

**West Virginia University Institute of Technology**  
**Leonard C. Nelson College of Engineering and Sciences**  
**General Education Foundation (GEF)**  
**Degree Pattern Sheets**  
**2016-2017**

---

B.S. Biology (031T) .....	pg. 2
B.S.Ch.E. Chemical Engineering (032T).....	pg. 3
B.S. Chemistry (033T) .....	pg. 4
B.S.C.E. Civil Engineering (034T) .....	pg. 5
B.S.Cp.E. Computer Engineering (035T).....	pg. 6
B.S. Computer Science (036T) .....	pg. 7
B.S.E.E. Electrical Engineering (037T) .....	pg. 8
B.S.E.E. Electrical Engineering – Electrical Energy Systems Emphasis (ET18).....	pg. 9
B.S.E.E.T. Electronic Engineering Technology (038T) .....	pg. 10
B.S.E.E.T. Electronic Engineering Technology – Civil Area of Emphasis (ET12) .....	pg. 11
B.S.E.E.T. Electronic Engineering Technology – Environmental AOE (ET13) .....	pg. 12
B.S.E.E.T. Electronic Engineering Technology – Mechanical AOE (ET14) .....	pg. 13
B.S. Industrial Technology (040T) .....	pg. 14
B.S. Information Systems (050T) .....	pg. 15
B.S. Mathematics (041T).....	pg. 16
B.S. Mathematics – Business Track (041T) .....	pg. 17
B.S. Mathematics – Classic Track (041T).....	pg. 18
B.S. Mechanical Engineering (042T) .....	pg. 19

**Biology**  
**Bachelor of Science (B.S.) <031T>**  
 Catalog Year 2016-17

First Semester				Second Semester			
BIOL	111	General Biology	4.00	BIOL	112	General Biology	4.00
ENGL	101	Composition and Rhetoric ( <i>GEF 1</i> )	3.00	ENGL	102	Composition and Rhetoric ( <i>GEF 1</i> )	3.00
WVUE	191	Freshman Seminar	1.00	MATH	128	Trigonometry	3.00
MATH	126	College Algebra ( <i>GEF 3</i> )	3.00	<i>GEF</i>	<i>5</i>	Human Inquiry and the Past	3.00
<i>GEF</i>	<i>4</i>	Society and Connections	3.00	<i>GEF</i>	<i>6</i>	The Arts and Creativity	3.00
<hr style="width: 100%; border: 0.5px solid black;"/>				<hr style="width: 100%; border: 0.5px solid black;"/>			
14.00				16.00			
Third Semester				Fourth Semester			
BIOL	225	Biology Methods	3.00	BIOL	240	Microbiology	4.00
CHEM	115	Fund of Chemistry I ( <i>GEF 2B</i> )	4.00	CHEM	116	Fund of Chemistry II ( <i>GEF 8</i> )	4.00
PHYS	101	College Physics I	4.00	PHYS	102	College Physics II	4.00
STAT	211	Introduction to Statistical Inference	3.00	ENGL	305	Technical Writing	3.00
<i>GEF</i>	<i>7</i>	Global Studies and Diversity	3.00	<hr style="width: 100%; border: 0.5px solid black;"/>			
<hr style="width: 100%; border: 0.5px solid black;"/>				<hr style="width: 100%; border: 0.5px solid black;"/>			
17.00				15.00			
Fifth Semester				Sixth Semester			
BIOL		Botany Elective	4.00	BIOL	303	Genetics	4.00
CHEM	233	Organic Chemistry I	3.00	CHEM	234	Organic Chemistry II	3.00
CHEM	235	Organic Chemistry I Lab	1.00	CHEM	236	Organic Chemistry II Lab	1.00
BIOL		Zoology Elective	4.00	BIOL	461	Principles of Evolution	3.00
<i>GEF</i>	<i>8</i>	<i>GEF</i> Depth	3.00			Restricted Elective <sup>(1)</sup>	4.00
<hr style="width: 100%; border: 0.5px solid black;"/>				<hr style="width: 100%; border: 0.5px solid black;"/>			
15.00				15.00			
Seventh Semester				Eighth Semester			
BIOL	416	Cell Biology	4.00	BIOL	466	Ecology	4.00
BIOL		Biology Elective	4.00	BIOL		Biology Elective	4.00
		Restricted Elective <sup>(1)</sup>	4.00			Restricted Elective <sup>(1)</sup>	3.00
BIOL	494	Seminar: Capstone	2.00	<i>GEF</i>	<i>8</i>	<i>GEF</i> Depth	3.00
<hr style="width: 100%; border: 0.5px solid black;"/>				<hr style="width: 100%; border: 0.5px solid black;"/>			
14.00				14.00			

**Total hours necessary to earn the B.S.Ch.E. degree = 120.00**

Notes: <sup>(1)</sup> Restricted electives are chosen from a list approved by the Biology Department.

**Chemical Engineering**  
**Bachelor of Science (B.S.Ch.E.) <032T>**  
 Catalog Year 2016-17

First Semester				Second Semester			
ENGL	101	Composition and Rhetoric ( <i>GEF 1</i> )	3.00	ENGL	102	Composition and Rhetoric ( <i>GEF 1</i> )	3.00
CHE	100	Intro to Chemical Engineering	2.00	ENGR	111	Software Tools for Engineers	3.00
CHEM	115	Fund of Chemistry I ( <i>GEF 2</i> )	4.00	CHEM	116	Fund of Chemistry II ( <i>GEF 8</i> )	4.00
MATH	155	Calculus I ( <i>GEF 3</i> )	4.00	MATH	156	Calculus II ( <i>GEF 8</i> )	4.00
WVUE	191	Freshman Seminar	1.00	<i>GEF</i>	5	Human Inquiry and the Past	3.00
			<b>14.00</b>				<b>17.00</b>
Third Semester				Fourth Semester			
CHE	201	Material and Energy Balances I	3.00	CHE	202	Material and Energy Balances II	3.00
CHEM	233	Organic Chemistry I	3.00	CHEM	234	Organic Chemistry II	3.00
CHEM	235	Organic Chemistry I Lab	1.00	BIOL	240	Microbiology	4.00
MATH	251	Multivariable Calculus	4.00	PHYS	112	Physics Sci & Engr II ( <i>GEF8</i> )	4.00
PHYS	111	Physics Sci & Engr I ( <i>GEF 8</i> )	4.00	CSAD	270	Effective Public Speaking ( <i>GEF 4</i> )	3.00
			<b>15.00</b>				<b>17.00</b>
Fifth Semester				Sixth Semester			
CHE	316	Transport Operations	4.00	CHE	312	Separation Processes	4.00
CHE	330	Modeling and Analysis	3.00	CHE	327	Kinetics & Reactor Design	3.00
CHE	320	Chemical Engr Thermodynamics	3.00	CHE	350	Chemical Engineering Laboratory	2.00
CHE	357	Design Laboratory 1	2.00	CHE	318	Particle Process Operations	2.00
<i>GEF</i>	6	The Arts and Creativity	3.00	CHE	358	Design Laboratory 2	2.00
			<b>15.00</b>	<i>GEF</i>	7	Global Studies and Diversity	3.00
							<b>16.00</b>
Seventh Semester				Eighth Semester			
CHE	316	Design Laboratory 3	3.00	CHE	458	Design Laboratory 4	3.00
CHE	330	Unit Operations Lab 1	2.00	CHE	451	Unit Operations Lab 2 <sup>(2)</sup>	2.00
CHE	320	Process Dynamics & Control	3.00	ENGR	401	Senior Seminar	1.00
		Advanced Science Elective	4.00	CHEM		Adv. Chemistry Elective	3.00
		Enhancement Elective <sup>(1)</sup>	3.00			Chemical Engineering Elective <sup>(1)</sup>	3.00
			<b>15.00</b>			Enhancement Elective <sup>(1)</sup>	3.00
							<b>15.00</b>

