Department of Materials Science and Engineering

Four Year Plan (2013-14 Catalog, ready for calculus)

FIRST YEAR

FALL SEMESTER		SPRING SEMESTER	
UF 100 Intellectual Foundations	3	ENGL 101 Introduction to College Writing	3
CHEM 111, 111L General Chemistry I with Lab	4	CHEM 112, 112L General Chemistry II with Lab	4
MATH 170 Calculus I	4	MATH 175 Calculus II	4
ENGR 120 or ENGR 130 Introduction to Engineering	3	PHYS 211, 211L Physics I with Calculus and Lab	5
SEMESTER TOTAL	14	SEMESTER TOTAL	16

SECOND YEAR

FALL SEMESTER		SPRING SEMESTER	
MATH 275 Multivariable and Vector Calculus	4	MATH 333 Differential Equations	4
PHYS 212, 212L Physics II with Calculus and Lab	5	PHYS 309, 309L Modern Physics with Lab	4
ENGR 245, 245L Introduction to MSE and Lab	4	(CID) MSE 215 Materials Processing	3
ENGL 102 College Writing and Research	3	UF 200 Civil and Ethical Foundations	3
		Computer science elective	3
SEMESTER TOTAL	16	SEMESTER TOTAL	17

THIRD YEAR

FALL SEMESTER		SPRING SEMESTER	
MSE 305 Structure of Materials	3	ENGR 240 or ECE 210 Electrical Circuits	3
MSE 308 Thermodynamics of Materials	3	MSE 418 Phase Transformations and Kinetics	3
ENGR 210 Statics	3	MSE 312 Mechanical Behavior of Materials	3
MATH 360 Engineering Statistics	3	MSE 380 Materials Science and Engineering Lab	2
Technical or engineering elective	3	Technical or engineering elective	3
		DLL, DLV, or DLS course	3
SEMESTER TOTAL	15	SEMESTER TOTAL	17

FOURTH YEAR

FALL SEMESTER		SPRING SEMESTER	
PHYS 423 Materials Characterization	3	(FF) MSE 482 Senior Project II	3
MSE 404L Materials Analysis Lab	1	Technical or engineering elective	3
MSE 310 Electrical Properties of Materials	3	Technical or engineering elective	3
MSE 480 Senior Project	3	DLL, DLV, or DLS course	3
DLL, DLV, or DLS course	3	DLL, DLV, or DLS course	3
MSE 498 Materials Science Seminar	1		
SEMESTER TOTAL	14	SEMESTER TOTAL	15

HIGHLIGHTED COURSES are offered only in the semester in which they are listed.

COMPSCI ELECTIVE: The following courses fulfill the computer science elective requirement – CS 115 (Intro to C), CS 117 (Intro to C++), CS 119 (Intro to Java), CS 120 (Intro to Programming Concepts), and CS 125 (Intro to Computer Science)

DISCIPLINARY LENS COURSES: Students need to take one DLL, one DLV, and two DLS courses. DLS courses must come from two different fields.

TECHNICAL + ENGINEERING ELECTIVES: Students must complete 12 credits of technical and engineering electives. Six of these credits need to be in engineering disciplines (ENGR, MSE, ECE, CE, or MBE). The other 6 can come from engineering, math or science disciplines. Of the 12 credits, 6 must be upper division (300- or 400-level). All technical and engineering electives must be approved by the student's advisor.

