From: 573 341 4362 Page: 1/19 Date: 5/10/2013 12:21:48 PM



Missouri University of Science and Technology

Formerly University of Missouri-Rolla

Campus Curricula Committee Meeting Agenda May 21, 2013 9:00 am Room 106B Parker Hall

Review of submitted DC forms:

DC #0476, Geological Science and Engineering, Bachelor of Science in Geological Engineering, effective Fall 2013.

Review of submitted CC forms:

CC #8468, Aerospace Engineering 161, Aerospace Vehicle Performance, effective Fall 2013.

CC #8469, Systems Engineering 435, Model Based Systems Engineering, effective Fall 2013.

CC #8470, Computer Science 405, Model Based Systems Engineering, effective Fall 2013.

CC #8471, Computer Science 346, Introduction to Computational Perception and Cognition, effective Spring 2014.

CC #8472, Geological Engineering, Inca Civilization Geotechnical Engineering Practices, effective Spring 2014.

CC #8473, Geological Engineering 320, Hydrologic Flow and Transport Modeling, effective Spring 2014.

Review of submitted EC forms:

EC #2467, Aerospace Engineering 201, Senior Assessment, effective Fall 2013.

EC #2468, Petroleum Engineering 301, Oil Field Safety and Engineering, effective Spring 2014.

EC #2469, Geological Engineering 401, Renewable Energy Systems Modeling, effective Spring 2014.

Tabled Items:

DC #0466, Materials Science and Engineering, Minor in Materials Science and Engineering.

Page 1

Office of the Registrar • 103 Parker Hall • 300 West 13th Street • Rolla, MO 65409-0930 Phone: 573-341-4181 • Fax: 573-341-4362 • Email: registrar@mst.edu • Web: http://registrar.mst.edu

From: 573 341 4362 Page: 2/19 Date: 5/10/2013 12:21:49 PM



Missouri University of Science and Technology

Formerly University of Missouri-Rolla

CC #8385, Ceramic Engineering 261, Materials Senior Design I.

CC #8386, Ceramic Engineering 262, Materials Senior Design II.

CC #8406, Metallurgical Engineering 216, Mechanical Testing of Materials.

CC #8407, Metallurgical Engineering 218, Microstructural Development Laboratory.

CC #8445, Metallurgical Engineering 261, Materials Senior Design I.

CC #8446, Metallurgical Engineering 262, Materials Senior Design II.

Course Renumbering Initiative

Associating Minors with DSCCs

Online Curricula Workflow Demo

Page 2

From: 573 341 4362 Page: 3/19 Date: 5/10/2013 12:21:49 PM

Effective Year: 2013 Effective Term: Summer Fall Spring (Creating or modifying a degree program must be effective for a Fall term	C # 0476-2013-GeoEng -000 00 1)
Degree Change Form	(DC)
This form is to be used for creating or modifying degree programs	, emphasis areas, and minors.
Title of degree program, emphasis area, or minor: Bachelor of Science in Geological Engineering	
Department: Geological Sciences and Engineering	
Briefly describe action requested (Attach documentation as The course list for the Engineering Econ Elective in the catalog (Ite follows (see attachments):	appropriate): em f) should be amended as
Add: Min E . 270.	
Old:	
To be selected from Eng Mgt 308 or PE 357 or both Eng Mgt 124 a	and Eng Mgt 137.
New: **Eng alo Rt Eng To be selected from Eng Mgt 308, Min E 2 07 , or PE 357 or both Er	ng Mgt 124 and Eng Mgt 137.
Recommended by Department:(Chair signature)	Date: April 19/13
Recommended by Discipline Specific Curricula Committee:(Chair signature)	h <u>a</u> Date: 4/30/13
Approved by Curricula Committee:(Chair signature)	Date:
Approved by Faculty Senate:(Chair signature)	Date:

(Revised 1/31/2008)

From: 573 341 4362 Page: 4/19

Date: 5/10/2013 12:21:50 PM

CC File # 8468-2013 - Acro Eng-161-32

Effective Term: Summer [| Fall | Spring Effective Year: 2013

Course Change Form (CC)

This form is for creating or modifying permanent courses.

