**Department of Applied Chemistry**

**2018/19 First Semester MSc Course Distribution**

**Industrial Chemistry Specialization**

**Year I Semester I**

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| **S.NO** | **Course Code** | **Course Title** | **Cr.hr** | **Lec.** | **Lab.** | **Lec. Equiv.** | **Instructor** | **ARAs** |
| 1 | Chem5011 | Industrial chemical processes | 3 | 3 | 0 | 4.5 | **Prof. Neeraj Gupta** |  |
| 2 | Chem5013 | Chemical reaction engineering | 3 | 3 | 0 | 4.5 | **Dr. Tatek Temesgen** |  |
| 3 | MR-EL | Major elective\* | 3 | 3 | 0 | 4.5 | **TBA** |  |
| 4 | Chem5017 | Advanced Analytical Chemistry | 3 | 3 | 0 | 4.5 | **Dr.Dereje Tsegaye** |  |
|  | **Total Credit Hour 12**  **12** | | | | | | |  |

MR-EL\*:

* Advanced environmental Chemistry (Chem5117), ( Dr. Eshetu Bekele)
* Advanced Electrochemistry (Chem5115); ( Dr. Fedlu Kedir)
* Advanced organic chemistry (Chem5113),
* Advanced inorganic chemistry (Chem5119).

**\*The highlighted with green agree are electives being taken by students at this semester**

**Year II Semester I**

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| **S.NO** | **Course Code** | **Course Title** | **Cr.hr** | **Lec.** | **Lab.** | **Lec. Equivalent** | **Instructor** | **ARAs** |
| 1 | MR-EL | Major elective\*\*\* | 3 | 3 | 0 | **4.5** | **TBA** |  |
| 2 | MR-EL | Major elective\*\*\* | 3 | 3 | 0 | **4.5** | **TBA** |  |
| 3 | Chem6717 | Seminar II | 1 | 1 | 0 | **1.5** | **Dr. Eshetu Bekele** |  |
| 4 | Chem6819 | Thesis | 0 | 0 |  | **0** | **TBA** |  |
|  | **Total Credit Hour** | | **7** | | | |  |  |

**MR-EL\*\*\*;**

* Heavy and Fine chemical industry (Chem6113);
* Liquid and solid waste management (Chem6115); ( Dr. Eshetu Bekele)/
* Special topics in industrial chemistry (Chem6117) ; (Prof. Veerabhadram Guttena)
* Polymer Chemistry (Chem6111)

**\*The highlighted with green agree are electives being taken by students at this semester and name of corresponding instructors are given brackets.**

**Synthetic Organic Chemistry Specialization**

**Year I Semester I**

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| **S.NO** | **Course Code** | **Course Title** | **Cr.hr** | **Lec.** | **Lab.** | **Lec.equiv.** | **Instructor** | **ARAs** |
| 1 | Chem5023 | Advanced Organic Chemistry | 3 | 3 | 0 | **4.5** | **Dr. H/micheal Tesso** |  |
| 2 | Chem5025 | Practical Advanced Organic Chemistry | 2 | 0 | 6 | **6** | **Prof. Mahajan** | **Miss.Mariama Kufa** |
| 3 | MR-EL | Major Elective\* | 3 | 3 | 0 | **4.5** | **TBA** |  |
| 4 | MR-EL | Major Elective\* | 3 | 3 | 0 | **4.5** | **TBA** |  |
|  | **Total Credit Hour** | | **11** | | | |  |  |

**MR-EL\*:**

* Advanced Organic Spectroscopy (Chem5129); ( Dr. Yadessa Melaku)
* Organic Stereochemistry (Chem5127); ( Dr. Kebede Taye)
* Advanced Inorganic Chemistry (Chem5121);
* Advanced Analytical Chemistry\*(Chem5123)
* Advanced physical Chemistry (Chem5125)

**\*The highlighted with green agree are electives being taken by students at this semester and name of corresponding instructors are given brackets.**

