

# DEPARTMENT OF MINERALS ENGINEERING COURSE STRUCTURE

## Undergraduate Course Schedule

- T - Teaching Hours
- P - Hours for Practicals, Tutorial, Laboratory Work, Fieldwork, etc.
- C - Credit Hours

### Year One Semester One

Course No.	Course Name	T	P	C
MR 141	Basic French I	1	1	1
MR 151	Applied Electricity	2	2	3
MR 153	Linear Algebra and Trigonometry	2	2	3
MR 155	Technical Drawing	1	3	2
MR 157	Communication Skills I	2	1	2
MR 159	Introduction to Computing	1	2	2
MR 161	Physical and Structural Geology	2	1	2
MR 167	Basic Mechanics	2	2	3
<b>Total</b>		<b>13</b>	<b>13</b>	<b>18</b>
<b>Credit Hours</b>		<b>18</b>		

### Year One Semester Two

Course No.	Course Name	T	P	C
MR 142	Basic French II	1	1	1
MR 150	Calculus	2	1	2
MR 152	Strength of Materials	2	1	2
MR 156	Engineering Drawing	2	2	3
MR 158	Communication Skills II	2	1	2
MR 160	Mineralogy and Petrology	2	1	2
MR 162	Applied Electronics	2	1	2
MR 164	Principles of Metallurgical Engineering	2	1	2
MR 172	Physical Chemistry	2	2	3
<b>Total</b>		<b>17</b>	<b>12</b>	<b>19</b>
<b>Cumulative Credits Hours</b>		<b>37</b>		

**Year Two Semester One**

<b>Course No.</b>	<b>Course Name</b>	<b>T</b>	<b>P</b>	<b>C</b>
MR 251	General Psychology	1	1	1
MR 255	Mathematical Methods	2	1	2
MR 257	Analytical Chemistry	2	2	3
MR 259	Geology of Ghana	2	1	2
MR 261	Introduction to Mining	2	0	2
MR 271	Comminution	2	2	3
MR 275	Metallurgical Thermodynamics	2	2	3
MR 277	Basic Electrochemistry	2	2	3
<b>Total</b>		<b>15</b>	<b>11</b>	<b>19</b>
<b>Cumulative Credit Hours</b>		<b>56</b>		

**Year Two Semester Two**

<b>COURSE No.</b>	<b>Course Name</b>	<b>T</b>	<b>P</b>	<b>C</b>
MR 250	Mathematical Analysis	2	1	2
MR 252	Engineering Practice	0	4	1
MR256	Critical Thinking and Integrated Thought	2	1	2
MR 264	Fluid Mechanics	2	2	3
MR 272	Mineral Separation Processes	2	2	3
MR 276	Pyrometallurgy	2	2	3
MR 278	Small Scale Mining and Processing	2	1	2
MR 280	Principles of Hydrometallurgy	2	2	3
<b>Total</b>		<b>14</b>	<b>15</b>	<b>19</b>
<b>Cumulative Credit Hours</b>		<b>75</b>		

**Year Three Semester One**

<b>Course No.</b>	<b>Course Name</b>	<b>T</b>	<b>P</b>	<b>C</b>
MR 351	Computer Programming	1	2	2
MR 361	Probability and Statistics	2	1	2
MR 363	Numerical Analysis	2	1	2
MR 371	Metallurgical Assaying	2	2	3
MR 373	Process Instrumentation and control	2	2	3
MR 375	Beneficiation of Industrial Minerals	2	1	2
MR 377	Biohydrometallurgy	2	2	3
MR 379	Environmental Management and Safety	2	1	2
<b>Total</b>		<b>15</b>	<b>12</b>	<b>19</b>
<b>Cumulative Credit Hours</b>		<b>94</b>		

**Year Three Semester Two**

<b>Course No.</b>	<b>Course Name</b>	<b>T</b>	<b>P</b>	<b>C</b>
MR 352	Public Relations	2	0	2
MR 354	Business Entrepreneurship	2	0	2
MR 356	Field Trip and Technical Report Writing	1	1	1
MR 372	Heat and Mass Transfer	2	2	3
MR 376	Corrosion Engineering and Control	2	2	3
MR 378	Process Mineralogy	1	4	3
MR 380	Colloid and Surface Chemistry	2	1	2
MR 382	Metallurgical Accounting and Mass Balance	1	4	2
<b>Total</b>		<b>13</b>	<b>14</b>	<b>18</b>
<b>Cumulative Credit Hours</b>		<b>112</b>		

### Year Four Semester One

<b>COURSE No.</b>	<b>Course Name</b>	<b>T</b>	<b>P</b>	<b>C</b>
MR 451	Research Methods and Ethics in Science	2	0	2
MR 455	Principles of Artificial Intelligence	<b>1</b>	<b>4</b>	<b>2</b>
MR 453	Mineral Project Evaluation	2	2	3
MR 459	Operations Research	2	2	3
MR 461	Principles of Economics	2	0	2
MR 471	Hydrometallurgical Applications	2	2	3
MR 473	Electrometallurgical Applications	2	2	3
<b>Total</b>		<b>13</b>	<b>12</b>	<b>18</b>
<b>Cumulative Credit Hours</b>		<b>130</b>		

### Year Four Semester Two

<b>COURSE No.</b>	<b>Course Name</b>	<b>T</b>	<b>P</b>	<b>C</b>
MR 450	Project Work	0	12	4
MR 452	Colloquium/Seminar	1	1	1
MR 454	Ferrous Metallurgy	2	2	3
MR 456	Mining Laws and Regulations	2	1	2
MR 458	Organisational Leadership and Management	2	0	2
MR 460	Corporate Social Responsibility	2	0	2
MR 466	Law of Contract and Tort	2	0	2
MR 470	Metallurgical Plant Design and Control	2	2	3
<b>Total</b>		<b>13</b>	<b>18</b>	<b>19</b>
<b>Cumulative Credit Hours</b>		<b>149</b>		