Course Changes (Ch	_	_	¬ ,	Tredit Hours	Dr.	erequisites 🏻		
New Course		urse Deletion [_	-	Course Number	_	o-listing		
Course Title	=	alog Descriptio	-	·	-			
Course Information	(Sections 1-9	9 must be compl	eted. Leave	"Proposed" items bl	lank if no cha	nge is being made.))	
1. Department: M	echanical &	Aerospace Eng	gineering					
2. Discipline and Co	ourse Numb	ier: Present: Á	€ 161 9	Proposed:				
3. Course Title: Pro	esent: Aero	space Vehicle	Performan	ce				
Pr	oposed:							
Abbreviated Co	ourse Title (:	24 Spaces or Less	s. Only need	ed for New Courses	or Title Chan	iges.):		
Prerequisite: P Proposed: Nat	re and theo Physics 23. ture and the	ry of lift, drag, eory of lift, drag	performan g, perform	nce, and stability a ance, and stability 23 is required for	and contro	ol of aerospace ve		
5. If course require	es field trip o	check box: 🗌						
6. Credit Hours:	Present:	Lecture 3 La	ab O	Total 3				
	Proposed:	Lecture	Lab	Total				
7. Prerequisites: Present: Phy si	ics 23							
Proposed: "C"	or better in	n Math 15 and	Physics 23					
8. Required for Ma	ajors: 🔀	Elective fo	or Majors:					
9. Justification: M	aterial cover	ed requires mas	tery of Phys	ics 23 and Math 15 (content			
10. Semesters pre	viously offe	red as an exper	imental co	urse (101, 201, 301	1, 401):			
11. List all co-listed	d courses, in	nitialed by Dept	. Chair, if s	ignature does not a	appear belo	ıw.		
1)		3)		5)				
2)		/ 4) //		6)			. 1	, ,
Recommended by De	partment	(Chair signature)	<u> </u>				2 1	9 (2013 1813
Recommended by DS	cc	(Chair Signature)	3 8	gen		****	Date: <u>4</u>	18/13
Approved by Curricul	a Committee	: <u> </u>					Date:	
, , ,		(Chair signature)						
Approved by Faculty	Senate:	(#L-1:					Date:	
		(Chair signature)						

From: 573 341 4362 Page: 5/19 Date: 5/10/2013 12:21:50 PM

Effective Ye Ferm: Summ		II 🛭 Spring			CC File	# 8469-3	30/3-Sys Eng - 435-32
					Form (
Course Ch-	oneos //h	This form is for		or modifyir	ng permanent	courses.	
	-	eck all changes.) urse Deletion [_	Credit H		Duonomii	inites 🕅
New Course [' <u>—</u>		ours 🗀 Number 🗀	Prerequ Co-listin	
Course Title [talog Descriptio					- ' '
		•		·	osea items bio	ank ii no ciai	ige is being made.)
•	_	anagement and	-	_)		
•		se Number:	.,	•		osed:	
s. Course liti	e: Preser Propos	it: Model Basi ed:	ed Systems	s Engineer	ing		
Ahhrevial	ted Course						
	(24 Sp	paces or Less. C 800 Character Sp			Courses or Ti	tle Changes	.)
Present:	elements,	components, e	tc. Topics	also includ	le SysML, exe	cutable sys	derlying system tems architectures, MBSE in distributed
Proposed:	validate sy	ystem architect and shifting sys	ures. The s	student wi	ll gain proficie	ency in using	sent systems and g a systems modeling a model centric
5. If course r	equires fiel	d trip check bo	x: 🗆				
5. Credit Hou	rs:	Present:	Lect	ure: 3	Lab: 0	Total: 3	
7 Duovosuisii	haa.	Proposed:	Lect	ure:	Lab:	Total:	
7. Prerequisit Present:		433	r				
Propose	d: Sys Eng	g 433 or both a	"C" or bet	ter grade i	in Comp Sci 2	206 and inst	ructor approval
3. Required f	or Majors: [☐ E lective	for Majors	:⊠			
). Justificatio		ting course with oftware Archite	•				certificate "Systems
lO. Semeste	rs previous	ly offered as an	experime	ntal course	e (101, 201, 3	301, 401):	
1. List all co	-listed cour	ses, initialed b	y Dept. Cha	air, if signa	ature does no	t appear be	low.
I) Gmp S c 40 Conyo			3)				
l)	5)	~	6)				
Recommende	ed by Depar	tment	<u>ہے کی (</u> Chair)	Signature)			Date: 4/33/13
Recommende	ed by Discip	line Specific Cu	rricula Con		Dr Rapea		Date: <u>4/30/15</u>
approved by	Curricula C	ommittee:			*		Date:
Approved by	Faculty Ser	ate:	•	signature) signature)			Date:
			(2000)				·