**Total hours necessary to earn the B.S.Ch.E. degree = 124.00**

Notes: <sup>(1)</sup> Chemical and Enhancement electives must be selected with advisor approval.

<sup>(2)</sup> CHE 451 is certified as a writing course.

**Chemistry**  
**Bachelor of Science (B.S.) <033T>**  
 Catalog Year 2016-17

First Semester				Second Semester			
ENGL	101	Composition and Rhetoric ( <i>GEF 1</i> )	3.00	ENGL	102	Composition and Rhetoric ( <i>GEF 1</i> )	3.00
WVUE	191	Freshman Seminar	1.00	CHEM	116	Fund of Chemistry II ( <i>GEF 8</i> )	4.00
CHEM	115	Fund of Chemistry I ( <i>GEF 2B</i> )	4.00	MATH	156	Calculus II ( <i>GEF 8</i> )	4.00
MATH	155	Calculus I ( <i>GEF 3</i> )	4.00	PHYS	111	Physics Sci & Engr I ( <i>GEF 2B</i> )	4.00
<i>GEF</i>	4	Society and Connections	3.00				<hr/>
			<b>15.00</b>				<b>15.00</b>
Third Semester				Fourth Semester			
CHEM	233	Organic Chemistry I	3.00	CHEM	422	Chemistry of Inorganic Compounds	3.00
CHEM	235	Organic Chemistry I Lab	1.00	CHEM	423	Inorganic Synthesis Lab	1.00
CHEM	215	Analytic Chemistry I	4.00	CHEM	234	Organic Chemistry II	3.00
MATH	251	Multivariable Calculus	4.00	CHEM	236	Organic Chemistry I Lab	1.00
PHYS	112	Physics Sci & Engr II ( <i>GEF8</i> )	4.00	MATH	261	Elementary Differential Equations	4.00
			<hr/>	<i>GEF</i>	6	The Arts and Creativity	3.00
			<b>16.00</b>				<hr/>
							<b>15.00</b>
Fifth Semester				Sixth Semester			
CHEM	346	Physical Chemistry I	3.00	CHEM	310	Analytic Chemistry II	3.00
CHEM	347	Physical Chemistry I Lab	1.00	CHEM	313	Analytic Chemistry II Lab	1.00
ENGL	305	Technical Writing	3.00	CHEM	348	Physical Chemistry II	3.00
<i>GEF</i>	7	Global Studies and Diversity	3.00	CHEM	349	Physical Chemistry II Lab	1.00
		Restricted Elective <sup>(1)</sup>	3.00			Restricted Elective <sup>(1)</sup>	3.00
		Restricted Elective <sup>(1)</sup>	3.00			Restricted Elective <sup>(1)</sup>	3.00
			<hr/>				<hr/>
			<b>16.00</b>				<b>14.00</b>
Seventh Semester				Eighth Semester			
CHEM	494	Seminar in Chemistry	1.00	CHEM	497	Research Practicum	4.00
CHEM		Chemistry Elective	3.00	<i>GEF</i>	5	Human Inquiry and the Past	3.00
CHEM		Chemistry Elective	3.00	CHEM		Chemistry Elective	3.00
		Restricted Elective <sup>(1)</sup>	3.00			Restricted Elective <sup>(1)</sup>	3.00
		Restricted Elective <sup>(1)</sup>	3.00			Restricted Elective <sup>(1)</sup>	3.00
		Assessment Examination	<hr/>				<hr/>
			<b>13.00</b>				<b>16.00</b>

**Total hours necessary to earn the B.S.Ch.E. degree = 120.00**

Notes: <sup>(1)</sup> The 24 hours of restricted electives are chosen from a list approved by the Chemistry Department.

**Civil Engineering**  
**Bachelor of Science (B.S.C.E.) <034T>**  
 Catalog Year 2016-17

First Semester				Second Semester			
ENGL	101	Composition and Rhetoric ( <i>GEF 1</i> )	3.00	ENGL	102	Composition and Rhetoric ( <i>GEF 1</i> )	3.00
WVUE	191	First Year Seminar	1.00	MAE	241	Statics	3.00
CHEM	115	Fund of Chemistry I ( <i>GEF 8</i> )	4.00	ENGR	111	Software Tools for Engineers	3.00
DRET	120	Drafting 1	2.00	CHEM	116	Fund of Chemistry II ( <i>GEF 8</i> )	4.00
MATH	155	Calculus I ( <i>GEF 3</i> )	4.00	MATH	156	Calculus II ( <i>GEF 8</i> )	4.00
			<b>14.00</b>				<b>17.00</b>
Third Semester				Fourth Semester			
MAE	242	Dynamics	3.00	MAE	331	Fluid Mechanics	3.00
MAE	243	Mechanics of Materials	3.00	CE	361	Structural Analysis I	4.00
CE	204	Surveying	3.00	MATH	261	Elementary Differential Equations	4.00
MATH	251	Multivariable Calculus	4.00	CE	331	Transportation Engineering	3.00
PHYS	111	Physics Sci & Engr I ( <i>GEF 2B</i> )	4.00	GEOL	312	Geology	3.00
			<b>17.00</b>				<b>17.00</b>
Fifth Semester				Sixth Semester			
CE	312	Construction Materials	3.00	CE	351	Introductory Soil Mechanics	4.00
CE	421	Hydraulic Engineering	4.00	CE	347	Intro. Environmental Engr.	4.00
CE		Elective <sup>(2)</sup>	3.00	CE		Elective <sup>(2)</sup>	3.00
MATH	448	Probability and Statistics	3.00	ENGL	305	Technical Writing	3.00
GEF	5	Human Inquiry and the Past	3.00				<b>14.00</b>
			<b>16.00</b>				<b>14.00</b>
Seventh Semester				Eighth Semester			
CE		Elective <sup>(2)</sup>	3.00	CE	479	Integrated CE Design	3.00
CE		Elective <sup>(2)</sup>	3.00	CE		Elective <sup>(3)</sup>	3.00
ECON	401	Managerial Economics ( <i>GEC 4</i> )	3.00	ENGR	401	Senior Engineering Seminar	1.00
		Technical Elective <sup>(1) (3)</sup>	3.00	ENGR	402	Fund of Engineering Review	2.00
GEF	6	The Arts and Creativity	3.00			Technical Elective <sup>(1) (3)</sup>	3.00
			<b>15.00</b>	GEF	7	Global Studies and Diversity	3.00
			<b>15.00</b>				<b>15.00</b>

**Total hours necessary to earn the B.S.C.E. degree = 125.00**

Notes: <sup>(1)</sup> Technical electives must be approved by the Civil Engineering Department.

