

## Graduation Requirements

### Requirements Credit Units

<b>University Requirements</b>	<b>18</b>
<b>Department Requirement</b>	<b>115</b>
<b>B.E Elective Specific Courses</b>	<b>25-30</b>
<b>Total</b>	<b>155-160</b>

### 1. University Requirements: 18 Credit Units

<i>Course No.</i>	<i>Course Title</i>	<b>Hrs./ week</b>			<i>Cr ./ Units</i>
		Theo.	Tut.	Lab.	
B.E 1101	Fundamental of Computer Science	1		2	2
B.E 1102	Public Freedom and Democracy	1	1		1
B.E 1103	Human Rights	1	1		1
B.E 1104	Workshops 1	1		3	2
B.E 1105	Workshops 2	1		3	2
B.E 1106	Arabic Language	1	1		1
B.E 1107	English Language	1		1	2
B.E 2108	English Technical Language	1		1	2
B.E 3109	English A say Writing Language	1		1	2
B.E 4110	English Report and Discussion Language	1		1	2
B.E 3111	Leadership and Management Skills	1	1		1
	Total	11	4	12	18
		27			

### 2. Department Requirements: 115 Credit Units

<i>Course No.</i>	<i>Course Title</i>	<b>Hrs./ week</b>			<i>Cr ./ Units</i>
		Theo.	Tut.	Lab.	
B.E 1201	Mathematics (1)	3	1		3
B.E 1202	Mathematics (2)	3	1		3
B.E 1203	Eng. Mechanics -1	3	1		3
B.E 1204	Eng. Mechanics -2	3	1		3
B.E 1205	Chemistry	1	1	1	2
B.E 1206	physics	1	1		1
B.E 1207	Engineering Drawing 1	1		3	2
B.E 1208	Engineering Drawing 2	1		3	2
B.E 1209	Engineering Geology 1	1	1		1
B.E 1210	Engineering Geology 2	1	1		1
B.E 1211	Building Materials Technology 1	2		1	3
B.E 1212	Building Materials Technology 2	2		1	3
B.E 1213	Civil Eng. Fundamentals	1	1		1
B.E 2214	Mathematics (3)	3	1		3
B.E 2215	Mathematics (4)	3	1		3
B.E 2216	Engineering Surveying 1	2		2	3

B.E 2217	Engineering Surveying 2	2		2	3
<b>Course No.</b>	<b>Course Title</b>	<b>Hrs./ week</b>			<b>Cr ./ Units</b>
		Theo.	Tut.	Lab.	
B.E 2218	Concrete Technology 1	2		2	3
B.E 2219	Concrete Technology 2	2		2	3
B.E 2220	Strength of Materials 1	3	1		3
B.E 2221	Strength of Materials 2	3	1		3
B.E 2222	Fluid Mechanics 1	2	1	1	3
B.E 2223	Fluid Mechanics 2	2	1	1	3
B.E 2224	Computer Aided Eng. Drawing Concrete	1		2	2
B.E 2225	Computer Programming	1		2	2
B.E 2226	Engineering Statistics	2	1		2
B.E 2227	Building Construction 1	2	1	1	2
B.E 3228	Soil Mechanics 1	2	2	1	3
B.E 3229	Soil Mechanics 2	2	2	1	3
B.E 3230	Highway Engineering	2	1	2	3
B.E 3231	Engineering Analysis	2	2		2
B.E 3232	Numerical Analysis	1	1	1	2
B.E 3233	Theory of Structures (1)	2	2		2
B.E 3234	Reinforced Concrete Design (1)	2	1		2
B.E 3235	Principles of Remote Sensing 1	1	1	1	2
B.E 3236	Principles of Remote Sensing 2	1	1	1	2
B.E 3237	Engineering Economy 1	2			2
B.E 3238	Building Services 1	2			2
B.E 3239	Sanitary and Environmental Eng. 1	1	1	1	2
B.E 3240	Sanitary and Environmental Eng. 2	1	1	1	2
B.E 4241	Reinforced Concrete Design (2)	2	1		2
B.E 4242	Steel Design 1	2	1		2
B.E 4243	Computer Applications	1	1	2	2
B.E 4244	Foundation Engineering 1	2	2		2
B.E 4245	Foundation Engineering 2	2	2		2
B.E 4246	Quantity Surveying	2	1		2
B.E 4247	Eng. Managements and Specifications	2	1		2
B.E 4248	Graduation Project of 1 <sup>st</sup> Semester	2		4	3
B.E 4249	Graduation Project of 2 <sup>nd</sup> Semester	2		4	3
	<b>Total</b>	91	41	43	115
		175			

### 3. Elective specific Courses: 25-30Credit Units

#### 1 - Building Eng. and Project Management Division

<i>Course No.</i>	<i>Course Title</i>	<i>Hrs./ week</i>			<i>Cr ./ Units</i>
		Theo.	Tut.	Lab	
B.E 2301	Building Construction (2)	1	1	1	2
B.E 3302	Civil Eng. System Analysis (1)	2	1		2
B.E 3303	Civil Eng. System Analysis (2)	2			2
B.E 3304	Quality Control of Building Materials	2			2
B.E 3305	Quality Control of Concrete	2			2
B.E 3306	Sustainable Building Material	1	1		1
B.E 4307	Construction Equipments Management	2	1		2
B.E 4308	Construction Methods	2	1		2
B.E 4309	Construction Project Management	2	1		2
B.E 4310	Nano and Smart Building Materials	2			2
B.E 4311	Contracts Management	2	1		2
B.E 4312	Assessment & Rehabilitation of Concrete Structures	2			2
B.E 4313	Building Services (2)	2	1		2
B.E 4314	Engineering Economy (2)	2	1		2
	Total	25	9	1	27
		35			