From: 573 341 4362 Page: 6/19 Date: 5/10/2013 12:21:50 PM

From: 573 341 4362 Page: 1/2 Date: 4/25/2013 4:37:00 PM

CC File # 8470-2013-Copp Sc'-405-10 Effective Year: 2013 Fall 🗵 Term: Summer 🔲 Spring 🛄 Course Change Form (CC) This form is for creating or modifying permanent courses. Course Changes (Check all changes.) New Course 🛛 Course Deletion 🗖 Credit Hours 🔲 Proroquisites 🗍 Course Title 🗌 Catalog Description 🔲 🗀 Course Number 🔲 Co-listing 🖾 Course Information (1-9 Must Be Completed. Leave "Proposed" items blank if no change is being made.) 1. Department: Computer Science 2. Discipline and Course Number: Present: Proposed: Comp Sci 405 3. Course Title: Proposed: Model Based Systems Engineering Abbreviated Course Title: (24 Spaces or Less. Only needed for New Courses or Title Changes.) 4. Catalog Description (300 Character Spaces or Less.) Present: Proposed: Provides the student with understanding of the use of models to represent systems and validate system architectures. The student will gain proficiency in using a systems modeling language and shifting systems engineering from a document centric to a model centric paradigm. 5. If course requires field trip check box: 🗔 Lab: 6. Credit Hours: Present: Lecture: Total: Total: 3 Lecture: 3 Lab: 0 Proposed: 7. Prerequisites: Present: Proposed: Sys Eng 433 or both a "C" or better in Comp Sci 206 and instructor approval 8. Required for Majors: 🔲 Elective for Majors: 🔀 Creating co-listing of Sys Eng 435 for the existing graduate certificate "Systems and 9. Justification: Software Architecture". 10. Semesters previously offered as an experimental course (101, 201, 301, 401): 11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below. 1) SysEng 435 NE 2) 3) 4) 5) Recommended by Department _ (Chair signature) Recommended by Discipline Specific Curricula Committee (Chair signature) Date: _____ Approved by Curricula Committee: ___ ... (Chair signature) Date: _____ Approved by Faculty Senate:_ (Chair signature)

(Revised 1/29/09)

From: 573 341 4362 Page: 7/19 Date: 5/10/2013 12:21:51 PM

From: 573 341 4362

Page: 1/1

Date: 4/26/2013 4:12:05 PM

CC File # 847/-2013 - Comp Sci-346-10 Effective Year: 2014 Effective Term: Summer Fall Spring Course Change Form (CC) This form is for creating or modifying permanent courses. Course Changes (Check all changes.) Course Deletion Credit Hours New Course 🖂 Prerequisites 🔲 Co-listing Course Title 🗍 Catalog Description Course Number Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.) 1. Department: Computer Science 2. Discipline and Course Number: Present: Comp Sci 301 Proposed: Comp Sci 346 3. Course Title: Present: Introduction to Computational Perception and Cognition Proposed: Introduction to Computer Vision Appreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.): Intro Computer Vision 4. Catalog Description (360 character spaces or less.) Present: Proposed: This course introduces foundational theories and analysis methods in computer vision. Topics will include camera model and geometry, description of visual features, shape analysis, stereo reconstruction, motion and video processing, and visual object recognition. 5. If course requires field trip check box: \Box Total 6. Credit Hours: Present: Lecture Lab Proposed: Lecture 3 Lab 0 Total 3 7. Prerequisites: Present: Proposed: A "C" or better grade in both Math 208 and Comp Sci 253 Elective for Majors: 8. Required for Majors: 🔲 9. Justification: Students like this course as the evaluation was 3.9 in Spring 2012. Topics will focus on computer vision. 10. Semesters previously offered as an experimental course (101, 201, 301, 401): SP2012, SP2013 11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below. 1) 3) 2) Recommended by Department Recommended by DSCC Approved by Curricula Committee:

