

FACULTY OF ENGINEERING

List of Courses Offered for University of Malaya Student Exchange Programme (UMSEP) for the 2013/2014 Academic Session

ACADEMIC PLANNER FOR BACHELOR OF ENGINEERING (CIVIL) PROGRAMME

COURSE CODE	TOPIC	Courses Offered/Credit Hours	
		Semester I	Semester II
FACULTY COURSES			
KXEX1110	Foundation of Materials Science	3	
KXEX1144	Basic Engineering Calculus	2	
KXEX1145	Basic Engineering Algebra		2
KXEX2244	Ordinary Differential Equations		2
KXEX2162	Economy, Finance & Engineer	2	
KXEX2165	Moral and Ethics in Engineering Profession		2
KXEX2166	Law and Engineer		2
KXEX2167	Thinking and Communication Skills	3	
DEPARTMENTAL COURSES			
KAEA1102	Drawing for Civil Engineers	3	
KAEA1121	Engineering Mechanics	3	
KAEA1122	Strength of Materials		3
KAEA1146	Fundamental of Surveying	3	
KAEA1147	Engineering Surveying		3
KAEA1151	Fluid Mechanics		3
KAEA2101	Computer Programming		2
KAEA2103	Probability and Statistics	2	
KAEA2126	Concrete Materials	2	
KAEA2132	Soil Mechanics I		3
KAEA2155	Water Resources		3
KAEA2216	Timber Design	3	
KAEA2217	Reinforced Concrete Design I		4
KAEA2223	Theory of Structure I	3	
KAEA2256	Open Channel Hydraulics		2
KAEA3143	Highway Engineering	2	
KAEA3152	Environmental Engineering		3
KAEA3201	Civil Engineering Mathematics I	2	

KAEA3202	Civil Engineering Mathematics II		2
KAEA3224	Theory of Structure II	3	
KAEA3233	Soil Mechanics II		3
KAEA3257	Applied Hydraulics	3	
KAEA4144	Traffic Engineering	2	
KAEA4165	Construction Management and Technology	3	
KAEA4226	Structural Analysis	3	
KAEA4234	Foundation Engineering	3	

ACADEMIC PLANNER FOR BACHELOR OF ENGINEERING (MATERIALS) PROGRAMME

COURSE CODE	TOPIC	Courses Offered/Credit Hours	
		Semester I	Semester II
FACULTY COURSES			
KXEX1110	Foundation of Materials Science	3	
KXEX1144	Basic Engineering Calculus	2	
KXEX1145	Basic Engineering Algebra		2
KXEX2244	Ordinary Differential Equations	2	
KXEX2245	Vector Analysis		2
KXEX2162	Economy, Finance & Engineer	2	
KXEX2163	Thinking and Communication Skills		3
KXEX2165	Moral and Ethics in Engineering Profession	2	
KXEX2166	Law and Engineer	2	
DEPARTMENTAL COURSES			
KMEB1101	Communication Skills	1	
KMEB1170	General Engineering Practice	3	
KMEB1102	Applied Mechanics	3	
KMEM1104	Engineering Drawing & Computer Aided Design	3	
KMEB1108	Crystal Structure and Defects		3
KMEB1109	Thermodynamics of Materials		3
KMEB1173	Materials Engineering Laboratory I		1
KMEB2101	Phase Diagram and Transformations	3	
KMEB2112	Solid Mechanics	3	
KMEM2117	Computer Programming	3	
KMEB2172	Materials Engineering Laboratory II	1	
KMEB2108	Polymer Science		3
KMEB2102	Materials Characterization		3
KMEB2110	Fundamentals of Ceramics		3
KMEB2117	Transport Phenomena		3
KMEM2219	Applied Engineering Mathematics		2
KMEB2173	Materials Engineering Laboratory III		1
KMEB3104	Ferrous Alloys and Heat Treatment	3	
KMEB2115	Electronic Materials and Devices	3	
KMEB3119	Nonferrous Alloys and Materials Selection	3	
KMEB1105	Materials Production		3
KMEB3220	Mechanic Behaviour and Failure of Materials		3
KMEB2204	Polymer Engineering		3
KMEB3173	Integrated Design Project		3
KMEB3116	Composite Materials		3
KMEB4206	Ceramics Processing	3	
KMEB4131	Corrosion Engineering		3
KMEB3219	Computational Materials Engineering		3