**Year II Semester I**

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| **S.NO** | **Course Code** | **Course Title** | **Cr.hr** | **Lec.** | **Lab.** | **Lec. equiv.** | **Instructor** | **ARAs** |
| 1 | Chem6023 | Synthetic Organic Chemistry II | 4 | 4 | 0 | **6.5** | **Dr. Yadesa Melaku** |  |
| 2 | MR-EL | Major Elective\*\*\* | 2 | 2 | 0 | **3** | **TBA** |  |
| 3 | Chem6727 | Seminar II | 1 | 0 | 0 | **1.5** | **Dr. Gemechu Deressa** |  |
| 4 | Chem6829 | Thesis | 0 | 0 | 0 | **0** | **TBA** |  |
|  | **Total Credit Hour** | | **7** | | | |  |  |

**MR-EL\*\*\*:**

* Special Topics in Synthetic Organic Chemistry (Chem6121) ( Dr. Endale Mulugeta/)
* Polymer synthesis (Chem6123)

**The highlighted with green agree are electives being taken by students at this semester and name of corresponding instructors are given brackets.**

**Medicinal Chemistry Specialization**

**Year I Semester I**

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| **S.NO** | **Course Code** | **Course Title** | **Cr.hr** | **Lec.** | **Lab.** | **Lec.Equiv.** | **Instructor** | **ARAs** |
| 1 | Chem5033 | Advanced Medicinal Chemistry | 4 | 4 | 0 | 6 | Dr. Anuradha G |  |
| 2 | Chem5035 | Bioassay Techniques for drug Development | 2 | 0 | 6 |  | Sreenivas Reddy Bathula |  |
| 3 | MR-EL | Major Elective\* | 3 | 3 | 0 |  | **TBA** |  |
| 4 | MR-EL | Major Elective\* | 3 | 3 | 0 |  | **TBA** |  |
|  | **Total Credit Hour** | | **12** | | | |  |  |

**MR-EL\*:**

* Advanced organic chemistry (Chem5137); ( Dr. Hailemichael Tesso)
* Advanced Organic Spectroscopy (Chem5139); ( Dr. Yadessa Melaku)
* Advanced Analytical Chemistry (Chem5131); (Dr. Dereje Tsegaye)
* Advanced Inorganic Chemistry(Chem5133);
* Advanced Physical Chemistry (Chem5135)

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**Year II Semester I**

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| **S.NO** | **Course Code** | **Course Title** | **Cr.hr** | **Lec.** | **Lab.** | **Lec. Equivalent** | **Instructor** | **ARAs** |
| 1 | Chem6033 | Drug Design and Development | 3 | 3 | 0 | **4.5** | Dr. Anuradha G |  |
| 2 | MR-EL | Major Elective\*\*\* | 2 | 2 | 0 | **3** | **TBA** |  |
| 3 | Chem6737 | Seminar II | 1 | 1 | 0 | **1.5** | **Dr. Hailemichael Tesso** |  |
| 4 | Chem6839 | Thesis | 0 | 0 | 0 |  | **TBA** |  |
|  | **Total Credit Hour** | | **6** | | | |  |  |

**MR-EL\*\*\*:**

* Advanced Biochemistry (Chem6135) , ( Prof. Senthilkumar)
* Special Topics in Medicinal Chemistry (Chem6133) ( Dr.Kebede Taye)

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**Inorganic Chemistry Specialization**

**Year I Semester I**

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| **S.NO** | **Course Code** | **Course Title** | **Cr.hr** | **Lec.** | **Lab.** | **Lec. Equiv** | **Instructor** | **ARAs** |
| 1 | Chem5041 | Advanced Inorganic Chemistry | 3 | 3 | 0 | 4.5 | Dr. Enyew Amare |  |
| 2 | Chem5043 | Advanced Organometallic Chemistry  Chemistry | 3 | 3 | 0 | 4.5 | Dr.Tegene Dessalegn. |  |
| 3 | Chem5045 | Bioinorganic Chemistry | 3 | 3 | 0 | 4.5 | Dr. Hadgu Hailekiros. |  |
| 4 | MR-EL | Major Elective\* | 3 | 3 | 0 |  | TBA |  |
|  | **Total Credit Hour** | | **12** | | | |  |  |