(Revised December 2012)

Date:

(Chair signature)

(Chair signature)

Approved by Faculty Senate:___

From: 573 341 4362 Page: 8/19 Date: 5/10/2013 12:21:51 PM

Effective Yea Effective Term		☐ Fail ☐	Spring 🛚		CC F	File # &	8492-20	13-6eo Eng	9-409-10
		Course	Char	ige Fo	orm	(C	C)		
	Т	This form is for a	creating or	modifying	perma	nent co	ourses.		
Course Char	<u>iges</u> (Che	ck all changes.)							
New Course 🛛	Cour	rse Deletion 🗌		Credit Hou	ırs 🛛		Prerequis	sites 🗌	
Course Title 🗌	Cata	log Description	\boxtimes	Course Nu	mber [Co-listing	ı 🗆	
Course Info	<u>rmation</u> ((1-9 Must Be Com	ipleted. Lea	ve "Propos	ed" iten	ns blank	if no chang	ge is being mad	de.)
1. Departmen	nt: GSE						/	6	
2. Discipline a	and Cours	e Number: P	resent :			Propos	<i>Geo</i> ed: G E 401	ing	
3. Course Title	: Present	:				•			
	Propose	ed: Inca Civilizat	tion Geotec	hnical Eng	jineerii	ng Prac	tices		
Abbreviate		Title: Inca Engi		_	-	_			
4 Catalan Ban		ices or Less. On	ly needed 1	or New Co	urses (or Title	Changes.)	
4. Catalog Deservice Present:	cription (40	woras or Less)							
Present:									
		study of geote							luding
		Machu Picchu co							eustion.
		eology, geomor rigation, culture							
		trip check box:		<i>γ. γ. π.</i> σ.	it 10119	neid til	p 10 1 C.U	ading sping	DICGR IS
6. Credit Hours	•	Present:	Lectur	B.	Lab:		Total:		
o. Crean Hours	/ *	Proposed:	Lectur		Lab:		Total: 3		
7. Prerequisite Present:	s:	ri oposcu.	Lociui	3. J	rap.	,	iotai. 3		
رع Proposed:	ico Eng GE 50 or	Civ Eng Ge EE 215 or GE 3	o Eng 371 or equi	valent, an	d gradı	uate sta	anding		
				7					
8. Required for	_	Elective fo	r Majors: 🛭	צ					
9. Justification	;								
									_
10. Semesters	previously	offered as an e	xperiment	al course (101, 2	01, 301	., 401): Sp	// // rina 2010, '11,	. '12
		es, initialed by I	-	_		-			
1) CE 407	201	- 2)		,	3)				
7.		-			-,	•			
4)		5)			6)				
Recommended	by Departr	ment ////	1 Mul	4	X	////	η	Date: April	29/13
	-,	···	(Chair slo	neture)	\mathcal{T}	プニャ	[
Recommended	by Disciplin	ne Specific Curr	icula Comn	vittee - S	Dim		24	Date: 5- 6	5-13
Vecommended	by Discipin	ne specific curi	Chair sig		CALCU-	- 4 h-1		Date: <u>.5 - e</u>	> 10-
Appeared by C	ر مستوسات المستوس	es es ibbo o c		-				Date	
Approved by C	urricula Col	nmittee:	(Chair sig	 nature)			1.00 11.11.11	Date:	PROBLEM 1.
A	de	.	4 - · · · · · · · · · · ·	-,				B	
Approved by Fa	aculty Sena	re:	(Chair sig	nature)				Date:	
			रिकालक यास						
04/29/13								(Revised	i 1/31/08)

From: 573 341 4362 Page: 9/19 Date: 5/10/2013 12:21:51 PM

CC File # 8473-2013-Geo Eng-320-10

Effective Year: 2014 Effective Term: Summer Fall Spring

Course Change Form (CC)

This form is for creating or modifying permanent courses.