**ACADEMIC PLANNER FOR BACHELOR OF ENGINEERING
(COMPUTER AIDED DESIGN & MANUFACTURING) PROGRAMME**

COURSE CODE	TOPIC	Courses Offered/Credit Hours	
		Semester I	Semester II
FACULTY COURSES			
KXEX1110	Foundation of Materials Science		3
KXEX1144	Basic Engineering Calculus		2
KXEX1145	Basic Engineering Algebra	2	
KXEX2244	Ordinary Differential Equations		2
KXEX2245	Vector Analysis	2	
KXEX2162	Economy, Finance & Engineer	2	
KXEX2163	Thinking and Communication Skills		3
KXEX2165	Moral and Ethics in Engineering Profession	2	
KXEX2166	Law and Engineer		2
DEPARTMENTAL COURSES			
KCEC1101	Computer Aided Drawing	3	
KCEC1106	Statics	3	
KCEP1103	Introduction to Manufacturing	3	
KCEP1108	Fluid Mechanics	3	
KCEP1111	Thermodynamics		3
KCEC1108	Computer Programming	3	
KCEP1110	Introduction to Electrical Engineering		3
KCEP1201	Dynamics		3
KCEC2105	Computer Aided Design	3	
KCEP2112	Design for Machine Elements	3	
KCEP2113	Manufacturing Process	3	
KCEP2201	Mechanics of Materials	3	
KCEP2105	Numerical Methods and Statistics		3
KCEC2116	Product Design		3
KCEC2117	Control Engineering		3
KCEC3109	Technology CNC/CAM	3	
KCEP3106	Principles of Metal Forming	3	
KCEC3213	Computational Fluid Dynamics	3	
KCEC3101	Computer Aided Ergonomics		3
KCEC3107	Finite Element Analysis		3
KCEC3108	Computer Integrated Manufacturing		3
KCEC4105	Mold and Die Design	3	
KCEC4111	Design for Manufacturing	3	
KCEC4114	Reverse Engineering		3

ACADEMIC PLANNER FOR BACHELOR OF ENGINEERING (ELECTRICAL) PROGRAMME

COURSE CODE	TOPIC	Courses Offered/Credit Hours	
		Semester I	Semester II
FACULTY COURSES			
KXEX1110	Foundation of Materials Science	3	
KXEX1144	Basic Engineering Calculus		2
KXEX1145	Basic Engineering Algebra	2	
KXEX2244	Ordinary Differential Equations	2	
KXEX2245	Vector Analysis		2
KXEX3244	Partial Differential Equations	2	
KXEX2162	Economy, Finance & Engineer		2
KXEX2163	Thinking and Communication Skills	3	
KXEX2165	Moral and Ethics in Engineering Profession	2	
KXEX2166	Law and Engineer		2
DEPARTMENTAL COURSES			
KEEE1113	Circuit Analysis 1		3
KEEE1124	Electronic Physics	2	
KEEE2150	Computer and Programming		3
KEEE1125	Electronic Circuits 1		2
KEEE1131	Digital System	3	
KMEE1168	Engineering Mechanics	3	
KEEE2252	Electrical Machines and Drives		3
KEEE1123	Field Theory		3
KEEE2231	Circuit Analysis 2	3	
KEEE2224	Electronic Devices	2	
KEEE2225	Electronic Circuits 2	2	
KEEE2232	Digital Design	3	
KEEE2142	Introduction to Communication System		3
KEEE2243	Instrumentation		2
KMEE2169	Thermodynamics & Fluid Mechanics	3	
KEEE3213	Electromagnetic Theory	3	
KEEE3235	Microprocessor & Microcontroller		3
KEEE3253	Control System	3	
KEEE4265	Power Electronics		3
KEEE3254	Energy Conversion & High Voltage Power Transmission	3	
KEEE3221	Engineering Analysis & Computer		3
KEEE4253	Power System	3	