<sup>(2)</sup> Four electives, one from structures, environmental, transportation, and geotechnical are required.

<sup>(3)</sup> One CE Elective and two Technical Electives (approved by the CE Department) are also to be taken. These three courses must contain at least 2.0 hours of ABET design content (combined).

**Computer Engineering**  
**Bachelor of Science in Computer Engineering (B.S.Cp.E.) <035T>**  
 Catalog Year 2016-17

First Semester				Second Semester			
ENGL	101	Composition and Rhetoric ( <i>GEF 1</i> )	3.00	ENGL	102	Composition and Rhetoric ( <i>GEF 1</i> )	3.00
MATH	155	Calculus I ( <i>GEF 3</i> )	4.00	MATH	156	Calculus II ( <i>GEF 8</i> )	4.00
WVUE	191	Freshman Seminar	1.00	ENGR	101	Engineering Problem Solving I	2.00
CS	121	Computer Science I	4.00	CS	122	Computer Science II	4.00
CHEM	115	Fund of Chemistry I ( <i>GEF 8</i> )	4.00	<i>GEF</i>	<b>5</b>	Human Inquiry and the Past	3.00
			<b>16.00</b>				<b>16.00</b>
Third Semester				Fourth Semester			
MATH	251	Multivariable Calculus	4.00	MATH	261	Elementary Differential Equations	4.00
PHYS	111	General Physics ( <i>GEF 2B</i> )	4.00	PHYS	112	General Physics ( <i>GEF 8</i> )	4.00
EE	200	ECE Software Tools	2.00	EE	223	Electrical Circuits	3.00
EE	221	Intro. Electrical Engr.	3.00	EE	224	Electrical Circuits Lab	1.00
EE	222	Intro. Electrical Engr. Lab	1.00	CPE	271	Digital Logic Design	3.00
CS	201	Data Structures	3.00	CPE	272	Digital Logic Design Lab	1.00
			<b>17.00</b>				<b>16.00</b>
Fifth Semester				Sixth Semester			
EE	355	Analog Electronics	3.00	EE	311	Junior Instrumentation Lab	1.00
EE	356	Analog Electronics Lab	1.00	CPE	421	Embedded Systems	4.00
EE	327	Signals and Systems I	3.00	CS	222	Software Engineering	3.00
CPE	310	Microprocessor Systems	3.00	MATH	378	Discrete Mathematics	3.00
CPE	311	Microprocessor Lab	1.00	ENGL	305	Technical Writing	3.00
<i>GEF</i>	<b>6</b>	The Arts and Creativity	3.00				<b>14.00</b>
MATH	448	Probability and Statistics	3.00				
			<b>17.00</b>				
Seventh Semester				Eighth Semester			
EE	480	Senior Design Seminar	3.00	EE	481	Senior Design Projects	3.00
CPE	442	Computer Architecture	3.00	CPE		Computer Engr. Elective <sup>(1)</sup>	3.00
CS	263	Principles of Networking	3.00			Technical Elective <sup>(2)</sup>	3.00
ECON	401	Managerial Economics ( <i>GEC 4</i> )	3.00			Technical Elective <sup>(2)</sup>	3.00
CPE		Computer Engr. Elective <sup>(1)</sup>	3.00	<i>GEF</i>	<b>7</b>	Global Studies and Diversity	3.00
			<b>15.00</b>	EE	400	Community Service	0.00
							<b>15.00</b>

**Total hours necessary to earn the B.S.C.E. degree = 126.00**

Notes: <sup>(1)</sup> The CPE/EE electives are those courses that have a CPE or EE course prefix.

<sup>(2)</sup> The Technical Electives are to be selected from an approved list.

**Computer Science**  
**Bachelor of Science (B.S.) <036T>**  
 Catalog Year 2016-17

First Semester				Second Semester			
ENGL	101	Composition and Rhetoric ( <i>GEF 1</i> )	3.00	ENGL	102	Composition and Rhetoric ( <i>GEF 1</i> )	3.00
CS	121	Computer Science I	4.00	CS	122	Computer Science II	4.00
GEF	5	Human Inquiry and the Past	3.00	GEF	6	The Arts and Creativity	3.00
		General Elective	3.00	GEF	7	Global Studies and Diversity	3.00
WVUE	191	First Year Seminar	1.00	GEF	8	Focus	3.00
			<b>14.00</b>				<b>16.00</b>
Third Semester				Fourth Semester			
MATH	155	Calculus I ( <i>GEF 3</i> )	4.00	MATH	156	Calculus II ( <i>GEF 8</i> )	4.00
GEF	2B	Laboratory Science <sup>(1)</sup>	4.00	GEF	8	Laboratory Science <sup>(1)</sup>	4.00
CS	201	Data Structures	3.00	CS	310	Principles of Programming Languages	3.00
CS	231	Intro to Computer Organization	3.00	CS	222	Software Engineering	3.00
CS	265	C Programming	2.00	CS	220	Discrete Mathematics	3.00
			<b>16.00</b>				<b>17.00</b>
Fifth Semester				Sixth Semester			
MATH	251	Multivariable Calculus	4.00	MATH	441	Applied Linear Algebra	3.00
ECON	401	Managerial Economics ( <i>GEC 4</i> )	3.00	ENGL	305	Technical Writing	3.00
CS	321	Intro to Networking	3.00	CS	350	Computer Systems Concepts	3.00
CS	221	Analysis of Algorithms	3.00	CS	324	Database Management	3.00
			<b>13.00</b>			CS Elective <sup>(2)</sup>	3.00
							<b>15.00</b>
Seventh Semester				Eighth Semester			
CS	450	Operating System Structure	3.00	CS	410	Compiler Construction	3.00
CS	480	Senior Design Seminar	2.00	CS	481	Senior Design Project	3.00
MATH	448	Probability and Statistics	3.00	CS	479	Advanced CS Math	3.00
		CS Elective <sup>(2)</sup>	3.00			CS Elective <sup>(2)</sup>	3.00
		Technical Elective <sup>(3)</sup>	3.00			Technical Elective <sup>(3)</sup>	3.00
			<b>14.00</b>				<b>15.00</b>
<b>Total hours necessary to earn the degree =</b>			<b>120.00</b>				

Notes: <sup>(1)</sup> **Laboratory Science** is restricted to BIOL 111, BIOL 112, CHEM 111, CHEM 112, CHEM 115, CHEM 116, PHYS 101, PHYS 102, PHYS 111, and PHYS 112.

