

Name: \_\_\_\_\_ CMU ID #: \_\_\_\_\_

**IMPORTANT NOTE:** This sheet is only a worksheet to track your progress in the CMU/CU-Boulder Mechanical Engineering Partnership Program. An official review of your coursework will be performed by CU administration to ensure completion of all graduation requirements.

- In order to take any Math, Science or Engineering courses, each listed prerequisite (or an equivalent course) must be completed with a grade of “C” or better.
- All engineering students must take ENGL 111 and 112 unless they meet or exceed one of the following criteria: ACT ENGL 24 or SAT Verbal 550 or AP English (Lit & Comp or Lang & Comp) 4 or IB English 4.

Minimum credits to graduate: 128 hrs

**CMU/CU-BOULDER MECHANICAL ENGINEERING**  
**REQUIRED COURSES:**

Course No	Title	Sem.hrs	Grade	Term	Trns
<b>Mathematics and Computer Science:</b> 19 semester hours					
MATH 135	Engineering Calculus I	4	_____	_____	_____
MATH 136	Engineering Calculus II	4	_____	_____	_____
MATH 253	Calculus III	4	_____	_____	_____
MATH 236	Differential Equations & Linear Algebra	4	_____	_____	_____
CSCI 130	Intro to Engr Computing	3	_____	_____	_____
<b>Physical Science:</b> 18 semester hours					
PHYS 131	Fundamental Mechanics	4	_____	_____	_____
PHYS 131L	Fundamental Mechanics Laboratory	1	_____	_____	_____
PHYS 132	Electromagnetism & Optics	4	_____	_____	_____
PHYS 132L	Electromagnetism & Optics Laboratory	1	_____	_____	_____
CHEM 151	Engineering Chemistry	4	_____	_____	_____
CHEM 151L	Engineering Chemistry Lab	1	_____	_____	_____
Science Elective: 3 semester hours. Must be selected from: PHYS 230, PHYS 231, BIOL 209 or CHEM 311 _____ 3 _____					
<b>English:</b> 3 semester hours					
ENGL 325	Writing for Engineers	3	_____	_____	_____
<b>Machining:</b> 1 semester hour					
MAMT 102	Machining Fundamentals	1	_____	_____	_____
<b>Basic Engineering:</b> 19 semester hours					
ENGR 101	Introduction to Engineering	1	_____	_____	_____
ENGR 125	CAD and Fabrication	3	_____	_____	_____
ENGR 140	1st-Year Engr Projects	3	_____	_____	_____
ENGR 224	Materials Science	2	_____	_____	_____
ENGR 224L	Materials Science Lab	1	_____	_____	_____
ENGR 261	Statics and Structures	3	_____	_____	_____
ENGR 263	Mechanics of Solids	3	_____	_____	_____
ENGR 343	Dynamics	3	_____	_____	_____

Course No Title Sem.hrs Grade Term/Trns

**CU-Boulder Mechanical Engineering Courses:**

39 semester hours

MCEN 2000	Professionalism Seminar	1	_____	_____	_____
MCEN 3012	Thermodynamics	3	_____	_____	_____
MCEN 3017	Circuits & Electronics	3	_____	_____	_____
MCEN 3021	Fluid Mechanics	3	_____	_____	_____
MCEN 3022	Heat Transfer	3	_____	_____	_____
MCEN 3025	Component Design	3	_____	_____	_____
MCEN 3030	Computational Methods	3	_____	_____	_____
MCEN 3032	Thermodynamics 2	3	_____	_____	_____
MCEN 3047	Data & Measurements	4	_____	_____	_____
MCEN 4026	Manufacturing Processes & Systems	3	_____	_____	_____
MCEN 4043	System Dynamics	3	_____	_____	_____
MCEN 4045	ME Design Project 1	3	_____	_____	_____
MCEN 4085	ME Design Project 2	3	_____	_____	_____
MCEN 4086	Writing for Design Project	1	_____	_____	_____

**ELECTIVE COURSES:**

**Free Electives:** 2 credits

**Humanities and Social Science:** 15 semester hours (6 hours must be upper division). Check website for complete list of courses. Link given at end of worksheet.

9 semester hours Lower Division Humanities & Social Science  
 SOCI 120 Technology & Society 3 \_\_\_\_\_

6 semester hours Upper Division Humanities & Social Science

**Technical Electives:** 12 semester hours (6 hours MCEN and 6 hours upper division math, science or engineering courses).

MCEN	_____	_____	_____	_____	_____
MCEN	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

This is a recommended sequence of course-work. Certain courses may have prerequisites or are only offered during the fall or spring semesters. It is the responsibility of the student to meet regularly with their assigned advisor.