ACADEMIC PLANNER FOR BACHELOR OF ENGINEERING (CHEMICAL) PROGRAMME

COURSE CODE	TOPIC	Courses Offered/Credit Hours	
		Semester I	Semester II
FACULTY COURSES			
KKEK2110	Basic Materials Science for Chemical Engineering	3	
KXEX1144	Basic Engineering Calculus	2	
KXEX1145	Basic Engineering Algebra	2	
KXEX2244	Ordinary Differential Equations		2
KXEX2245	Vector Analysis	2	
KXEX3244	Partial Differential Equations	2	
KXEX2163	Thinking and Communication Skills		3
KXEX2165	Moral and Ethics in Engineering Profession		2
KXEX2166	Law and Engineer		2
DEPARTMENTAL COURSES			
KKEK1111	Chemical Engineering Thermodynamics I	3	
KKEK1123	Chemical Process Principles I	3	
KKEK1135	Physical and Analytical Chemistry I	2	
KKEK1136	Organic Chemistry		2
KKEK1141	Statistics for Engineers		2
KKEK1142	Numerical Methods for Engineers I	3	
KKEK1153	Fluid Mechanics		2
KKEK1174	Physical Chemistry Laboratory	1	
KKEK1222	Chemical Process Principles II		2
KKEK2111	Chemical Engineering Thermodynamics II	3	
KKEK2142	Numerical Methods for Engineers II		2
KKEK2154	Heat Transfer	3	
KKEK2157	Mass Transfer		2
KKEK2158	Separation Processes I		3
KKEK2171	Laboratory and Communication I		2
KKEK2220	Reaction Engineering I	3	
KKEK2233	Physical and Analytical Chemistry II	2	
KKEK3161	Process Safety		3
KKEK2156	Momentum Transfer		3
KKEK3151	Biochemistry	3	
KKEK3152	Modeling of Chemical Processes	2	
KKEK3153	Simulation of Chemical Processes	2	
KKEK3154	Process Control		3
KKEK3155	Particle Technology	3	
KKEK3156	Plant Engineering		3
KKEK3157	Process Synthesis		2
KKEK3159	Separation Processes II		3
KKEK3171	Laboratory and Communication II	2	
KKEK3221	Reaction Engineering II	2	
KKEK3282	Design Exercise		3
KKEK4163	Environmental Management	3	
KKEK4165	Project Management		2
KKEK4167	Process Engineering Economics	3	
KKEK4305	Advance Process Control	2	

KKEK4322	Adsorption in Porous Solid	2	
KKEK4325	Petroleum Engineering	2	
KKEK4332	Biofuel Process Technology	2	
KKEK4304	Process Integration		2
KKEK4331	Industrial Emergency and Crisis Management		2
KKEK43XX	Application of Molecular Techniques in Activated Sludge Processes		2
KKEK43XX	Membrane Technology and Processes		2
KKEK43XX	Advance Biochemistry Engineering		2

ACADEMIC PLANNER FOR BACHELOR OF ENGINEERING (MECHANICAL) PROGRAMME

COURSE CODE	TOPIC	Courses Offered/Credit Hours	
		Semester I	Semester II
FACULTY COURSES			
KXEX1110	Foundation of Materials Science	3	
KXEX1144	Basic Engineering Calculus	2	
KXEX1145	Basic Engineering Algebra	2	
KXEX2244	Ordinary Differential Equations		2
KXEX2245	Vector Analysis		2
KXEX2162	Economy, Finance & Engineer		2
KXEX2163	Thinking and Communication Skills		3
KXEX2165	Moral and Ethics in Engineering Profession		2
KXEX2166	Law and Engineer	2	
DEPARTMENTAL COURSES			
KMEM1101	Statics	3	
KMEM1108	Fundamentals of Fluid Mechanics	3	
KMEM1104	Engineering Drawing & Computer Aided Design		3
KMEM1103	Introduction to Manufacturing Technology		3
KMEM1107	Mechanics of Materials		3
KMEM1109	Thermodynamics		3
KMEM2208	Dynamics	3	
KMEM2117	Computer Programming	3	
KMEM2111	Applied Engineering Mathematics	2	
KMEM3110	Power Electrics and Machine	3	
KMEM2213	Fluid Mechanics of Engineering	3	
KMEM2216	Applied Thermodynamics		3
KMEM2108	Engineering Materials		3
KMEM2110	Elemental Design of Mechanical Engineering		3
KMEM2218	Product Design and Development	3	
KMEM3116	Instrumentation and Measurement Technique	3	
KMEM3211	Vibration Mechanics	3	
KMEM3119	Heat Transfer	3	
KMEM2217	Applied Mechanics of Materials	3	
KMEM3122	Control Engineering		3
KMEM4110	Electronics and Microprocessors		3
KMEM3173	Integrated Design Project		3
KMEM2115	Calculation and Numerical Methods	2	
KMEM4214	Applied Vibration	3	
KMEM4124	Production and Operation Management		3

