

Name: _____

Student ID: _____

This 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. The BSME degree is conferred by CU Boulder.

- To take Math, Science or Engineering courses, each listed prerequisite (or an equivalent course) must be completed with a grade of “C” or better
- Students must take ENGL 111 and 112 unless they meet or exceed one of the following criteria: ACT ENGL 27 or SATRW 630 or AP English (Lit & Comp or Lang & Comp) 4 or IB English 4

Minimum credits to graduate: 128 semester hours

REQUIRED COURSES:

Course No	Title	hr	Grade	Term
-----------	-------	----	-------	------

Mathematics and Computer Science: 20 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	4	_____	_____

Physical Science: 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	_____	_____
--	-------	---	-------	-------

English: 3 semester hours

ENGL 325	Writing for Engineers	3	_____	_____
----------	-----------------------	---	-------	-------

Machining: 1 semester hour

MAMT 102	Machining Fundamentals	1	_____	_____
----------	------------------------	---	-------	-------

Basic Engineering: 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	hr	Grade	Term
-----------	-------	----	-------	------

CU Mechanical Engineering Courses: 39 semester hours

MCEN 2000	Mech Engr as a Profession	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 Projects	1	_____	_____

ELECTIVE COURSES:

Free Elective: 1 semester hours

Humanities and Social Sciences: 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	_____	_____	_____	_____

RECOMMENDED SEQUENCE OF COURSEWORK:

(Courses may have prerequisites or may only be offered during the fall or spring semesters)

Freshman Year

FALL SEMESTER		
MATH 135	Engineering Calculus I	4
CHEM 151	Engineering Chemistry	4
CHEM 151L	Engineering Chemistry Lab	1
ENGR 101	Introduction to Engineering	1
ENGR 125	CAD & Fabrication	3
MAMT 102	Machining Fundamentals	1
TOTAL Semester hours		14

SPRING SEMESTER		
MATH 136	Engineering Calculus II	4
PHYS 131	Fundamental Mechanics	4
PHYS 131L	Fundamental Mechanics Lab	1
ENGR 140	1 st Year Engineering Projects	3
CSCI 130	Intro to Engineering Computing	4
TOTAL Semester hours		16

Sophomore Year

FALL SEMESTER		
MATH 253	Engineering Calculus III	4
PHYS 132	Electromagnetism & Optics	4
PHYS 132L	Electromagnetism & Optics Lab	1
ENGR 224	Materials Science	2
ENGR 224L	Materials Science Lab	1
ENGR 261	Statics & Structures	3
SOCI 120	Technology & Society	3
TOTAL Semester hours		18

SPRING SEMESTER		
MATH 236	Diff Equations & Linear Algebra	4
ENGR 343	Dynamics	3
ENGR 263	Mechanics of Solids	3
	Science Elective*	3
	H&SS Elective (Lower-Division)	3
TOTAL Semester hours		16

Junior Year

FALL SEMESTER		
MCEN 2000	Mech Engr as a Profession	1
MCEN 3012	Thermodynamics	3
MCEN 3017	Circuits & Electronics	3
MCEN 3021	Fluid Mechanics	3
MCEN 3030	Computational Methods	3
	H&SS Elective (Lower-Division)	3
TOTAL Semester hours		16

SPRING SEMESTER		
MCEN 3022	Heat Transfer	3
MCEN 3025	Component Design	3
MCEN 3047	Data & Measurements	4
MCEN 3032	Thermodynamics 2	3
ENGL 325	Writing for Engineers	3
TOTAL Semester hours		16

Senior Year

FALL SEMESTER		
MCEN 4026	Manufacturing Processes & Systems	3
MCEN 4043	System Dynamics	3
MCEN 4045	ME Design Project 1	3
	MCEN Technical Elective	3
	General Technical Elective	3
	H&SS Elective (Upper-Division)	3
TOTAL Semester hours		18

SPRING SEMESTER		
MCEN 4085	ME Design Project 2	3
MCEN 4086	Writing for Design Projects	1
	MCEN Technical Elective	3
	General Technical Elective	3
	H&SS Elective (Upper-Division)	3
	Free Elective	1
TOTAL Semester hours		14

Black = CMU courses, blue = CU courses (students must have a minimum of 45 CU credits by graduation)

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

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)

AP Credit

An AP score of 5 is required on Physics C: Mechanics to receive credit for PHYS 131 & 131L. This is a higher score than CMU requires.

Humanities & Social Science Electives

See: <http://www.coloradomesa.edu/engineering/documents/HSSAcceptableClasses-April2019Update.pdf>

General Technical Electives

CMU 300- and 400-level courses in the following subjects are considered General Technical Electives: CHEM, ENGR, MATH, and PHYS. CU Boulder upper level CVEN and MCEN Technical Electives count. CU Boulder upper-level EMEN courses count as General Technical Electives. These courses are sometimes offered online during the summer.

MCEN Technical Electives

4000-level MCEN courses not otherwise required for the major are considered MCEN Technical Electives. One EMEN upper level course can apply towards an MCEN Technical Elective.

Grade Requirements

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 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:

- courses completed more than 10 years prior to transfer
- 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 coursework
- credits earned in physical education activity courses
- courses or programs identified as college orientation