<sup>(2)</sup> **CS Electives** may be chosen from and 300 - 400 level CS class, except CS 491.

<sup>(3)</sup> **Technical Electives** may be chosen from the approved list.

Promise Scholars have to take a total of 30 hours a year to maintain their scholarships. Other financial aid programs may have similar requirements..

**Electrical Engineering**  
**Bachelor of Science in Electrical Engineering (B.S.E.E.) <037T>**  
 Catalog Year 2016-17

First Semester				Second Semester			
ENGL	101	Composition and Rhetoric ( <i>GEF 1</i> )	3.00	ENGL	102	Composition and Rhetoric ( <i>GEF 1</i> )	3.00
MATH	155	Calculus I ( <i>GEF 3</i> )	4.00	MATH	156	Calculus II ( <i>GEF 8</i> )	4.00
WVUE	191	First Year Seminar	1.00	ENGR	101	Engineering Problem Solving I	2.00
CS	112	Computer Science for Engineers I	3.00	<i>GEF</i>	<i>5</i>	Human Inquiry and the Past	3.00
CHEM	115	Fund of Chemistry I ( <i>GEF 8</i> )	4.00	<i>GEF</i>	<i>6</i>	The Arts and Creativity	3.00
			<b>15.00</b>				<b>15.00</b>
Third Semester				Fourth Semester			
MATH	251	Multivariable Calculus	4.00	MATH	261	Elementary Differential Equations	4.00
PHYS	111	General Physics ( <i>GEF 2B</i> )	4.00	PHYS	112	General Physics ( <i>GEF 8</i> )	4.00
EE	200	ECE Software Tools	2.00	EE	223	Electrical Circuits	3.00
EE	221	Intro. Electrical Engr.	3.00	EE	224	Electrical Circuits Lab	1.00
EE	222	Intro. Electrical Engr. Lab	1.00	CPE	271	Digital Logic Design	3.00
<i>GEF</i>	<i>7</i>	Global Studies and Diversity	3.00	CPE	272	Digital Logic Design Lab	1.00
			<b>17.00</b>				<b>16.00</b>
Fifth Semester				Sixth Semester			
EE	355	Analog Electronics	3.00	EE	311	Junior Instrumentation Lab	1.00
EE	356	Analog Electronics Lab	1.00	EE	329	Signals and Systems II	3.00
EE	327	Signals and Systems I	3.00	EE	335	Electromech. Energy Conv.	3.00
CPE	310	Microprocessor Systems	3.00	EE	336	Electromech. Energy Conv. Lab	1.00
CPE	311	Microprocessor Lab	1.00	ENGL	305	Technical Writing	3.00
EE	345	Engineering Electromagnetics	3.00	MATH	441	Applied Linear Algebra	3.00
MATH	448	Probability and Statistics	3.00				<b>14.00</b>
			<b>17.00</b>				
Seventh Semester				Eighth Semester			
EE	480	Senior Design Seminar	3.00	EE	481	Senior Design Projects	3.00
EE	461	Intro. Communication Systems	3.00			EE/CPE Elective <sup>(1)</sup>	3.00
EE	436	Power Systems Analysis	3.00			Technical Elective <sup>(2)</sup>	3.00
EE	411	Fundamentals of Control Systems	3.00			Technical Elective <sup>(2)</sup>	3.00
EE	412	Automatic Control Lab	1.00	ECON	401	Managerial Economics ( <i>GEF 4</i> )	3.00
EE		EE/CPE Elective <sup>(1)</sup>	3.00	EE	400	Community Service	0.00
			<b>16.00</b>				<b>15.00</b>

Total hours necessary to earn the B.S.E.E. degree = **125.00**

Notes: <sup>(1)</sup> The EE/CPE Electives are those course that have a EE or CPE course prefix.

<sup>(2)</sup> The Technical Elective must be selected from an approved list.



**Electrical Engineering**  
**Bachelor of Science in Electrical Engineering (B.S.E.E.) <037T>**  
**Electrical Energy Systems Area of Emphasis [ET18]**  
 Catalog Year 2016-17

First Semester				Second Semester			
ENGL	101	Composition and Rhetoric ( <i>GEF 1</i> )	3.00	ENGL	102	Composition and Rhetoric ( <i>GEF 1</i> )	3.00
MATH	155	Calculus I ( <i>GEF 3</i> )	4.00	MATH	156	Calculus II ( <i>GEF 8</i> )	4.00
WVUE	191	First Year Seminar	1.00	ENGR	101	Engineering Problem Solving I	2.00
CS	112	Computer Science for Engineers I	3.00	<i>GEF</i>	<i>5</i>	Human Inquiry and the Past	3.00
CHEM	115	Fund of Chemistry I ( <i>GEF 8</i> )	4.00	<i>GEF</i>	<i>6</i>	The Arts and Creativity	3.00
			<b>15.00</b>				<b>15.00</b>
Third Semester				Fourth Semester			
MATH	251	Multivariable Calculus	4.00	MATH	261	Elementary Differential Equations	4.00
PHYS	111	General Physics ( <i>GEF 2B</i> )	4.00	PHYS	112	General Physics ( <i>GEF 8</i> )	4.00
EE	200	ECE Software Tools	2.00	EE	223	Electrical Circuits	3.00
EE	221	Intro. Electrical Engr.	3.00	EE	224	Electrical Circuits Lab	1.00
EE	222	Intro. Electrical Engr. Lab	1.00	CPE	271	Digital Logic Design	3.00
<i>GEF</i>	<i>7</i>	Global Studies and Diversity	3.00	CPE	272	Digital Logic Design Lab	1.00
			<b>17.00</b>				<b>16.00</b>
Fifth Semester				Sixth Semester			
EE	355	Analog Electronics	3.00	EE	311	Junior Instrumentation Lab	1.00
EE	356	Analog Electronics Lab	1.00	EE	329	Signals and Systems II	3.00
EE	327	Signals and Systems I	3.00	EE	335	Electromech. Energy Conv.	3.00
CPE	310	Microprocessor Systems	3.00	EE	336	Electromech. Energy Conv. Lab	1.00
CPE	311	Microprocessor Lab	1.00	ENGL	305	Technical Writing	3.00
EE	345	Engineering Electromagnetics	3.00	MATH	441	Applied Linear Algebra	3.00
MATH	448	Probability and Statistics	3.00				<b>14.00</b>
			<b>17.00</b>				
Seventh Semester				Eighth Semester			
EE	480	Senior Design Seminar	3.00	EE	481	Senior Design Projects	3.00
EE	461	Intro. Communication Systems	3.00	EE	435	Power Electronics	3.00
EE	436	Power Systems Analysis	3.00	EE		Energy Related Elective <sup>(1)</sup>	3.00
EE	411	Fundamentals of Control Systems	3.00			Technical Elective <sup>(2)</sup>	3.00
EE	412	Automatic Control Lab	1.00	ECON	401	Managerial Economics ( <i>GEF 4</i> )	3.00
EE		Energy Related Elective <sup>(1)</sup>	3.00	EE	400	Community Service	0.00
			<b>16.00</b>				<b>15.00</b>

Total hours necessary to earn the B.S.E.E. degree = 125.00

Notes: <sup>(1)</sup> The EE/CPE Electives are those course that have a EE or CPE course prefix.