ACADEMIC PLANNER FOR BACHELOR OF ENGINEERING (MANUFACTURING) PROGRAMME

COURSE CODE	TOPIC	Courses Offered/Credit Hours	
		Semester I	Semester II
FACULTY COURSES			
KXEX1110	Foundation of Materials Science		3
KXEX1144	Basic Engineering Calculus		2
KXEX1145	Basic Engineering Algebra	2	
KXEX2244	Ordinary Differential Equations		2
KXEX2245	Vector Analysis	2	
KXEX2162	Economy, Finance & Engineer	2	
KXEX2163	Thinking and Communication Skills		3
KXEX2165	Moral and Ethics in Engineering Profession	2	
KXEX2166	Law and Engineer		2
DEPARTMENTAL COURSES			
KCEC1101	Computer Aided Drawing	3	
KCEC1106	Statics	3	
KCEP1103	Introduction to Manufacturing	3	
KCEP1108	Fluid Mechanics	3	
KCEP1111	Thermodynamics		3
KCEC1108	Computer Programming	3	
KCEP1110	Introduction to Electrical Engineering		3
KCEP1201	Dynamics		3
KCEC2105	Computer Aided Design	3	
KCEP2112	Design for Machine Elements	3	
KCEP2113	Manufacturing Process	3	
KCEP2201	Mechanics of Materials	3	
KCEP2105	Numerical Methods and Statistics		3
KCEC2116	Product Design		3
KCEC2117	Control Engineering		3
KCEC3109	Technology CNC/CAM	3	
KCEP3106	Principles of Metal Forming	3	
KCEP3112	Measurement and Instrumentation	3	
KCEP3107	Industrial Ergonomics		3
KCEP3111	Introduction to Industrial Engineering		3
KCEP43XX	Departmental Elective Course		3
KCEC4102	Automation and Robotics	3	
KCEP4114	Manufacturing Planning and Control	3	
KCEP4101	Advanced Manufacturing Processes		3
KCEP4102	Machine Tool Engineering		4

ACADEMIC PLANNER FOR BACHELOR OF ENGINEERING (ENVIRONMENTAL) PROGRAMME

COURSE CODE	TOPIC	Courses Offered/Credit Hours	
		Semester I	Semester II
FACULTY COURSES			
KXEX1110	Foundation of Materials Science	3	
KXEX1144	Basic Engineering Calculus	2	
KXEX1145	Basic Engineering Algebra		2
KXEX2244	Ordinary Differential Equations		2
KXEX2162	Economy, Finance & Engineer	2	
KXEX2166	Law and Engineer		2
KXEX2165	Moral and Ethics in Engineering Profession		2
KXEX2167	Thinking and Communication Skills	3	
DEPARTMENTAL COURSES			
KAEA1102	Drawing for Civil Engineers		3
KAEA1121	Engineering Mechanics	3	
KAEA1122	Strength of Materials		3
KAEA1146	Fundamental of Surveying		3
KAES1147	Microbiology and Ecology for Environmental Engineers	3	
KAES1151	Fluid Mechanics	3	
KAEA2101	Computer Programming	2	
KAEA2103	Probability and Statistics		2
KAEA2126	Concrete Materials		2
KAES2136	Soil Mechanics	3	
KAES2144	Environmental Chemistry		3
KAEA2155	Water Resources	3	
KAEA2223	Theory of Structure I		3
KAEA2256	Open Channel Hydraulics	2	
KAES3146	Air and Noise Pollution		3
KAEA3201	Civil Engineering Mathematics I	2	
KAEA3202	Civil Engineering Mathematics II		2
KAEA3224	Theory of Structure II		3
KAES3235	Geotechnics	3	
KAES3244	Contaminant Transport	2	
KAES3245	Environmental Health and Engineering	2	
KAES3247	Chemical Principles Process	3	
KAEA3257	Applied Hydraulics		3
KAES4143	Environmental Impact Assessment	2	
KAEA4165	Construction Management and Technology	3	
KAES4248	Wastewater Treatment	3	
KAES4253	Solid Waste Management		3
KAES4257	Water Supply Engineering	2	

