

# BSIE Roadmap

## (For Intake 2014 to Intake 2022)

First Semester						Second Semester					
Pre Req	C. Code	Course Title	Lec	Lab	CR	Pre Req	C. Code	Course Title	Lec	Lab	CR
	HM 103	English Grammar and Comprehension	3	0	3		HM 102	Composition and Communication	3	0	3
	HM 111	Islamic Studies/Ethics	2	0	2	NS 128	NS 126	Differential Equations	3	0	3
	EF 101	Engineering Drawing - I	1	0	1		EF 113L	Workshop Practice	0	2	2
	EF 101 L	Engineering Drawing - I (Lab)	0	1	1		HM 112	Pakistan Studies	2	0	2
	EF 121	Engineering Mechanics	3	0	3		EF 133	Fundamentals of Thermal Sciences	3	0	3
	EF 121 L	Engineering Mechanics (Lab)	0	1	1		EF 132	Basic Electrical Engineering	3	0	3
	MS 101	Principles of Management	2	0	2		EF 132 L	Basic Electrical Engineering (Lab)	0	1	1
	NS 128	Applied Calculus	3	0	3						
<b>Total</b>			<b>14</b>	<b>2</b>	<b>16</b>	<b>Total</b>			<b>14</b>	<b>3</b>	<b>17</b>

Third Semester						Fourth Semester					
Pre Req	C. Code	Course Title	Lec	Lab	CR	Pre Req	C. Code	Course Title	Lec	Lab	CR
	CS 211	Programming Fundamentals	2	0	2		EF 243	Statistical Quality Control	3	0	3
	CS 211 L	Programming Fundamentals (Lab)	0	1	1		IE 221	Manufacturing Processes	3	0	3
	NS 231	Probability and Statistics	3	0	3		IE 221 L	Manufacturing Processes (Lab)	0	1	1
	EF 201	Engineering Drawing - II	1	0	1		EF 202	Operations Research	3	0	3
	EF 201 L	Engineering Drawing - II (Lab)	0	1	1		EF 202 L	Operations Research (Lab)	0	1	1
	EF 221	Materials Engineering	3	0	3		EF 242	Mechanical Measurements and	3	0	3
	EF 221 L	Materials Engineering (Lab)	0	1	1		EF 242 L	Mechanical Measurements and Metrology (Lab)	0	1	1
	HM 221	Social and Ethical Aspects in Engineering	3	0	3		IE 223	Workstudy and Methods Engineering	2	0	2
	NS 221	Linear Algebra	3	0	3		IE 223 L	Workstudy and Methods Engineering (Lab)	0	1	1
<b>Total</b>			<b>15</b>	<b>3</b>	<b>18</b>	<b>Total</b>			<b>14</b>	<b>4</b>	<b>18</b>

Fifth Semester						Sixth Semester					
Pre Req	C. Code	Course Title	Lec	Lab	CR	Pre Req	C. Code	Course Title	Lec	Lab	CR
EF 121	EF 321	Mechanics of Materials	3	0	3	IE 223	IE 323	Human Factors Engineering	2	0	2
EF 121	EF 321 L	Mechanics of Materials (Lab)	0	1	1	IE 223	IE 323 L	Human Factors Engineering (Lab)	0	1	1
	IE 322	Machining Processes	3	0	3		MS 301	Project Management	3	0	3
	IE 322 L	Machining Processes (Lab)	0	1	1		MS 301 L	Project Management (Lab)	0	1	1
	CS 312	Computer Simulations	2	0	2	EF 201	CS 321	CAD/CAM	3	0	3
	CS 312 L	Computer Simulations (Lab)	0	1	1	EF 201	CS 321 L	CAD/CAM (Lab)	0	1	1
	HM 301	Technical Report Writing and Presentation Skills	3	0	3	IE 222	IE 324	Production Planning and Control	3	0	3
	HM 321	Engineering Economics	3	0	3		NS 321	Numerical Analysis	3	0	3
<b>Total</b>			<b>14</b>	<b>3</b>	<b>17</b>	<b>Total</b>			<b>14</b>	<b>3</b>	<b>17</b>

Seventh Semester						Eighth Semester					
Pre Req	C. Code	Course Title	Lec	Lab	CR	Pre Req	C. Code	Course Title	Lec	Lab	CR
	IE 401	Total Quality Management	3	0	3		IE 422	Industrial Maintenance	2	0	2
	EF 431	Industrial Facilities Design	2	0	2	EF 241	IE 408	Introduction to Six Sigma	3	0	3
	EF 431 L	Industrial Facilities Design (Lab)	0	1	1	EF 241	IE 408 L	Introduction to Six Sigma (Lab)	0	1	1
EF 132	IE 421	Instrumentation and Control	3	0	3		MS 402	Entrepreneurship	3	0	3
EF 132	IE 421 L	Instrumentation and Control (Lab)	0	1	1		IE 413	Health, Safety and Environment	3	0	3
	IE 412	Supply Chain Management	3	0	3		IE 432	Project Phase II	0	3	3
	IE 431	Project Phase I	0	3	3						
<b>Total</b>			<b>11</b>	<b>5</b>	<b>16</b>	<b>Total</b>			<b>11</b>	<b>4</b>	<b>15</b>

Labs have the same course code as that of corresponding theory course except that it is followed by character 'L'

**Total Cr. Hrs.**

**134**