<sup>(2)</sup> The Technical Elective must be selected from an approved list.

**Electronic Engineering Technology**  
**Bachelor of Science in Electronic Engineering Technology (B.S.E.E.T.) <038T>**  
 Catalog Year 2016-17

Fifth Semester				Sixth Semester			
CHEM 115	Fundamentals of Chemistry	4.00		GNET 311	Adv Computer Apps, or MANG 386, or MATH 261, or MATH 300-level(+)	3.00	
ECON 202	Principles of Macroeconomics (GEF 4)	3.00		ELET 337		4.00	
MATH 315	Advanced Technical Math	4.00		GEF 5	Human Inquiry and the Past	3.00	
ENGL 305	Technical Writing	3.00		ELET 410	Electromech. Energy Conv. Lab	3.00	
ELET 315	Electronic Measurement & Instrumentation	4.00			Technical Speciality Elective <sup>(2)</sup>	3.00	
			<u>18.00</u>				<u>16.00</u>
Seventh Semester				Eighth Semester			
GEF 7	Global Studies and Diversity	3.00		ELET 426	Microprocessor-based Data Acq & Contr	4.00	
ELET 420	Microprocessors & Digital Systems	4.00		GEF 6	The Arts and Creativity	3.00	
ELET 436	Power Systems & PLCs	4.00		GNET 489	Senior Seminar & Project <sup>(3)</sup>	2.00	
GNET 410	"C" Programming for Tect	3.00			Technical Elective <sup>(2)</sup>	4.00	
GNET 412	Project Management	3.00					<u>4.00</u>
			<u>17.00</u>				<u>13.00</u>

**Total hours necessary to earn the B.S.E.E.T. degree = 64.00**

Notes: <sup>(1)</sup> All requirements of the General Education Foundations curriculum must be met. Some of these requirements are normally satisfied by courses taken for the AS degree.

<sup>(2)</sup> To be approved by advisor. See advisor for approved electives. One technical elective will be selected from the following courses: INDT 384, MATH 261, MEET 435 or any CS 200+ or EE 300+ level course approved by both departments.

Exceptions require department chair consent. Other technical specialty electives may be selected from the other ELET courses or courses in other Engineering Technology fields or in engineering fields if prerequisite knowledge is sufficient. A

<sup>(3)</sup> Capstone Course.

**Engineering Technology**  
**Bachelor of Science in Engineering Technology (B.S.E.T.) <039T>**  
 Civil Area of Emphasis [ET12]  
 Catalog Year 2016-17

Fifth Semester				Sixth Semester			
MATH	315	Advanced Technical Math	4.00	GEOL	312	Geology	3.00
ENGL	305	Technical Writing	3.00	CIET	325	Codes, Contracts, and Cost Analysis	3.00
MEET	316	Dynamics <sup>(4)</sup>	3.00	CIET	355	Construction Estimating, or MATH 216, or MATH 300-level (+)	3.00
CIET	382	Environmental Engr Technology	3.00	CIET	330	Comp Appl in Hydraulics/Hydrology	3.00
		Technical Speciality Elective <sup>(2)</sup>	3.00			Technical Speciality Elective <sup>(2)</sup>	3.00
			<b>16.00</b>				<b>15.00</b>
Seventh Semester				Eighth Semester			
GEF	6	The Arts and Creativity	3.00	INDT	420	Construction Technology	3.00
CIET	320	Construction Methods & Equipment	3.00	GNET	489	Senior Seminar & Project <sup>(3)</sup>	2.00
INDT	302	Industrial Safety	3.00	GEF	7	Global Studies and Diversity	3.00
DRET	314	Computer Graphics	3.00			Technical Speciality Elective <sup>(2)</sup>	3.00
		Technical Speciality Elective <sup>(2)</sup>	3.00			Technical Speciality Elective <sup>(2)</sup>	3.00
		Advanced CAD Elective <sup>(5)</sup>	3.00				<b>3.00</b>
			<b>18.00</b>				<b>14.00</b>
<b>Total hours necessary to earn degree =</b>			<b>63.00</b>				

Notes: <sup>(1)</sup> All requirements of the General Education Foundations curriculum must be met. Some of these requirements are normally satisfied by courses taken for the AS degree.

<sup>(2)</sup> To be approved by advisor. See advisor for approved electives. One technical elective will be selected from the following courses: INDT 384, MATH 261, MEET 435 or any CS 200+ or EE 300+ level course approved by both departments. Exceptions require department chair consent. Other technical specialty electives may be selected from the other ELET courses or courses in other Engineering Technology fields or in engineering fields if prerequisite knowledge is sufficient. A minimum of 40 semester hours of upper division courses is required.

<sup>(3)</sup> Capstone Course.

<sup>(4)</sup> MAE 242 - Dynamics may be substituted.

<sup>(5)</sup> Must take one of the following courses: DRET 284 - Micro Station, DRET 285 - Land & Topographic Design, DRET 286 - Parametric Modeling, DRET 288 - SurvCAD, or DRET 499 - Techniques in GPS/GIS.

REMARK: Students choosing to double major in B.S.E.T. programs must have at least 18 hours of different course work between the two programs.

**Engineering Technology**  
**Bachelor of Science in Engineering Technology (B.S.E.T.) <039T>**  
**Environmental Area of Emphasis [ET13]**  
 Catalog Year 2016-17

Fifth Semester				Sixth Semester			
CHEM	116	Fundamentals of Chemisry II	4.00	GEF	5	Human Inquiry and the Past	3.00
PHYS	101	Introductory Physics I	4.00	GEF	6	The Arts and Creativity	3.00
MATH	315	Advanced Technical Math	4.00	GEOL	312	Geology	3.00
ENGL	305	Technical Writing	3.00	CIET	325	Codes, Contracts, and Cost Analysis	3.00
CIET	382	Environmental Engr Technology	<u>3.00</u>	CIET	330	Comp Appl in Hydraulics/Hydrology	3.00
						Technical Speciality Elective <sup>(2)</sup>	<u>3.00</u>
			<b>18.00</b>				<b>18.00</b>
Seventh Semester				Eighth Semester			
CE	425	Engineering Hydrology	3.00	GEF	7	Global Studies and Diversity	3.00
CHE	201	Material & Energy Balances I	3.00	CE	466	Solid Waste Management	3.00
CHEM	215	Analytic Chemistry	4.00	BIOL	240	Microbiology	4.00
DRET	314	Computer Graphics	3.00	GNET	489	Senior Seminar & Project <sup>(3)</sup>	2.00
GNET	412	Project Management	<u>3.00</u>			Technical Speciality Elective <sup>(2)</sup>	3.00
						Technical Speciality Elective <sup>(2)</sup>	<u>3.00</u>
			<b>16.00</b>				<b>18.00</b>
<b>Total hours necessary to earn degree =</b>			<b>70.00</b>				

Notes: <sup>(1)</sup> All requirements of the General Education Foundations curriculum must be met. Some of these requirements are normally satisfied by courses taken for the AS degree.