Course Changes (Ch	eck all changes.)			
New Course 🔀	Course Deletion 🗌	Credit Hours 🗌	Prerequisites 🔀	
Course Title 🔀	Catalog Description	Course Number 🔀	Co-listing 🔲	
Course Information	(Sections 1-9 must be completed. L	eave "Proposed" items blan	k if no change is being made.)	
1. Department: Ge	ological Sciences & Engineering	6e080	· C	
2. Discipline and Co	ourse Number: Present: GE301	Proposed: GE320	J	
3. Course Title: Pre	sent: Hydrologic Flow and Tran	port Modeling		
Pro	pposed: Groundwater Modelin g	;		
Abbreviated Co	urse Title (24 Spaces or Less. Only	needed for New Courses or	Title Changes.): Groundwat	er Modeling
Present: This comedia under di considerations. Proposed: This porous media u	ion (360 character spaces or less.) ourse is an introduction to adva fferent hydrologic conditions. It . Computer demonstrations are course is an introduction to adva under different hydrologic condi-	Emphasis is placed on bo incorporated. Practical vanced modeling techniq itions. Emphasis is place	th theoretical and practical applications are emphasize ues for understanding flow don both theoretical and p	l modeling ed. v and transport in practical modeling
5. If course requires	s field trip check box: 🔲			
6. Credit Hours:	Present: Lecture 3 Lab 0	Total 3		
	Proposed: Lecture 3 Lab 0	Total 3		
7. Prerequisites: Present: Civ En	g 215 Geo Eng275, 335			
Proposed: Civ I	Eng 230 Geo Eng 331			
8. Required for Maj	ors: Elective for Majo	ors: 🔀		
9. Justification: Cor	mputer modeling has become an es	ssential component of all in	dustries and research organiz	ations.
10. Semesters prev	iously <mark>offered as an experimen</mark> ta	al course (101, 201, 301, 4	01): SP2012, SP2013	
11. List all co-listed 1)	courses, initialed by Dept. Chair, 3)	, if signature does not app 5)	pear below.	
2)	4)	6)		
Recommended by Dep	partment Subst W	lry I	20m	Date: 4/30//3
Recommended by DSC	N/W CON	per		Date: <u>5~6-13</u>
Approved by Curricula	Committee: (Chair signature)			Date:
Approved by Faculty S	enate:(Chair signature)			Date:

Date: 5/10/2013 12:21:52 PM From: 573 341 4362 Page: 10/19

EC# 2467- FS2013-Acro Eng-201

Fall X Spring Summer Effective Year: 2013 Effective Term:

Experimental Course Form (EC)

An EC form must be submitted before an experimental course is to be offered. EC forms approved Spring 2009 or later allow the course to be offered twice at any time during the following three year period. After an experimental course has been offered twice, a CC form may be submitted to request a permanent course number.

A new course that is required as part of a degree program, minor, or graduate certificate may be submitted on a CC form to receive a permanent course number.

Co-listed offerings should be submitted on one form, originating from the primary discipline.

Department:	Mechanical 8	& Aerospace	Engineering
4		Armo	6.

Discipline and Course Number: AE 201

Course Title: Senior Assessment

Abbreviated Title (24 spaces or less): Senior Assessment

Instructor(s): K. M. Isaac

Credit Hours: Lecture 1

Hero Eng Aero Eng Acro Eng Prerequisites: AE 271, AE 261, AE 235, AE 253

Acro and

Semester(s) previously taught: 0

Brief Course Description (360 character spaces or less): This coure is an overview of the required aerospace engineering courses that the students took.

List all co-listed courses: Include initials of Department Chair, if signature is not already included below.

