

**PROGRAMME :** MASTER OF SCIENCE (MATERIALS ENGINEERING) (MSMAT)  
**TYPE :** FULL TIME & PART TIME  
**SUMMARY**

TYPE OF COURSES	CREDIT HOURS		
	PROGRAM STRUCTURE (MODE)		
	COURSEWORK ONLY (W)	COURSEWORK AND RESEARCH (C)	RESEARCH ONLY (T)
<b>A. Core Course</b>	9 Credits Hours	9 Credits Hours	0 credit
<b>B. Elective by Specialization</b>	15 Credits Hours	6 Credits Hours	N/A
<b>C. University Required Course</b>	6 Credits Hours	6 Credits Hours	0 Credit Hour
<b>D. Research Courses</b>	12 Credits Hours	21credit hours	42Credit hours
<b>TOTAL</b>	<b>42 Credits Hours</b>	<b>42 credit hours</b>	<b>42 credit hours</b>

**A. CORE COURSES**

No.	Course Code	Course Title	Credit Hours	Pre-Requisite
1	MATR 7002	Advanced Materials Characterizations	3	
2	MATR 7003	Contemporary Materials for Engineering Applications	3	
3.	MATR 7004	Advanced Metallic Materials	3	

**B. ELECTIVE BY SPECIALIZATION**

**Select 2 courses for Mixed Mode, Select 5 courses by Course Mode**

No.	Course Code	Course Title	Credit Hours	Pre-Requisite
Modern Materials and Processing				
1	MATR 7011	Advanced Composite Materials	3	
2	MATR 7012	Corrosion Processes and Protection	3	
3	MATR 7013	Biocomposites	3	
4	MATR 7014	Advanced Photovoltaic Materials and Solar Cells	3	
5	MATR 7015	Modern Welding Technology	3	
6	MATR 7016	Modelling and Computer Simulation of IC Manufacturing Processes	3	
7	MATR 7017	Advanced Polymer Synthesis and Processing	3	

<b>Characterization of Materials</b>				
1	MATR 7041	Thin Films	3	
2	MATR 7042	Nondestructive Testing of Materials	3	
3	MATR 7043	Bioceramics	3	
4	MATR 7044	Advanced Ceramics	3	
5	MATR 7045	High-Performance Polymeric Materials	3	
6	MATR 7046	Surface Engineering for Tribological Applications	3	
7	MATR 7047	Microstructural Control	3	
8	MATR 7048	Advanced Thermodynamics of Materials	3	

### **C. UNIVERSITI REQUIRED COURSE**

<b>No.</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credit Hours</b>	<b>Pre-requisite</b>
1	RKGS 7000	Values, Technology and Society (For W &C)	3	
2	RKGS 7001	Values, Technology and Society (For T)	0	
3	MATR 7950	Research Methodology and Seminar (For W &C)	3	
4	MATR 7951	Research Methodology and Seminar (For T)	0	

### **D. RESEARCH COURSES**

<b>No.</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credit Hours</b>	<b>Pre-requisite</b>
<b>Coursework and Research (21 Credit Hours)</b>				
1	MATR 7994	Research Proposal	0	
2	MATR 7998	Dissertation	21	MATR 7994
<b>Research only (42 credit hours)</b>				
1	MATR 7994	Research Proposal	0	
2	MATR 7999	Thesis	42	MATR 7995
3	MATR 7995	Comprehensive Exam	0	MATR 7994
<b>Course Mode (12 Credit Hours)</b>				
1	MATR 7997	Project Paper	12	

**Programme structure Mode:**

**W- Coursework only**

**C- Coursework and Research (Mixed Mode)**

**T- Research Only**