

## STUDY PLAN

### 1<sup>ST</sup> YEAR

Code	Course Title	Credit Hours	Weekly Hours			Prerequisite
			Lec.	Tut.	Lab	
<b>Fall Semester (Term 1)</b>						
EMAT 110	Calculus for Engineering I	3	3	2	--	
ECHM 110	General Chemistry for Engineering	3	2	2	2	
EPHS 110	Engineering Mechanics I- Statics	3	3	2	--	
ENGR 110	Engineering Design & Graphics	4	3	--	2	
ENGR 111	Engineering Profession; Practice & Responsibilities	2	2	2	--	
HUMN 110	English Language	3	2	--	2	
<b>Total Hours</b>		<b>18</b>	<b>15</b>	<b>8</b>	<b>6</b>	
<b>Spring Semester (Term 2)</b>						
EMAT 120	Calculus for Engineering II	3	3	2	--	EMAT 110
EMAT 121	Linear Algebra	3	3	2	--	
EPHS 120	Engineering Mechanics II Dynamics	3	3	2	--	EMAT 110 and EPHS 110
EPHS 121	Waves, Electricity & Magnetic Fields	3	2	2	2	
ENGR 120	Engineering Computation	3	2	2	2	
HUMN 120	Technical Writing and Communication	3	3	2	--	
<b>Total Hours</b>		<b>18</b>	<b>16</b>	<b>12</b>	<b>4</b>	

**2<sup>ND</sup> YEAR**

Code	Course Title	Credit Hours	Weekly Hours			Prerequisite
			Lec.	Tut.	Lab	
<b>Fall Semester (Term 3)</b>						
EMAT 230	Calculus for Engineering III	3	3	2	--	EMAT120
EMAT 231	Differential Equations & Partial Differential Equations	3	3	2	--	EMAT 120
ENGR 230	Structures and Properties of Materials	3	2	2	2	ECHM 110 and EPHS 121
ECHM 230	Introduction to Organic Chemistry	3	2	2	2	ECHM 110
ENGR 231	Fluid Mechanics I	3	2	2	2	EMAT 120
ECHM 231	Introduction to Polymer Science	3	2	2	2	
<b>Total Hours</b>		<b>18</b>	<b>14</b>	<b>12</b>	<b>8</b>	
<b>Spring Semester (Term 4)</b>						
EMAT 240	Statistics & Probability for Engineering	3	3	2	--	EMAT 230
MATL 240	Crystalline Structure of Materials	4	3	2	2	ENGR 230
MATL 241	Mechanical Behaviour of Materials	4	3	2	2	ENGR 230
MATL 242	Production Technology	4	3	2	2	ENGR 230
HUMN 240	Engineering Economy	3	3	2	--	
<b>Total Hours</b>		<b>18</b>	<b>15</b>	<b>10</b>	<b>6</b>	

**3<sup>RD</sup> YEAR**

Code	Course Title	Credit Hours	Weekly Hours			Prerequisite
			Lec.	Tut.	Lab	
<b>Fall Semester (Term 5)</b>						
MATL 350	Materials Production	4	3	2	2	MATL 241, MATL 242
ENGR 350	Fluid Mechanics II	3	2	2	2	ENGR 231, EMAT 231
MATL 351	Phase Transformation	4	3	2	2	MATL 240
ENGR 351	Electrical Circuits & Power	4	3	2	2	
ENGR 360	Thermodynamics	3	3	2		EMAT 120
<b>Total Hours</b>		<b>18</b>	<b>13</b>	<b>10</b>	<b>10</b>	
<b>Spring Semester (Term 6)</b>						
MATL 352	Measurements and Communication	3	2	2	2	MATL 240
MATL 360	Mass Transfer	4	3	2	2	ENGR 360, MATL 351
ENGR 361	Fundamentals of Solid State Electronics	4	3	2	2	ENGR 351
MATL 361	Materials Fabrication	4	3	2	2	MATL 350
HUMN xxx	Free Elective	3	3	2	--	
<b>Total Hours</b>		<b>18</b>	<b>15</b>	<b>10</b>	<b>6</b>	

**4<sup>TH</sup> YEAR**

Code	Course Title	Credit Hours	Weekly Hours			Prerequisite
			Lec.	Tut.	Lab	
<b>Fall Semester (Term 7)</b>						
ENGR 470	Thermodynamics of Multi-component Systems	4	3	2	2	ENGR 360
MATL 470	Materials Manufacturing Lab	3	1	-	4	MATL 361
MATL 471	Materials for Electronic Applications	4	3	2	2	ENGR 361
MATL 472	Properties of Polymeric Materials	4	3	2	2	ECHM 231
HUMN xxx	Free Elective	3	3			
<b>Total Hours</b>		<b>18</b>	<b>13</b>	<b>6</b>	<b>10</b>	
<b>Spring Semester (Term 8)</b>						
MATL 480	Heat Transfer	4	3	2	2	ENGR 470 – Restricted to Level 8
ENGR 480	Solutions Thermodynamics	4	3	2	2	ENGR 470
MATL 481	High Temperature Materials	4	3	2	2	ENGR 470 – Restricted to Level 8
ENGR 481	Industrial Projects	3	2	2	2	
HUMN 480	Impact of Technology on Society	3	3			
<b>Total Hours</b>		<b>18</b>	<b>14</b>	<b>8</b>	<b>8</b>	

**5<sup>TH</sup> YEAR**

Code	Course Title	Credit Hours	Weekly Hours			Prerequisite
			Lec.	Tut.	Lab	
<b>Fall Semester (Term 9)</b>						
MATL 590	Senior Thesis (1)	4	2		4	
MATL 591	Materials Selection	3	2	2	2	ENGR 230 – Restricted to Level 9
MATL 592	Materials and the Environment	3	2	2	2	Restricted to Level 9
MATL xxx	Technical Elective	4	3	2	2	Refer to course Description
MATL xxx	Technical Elective	4	3	2	2	Refer to course Description
<b>Total Hours</b>		<b>18</b>	<b>12</b>	<b>8</b>	<b>12</b>	
<b>Spring Semester (Term 10)</b>						
MATL 590	Senior Thesis (2)	4	2		4	
MATL 600	Seminars and Industrial Practice	3	2	2	2	MATL 242
MATL 601	Materials for Construction	3	3			
MATL xxx	Technical Elective	4	3	2	2	Refer to course Description
MATL xxx	Technical Elective	4	3	2	2	Refer to course Description
<b>Total Hours</b>		<b>18</b>	<b>13</b>	<b>6</b>	<b>10</b>	