1)

3)

2)

4)

Recommended by Department:

Recommended by DSCC:

Approved by Curricula Committee:

(Chair signature))

(Chair signature)

Date: _

From: 573 341 4362 Page: 11/19 Date: 5/10/2013 12:21:52 PM

EC# 2468-Sp 2014-Pet Eng-301 Effective Year: 2014 Effective Term: Summer Fall Spring Experimental Course Form (EC) An EC form must be submitted before an experimental course is to be offered. EC forms approved Spring 2009 or later allow the course to be offered twice at any time during the following three year period. After an experimental course has been offered twice, a CC form may be submitted to request a permanent course number. A new course that is required as part of a degree program, minor, or graduate certificate may be submitted on a CC form to receive a permanent course number. Co-listed offerings should be submitted on one form, originating from the primary discipline. Department: Geo Sci and Engle: Discipline and Course Number: Pet Eng 301 Course Title: Oll Field Safety and Engineering Abbreviated Title (24 spaces or less): Oil Field Safety and Eng Instructor(s): R. Flori Total 3 Credit Hours: Lecture 3 Prerequisites: Pet Eng 313 or 316 Semester(s) previously taught: n/a Brief Course Description (360 character spaces or less): Introduction to health, safety and environment (HSE) critical issues, management systems, risk and risk assessment with oil field drilling, production and processing applications. List all co-listed courses: Include initials of Department Chair, if signature is not already included below. 1) 5) 3) 2) 4) Recommended by Department:

11/2/2012

Recommended by DSCC:

Approved by Curricula Committee:

Date:

(Chair signature)

Page: 12/19 Date: 5/10/2013 12:21:52 PM

From: 573 341 4362 Effective Year: 2014 EC File # 2469-Sp 2014-GEO ENG-401 Effective Term: Summer 🗌 💮 Fall 🔲 Spring 🖾 Experimental Course Form (EC) This form must be filed with the Secretary to the Campus Curricula Committee, after the department chair's notation, by the appropriate deadline. Filing deadlines for inclusion in the initial release of the Schedule of Classes are as follows: Summer and Fall Semester Offerings - January 1 Spring Semester Offerings - August 1 An EC form must be submitted each semester it is to be offered, not to exceed two offerings. An experimental course that is required should be submitted on a CC form. Co-listed offerings should be submitted on one form, originating from the primary discipline. Department: Geological Sciences and Engineering Geo En G Discipline and Course Number: GE 401 Course Title: Renewable Energy Systems Modeling Abbreviated Title (24 spaces or less): Renewable Energy Model. Instructor(s): Elmore Total: 3 Lecture: 3 Lab: 0 Credit Hours: Prerequisites: Semester(s) previously taught: 0 Brief Course Description: (40 words or less) The course will address renewable energy performance prediction models such as Smartz, System Analysis Model (SAM), HOMER and/or others. Photovoltaic, wind, and geothermal systems will be featured with an emphasis on the characterization of the corresponding earth resource.

1)	ses: Include initials of Dept. 2)	3)	ready included below.
4)	5)	6)	
Department Chair: Discipline Specific Curric	cula Committee:	hair Signature)	Date: May 1/13
Curricula Committee:		nair Signature)	Date:

(Revised 1/31/2008)

From: 573 341 4362 Page: 13/19 Date: 5/10/2013 12:21:53 PM

DC # 0466 - 2013 - MS&E - 000-00

Effective Year: 2013 Effective Term: Summer Fall Spring (Creating or modifying a degree program must be effective for a Fall term.)

Degree Change Form (DC)

This form is to be used for creating or modifying degree programs, emphasis areas, and minors.

Title of degree program, emphasis area, or minor: B.S. minor in Materials Science & Engineering

Department: Materials Science & Engineering

Briefly describe action requested (attach documentation as appropriate):

Discontinue offering the Minor in Materials

In the January 2013 curriculum review meeting by the Materials Science and Engineering Department faculty, it was decided to discontinue offering the Materials Minor (Vote of 15 to discontinue minor, 2 to continue offering the minor and 1 abstaining). The faculty felt that the the current Materials Minor requirements of 15 hours does not provide students with sufficient materials background to be designated a Materials Minor. Most Materials Minors come from the Mechanical Engineering Department where students can take 12 hours as a part of their required ME curriculum (ME153, Met 121 and two ME tech electives: ME 336 and ME 338) allowing students to get a minor in materials with only one more 3 hour course. The faculty found this to be an insufficient materials background to continue providing a minor in materials.