#### 2- Sanitary & Environmental Eng. Division

<i>Course No.</i>	<i>Course Title</i>	<i>Hrs./ week</i>			<i>Cr ./ Units</i>
		Theo.	Tut.	Lab.	
B.E 3315	Construction of Sanitary Structures	2	1		2
B.E 3316	Design of Sanitary Network	2	1		2
B.E 3317	Environmental Eng. Chemistry	1	1	1	2
B.E 3318	Environmental Eng. Biology	1	1	1	2
B.E 3319	Environmental Eng. Hydrology	1	1		1
B.E 3320	Environmental Protection	2			2
B.E 3321	Plumbing Eng.	1	1		1
B.E 4322	Water Quality Eng.	1	1		1
B.E 4323	Air Quality Eng.	2			2
B.E 4324	Water Treatment Systems	2		1	3
B.E 4325	Wastewater Treatment Systems	2	1	1	3
B.E 4326	Treatment of Industrial Wastes	2			2
B.E 4327	Sustainability and Development Eng.	2			2
B.E 4328	Solid and Hazardous waste Management	1	1		1
B.E 4329	Soil and ground water Pollution	1	1		1
	Total	23	10	4	26
		37			

### 3- Structural Eng. Division

<i>Course No.</i>	<i>Course Title</i>	<i>Hrs./ week</i>			<i>Cr ./ Units</i>
		Theo.	Tut.	Lab.	
B.E 2301	Building Construction 2	1	1	1	2
B.E 3330	Theory of Structures 2	2			2
B.E 3331	Adv. Strength of Materials (1)	2			2
B.E 3332	Adv. Strength of Materials (2)	2			2
B.E 3333	Methods of Construction 1	2	1		2
B.E 3334	Methods of Construction 2	2			2
B.E 4335	Reinforced Concrete Design (3)	2	2		2
B.E 4336	Steel Design 2	2	1		2
B.E 4337	Stiffness Matrix Analysis	2	1		2
B.E 4338	Plastic Analysis Stability	2			2
B.E 4339	Structural Design 1	2	1		2
B.E 4340	Structural Design 2	2			2
B.E 4341	Pre-stressed Concrete	2	1		2
B.E 4342	Structural Dynamics	2			2
	Total	26	9	1	28
		36			

### 4 . Highway and Bridges Eng. Division

<i>Course No.</i>	<i>Course Title</i>	<i>Hrs./ week</i>			<i>Cr ./ Units</i>
		Theo.	Tut.	Lab.	
B.E 3343	Construction of Highways and Bridges	1	1	1	2
B.E 3344	Airport Engineering	2	1		2
B.E 3345	Pavement Design 1	2	1		2
B.E 3346	Railway Engineering	2	1		2
B.E 3347	Traffic Engineering	2			2
B.E 4348	Highway Design 2	2	1	1	3
B.E 4349	Pavement Design 2	2	1		2
B.E 4350	Soil Improvement	2			2
B.E 4351	Design of Concrete Bridges	2	1		2
B.E 4352	Design of Steel Bridges	2	1		2
B.E 4353	Highway and Bridge Specifications	2	1		2
B.E 4354	Highway Maintenance	2			2
B.E 4355	Tunneling Eng.	2			2
	Total	25	9	2	27
		36			

## 5. Water Resources Eng. and Dams Division

<i>Course No.</i>	<i>Course Title</i>	<i>Hrs./ week</i>			<i>Cr ./ Units</i>
		Theo.	Tut.	Lab.	
B.E 3356	Construction of Hydraulic Structures	2	1		2
B.E 3357	Hydraulic Structures 1	1	1		1
B.E 3358	Hydraulic Structures 2	1	1		1
B.E 3359	Engineering Hydrology 1	1	1		1
B.E 3360	Engineering Hydrology 2	1	1		1
B.E 3361	Water Quality Control 1	2			2
B.E 3362	Water Quality Control 2	1	1	1	2
B.E 4363	Hydraulic Equipment and Machines	2	1		2
B.E 4364	Design, Operation and Safety of Dams 1	2	1		2
B.E 4365	Design, Operation and Safety of Dams 2	2	1		2
B.E 4366	Irrigation and Drainage Engineering 1	2	1		2
B.E 4367	Irrigation and Drainage Engineering 2	2	1		2
B.E 4368	Water Resources Managements	2	1		2
B.E 4369	Economic Eng. of Water Resources	2	1		2
B.E 4350	Soil Improvements	2			2
	Total	25	13	1	26
		39			

## 6. Geometrics' Eng. Division

<i>Course No.</i>	<i>Course Title</i>	<i>Hrs./ week</i>			<i>Cr ./ Units</i>
		Theo.	Tut.	Lab.	
B.E 2370	Digital Cartography	2	1	1	3
B.E 3371	Analytical Photogrammetry 1	2		1	3
B.E 3372	Analytical Photogrammetry 2	2		1	3
B.E 3373	Land Surveying (1)	1		2	2
B.E 3374	Land Surveying (2)	1		2	2
B.E 4375	Astronomy and Spherical Triangles	1		1	2
B.E 4376	Surveying Computations	1	1		1
B.E 4377	Geodesy	2	1		2
B.E 4378	Global Navigation Satellite System	2		1	3
B.E 4379	Geographical Information System 1	1	1	1	2
B.E 4380	Geographical Information System 2	1	1	1	2
B.E 4381	Spatial Data Adjustment 1	1	1		1
B.E 4382	Spatial Data Adjustment 2	1	1		1
B.E 4383	Urban Planning	1	1		1
	Total	19	8	11	28
		38			