### Freshman Year

<i>FALL SEMESTER</i>		<i>Credit Hr</i>	<i>SPRING SEMESTER</i>		<i>Credit Hr</i>
MATH 135	Engineering Calculus I	4	MATH 136	Engineering Calculus II	4
CHEM 151	Engineering Chemistry	4	PHYS 131	Fundamental Mechanics	4
CHEM 151L	Engineering Chemistry Lab	1	PHYS 131L	Fundamental Mechanics Lab	1
ENGR 101	Introduction to Engineering	1	ENGR 140	1 <sup>st</sup> Year Engineering Projects	3
ENGR 125	CAD & Fabrication	3	CSCI 130	Introduction to Engineering Computing	3
MAMT 102	Machining Fundamentals	1			
	TOTAL	14		TOTAL	15

### Sophomore Year

<i>FALL SEMESTER</i>		<i>Credit Hr</i>	<i>SPRING SEMESTER</i>		<i>Credit Hr</i>
MATH 253	Calculus III	4	MATH 236	Differential Equations & Linear Algebra	4
PHYS 132	Electromagnetism & Optics	4	ENGR 343	Dynamics	3
PHYS 132L	Electromagnetism & Optics Lab	1	ENGR 263	Mechanics of Solids	3
ENGR 224	Materials Science	2		Science Elective*	3
ENGR 224L	Materials Science Lab	1		Hum/Soc Sci Elect (Lower Div)	3
ENGR 261	Statics & Structures	3		TOTAL	16
SOCI 120	Technology & Society	3			
	TOTAL	18			

### Junior Year

<i>FALL SEMESTER</i>		<i>Credit Hr</i>	<i>SPRING SEMESTER</i>		<i>Credit Hr</i>
MCEN 2000	Professionalism Seminar	1	MCEN 3022	Heat Transfer	3
MCEN 3012	Engineering Thermodynamics	3	MCEN 3025	Component Design	3
MCEN 3017	Circuits & Electronics	3	MCEN 3047	Data & Measurements	4
MCEN 3021	Fluid Mechanics	3	MCEN 3032	Thermodynamics 2	3
MCEN 3030	Computational Methods	3	ENGL 325	Writing for Engineers	3
	Hum/Soc Sci Elect (Lower Div)	3			
	TOTAL	16		TOTAL	16

### Senior Year

<i>FALL SEMESTER</i>		<i>Credit Hr</i>	<i>SPRING SEMESTER</i>		<i>Credit Hr</i>
MCEN 4026	Manufacturing Processes & Sys	3	MCEN 4085	ME Design Project 2	3
MCEN 4043	System Dynamics	3	MCEN 4086	Writing for Design Projects	1
MCEN 4045	ME Design Project 1	3		MCEN Tech Elective	3
	MCEN Tech Elective	3		General Technical Elective	3
	General Technical Elective	3		Hum/Soc Sci Elect (Upper Div)	3
	Hum/Soc Sci Elect (Upper Div)	3		Free Electives	2
	TOTAL	18		TOTAL	15

Black – CMU courses, red – CU courses

\* Courses that fulfill the 3-credits of Science Elective are: PHYS 230, PHYS 231, BIOL 209 & 209L, or CHEM 311

Total Credit Hours = 128

### **Acceptable Course Substitutions**

MAMT 115 (3) for MAMT 102 (1)  
MATH 151 (5) for MATH 135 (4)  
MATH 152 (5) for MATH 136 (4)  
CHEM 131 (4) for CHEM 151 (4)  
CHEM 131L (1) for CHEM 151L (1)

### **Humanities & Social Science Electives**

See: <http://www.coloradomesa.edu/engineering/documents/HSSAcceptableClasses-August2015Update.pdf>

### **General Technical Electives**

300 and 400 level courses in the following subjects are considered General Technical Electives: CHEM, CVEN, ENGR, MCEN, MATH, PHYS

### **MCEN Technical Electives**

4000 level MCEN courses not otherwise required for the major are considered MCEN Technical Electives.

### **Grade Requirements**

Beginning with the incoming class of Fall 2016, the minimum passing grade for prerequisite and co-requisite classes in the BSME curriculum is a C. This includes courses completed outside the department (MATH, PHYS, etc.). The minimum passing grade for standalone classes is a D-. In addition, students need to have a cumulative and major GPA of at least 2.25 in order to graduate from the CU Boulder College of Engineering.

### **Free Electives**

College level coursework accepted by CU Boulder not used otherwise to satisfy BSME degree requirements. Use Transferology.com to verify that courses will transfer to CU Boulder.

### **Course Work Not Accepted for Transfer Credit**

The following course work will not be accepted for transfer credit and will not count toward a degree at Boulder:

- any courses in which the grade earned is below a C- (1.70)
- courses identified by CU Boulder as remedial, such as remedial English, mathematics, science and developmental reading
- vocational-technical courses that are offered at two-year and proprietary institutions (exceptions may be granted only by the CU Boulder dean responsible for the student's curriculum—when exceptions appear to be warranted, appropriate department heads make recommendations to their respective deans regarding credit for such courses)
- courses in religion that constitute specialized religious training or that are doctrinal in nature
- credits earned for work experience or through a cooperative education program
- outdoor leadership education course work
- credits earned in physical education activity courses
- courses or programs identified as college orientation