<sup>(2)</sup> To be approved by advisor. See advisor for approved electives. A minimum of 40 semester hours of upper division courses is required.

<sup>(3)</sup> Capstone Course.

REMARK: Students choosing to double major in B.S.E.T. programs must have at least 18 hours of different course work between the two programs.

**Engineering Technology**  
**Bachelor of Science in Engineering Technology (B.S.E.T.) <039T>**  
**Mechanical Area of Emphasis [ET14]**  
 Catalog Year 2016-17

Fifth Semester				Sixth Semester			
DRET	314	Computer Graphics	3.00	GEF	7	Global Studies and Diversity	3.00
ENGL	305	Technical Writing	3.00	GNET	308	Adv. Computer Apps, or MANG 386, or MATH 261, or MATH 300-level (+)	3.00
GNET	412	Project Management	3.00	INDT	308	Automated Manufacturing	3.00
MATH	315	Advanced Technical Math	4.00	INDT	354	Industrial Materials <sup>(6)</sup>	3.00
MEET	316	Dynamics <sup>(4)</sup>	3.00	MEET	435	Energy Conversion Systems	3.00
			<b>16.00</b>				<b>15.00</b>
Seventh Semester				Eighth Semester			
GEF	6	The Arts and Creativity	3.00	GEF	4	Society and Connections	3.00
GNET	410	"C" Programming for Tech	3.00	GEF	5	Human Inquiry and the Past	3.00
INDT	302	Industrial Safety	3.00	GNET	489	Senior Seminar & Project <sup>(3)</sup>	2.00
			3.00	INDT	410	Plant & Equipment Maintenance	3.00
			3.00				3.00
			<b>15.00</b>				<b>17.00</b>
<b>Total hours necessary to earn degree =</b>			<b>63.00</b>				

Notes: <sup>(1)</sup> All requirements of the General Education Foundations curriculum must be met. Some of these requirements are normally satisfied by courses taken for the AS degree.

<sup>(2)</sup> To be approved by advisor. The student's overall program, must include a sequence of courses in at least three of the following areas: manufacturing processes, mechanical design, engineering materials, solid mechanics, fluid mechanics, electro-mechanical devices and controls or industrial operations. MAE courses may be taken with the approval of both of the Advisor and the Chair of Mechanical Engineering, if prerequisites are met. A minimum of 40 semester hours of upper division courses is required.

<sup>(3)</sup> Capstone Course.

<sup>(4)</sup> MAE 112 - Dynamics may be substituted.

<sup>(5)</sup> To be approved by advisor and department chair. The Open Elective course may be a technical speciality course.

<sup>(6)</sup> MAE 420 - Materials Engineering may be substituted.

REMARK: Students choosing to double major in B.S.E.T. programs must have at least 18 hours of different course work between the two programs.

**Industrial Technology**  
**Bachelor of Science (B.S.) <040T>**  
 Catalog Year 2016-17

First Semester				Second Semester			
ENGL	101	Composition and Rhetoric ( <i>GEF 1</i> )	3.00	ENGL	102	Composition and Rhetoric ( <i>GEF 1</i> )	3.00
WVUE	191	First Year Seminar	1.00	<i>GEF</i>	<i>4</i>	Society and Connections	3.00
DRET	120	Drafting 1	2.00	ENGR	111	Software Tools for Engineers	3.00
		Technical Elective <sup>(1)</sup>	3.00	MATH	128	Trigonometry ( <i>GEF 8</i> )	3.00
<i>GEF</i>	<i>5</i>	Human Inquiry and the Past	3.00	MAE	240	Manufacturing Process	3.00
MATH	126	College Algebra ( <i>GEF 3</i> )	3.00				<hr/>
			<hr/>				<hr/>
			15.00				15.00
Third Semester				Fourth Semester			
CS	101	Intro to Computer Applications	4.00	DRET	314	Computer Graphics	3.00
ACCT	201	Principles of Accounting	3.00	ACCT	202	Principles of Accounting	3.00
PHYS	101	Introductory Physics ( <i>GEF 2B</i> )	4.00	CHEM	115	Fund of Chemistry I	4.00
MATH	155	Calculus I ( <i>GEF 8</i> )	4.00	PHYS	102	Introductory Physics ( <i>GEF 8</i> )	4.00
			<hr/>			Technical Elective <sup>(1)</sup>	3.00
			<hr/>				<hr/>
			15.00				17.00
Fifth Semester				Sixth Semester			
BCOR	320	Legal Environment of Business	3.00	INDT	308	Automated Manufacturing	3.00
ENGL	305	Technical Writing	3.00	INDT	354	Industrial Materials	3.00
INDT	302	Industrial Safety	3.00	INDT	420	Construction Technology	3.00
BCOR	370	Managing Individuals and Teams	3.00	BCOR	360	Operations & Quantitative Bus Methods	3.00
		Technical Speciality Elective <sup>(1)</sup>	3.00			Technic Technical Speciality Elective <sup>(1)</sup>	3.00
			<hr/>				<hr/>
			15.00				15.00
Seventh Semester				Eighth Semester			
GNET	412	Project Management	3.00	GNET	489	Senior Seminar & Project <sup>(2)</sup>	3.00
GNET	495	Independent Study	2.00	INDT	410	Plant and Equipment Maintenance	3.00
<i>GEF</i>	<i>6</i>	The Arts and Creativity	3.00	<i>GEF</i>	<i>7</i>	Global Studies and Diversity	3.00
		Technical Speciality Elective <sup>(1)</sup>	3.00			Technical Speciality Elective <sup>(1)</sup>	2.00
		Technical Speciality Elective <sup>(1)</sup>	3.00			Technical Speciality Elective <sup>(1)</sup>	3.00
			<hr/>				<hr/>
			14.00				14.00

**Total hours necessary to earn the B.S.C.E. degree = 120.00**

Notes: <sup>(1)</sup> Subject to approval of the advisor. Selected engineering courses may be taken with the approval of the advisor, the Chair of Engineering Technology Department, and the Chair of the engineering department offering the course, if prerequisite material covered is judged to be sufficient.

<sup>(2)</sup> Capstone course.

**Remarks:** Transfer students entering the program will have their transcripts evaluated for equivalent course work. Any requirements, including those of the General Education Foundations curriculum, not satisfied by transfer courses, will need to be satisfied by appropriate additional courses.

