML356	Laboratory Practice in Ceramic Technology	0-0-2	1	2
8	MML357	Laboratory Practice in Materials Characterization	0-0-2	1	2
9	MML358	Laboratory Practice in Joining of Materials	0-0-2	1	2
10	MMI359	Tour Training and Professional Interview	0-0-2	1	2
Total				25	29

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7 th Semester					
S.No.	Course Code	Course Title	L-T-P	Credits	Contact Hours
1	MMT401	Non-Destructive Testing and Evaluation	2-1-0	3	3
2	MMT402	Polymer Technology	2-1-0	3	3
3	MMT403	Physical Metallurgy of Light Metals and Alloys	2-1-0	3	3
4	MMT404	Pollution and Environmental Science	2-1-0	3	3
5	MMT4010 MMT4011 MMT4012	Elective- I Secondary Steel Making/ Plasma Processing of Materials/ Advance Manufacturing Processes	3-1-0	4	4
6	MMT4014 MMT4015 ITT4048 MMT4016	Elective-II Alternate Methods of Iron Making/ Thin Films/ Big Data Online Course	3-1-0	4	4/5
7	HAS4405	Personal Interview (Audit)	1-0-0	0	1
8	MML406	Laboratory Practice in Non-Destructive Testing	0-0-2	1	2
9	MML407	Laboratory Practice in Polymer Technology	0-0-2	1	2
10	MMP408	Project Preliminary work	0-0-2	2	4
11	MMS408	Seminar	0-0-2	1	2
Total				25	28/29

8 th Semester					
S.No.	Course Code	Course Title	L-T-P	Credits	Contact Hours
1	MMT451	Tribology of Engineering Materials	2-1-0	3	3
2	MMT452	Composite Materials	2-1-0	3	3
3	MMT453	High Temperature Materials	3-1-0	4	4
4	MMT4050 MMT4051 HST4099 ITT4099 MMT4052	ELECTIVE Bio-Materials/ Nano-materials/ Marketing Management/ Block Chain Online Course	3-1-0	4	4/5
5	MMP454	Major Project	0-0-15	10	15
6	MML455	Laboratory Practice in Composite Materials	0-0-2	1	2
Total				25	31/32

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