# Building Eng. and Project Management Division

Undergraduate Study Syllabus 2014/2015

## First Year

### First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 1201	Mathematics (1)	3	1		3
B.E 1203	Eng. Mechanics (1)	3	1		3
B.E 1206	physics	1	1		1
B.E 1207	Engineering Drawing (1)	1		3	2
B.E 1209	Engineering Geology (1)	1	1		1
B.E 1211	Building Materials Technology (1)	2		1	3
B.E 1101	Fundamental of Computer Science	1		2	2
B.E 1102	Public Freedom and Democracy	1	1		1
B.E 1106	Arabic Language	1	1		1
B.E 1104	Workshops (1)	1		3	2
<b>Total</b>		<b>15</b>	<b>6</b>	<b>9</b>	<b>19</b>
		<b>30</b>			

### Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 1202	Mathematics (2)	3	1		3
B.E 1204	Eng. Mechanics (2)	3	1		3
B.E 1205	Chemistry	1	1	1	2
B.E 1212	Building Materials Technology (2)	2		1	3
B.E 1213	Civil Eng. Fundamentals	1	1		1
B.E 1208	Engineering Drawing (2)	1		3	2
B.E 1210	Engineering Geology (2)	1	1		1
B.E 1103	Human Rights	1	1		1
B.E 1107	English Language	1	1		1
B.E 1105	Workshops (2)	1		3	2
<b>Total</b>		<b>15</b>	<b>7</b>	<b>8</b>	<b>19</b>
		<b>30</b>			

# Building Eng. and Project Management Division

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## Second Year

### First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 2214	Mathematics (3)	3	1		3
B.E 2216	Engineering Surveying (1)	2		2	3
B.E 2218	Concrete Technology (1)	2		2	3
B.E 2220	Strength of Materials (1)	3	1		3
B.E 2222	Fluid Mechanics (1)	2	1	1	3
B.E 2224	Computer Aided Eng. Drawing Concrete	1		2	2
B.E 2227	Building Construction (1)	2	1	1	2
B.E 2108	English Technical Language	1		1	2
<b>Total</b>		<b>16</b>	<b>4</b>	<b>9</b>	<b>21</b>
		<b>29</b>			

### Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 2215	Mathematics (4)	3	1		3
B.E 2217	Engineering Surveying (2)	2		2	3
B.E 2219	Concrete Technology (2)	2		2	3
B.E 2221	Strength of Materials (2)	3	1		3
B.E 2223	Fluid Mechanics (2)	2	1	1	3
B.E 2225	Computer Programming	1		2	2
B.E 2301	Building Construction (2)	1	1	1	2
B.E 2226	Engineering Statistics	2	1		2
<b>Total</b>		<b>16</b>	<b>5</b>	<b>8</b>	<b>21</b>
		<b>29</b>			

# Building Eng. and Project Management Division

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## Third Year

### First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 3228	Soil Mechanics (1)	2	2	1	3
B.E 3238	Building Services (1)	2			2
B.E 3231	Engineering Analysis	2	2		2
B.E 3233	Theory of Structures (1)	2	2		2
B.E 3235	Principles of Remote Sensing (1)	1	1	1	2
B.E 3239	Sanitary and Environmental Eng. (1)	1	1	1	2
B.E 3302	Civil Eng. System Analysis (1)	2	1		2
B.E 3304	Quality Control of Building Materials	2			2
B.E 3109	English A say Writing Language	1		1	2
B.E 3111	Leadership and Management Skills	1	1		1
Total		15	11	4	20
		30			

### Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 3229	Soil Mechanics (2)	2	2	1	3
B.E 3232	Numerical Analysis	1	1	1	2
B.E 3234	Reinforced Concrete Design (1)	2	1		2
B.E 3236	Principles of Remote Sensing (2)	1	1	1	2
B.E 3237	Engineering Economy (1)	2			2
B.E 3230	Highway Engineering	2	1	2	3
B.E 3240	Sanitary and Environmental Eng. (2)	1	1	1	2
B.E 3303	Civil Eng. System Analysis (2)	2			2
B.E 3305	Quality Control of Concrete	2			2
B.E 3306	Sustainable Building Material	1	1		1
Total		16	8	6	21
		30			



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## Fourth Year

### First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 4241	Reinforced Concrete Design (2)	2	1		2
B.E 4244	Foundation Engineering (1)	2	2		2
B.E 4246	Quantity Surveying	2	1		2
B.E 4313	Building Services (2)	2	1		2
B.E 4308	Construction Methods	2	1		2
B.E 4311	Contracts Management	2	1		2
B.E 4314	Engineering Economy (2)	2	1		2
B.E 4110	English Report and Discussion Language	1		1	2
B.E 4248	Graduation Project of 1 <sup>st</sup> Semester	2		4	3
		<b>17</b>	<b>8</b>	<b>5</b>	<b>19</b>
		<b>30</b>			

### Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 4242	Steel Design (1)	2	1		2
B.E 4243	Computer Applications	1	1	2	2
B.E 4245	Foundation Engineering (2)	2	2		2
B.E 4247	Eng. Managements and Specifications	2	1		2
B.E 4309	Construction Project Management	2	1		2
B.E 4310	Nano and Smart Building Materials	2			2
B.E 4312	Assessment & Rehabilitation of Concrete Structures	2			2
B.E 4307	Construction Equipments Management	2	1		2
B.E 4249	Graduation Project of 2 <sup>nd</sup> Semester	2		4	3
		<b>17</b>	<b>7</b>	<b>6</b>	<b>19</b>
		<b>30</b>			

**Total Units 159**

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**First Year**

First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 1201	Mathematics 1	3	1		3
B.E 1203	Eng. Mechanics 1	3	1		3
B.E 1206	physics	1	1		1
B.E 1207	Engineering Drawing 1	1		3	2
B.E 1209	Engineering Geology 1	1	1		1
B.E 1211	Building Materials Technology 1	2		1	3
B.E 1101	Fundamental of Computer Science	1		2	2
B.E 1102	Public Freedom and Democracy	1	1		1
B.E 1106	Arabic Language	1	1		1
B.E 1104	Workshops 1	1		3	2
<b>Total</b>		<b>15</b>	<b>6</b>	<b>9</b>	<b>19</b>
		<b>30</b>			

Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 1202	Mathematics (2)	3	1		3
B.E 1204	Eng. Mechanics -2	3	1		3
B.E 1205	Chemistry	1	1	1	2
B.E 1212	Building Materials Technology 2	2		1	3
B.E 1213	Civil Eng. Fundamentals	1	1		1
B.E 1208	Engineering Drawing 2	1		3	2
B.E 1210	Engineering Geology 2	1	1		1
B.E 1103	Human Rights	1	1		1
B.E 1107	English Language	1	1		1
B.E 1105	Workshops 2	1		3	2
<b>Total</b>		<b>15</b>	<b>7</b>	<b>8</b>	<b>19</b>
		<b>30</b>			

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**Second Year**

First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 2214	Mathematics (3)	3	1		3
B.E 2216	Engineering Surveying (1)	2		2	3
B.E 2218	Concrete Technology (1)	2		2	3
B.E 2220	Strength of Materials (1)	3	1		3
B.E 2222	Fluid Mechanics (1)	2	1	1	3
B.E 2224	Computer Aided Eng. Drawing Concrete	1		2	2
B.E 2227	Building Construction (1)	2	1	1	2
B.E 2108	English Technical Language	1		1	2
<b>Total</b>		<b>16</b>	<b>4</b>	<b>9</b>	<b>21</b>
		<b>29</b>			

Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 2215	Mathematics (4)	3	1		3
B.E 2217	Engineering Surveying 2	2		2	3
B.E 2219	Concrete Technology 2	2		2	3
B.E 2221	Strength of Materials 2	3	1		3
B.E 2223	Fluid Mechanics 2	2	1	1	3
B.E 2225	Computer Programming	1		2	2
B.E 3315	Construction of Sanitary Structures	2	1		2
B.E 2226	Engineering Statistics	2	1		2
<b>Total</b>		<b>16</b>	<b>5</b>	<b>8</b>	<b>21</b>
		<b>29</b>			

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**Third Year**

First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 3228	Soil Mechanics (1)	2	2	1	3
B.E 3238	Building Services (1)	2			2
B.E 3231	Engineering Analysis	2	2		2
B.E 3233	Theory of Structures (1)	2	2		2
B.E 3235	Principles of Remote Sensing (1)	1	1	1	2
B.E 3239	Sanitary and Environmental Eng. (1)	1	1	1	2
B.E 3317	Environmental Eng. Chemistry	1	1	1	2
B.E 3320	Environmental Protection	2			2
B.E 3109	English A say Writing Language	1		1	2
B.E 3111	Leadership and Management Skills	1	1		1
<b>Total</b>		<b>15</b>	<b>10</b>	<b>5</b>	<b>20</b>
		<b>30</b>			

Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 3229	Soil Mechanics (2)	2	2	1	3
B.E 3232	Numerical Analysis	1	1	1	2
B.E 3234	Reinforced Concrete Design (1)	2	1		2
B.E 3236	Principles of Remote Sensing (2)	1	1	1	2
B.E 3237	Engineering Economy (1)	2			2
B.E 3230	Highway Engineering	2	1	2	3
B.E 3240	Sanitary and Environmental Eng. (2)	1	1	1	2
B.E 3321	Plumbing Eng.	1	1		1
B.E 3318	Environmental Eng. Biology	1	1	1	2
B.E 3319	Environmental Eng. Hydrology	1	1		1
<b>Total</b>		<b>14</b>	<b>10</b>	<b>7</b>	<b>20</b>
		<b>31</b>			

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**Fourth Year**

First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 4241	Reinforced Concrete Design (2)	2	1		2
B.E 4244	Foundation Engineering (1)	2	2		2
B.E 4246	Quantity Surveying	2	1		2
B.E 4322	Water Quality Eng.	1	1		1
B.E 4324	Water Treatment Systems	2		1	3
B.E 4327	Sustainability and Development Eng.	2			2
B.E 3316	Design of Sanitary Network	2	1		2
B.E 4328	Solid and Hazardous waste Management	1	1		1
B.E 4110	English Report and Discussion Language	1		1	2
B.E 4248	Graduation Project of 1 <sup>st</sup> Semester	2		4	3
		<b>18</b>	<b>6</b>	<b>6</b>	<b>20</b>
		<b>30</b>			

Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 4242	Steel Design (1)	2	1		2
B.E 4243	Computer Applications	1	1	2	2
B.E 4245	Foundation Engineering (2)	2	2		2
B.E 4247	Eng. Managements and Specifications	2	1		2
B.E 4323	Air Quality Eng.	2			2
B.E 4325	Wastewater Treatment Systems	2	1	1	3
B.E 4326	Treatment of Industrial Wastes	2			2
B.E 4329	Soil and ground water Pollution	1	1		1
B.E 4249	Graduation Project of 2 <sup>nd</sup> Semester	2		4	3
		<b>16</b>	<b>7</b>	<b>7</b>	<b>20</b>
		<b>30</b>			

**Total Units 160**

**Structural Engineering Branch**  
Undergraduate Study Syllabus 2014/2015

**First Year**

First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 1201	Mathematics (1)	3	1		3
B.E 1203	Eng. Mechanics (1)	3	1		3
B.E 1206	physics	1	1		1
B.E 1207	Engineering Drawing (1)	1		3	2
B.E 1209	Engineering Geology (1)	1	1		1
B.E 1211	Building Materials Technology (1)	2		1	3
B.E 1101	Fundamental of Computer Science	1		2	2
B.E 1102	Public Freedom and Democracy	1	1		1
B.E 1106	Arabic Language	1	1		1
B.E 1104	Workshops (1)	1		3	2
<b>Total</b>		<b>15</b>	<b>6</b>	<b>9</b>	<b>19</b>
		<b>30</b>			

Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 1202	Mathematics (2)	3	1		3
B.E 1204	Eng. Mechanics (2)	3	1		3
B.E 1205	Chemistry	1	1	1	2
B.E 1212	Building Materials Technology (2)	2		1	3
B.E 1213	Civil Eng. Fundamentals	1	1		1
B.E 1208	Engineering Drawing (2)	1		3	2
B.E 1210	Engineering Geology (2)	1	1		1
B.E 1103	Human Rights	1	1		1
B.E 1107	English Language	1	1		1
B.E 1105	Workshops (2)	1		3	2
<b>Total</b>		<b>15</b>	<b>7</b>	<b>8</b>	<b>19</b>
		<b>30</b>			

**Structural Engineering Branch**  
Undergraduate Study Syllabus 2014/2015

**Second Year**

First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 2214	Mathematics (3)	3	1		3
B.E 2216	Engineering Surveying (1)	2		2	3
B.E 2218	Concrete Technology (1)	2		2	3
B.E 2220	Strength of Materials (1)	3	1		3
B.E 2222	Fluid Mechanics (1)	2	1	1	3
B.E 2224	Computer Aided Eng. Drawing Concrete	1		2	2
B.E 2227	Building Construction (1)	2	1	1	2
B.E 2108	English Technical Language	1		1	2
<b>Total</b>		<b>16</b>	<b>4</b>	<b>9</b>	<b>21</b>
		<b>29</b>			

Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 2215	Mathematics (4)	3	1		3
B.E 2217	Engineering Surveying (2)	2		2	3
B.E 2219	Concrete Technology (2)	2		2	3
B.E 2221	Strength of Materials (2)	3	1		3
B.E 2223	Fluid Mechanics (2)	2	1	1	3
B.E 2225	Computer Programming	1		2	2
B.E 2301	Building Construction (2)	1	1	1	2
B.E 2226	Engineering Statistics	2	1		2
<b>Total</b>		<b>16</b>	<b>5</b>	<b>8</b>	<b>21</b>
		<b>29</b>			

**Structural Engineering Branch**  
Undergraduate Study Syllabus 2014/2015

**Third Year**

First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 3228	Soil Mechanics (1)	2	2	1	3
B.E 3238	Building Services (1)	2			2
B.E 3231	Engineering Analysis	2	2		2
B.E 3233	Theory of Structures (1)	2	2		2
B.E 3235	Principles of Remote Sensing (1)	1	1	1	2
B.E 3239	Sanitary and Environmental Eng. (1)	1	1	1	2
B.E 3331	Adv. Strength of Materials (1)	2			2
B.E 3333	Methods of Construction (1)	2	1		2
B.E 3109	English A say Writing Language	1		1	2
B.E 3111	Leadership and Management Skills	1	1		1
<b>Total</b>		<b>16</b>	<b>10</b>	<b>4</b>	<b>20</b>
		<b>30</b>			

Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 3229	Soil Mechanics (2)	2	2	1	3
B.E 3232	Numerical Analysis	1	1	1	2
B.E 3234	Reinforced Concrete Design (1)	2	1		2
B.E 3236	Principles of Remote Sensing (2)	1	1	1	2
B.E 3237	Engineering Economy (1)	2			2
B.E 3230	Highway Engineering	2	1	2	3
B.E 3240	Sanitary and Environmental Eng. (2)	1	1	1	2
B.E 3330	Theory of Structures (2)	2			2
B.E 3332	Adv. Strength of Materials (2)	2			2
B.E 3334	Methods of Construction (2)	2			2
<b>Total</b>		<b>17</b>	<b>7</b>	<b>6</b>	<b>22</b>
		<b>30</b>			



**Structural Engineering Branch**  
Undergraduate Study Syllabus 2014/2015

**Fourth Year**

First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 4241	Reinforced Concrete Design (2)	2	1		2
B.E 4244	Foundation Engineering (1)	2	2		2
B.E 4246	Quantity Surveying	2	1		2
B.E 4337	Stiffness Matrix Analysis	2	1		2
B.E 4339	Structural Design (1)	2	1		2
B.E 4341	Pre-stressed Concrete	2	1		2
B.E 4342	Structural Dynamics	2			2
B.E 4110	English Report and Discussion Language	1		1	2
B.E 4248	Graduation Project of 1 <sup>st</sup> Semester	2		4	3
		<b>17</b>	<b>7</b>	<b>5</b>	<b>19</b>
		<b>29</b>			

Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 4242	Steel Design (1)	2	1		2
B.E 4243	Computer Applications	1	1	2	2
B.E 4245	Foundation Engineering (2)	2	2		2
B.E 4247	Eng. Managements and Specifications	2	1		2
B.E 4335	Reinforced Concrete Design (3)	2	1		2
B.E 4336	Steel Design (2)	2	1		2
B.E 4338	Plastic Analysis Stability	2			2
B.E 4340	Structural Design (2)	2			2
B.E 4249	Graduation Project of 2 <sup>nd</sup> Semester	2		4	3
		<b>17</b>	<b>8</b>	<b>6</b>	<b>19</b>
		<b>30</b>			