**Information Systems**  
**Bachelor of Science (B.S.) <050T>**  
 Catalog Year 2016-17

First Semester				Second Semester			
ENGL	101	Composition and Rhetoric ( <i>GEF 1</i> )	3.00	ENGL	102	Composition and Rhetoric ( <i>GEF 1</i> )	3.00
ISYS	101	Intro to Information Systems 1	3.00	ISYS	102	Intro to Information Systems 2	3.00
MATH	123	Finite Math ( <i>GEF 3</i> )	3.00	MATH	150	Applied Calculus ( <i>GEF 8</i> )	3.00
CS	121	Computer Science I	4.00	CS	122	Computer Science II	4.00
WVUE	191	First Year Seminar	1.00			General Elective	3.00
			<b>14.00</b>				<b>16.00</b>
Third Semester				Fourth Semester			
ISYS	115	Discrete Structures	3.00	ISYS	270	Linux	3.00
CS	231	Intro to Computer Organization	3.00	CS	222	Software Engineering	3.00
ACCT	201	Principles of Accounting I	3.00	ECON	202	Principles of Macroeconomics ( <i>GEF 4</i> )	3.00
<i>GEF</i>	<i>5</i>	Human Inquiry and the Past	3.00	CS	324	Database Management	3.00
		General Elective	3.00	<i>GEF</i>	<i>6</i>	The Arts and Creativity	3.00
			<b>15.00</b>				<b>15.00</b>
Fifth Semester				Sixth Semester			
CS	321	Intro to Networking	3.00	ISYS	366	e-Commerce	3.00
ISYS	325	C#	3.00	ENGL	305	Technical Writing	3.00
<i>GEF</i>	<i>2B</i>	Laboratory Science	4.00	CS	365	Computer Languages	1.00
MANG	386	Business Statistics	3.00			Laboratory Science ( <i>GEF 8</i> )	4.00
		Technical Elective <sup>(1)</sup>	3.00	<i>GEF</i>	<i>8</i>	Focus	3.00
			<b>16.00</b>				<b>14.00</b>
Seventh Semester				Eighth Semester			
CS	480	Senior Design Seminar	2.00	CS	481	Senior Design Project	3.00
MANG	420	Business Info. Systems	3.00	CS	465	Intro. to Comp. Security	3.00
<i>GEF</i>	<i>7</i>	Global Studies and Diversity	3.00	CS	491	Professional Field Experience	4.00
		General Elective 300-400 level	3.00			General Elective 300-400 level	3.00
		Technical Elective <sup>(1)</sup>	3.00			Technical Elective <sup>(1)</sup>	3.00
			<b>14.00</b>				<b>16.00</b>

**Total hours necessary to earn the B.S.I.S. degree = 120.00**

Notes: <sup>(1)</sup> **Technical Electives** may be chosen from the approved list.

**Mathematics**  
**Bachelor of Science in Mathematics (B.S.) <041T>**  
 Catalog Year 2016-17

First Semester				Second Semester			
ENGL	101	Composition and Rhetoric ( <i>GEF 1</i> )	3.00	ENGL	102	Composition and Rhetoric ( <i>GEF 1</i> )	3.00
WVUE	191	First Year Seminar	1.00	MATH	156	Calculus II ( <i>GEF 8</i> )	4.00
MATH	155	Calculus I ( <i>GEF 3</i> )	4.00	CS	122	Computer Science II	4.00
CS	121	Computer Science I	4.00	<i>GEF</i>	<i>4</i>	Society and Connections	3.00
		Elective	3.00			Elective	1.00
			<b>15.00</b>				<b>15.00</b>
Third Semester				Fourth Semester			
MATH	283	Intro to Concepts of Math	3.00	MATH	261	Elementary Differential Equations	4.00
MATH	251	Multivariable Calculus	4.00			Technical Elective ( <i>GEF 8</i> ) <sup>(3)</sup>	4.00
PHYS	111	General Physics ( <i>GEF 2B</i> )	4.00	MATH		Elective (300 or 400 level)	3.00
<i>GEF</i>	<i>5</i>	Human Inquiry and the Past	3.00			Elective	3.00
			<b>14.00</b>			Elective	3.00
							<b>17.00</b>
Fifth Semester				Sixth Semester			
ENGL	305	Technical Writing	3.00	MATH	341	Intro to Alg. Structures	3.00
<i>GEF</i>	<i>6</i>	The Arts and Creativity	3.00	MATH	441	Applied Linear Algebra	3.00
MATH	448	Probability and Statistics	3.00	<i>GEF</i>	<i>7</i>	Global Studies and Diversity	3.00
		Technical Elective <sup>(1)</sup>	3.00			Technical Elective <sup>(1)</sup>	3.00
		Elective	3.00			Elective	3.00
			<b>15.00</b>				<b>15.00</b>
Seventh Semester				Eighth Semester			
MATH	451	Intro. to Real Analysis 1	3.00	MATH	452	Intro. to Real Analysis 2	3.00
<i>GEF</i>	<i>8</i>	Focus	3.00	MATH	496	Senior Thesis	2.00
MATH		Elective (300 or 400 level)	3.00			Technical Elective <sup>(1)</sup>	3.00
		Technical Elective <sup>(1)</sup>	3.00			Elective	3.00
		Elective	3.00			Elective	3.00
			<b>15.00</b>				<b>14.00</b>

**Total hours necessary to earn the B.S. degree = 120.00**

Notes: <sup>(1)</sup> **Technical Electives** may be chosen from the approved list.



**Mathematics**  
**Bachelor of Science in Mathematics (B.S.) <041T>**  
 Business Track  
 Catalog Year 2016-17

First Semester				Second Semester			
ENGL	101	Composition and Rhetoric ( <i>GEF 1</i> )	3.00	ENGL	102	Composition and Rhetoric ( <i>GEF 1</i> )	3.00
WVUE	191	First Year Seminar	1.00	MATH	156	Calculus II ( <i>GEF 8</i> )	4.00
MATH	155	Calculus I ( <i>GEF 3</i> )	4.00	CS	122	Computer Science II	4.00
CS	121	Computer Science I	4.00	<i>GEF</i>	<b>4</b>	Society and Connections	3.00
		Elective	3.00			Elective	1.00
			<b>15.00</b>				<b>15.00</b>
Third Semester				Fourth Semester			
MATH	283	Intro to Concepts of Math	3.00	MATH	261	Elementary Differential Equations	4.00
MATH	251	Multivariable Calculus	4.00	MATH	441	Applied Linear Algebra	4.00
ACCT	201	Principles of Accounting I	3.00	ACCT	202	Principles of Accounting II	3.00
<i>GEF</i>	<b>2B</b>	Science & Technology	4.00			Technical Elective ( <i>GEF 8</i> ) <sup>(1)</sup>	3.00
			<b>14.00</b>			Elective	3.00
							<b>17.00</b>
Fifth Semester				Sixth Semester			
MATH	448	Probability and Statistics	3.00	BCOR	370	Managing Individuals Teams	3.00
ECON	202	Principles of Macroeconomics	3.00	MATH	341	Intro to Alg. Structures	3.00
ENGL	305	Technical Writing	3.00	<i>GEF</i>	<b>6</b>	The Arts and Creativity	3.00
<i>GEF</i>	<b>5</b>	Human Inquiry and the Past	3.00	ECON	201	Principles of Microeconomics	3.00
		Technical Elective <sup>(1)</sup>	3.00			Elective	3.00
			<b>15.00</b>				<b>15.00</b>
Seventh Semester				Eighth Semester			
FIN	325	Financial Management I	3.00	FIN	326	Financial Management II	3.00
<i>GEF</i>	<b>7</b>	Global Studies and Diversity	3.00	MATH	496	Senior Thesis	2.00
MATH		Elective (300 or 400 level)	3.00	MATH		Elective (300 or 400 level)	3.00
		Technical Elective <sup>(1)</sup>	3.00			Technical Elective <sup>(1)</sup>	3.00
		Elective	3.00	<i>GEF</i>	<b>8</b>	Focus	3.00
			<b>15.00</b>				<b>14.00</b>