GRADE POLICY: A C- or above is required for all prerequisite courses and for all upper division courses within the student's major.
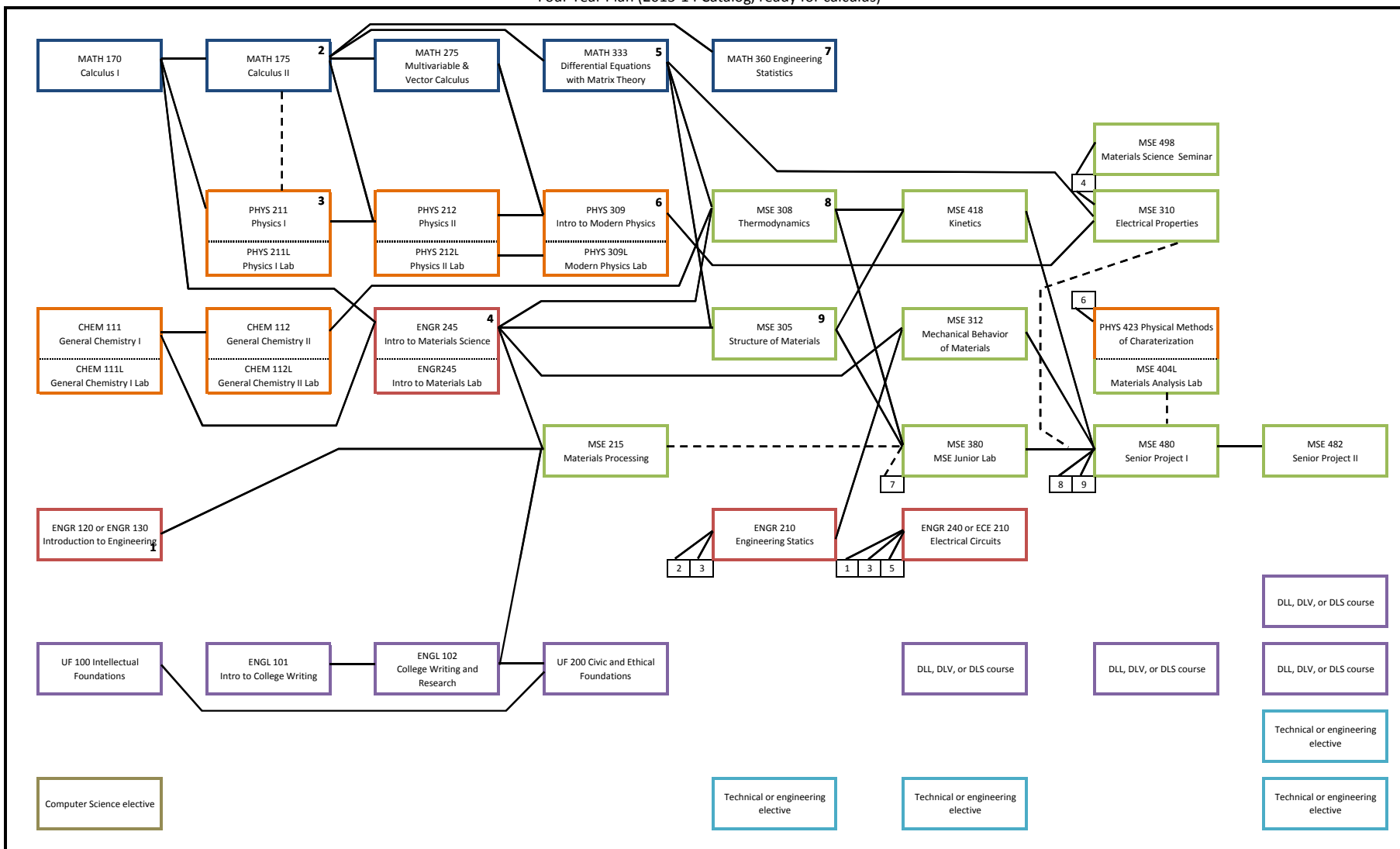
MSE UNDERGRADUATE ADVISORS:

Megan Frary (meganfrary@boisestate.edu, 208-426-1061): freshmen, sophomores, transfer students, second degree students

Chad Watson (chadwatson1@boisestate.edu, 208-426-4897): juniors, seniors

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MATH 170 Calculus I	MATH 175 Calculus II **2**	MATH 275 Multivariable & Vector Calculus	MATH 333 Differential Equations with Matrix Theory **5**	MATH 360 Engineering Statistics **7**

MSE 498 Materials Science Seminar

| PHYS 211 Physics I **3** | PHYS 212 Physics II | PHYS 309 Intro to Modern Physics **6** | MSE 308 Thermodynamics **8** | MSE 418 Kinetics |

MSE 310 Electrical Properties

| PHYS 211L Physics I Lab | PHYS 212L Physics II Lab | PHYS 309L Modern Physics Lab |

| CHEM 111 General Chemistry I | CHEM 112 General Chemistry II | ENGR 245 Intro to Materials Science **4** | MSE 305 Structure of Materials **9** | MSE 312 Mechanical Behavior of Materials |

PHYS 423 Physical Methods of Charaterization

| CHEM 111L General Chemistry I Lab | CHEM 112L General Chemistry II Lab | ENGR245 Intro to Materials Lab |

MSE 404L Materials Analysis Lab

| MSE 215 Materials Processing | MSE 380 MSE Junior Lab | MSE 480 Senior Project I | MSE 482 Senior Project II |

| ENGR 120 or ENGR 130 Introduction to Engineering | ENGR 210 Engineering Statics | ENGR 240 or ECE 210 Electrical Circuits |

DLL, DLV, or DLS course

| UF 100 Intellectual Foundations | ENGL 101 Intro to College Writing | ENGL 102 College Writing and Research | UF 200 Civic and Ethical Foundations | DLL, DLV, or DLS course | DLL, DLV, or DLS course | DLL, DLV, or DLS course |

Technical or engineering elective

| Computer Science elective | | | | Technical or engineering elective | Technical or engineering elective | Technical or engineering elective |

KEY:

1 ENGR 120	4 ENGR 245	7 MATH 360	→ Prerequisite
2 MATH 175	5 MATH 333	8 MSE 308	⇢ Corequisite
3 PHYS 211	6 PHYS 309	9 MSE 305	