**Total Units 160**

**Highway and Bridges Engineering Branch**  
Undergraduate Study Syllabus 2014/2015

**First Year**

First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 1201	Mathematics 1	3	1		3
B.E 1203	Eng. Mechanics 1	3	1		3
B.E 1206	physics	1	1		1
B.E 1207	Engineering Drawing 1	1		3	2
B.E 1209	Engineering Geology 1	1	1		1
B.E 1211	Building Materials Technology 1	2		1	3
B.E 1101	Fundamental of Computer Science	1		2	2
B.E 1102	Public Freedom and Democracy	1	1		1
B.E 1106	Arabic Language	1	1		1
B.E 1104	Workshops 1	1		3	2
<b>Total</b>		<b>15</b>	<b>6</b>	<b>9</b>	<b>19</b>
		<b>30</b>			

Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 1202	Mathematics (2)	3	1		3
B.E 1204	Eng. Mechanics -2	3	1		3
B.E 1205	Chemistry	1	1	1	2
B.E 1212	Building Materials Technology 2	2		1	3
B.E 1213	Civil Eng. Fundamentals	1	1		1
B.E 1208	Engineering Drawing 2	1		3	2
B.E 1210	Engineering Geology 2	1	1		1
B.E 1103	Human Rights	1	1		1
B.E 1107	English Language	1	1		1
B.E 1105	Workshops 2	1		3	2
<b>Total</b>		<b>15</b>	<b>7</b>	<b>8</b>	<b>19</b>
		<b>30</b>			

**Highway and Bridges Eng. Division**  
Undergraduate Study Syllabus 2014/2015

**Second Year**

First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 2214	Mathematics (3)	3	1		3
B.E 2216	Engineering Surveying (1)	2		2	3
B.E 2218	Concrete Technology (1)	2		2	3
B.E 2220	Strength of Materials (1)	3	1		3
B.E 2222	Fluid Mechanics (1)	2	1	1	3
B.E 2224	Computer Aided Eng. Drawing Concrete	1		2	2
B.E 2227	Building Construction (1)	2	1	1	2
B.E 2108	English Technical Language	1		1	2
<b>Total</b>		<b>16</b>	<b>4</b>	<b>9</b>	<b>21</b>
		<b>29</b>			

Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 2215	Mathematics (4)	3	1		3
B.E 2217	Engineering Surveying (2)	2		2	3
B.E 2219	Concrete Technology (2)	2		2	3
B.E 2221	Strength of Materials (2)	3	1		3
B.E 2223	Fluid Mechanics (2)	2	1	1	3
B.E 2225	Computer Programming	1		2	2
B.E 3343	Construction of Highways and Bridges	1	1	1	2
B.E 2226	Engineering Statistics	2	1		2
<b>Total</b>		<b>16</b>	<b>5</b>	<b>8</b>	<b>21</b>
		<b>29</b>			

**Highway and Bridges Eng. Division**  
Undergraduate Study Syllabus 2014/2015

**Third Year**

First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 3228	Soil Mechanics (1)	2	2	1	3
B.E 3238	Building Services (1)	2			2
B.E 3231	Engineering Analysis	2	2		2
B.E 3233	Theory of Structures (1)	2	2		2
B.E 3235	Principles of Remote Sensing (1)	1	1	1	2
B.E 3239	Sanitary and Environmental Eng. (1)	1	1	1	2
B.E 3346	Railway Engineering	2	1		2
B.E 3347	Traffic Engineering	2			2
B.E 3109	English A say Writing Language	1		1	2
B.E 3111	Leadership and Management Skills	1	1		1
<b>Total</b>		<b>16</b>	<b>10</b>	<b>4</b>	<b>20</b>
		<b>30</b>			

Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 3229	Soil Mechanics (2)	2	2	1	3
B.E 3232	Numerical Analysis	1	1	1	2
B.E 3234	Reinforced Concrete Design (1)	2	1		2
B.E 3236	Principles of Remote Sensing (2)	1	1	1	2
B.E 3237	Engineering Economy (1)	2			2
B.E 3230	Highway Engineering	2	1	2	3
B.E 3240	Sanitary and Environmental Eng. (2)	1	1	1	2
B.E 3345	Pavement Design 1	2	1		2
B.E 3344	Airport Engineering	2	1		2
<b>Total</b>		<b>15</b>	<b>9</b>	<b>6</b>	<b>20</b>
		<b>30</b>			

**Highway and Bridges Eng. Division**  
Undergraduate Study Syllabus 2014/2015

**Fourth Year**

First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 4241	Reinforced Concrete Design (2)	2	1		2
B.E 4244	Foundation Engineering (1)	2	2		2
B.E 4246	Quantity Surveying	2	1		2
B.E 4349	Pavement Design 2	2	1		2
B.E 4353	Highway and Bridge Specifications	2	1		2
B.E 4350	Soil Improvement	2			2
B.E 4348	Highway Design 2	2	1	1	3
B.E 4110	English Report and Discussion Language	1		1	2
B.E 4248	Graduation Project of 1 <sup>st</sup> Semester	2		4	3
		<b>17</b>	<b>7</b>	<b>6</b>	<b>20</b>
		<b>30</b>			

Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 4242	Steel Design (1)	2	1		2
B.E 4243	Computer Applications	1	1	2	2
B.E 4245	Foundation Engineering (2)	2	2		2
B.E 4247	Eng. Managements and Specifications	2	1		2
B.E 4351	Design of Concrete Bridges	2	1		2
B.E 4352	Design of Steel Bridges	2	1		2
B.E 4354	Highway Maintenance	2			2
B.E 4355	Tunneling Eng.	2			2
B.E 4249	Graduation Project of 2 <sup>nd</sup> Semester	2		4	3
		<b>17</b>	<b>7</b>	<b>6</b>	<b>19</b>
		<b>30</b>			