Total hours necessary to earn the B.S. degree = **120.00**

Notes: <sup>(1)</sup> Technical Electives may be chosen from the approved list.

**Mathematics**  
**Bachelor of Science in Computer Engineering (B.S.C.S.) <041T>**  
 Classic Track  
 Catalog Year 2016-17

First Semester				Second Semester			
ENGL	101	Composition and Rhetoric ( <i>GEF 1</i> )	3.00	ENGL	102	Composition and Rhetoric ( <i>GEF 1</i> )	3.00
WVUE	191	First Year Seminar	1.00	MATH	156	Calculus II ( <i>GEF 8</i> )	4.00
MATH	155	Calculus I ( <i>GEF 3</i> )	4.00	CS	122	Computer Science II	4.00
CS	121	Computer Science I	4.00	<i>GEF</i>	<i>4</i>	Society and Connections	3.00
		Elective	3.00			Elective	1.00
			<b>15.00</b>				<b>15.00</b>
Third Semester				Fourth Semester			
MATH	283	Intro to Concepts of Math	3.00	MATH	261	Elementary Differential Equations	4.00
MATH	251	Multivariable Calculus	4.00			Technical Elective ( <i>GEF 8</i> ) <sup>(3)</sup>	4.00
PHYS	111	General Physics ( <i>GEF 2B</i> )	4.00	MATH		Elective (300 or 400 level)	3.00
<i>GEF</i>	<i>5</i>	Human Inquiry and the Past	3.00			Elective	3.00
			<b>14.00</b>			Elective	<b>3.00</b>
							<b>17.00</b>
Fifth Semester				Sixth Semester			
ENGL	305	Technical Writing	3.00	MATH	341	Intro to Alg. Structures	3.00
<i>GEF</i>	<i>6</i>	The Arts and Creativity	3.00	MATH	441	Applied Linear Algebra	3.00
MATH	448	Probability and Statistics	3.00	<i>GEF</i>	<i>7</i>	Global Studies and Diversity	3.00
		Technical Elective <sup>(1)</sup>	3.00			Technical Elective <sup>(1)</sup>	3.00
		Elective	3.00			Elective	3.00
			<b>15.00</b>				<b>15.00</b>
Seventh Semester				Eighth Semester			
MATH	451	Intro. to Real Analysis 1	3.00	MATH	452	Intro. to Real Analysis 2	3.00
<i>GEF</i>	<i>8</i>	Focus	3.00	MATH	496	Senior Thesis	2.00
MATH		Elective (300 or 400 level)	3.00			Technical Elective <sup>(1)</sup>	3.00
		Technical Elective <sup>(1)</sup>	3.00			Elective	3.00
		Elective	3.00			Elective	3.00
			<b>15.00</b>				<b>14.00</b>

Total hours necessary to earn the B.S. degree = **120.00**

Notes: <sup>(1)</sup> Technical Electives may be chosen from the approved list.

**Mechanical Engineering**  
**Bachelor of Science in Mechanical Engineering (B.S.M.E.) <042T>**  
 Catalog Year 2016-17

First Semester				Second Semester			
WVUE	191	First Year Seminar	1.00	ENGL	102	Composition and Rhetoric ( <i>GEF 1</i> )	3.00
ENGL	101	Composition and Rhetoric ( <i>GEF 1</i> )	3.00	ENGR	111	Software Tools for Engineers	3.00
CHEM	115	Fund of Chemistry I ( <i>GEF 8</i> )	4.00	<i>GEF</i>	<i>5</i>	Human Inquiry and the Past	3.00
DRET	120	Drafting 1	2.00	MAE	241	Statics	3.00
MATH	155	Calculus I ( <i>GEF 3</i> )	4.00	MATH	156	Calculus II ( <i>GEF 8</i> )	4.00
			<b>14.00</b>				<b>16.00</b>
Third Semester				Fourth Semester			
MAE	242	Dynamics	3.00	PHYS	112	General Physics ( <i>GEF 8</i> )	4.00
MAE	243	Mechanics of Materials	3.00	MAE	331	Fluid Mechanics	3.00
MAE	240	Manufacturing Processes	3.00	MAE	201	Applied Engineering Analysis	3.00
MATH	251	Multivariable Calculus	4.00	MAE	320	Thermodynamics	3.00
PHYS	111	General Physics ( <i>GEF 2B</i> )	4.00	MATH	261	Elementary Differential Equations	4.00
			<b>17.00</b>				<b>17.00</b>
Fifth Semester				Sixth Semester			
MAE	342	Dynamics of Machines	3.00	MAE	332	Experimental Methods	1.00
MAE	333	Mechanical Measurements	1.00	MAE	423	Heat & Mass Transfer	3.00
MAE	321	Applied Thermodynamics	3.00	MAE	419	Heat Transfer Lab	1.00
EE	221	Intro. Electrical Engr.	3.00	MAE	340	Vibrations	3.00
EE	222	Intro. Electrical Engr. Lab	1.00	ENGL	305	Technical Writing	3.00
MAE	480	Machine Design & Manufacturing	3.00	ECON	401	Managerial Economics ( <i>GEF 4</i> )	3.00
			<b>14.00</b>	MAE	460	Auto Controls	3.00
							<b>17.00</b>
Seventh Semester				Eighth Semester			
MAE	405	Sr. Mechanical Engineering Lab	1.00	ENGR	401	Senior Engineering Seminar	1.00
MAE	455	CADD-Comp Aided Des & Drafting	3.00	MAE	410	Materials Science ( <i>GEF 2B</i> )	4.00
MAE	480	ME Systems Design I	3.00	MAE	456	Finite Element Design	3.00
<i>GEF</i>	<i>6</i>	The Arts and Creativity	3.00	MAE	481	ME Systems Design II	3.00
<i>GEF</i>	<i>7</i>	Global Studies and Diversity	3.00				3.00
			3.00				<b>14.00</b>
			<b>16.00</b>				

**Total hours necessary to earn the B.S.M.E. degree = 125.00**

Notes: <sup>(1)</sup> The Technical Elective must be selected from an approved list.