**ACADEMIC PLANNER FOR BACHELOR OF ENGINEERING (TELECOMMUNICATION)
PROGRAMME**

COURSE CODE	TOPIC	Courses Offered/Credit Hours	
		Semester I	Semester II
FACULTY COURSES			
KXEX1144	Basic Engineering Calculus		2
KXEX1145	Basic Engineering Algebra	2	
KXEX2244	Ordinary Differential Equations	2	
KXEX2245	Vector Analysis		2
KXEX3244	Partial Differential Equations	2	
KXEX2162	Economy, Finance & Engineers		2
KXEX2165	Moral and Ethics in Engineering Profession		2
KXEX2166	Law and Engineer	2	
DEPARTMENTAL COURSES			
KEEE1113	Circuit Analysis I	3	
KEEE1124	Physics Electronics	2	
KEEE1125	Electronics Circuits		2
KEET1150	Computer and Programming	3	
KEET1101	Analog Communication & Radio Receiver System		3
KEET1131	Digital System	3	
KEET1250	Data Structure		3
KEEE2243	Instrumentation		2
KEEE2224	Electronic Devices	2	
KEEE2225	Electronics Circuits II	2	
KEET2209	Circuit Analysis II and Network Synthesis	3	
KEET2102	Signal and System		3
KEEE2232	Digital System	3	
KEEE2235	Microprocessor and Microcontroller		3
KEET2202	Digital Communications and Telephony		3
KEEE3123	Field Theory	3	
KEET3206	Electronics Communications		3
KEEE3253	Control Systems	3	
KEET3107	Information Theory and Coding	3	
KEEE4213	Electromagnetic Theory		3
KEET4204	Data Communication and Computer		3
KEET4205	Optical Communication and Optoelectronics		3
KEET4203	Satellite and Mobile Communications	3	
KEET4208	Antenna and Propagation	3	

ACADEMIC PLANNER FOR BACHELOR OF BIOMEDICAL ENGINEERING PROGRAMME

COURSE CODE	TOPIC	Courses Offered/Credit Hours	
		Semester I	Semester II
FACULTY COURSES			
KXEX1110	Foundation of Materials Science	3	
KXEX1144	Basic Engineering Calculus	2	
KXEX1145	Basic Engineering Algebra		2
KXEX2244	Ordinary Differential Equations		2
KXEX2245	Vector Analysis	2	
KXEX2162	Economy, Finance & Engineer	2	
KXEX2163	Thinking and Communication Skills		3
KXEX2165	Moral and Ethics in Engineering Profession		2
KXEX2166	Law and Engineer	2	
DEPARTMENTAL COURSES			
KUEU1130	Statics	2	
KUEU1150	Human Anatomy and Physiology 1	3	
KUEU2141	Electrical Circuit Analysis	3	
KUEU1142	Biochemistry and analysis	3	
KUEU1151	Human Anatomy and Physiology 2		2
KUEU1154	Dynamics		3
KUEU2142	Electronics	3	
KUEU1143	Mechanical Engineering Design	3	
KUEU2136	Thermofluids		3
KUEU2133	Computer and Programming		2
KUEU2138	Mechanics of Materials		3
KUEU2139	Medical Electronics		3
KUEU2137	Biomechanics	3	
KUEU3147	Biomaterials	3	
KUEU2143	Microcomputer and Digital Systems	3	
KUEU3150	Biomedical Engineering Practices	1	
KUEU3233	Signals and Systems		3
KUEU3148	Electromagnetism and Electrical Machines		3
KUEU3149	Control Systems		3
KUEU3245	Mechanics of Machines		2
KUEU3146	Biomedical Statistics		2
KUEU4140	Safety, Standards and Ethics in Biomedical Engineering		2
KUEU4134	Medical Instrumentation: Application and Design	3	
KUEU4135	Management and Clinical Engineering	3	
KUEU4132	Artificial Organ and Bio-transport	2	
KUEU4141	Medical Imaging		3