**Total Units 159**

**Water Resources Eng. and Dams Division**  
Undergraduate Study Syllabus 2014/2015

**First Year**

First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 1201	Mathematics (1)	3	1		3
B.E 1203	Eng. Mechanics (1)	3	1		3
B.E 1206	physics	1	1		1
B.E 1207	Engineering Drawing (1)	1		3	2
B.E 1209	Engineering Geology (1)	1	1		1
B.E 1211	Building Materials Technology (1)	2		1	3
B.E 1101	Fundamental of Computer Science	1		2	2
B.E 1102	Public Freedom and Democracy	1	1		1
B.E 1106	Arabic Language	1	1		1
B.E 1104	Workshops (1)	1		3	2
<b>Total</b>		<b>15</b>	<b>6</b>	<b>9</b>	<b>19</b>
		<b>30</b>			

Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 1202	Mathematics (2)	3	1		3
B.E 1204	Eng. Mechanics (2)	3	1		3
B.E 1205	Chemistry	1	1	1	2
B.E 1212	Building Materials Technology (2)	2		1	3
B.E 1213	Civil Eng. Fundamentals	1	1		1
B.E 1208	Engineering Drawing (2)	1		3	2
B.E 1210	Engineering Geology (2)	1	1		1
B.E 1103	Human Rights	1	1		1
B.E 1107	English Language	1	1		1
B.E 1105	Workshops (2)	1		3	2
<b>Total</b>		<b>15</b>	<b>7</b>	<b>8</b>	<b>19</b>
		<b>30</b>			

**Water Resources Eng. and Dams Division**  
Undergraduate Study Syllabus 2014/2015

**Second Year**

First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 2214	Mathematics (3)	3	1		3
B.E 2216	Engineering Surveying (1)	2		2	3
B.E 2218	Concrete Technology (1)	2		2	3
B.E 2220	Strength of Materials (1)	3	1		3
B.E 2222	Fluid Mechanics (1)	2	1	1	3
B.E 2224	Computer Aided Eng. Drawing Concrete	1		2	2
B.E 2227	Building Construction (1)	2	1	1	2
B.E 2108	English Technical Language	1		1	2
<b>Total</b>		<b>16</b>	<b>4</b>	<b>9</b>	<b>21</b>
		<b>29</b>			

Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 2215	Mathematics (4)	3	1		3
B.E 2217	Engineering Surveying (2)	2		2	3
B.E 2219	Concrete Technology (2)	2		2	3
B.E 2221	Strength of Materials (2)	3	1		3
B.E 2223	Fluid Mechanics (2)	2	1	1	3
B.E 2225	Computer Programming	1		2	2
B.E 3356	Construction of Hydraulic Structures	2	1		2
B.E 2226	Engineering Statistics	2	1		2
<b>Total</b>		<b>17</b>	<b>5</b>	<b>7</b>	<b>21</b>
		<b>29</b>			

## Water Resources Eng. and Dams Division

Undergraduate Study Syllabus 2014/2015

### Third Year

#### First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 3228	Soil Mechanics (1)	2	2	1	3
B.E 3238	Building Services (1)	2			2
B.E 3231	Engineering Analysis	2	2		2
B.E 3233	Theory of Structures (1)	2	2		2
B.E 3235	Principles of Remote Sensing (1)	1	1	1	2
B.E 3239	Sanitary and Environmental Eng. (1)	1	1	1	2
B.E 3357	Hydraulic Structures (1)	1	1		1
B.E 3359	Engineering Hydrology (1)	1	1		1
B.E 3361	Water Quality Control (1)	2			2
B.E 3109	English A say Writing Language	1		1	2
B.E 3111	Leadership and Management Skills	1	1		1
<b>Total</b>		<b>18</b>	<b>9</b>	<b>4</b>	<b>21</b>
		<b>31</b>			

#### Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 3229	Soil Mechanics (2)	2	2	1	3
B.E 3232	Numerical Analysis	1	1	1	2
B.E 3234	Reinforced Concrete Design (1)	2	1		2
B.E 3236	Principles of Remote Sensing (2)	1	1	1	2
B.E 3237	Engineering Economy (1)	2			2
B.E 3230	Highway Engineering	2	1	2	3
B.E 3240	Sanitary and Environmental Eng. (2)	1	1	1	2
B.E 3358	Hydraulic Structures (2)	1	1		1
B.E 3360	Engineering Hydrology (2)	1	1		1
B.E 3362	Water Quality Control (2)	1	1	1	2
<b>Total</b>		<b>14</b>	<b>10</b>	<b>7</b>	<b>20</b>
		<b>31</b>			



## Water Resources Eng. and Dams Division

Undergraduate Study Syllabus 2014/2015

### Fourth Year

#### First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 4241	Reinforced Concrete Design (2)	2	1		2
B.E 4244	Foundation Engineering (1)	2	2		2
B.E 4246	Quantity Surveying	2	1		2
B.E 4363	Hydraulic Equipment and Machines	2	1		2
B.E 4364	Design, Operation and Safety of Dams 1	2	1		2
B.E 4366	Irrigation and Drainage Engineering 1	2	1		2
B.E 4368	Water Resources Managements	2	1		2
B.E 4110	English Report and Discussion Language	1		1	2
B.E 4248	Graduation Project of 1 <sup>st</sup> Semester	2		4	3
		17	8	5	19
		30			

#### Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 4242	Steel Design (1)	2	1		2
B.E 4243	Computer Applications	1	1	2	2
B.E 4245	Foundation Engineering (2)	2	2		2
B.E 4247	Eng. Managements and Specifications	2	1		2
B.E 4365	Design, Operation and Safety of Dams 2	2	1		2
B.E 4367	Irrigation and Drainage Engineering 2	2			2
B.E 4369	Economic Eng. of Water Resources	2	1		2
B.E 4370	Soil Improvements	2			2
B.E 4249	Graduation Project of 2 <sup>nd</sup> Semester	2		4	3
		17	7	6	19
		30			