**MR-EL\***;

* Advanced Analytical Chemistry (Chem5141); ( Dr. Dereje Tsegaye)
* Advanced Physical Chemistry (Chem5143); ( Dr. Bedasa Abdisa)
* Advanced Organic Chemistry (Chem5145) ,

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**Year II Semester I**

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| **S.NO** | **Course Code** | **Course Title** | **Cr.hr** | **Lec.** | **Lab.** | **Lec. Equiv** | **Instructor** | **ARAs** |
| 1 | MR-EL \*\*\* | Major Elective | 3 | 3 | 0 | 4.5 | TBA |  |
| 2 | Chem6747 | Seminar II | 1 | 1 | 0 | 1.5 | Dr. Enyew A |  |
| 3 | ABCDXX | Free elective | 3  33  3 | 3 | 0 | 4.5 | TBA |  |
| 4 |  | Thesis | 0 | 0 | 0 | 0 |  |  |
|  | **Total Credit Hour** | | **6/7** | | | |  |  |

**MR-EL\*\*\* Free Elective: ABCDXX –Chem6245**

* Special Topics in Inorganic Chemistry (Chem6141) , Cr. Hr 3 ( Dr. Hadgu Hailekiros)
* Physical Methods in Inorganic Chemistry (Chem6143) Cr. Hr 2 ( Dr. Gemechu Deressa)
* Inorganic Materials Chemistry (Chem6145) Cr. Hr 3 ( Dr. Enyew Amare )
* Special Topics in Biochemistry (Chem6147) Cr. Hr 2

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**Physical Chemistry Specialization**

**Year I Semester I**

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| **S.NO** | **Course Code** | **Course Title** | **Cr.hr** | **Lec.** | **Lab.** | **Lec. equiv.** | **Instructor** | **ARAs** |
|  | MR-EL | Major Elective\* | 3 | 3 | 0 | **4.5** | **TBA** |  |
|  | MR-EL | Major Elective\* | 3 | 3 | 0 | 4.5 | **TBA** |  |
|  | Chem5051 | Advanced Electrochemistry | 3 | 3 | 0 | 4.5 | **Dr. Fedlu Kedir.** |  |
|  | Chem5055 | Advanced Physical Chemistry | 3 | 3 | 0 | 4.5 | **Dr.Bedasa Abdisa.** |  |
|  | **Total Credit Hour** | | **12** | | | |  |  |

**MR-EL\***:

* Advanced Organic Chemistry (Chem5155),
* Advanced Inorganic Chemistry (Chem5151) ( Dr. Enyew Amare )
* Advanced Analytical Chemistry (Chem5153) ( Dr. Dereje Tsegaye)

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**Year II Semester I**

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| **S.NO** | **Course Code** | **Course Title** | **Cr.hr** | **Lec.** | **Lab.** | **Lec. equiv.** | **Instructor** | **ARAs** |
|  | MR-EL | Major Elective\*\*\* | 2 | 2 | 0 | **3** | **TBA** |  |
|  | ABCDXXXX | Free elective | 3 | 3 | 0 | **4.5** | **TBA** |  |
|  | Chem6755 | Seminar II | 1 | 1 | 0 | **1.5** | **Dr. Bedasa Abdisa** |  |
|  | Chem6859 | Thesis | 0 | 0 | 0 | **0** | **TBA** |  |
|  | **Total Credit Hour** | | **6** | | | |  |  |

**MR-EL\*\*\*:**

* Nano-Materials (chem6151); (Prof. Veerabhadram Guttena)
* Polymer Chemistry (Chem6155) ,
* Special Topic in Physical Chemistry (Chem6153) ( Dr. Bedasa Abdisa)

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**ABCDXX (Free elective) Course:**

Materials Synthesis and Characterization Techniques (MSE 6112), Dr. Osman Ahmed