

**College of Basic and Applied Sciences — Upper Division Form 2017-2018**  
(Requires 128 total credit hours)

Student name \_\_\_\_\_ Student # \_\_\_\_\_  
 Major **Mechatronics Engineering** Minor **Optional**  
 Concentration **N/A** E-mail \_\_\_\_\_

**Instructions: For students graduating in Fall 2017 or later. One (1) copy signed by major advisor (and minor advisor if minor is completed) should be filed with the Graduation Analyst in DSB 120 three semesters prior to graduation. An Intent to Graduate form must be submitted with this form.**

General Education	Course	Semester	Grade	Notes	Credit Hours
<b>COMMUNICATION</b> (9 hours)	ENGL 1010				3
	ENGL 1020				3
	COMM 2200				3
<b>HISTORY</b> (6 hours) Choose two: HIST 2010, HIST 2020, HIST 2030					3
					3
<b>HUMANITIES AND/OR FINE ARTS</b> (9 hours) Choose 1: ENGL 2020, 2030, or HUM 2610. Choose 2 with different prefixes: ANTH 2210, ART 1030 or 1920, DANC 1000, HIST 1010, 1020, 1110, 1120, MUS 1030, PHIL 1030, THEA 1030					3
					3
					3
<b>MATHEMATICS</b> (3 hours) <b>Recommend</b> MATH 1910 (4 credits)				Need C; 4 <sup>th</sup> credit listed in Supporting Courses	3 of 4
<b>NATURAL SCIENCES</b> (8 hours) <b>Recommend</b> CHEM 1110/1111 (4 cr.) & PHYS 2110/2111 (4 cr.)					4
				PHYS 2110/2111 Pre: MATH 1910 C	4
<b>SOCIAL/BEHAVIORAL SCIENCES</b> (6 hours) Choose two (different prefixes): AAS 2100, ANTH 2010, ECON 2410, ECON 2420, EMC/JOUR/RIM 1020, GEOG 2000, GS 2010, HLTH 1530/1531, PS 1010, PS 1005, PSY 1410, RS 2030, SOC 1010, 2010, WGST 2100					3
					3
<b>Hours Required</b>					<b>41</b>

Major Courses (2.0 GPA required)	Course	Semester	Grade	Notes	Credit Hours
Engineering Fundamentals	ENGR 1100			Pre: MATH 1730	3
Introduction to Material Science and Engineering	ENGR 1210			Pre: CHEM 1110/1111	3
Introduction to Engineering Design	ENGR 2100				3
Statics	ENGR 2110			Co: PHYS 2110/11; Pre: MATH 1910, ENGR 1100	3
Dynamics	ENGR 2120			Pre: ENGR 2110, MATH 1920	3
Electrical Circuit Analysis I	ENGR 2130			Pre: ENGR 1100, MATH 1910	3
Electrical Circuit Analysis II	ENGR 3510			Pre: ENGR 2130, MATH 3120	3
Digital Circuits Fundamentals	ENGR 3520			Pre: ENGR 2130	3
Electronics and Instrumentation	ENGR 3530			Pre: ENGR 2130	3
Fluid Mechanics	ENGR 3550			Pre: ENGR 2120, MATH 3110	3
Mechanics of Materials	ENGR 3560			Pre: ENGR 1210, ENGR 2110, MATH 1920	3
Kinematics and Dynamics of Machinery	ENGR 3590			Pre: ENGR 2120	3
Technical Project Management and Soft Skills	ENGR 3915			Pre: Junior/Senior	3
Engineering Safety	ENGR 3920				3
Systems Engineering	ENGR 3930			See Advisor	3

**Major requirements continued from previous page**

Engineering Economy	<b>ENGR 3970</b>			Pre: Junior/Senior	3
FE Exam Preparation	<b>ENGR 4500</b>			Fall only; Pre: Senior	1
Programmable Logic Controllers and Networks	<b>ENGR 4510</b>			Pre: ENGR 3520, 3530	3
Electrical Power and Machinery	<b>ENGR 4520</b>			Pre: ENGR 3510	3
Controls and Optimization	<b>ENGR 4530</b>			Pre: ENGR 3520, 4510; Co: ENGR 4590	3
Mechatronic System Design	<b>ENGR 4580</b>			Pre: ENGR 3550, 3590	3
Automation System Design	<b>ENGR 4590</b>			Pre: ENGR 4580 & 3000-level; Co: ENGR 4530	3
<b>Hours Required</b>					<b>64</b>

<b>Supporting and Elective Courses</b>				
<b>Course</b>	<b>Semester</b>	<b>Grade</b>	<b>Notes</b>	<b>Credit Hours</b>
<b>CSCI 1170</b> – Computer Science I			Pre: MATH 1730 C	4
<b>MATH</b> elective				3
<b>MATH 1910</b> – Calculus I			3 hrs counted in Gen Ed; Pre: MATH 1730 C or 26 MATH ACT	1 of 4
<b>MATH 1920</b> – Calculus II			Pre: MATH 1910 C	4
<b>MATH 3110</b> – Calculus III			Pre: MATH 1920	4
<b>MATH 3120</b> – Differential Equations			Pre: MATH 1920 C	3
<b>PHYS 2120/2121</b> – Calculus Based Physics II			Pre: PHYS 2110/2111	4
<b>Hours Required</b>				<b>23</b>

<b>Optional Minor – MEEN does NOT require a minor</b>				
<b>Course</b>	<b>Semester</b>	<b>Grade</b>	<b>Notes</b>	<b>Credit Hours</b>
<b>Hours Required</b>				
<b>Signed:</b>				
	<b>Minor Advisor</b>			<b>Date</b>

- 1. Degrees require a minimum of 120 semester hours (12 of the last 18 at MTSU) with a 2.0 GPA, a minimum of 42 upper-division hours (30 at MTSU) with a 2.0 GPA, and a minimum of 60 senior college hours.*
- 2. Learning Support courses do not count toward the 128-hour requirement or cumulative degree GPA.*

<b>Signed:</b>		
	<b>Major Advisor</b>	<b>Date</b>