**Total Units 159**

**Geometrics' Engineering Division**  
Undergraduate Study Syllabus 2014/2015

**First Year**

First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 1201	Mathematics (1)	3	1		3
B.E 1203	Eng. Mechanics (1)	3	1		3
B.E 1206	physics	1	1		1
B.E 1207	Engineering Drawing (1)	1		3	2
B.E 1209	Engineering Geology (1)	1	1		1
B.E 1211	Building Materials Technology (1)	2		1	3
B.E 1101	Fundamental of Computer Science	1		2	2
B.E 1102	Public Freedom and Democracy	1	1		1
B.E 1106	Arabic Language	1	1		1
B.E 1104	Workshops (1)	1		3	2
<b>Total</b>		<b>15</b>	<b>6</b>	<b>9</b>	<b>19</b>
		<b>30</b>			

Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 1202	Mathematics (2)	3	1		3
B.E 1204	Eng. Mechanics (2)	3	1		3
B.E 1205	Chemistry	1	1	1	2
B.E 1212	Building Materials Technology (2)	2		1	3
B.E 1213	Civil Eng. Fundamentals	1	1		1
B.E 1208	Engineering Drawing (2)	1		3	2
B.E 1210	Engineering Geology (2)	1	1		1
B.E 1103	Human Rights	1	1		1
B.E 1107	English Language	1	1		1
B.E 1105	Workshops (2)	1		3	2
<b>Total</b>		<b>15</b>	<b>7</b>	<b>8</b>	<b>19</b>
		<b>30</b>			

**Geometrics' Engineering Division**  
Undergraduate Study Syllabus 2014/2015

**Second Year**

First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 2214	Mathematics (3)	3	1		3
B.E 2216	Engineering Surveying (1)	2		2	3
B.E 2218	Concrete Technology (1)	2		2	3
B.E 2220	Strength of Materials (1)	3	1		3
B.E 2222	Fluid Mechanics (1)	2	1	1	3
B.E 2224	Computer Aided Eng. Drawing Concrete	1		2	2
B.E 2227	Building Construction (1)	2	1	1	2
B.E 2108	English Technical Language	1		1	2
<b>Total</b>		<b>16</b>	<b>4</b>	<b>9</b>	<b>21</b>
		<b>29</b>			

Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 2215	Mathematics (4)	3	1		3
B.E 2217	Engineering Surveying (2)	2		2	3
B.E 2219	Concrete Technology (2)	2		2	3
B.E 2221	Strength of Materials (2)	3	1		3
B.E 2223	Fluid Mechanics (2)	2	1	1	3
B.E 2225	Computer Programming	1		2	2
B.E 2370	Digital Cartography	2	1	1	3
B.E 2226	Engineering Statistics	2	1		2
<b>Total</b>		<b>17</b>	<b>5</b>	<b>8</b>	<b>22</b>
		<b>30</b>			

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**Third Year**

First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 3228	Soil Mechanics (1)	2	2	1	3
B.E 3238	Building Services (1)	2			2
B.E 3231	Engineering Analysis	2	2		2
B.E 3233	Theory of Structures (1)	2	2		2
B.E 3235	Principles of Remote Sensing (1)	1	1	1	2
B.E 3239	Sanitary and Environmental Eng. (1)	1	1	1	2
B.E 2371	Analytical Photogrammetry (1)	2		1	3
B.E 3373	Land Surveying (1)	1		2	2
B.E 3109	English A say Writing Language	1		1	2
B.E 3111	Leadership and Management Skills	1	1		1
<b>Total</b>		<b>15</b>	<b>8</b>	<b>7</b>	<b>21</b>
		<b>30</b>			

Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 3229	Soil Mechanics (2)	2	2	1	3
B.E 3232	Numerical Analysis	1	1	1	2
B.E 3234	Reinforced Concrete Design (1)	2	1		2
B.E 3236	Principles of Remote Sensing (2)	1	1	1	2
B.E 3237	Engineering Economy (1)	2			2
B.E 3230	Highway Engineering	2	1	2	3
B.E 3240	Sanitary and Environmental Eng. (2)	1	1	1	2
B.E 3372	Analytical Photogrammetry 2	2		1	3
B.E 3374	Land Surveying (2)	1		2	2
<b>Total</b>		<b>14</b>	<b>7</b>	<b>9</b>	<b>21</b>
		<b>30</b>			

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**Fourth Year**

First Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 4241	Reinforced Concrete Design (2)	2	1		2
B.E 4244	Foundation Engineering (1)	2	2		2
B.E 4246	Quantity Surveying	2	1		2
B.E 4377	Geodesy	2	1		2
B.E 4375	Astronomy and Spherical Triangles	1		1	2
B.E 4379	Geographical Information System 1	1	1	1	2
B.E 4381	Spatial Data Adjustment 1	1	1		1
B.E 4376	Surveying Computations	1	1		1
B.E 4110	English Report and Discussion Language	1		1	2
B.E 4248	Graduation Project of 1 <sup>st</sup> Semester	2		4	3
		<b>15</b>	<b>8</b>	<b>7</b>	<b>19</b>
		<b>30</b>			

Second Semester

Subject		Hrs./week			Units
		Theo.	Tut.	Lab.	
B.E 4242	Steel Design (1)	2	1		2
B.E 4243	Computer Applications	1	1	2	2
B.E 4245	Foundation Engineering (2)	2	2		2
B.E 4247	Eng. Managements and Specifications	2	1		2
B.E 4378	Global Navigation Satellite System	2		1	3
B.E 4380	Geographical Information System (2)	1	1	1	2
B.E 4382	Spatial Data Adjustment (2)	1	1		1
B.E 4383	Urban Planning	1	1		1
B.E 4249	Graduation Project of 2 <sup>nd</sup> Semester	2		4	3
		<b>13</b>	<b>9</b>	<b>8</b>	<b>18</b>
		<b>30</b>			

**Total Units 160**