Recommended by Department: Wayne Hull	Date: 2/6/13
Recommended by DSCC:	Date: 02/19/-
(Chair signature)	
Approved by Curricula Committee:	Date:
(Chair signature)	
Approved by Faculty Senate:	Date:
(Chair signature)	

From: 573 341 4362 Page: 14/19 Date: 5/10/2013 12:21:53 PM CC File # 8385-2013-CFR FNG-261-31 Effective Term: Summer Fall Spring X Effective Year: 2013 **Course Change Form (CC)** This form is for creating or modifying permanent courses. Course Changes (Check all changes.) New Course Course Deletion Prerequisites [73] Course Title Catalog Description Course Number Co-listing Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.) 1. Department: Materials Science & Engineering 2. Discipline and Course Number: Present: Cer 261 Proposed: 3. Course Title: Present: Materials Senior Design I Proposed: Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.): 4. Catalog Description (360 character spaces or less.) Present: Students working in groups will be assigned a capstone design project related to a specific materials technology. This course will focus on project plan and all aspects of product and process design. Prerequisite: Senior standing: (Co-listed with Met Eng 261) Proposed: If course requires field trip check box: 6. Credit Hours: Present: Lecture Q Lab 1 Total 1 Proposed: Lecture O Lab 3 Total 3 7. Prerequisites: Present: Proposed: 8. Required for Majors: Elective for Majors: 9. Justification: Increased hours needed to expand course confint & expectations 10. Semesters previously offered as an experimental course (101, 201, 301, 401): 11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below. 1) Met 261 3) 5) 2) 6) Recommended by Department (Chair signature Recommended by DSCC (Chair signature)

Approved by Curricula Committee:

Approved by Faculty Senate:_

(Chair signature)

(Chair signature)

Date:

From: 573 341 4362 Page: 15/19 Date: 5/10/2013 12:21:53 PM

CC File # 8386-2013-CER ENG-262-31

Effective Year: 2013 Effect	tive Term: Summer 🔲 🛭 F	all 🛛 Spring 🔲	
		Change Form (CC	-
_	anges.) Course Deletion Catalog Description	· •	Prerequisites 🖾 Co-listing 🗀
_	_ · · ·	• 🛏	- .—
Course Information (Sections 1. Department: Materials Sections)	·	e Proposed thems plank if fig.	change is peing made.)
2. Discipline and Course Nun	SAJ Kar	Proposed:	
3. Course Title: Present: Ma		,,	
Proposed:			
Abbreviated Course Title	e (24 Spaces or Less. Only nee	eded for New Courses or Title C	hanges.):
project including proces	on of the Materials Senior s and product simulation	=	in groups will complete a capstone design spects, environmental impact and capital il with Met Eng 262)
5. If course requires field trip	o check box: 🔲		
6. Credit Hours: Present:	Lecture O Lab 2	Total 2	
Proposed	l: Lecture O Lab 3	Total 3	
7. Prerequisites: Present: Cer 261 or Met	ENG- 261		
Proposed: Pass prerequ	isite course with "C" or be	etter in either LERE	NG 261 or METENG 26
·	Elective for Majors:		orial; uncreased hours needed ; expand course content :
9. Justification: Encourage st			irial; expand course content :
10. Semesters previously off	•	•	oxpectations,
11. List all co-listed courses, 1) Met 262	initialed by Dept. Chair, if: 3)	signature does not appear b 5)	elow.
ENG-	4) . /	6)	
Recommended by Department _	Wayn Han	ly	Date: 2/22/13
Recommended by DSCC	(Chair signature)	- 1000-100-100-100-100-100-100-100-100-1	Date: 3 -//- 13
Approved by Curricula Committe			Date:
Annual and the provide special	(Chair signature)		
Approved by Faculty Senate:	(Chair signature)		Date:

From: 573 341 4362 Page: 16/19 Date: 5/10/2013 12:21:54 PM

CC File # 8406-2013-MET ENG-216-31

Effective Year: 2013	Effective Term: Summer	☐ Falf 🔼 Spring [☐		
		rse Change Form (creating or modifying perma	- · · · · ·	
	Course Deletion 🗌			
	Catalog Description	–	Co-listing []	
	(Sections 1-9 must be completed		If no change is being made.)	
1. Department: Ma	iterials Science & Engineerin	BENG-		
2. Discipline and Co	urse Number: Present: Met	216 Proposed:		
3. Course Title: Pre	sent: Mechanical Testing of	Materials		
	posed:			
Abbreviated Co	urse Title (24 Spaces or Less. O	nly needed for New Courses or 1	itle Changes.):	
Present: Deformechanics and	fatigue. Prerequisites: Met E ermation of materials and me	hanical testing of materials; ing 121, accompanied by Me echanical testing of material	tensile testing, creep; impact testing r Eng 215. s; tensile testing, creep; impact testi preceeded or accompanied by Met I	ng; fracture
5. If course requires	s field trip check box: 🔲			
6. Credit Hours:	Present: Lecture 🔊 L	ab 1 Total 1		
	Proposed: Lecture 1 Lab 1	L Total 2		
7. Prerequisites: Present: Met 1 Proposed: Met	21, and preceeded or accom		oy Met 215	
8. Required for Maj	jors: 🔀 💢 Elective for N			
9. Justification: Pre	requisite grade "C" - new depa	rtment standard to improve stu	dent success; increased credit hours only. due to adding lecture s	section
	iously offered as an experime		D1).	
	courses, initialed by Dept. Ch		ear below.	
1)	3)	5) .4		
2) Recommended by Dep	partment (1)	agu Luch	Date:	kr113
(ACCOMMISSIONED BY MAP	(Chair signature)		_ 2	- 11-13
Recommended by DSC	CC(Chair signature)	y hy Rapa	Date:	
	• -		Date:	
Approved by Curricula	(Chair signature)			
Approved by Faculty S	enate:		Date:	
• • •	(Chair signature)			

From: 573 341 4362

Page: 17/19 Date: 5/10/2013 12:21:54 PM

CC File # 8407-2013-MET ENG-218-31

Effective Year: 2013 Effective Term: Summer Fall Spring	
Course Change Form (CC) This form is for creating or modifying permanent courses.	
Course Changes (Check all changes.) New Course Course Deletion Credit Hours Prerequisites Course Title Catalog Description Course Number Co-listing	
Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.)	
1. Department: Materials Science & Engineering	
2. Discipline and Course Number: Present: Met 218 Proposed:	
3. Course Title: Present: Microstructural Development Laboratory	
Proposed:	
Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.):	
4. Catalog Description (360 character spaces or less.) Present: Investigation of the relationships between microstructures, and processing for various material processing for various material proposed: Investigation of the relationships between microstructures, and processing for various representationships between microstructures.	
5. If course requires field trip check box:	
6. Credit Hours: Present: Lecture O Lab 1 Total 1	
Proposed: Lecture 1 Lab 1 Total 2	
7. Prerequisites: Present: Met 121; accompanied or preceded by Met 217	
Proposed: Accompanied or preceded by Wet 217	
8. Required for Majors: Elective for Majors:	
9. Justification: Increase credit hours due adding lecture section	
10. Semesters previously offered as an experimental course (101, 201, 301, 401):	
 11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below. 1) 3) 5) 	
2) 4) , (6)	
Recommended by Department (Chair signature)	Date: 2/22/13
Recommended by DSCC (Chair signature)	Date: 3 - // - /5
Approved by Curricula Committee: (Chair signature)	Date:
Approved by Faculty Senate: (Chair signature)	Date:

Date: 5/10/2013 12:21:54 PM From: 573 341 4362 Page: 18/19 CC File # 8445-2013-MET ENG-261-31 Effective Year: 2013 Effective Term: Summer Fall Spring Course Change Form (CC) This form is for creating or modifying permanent courses. Course Changes (Check all changes.) Credit Hours 🔯 Prerequisites 🔀 New Course Course Deletion Catalog Description X Course Number Co-listing Course Title Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.) 1. Department: Materials Science & Engineering 2. Discipline and Course Number: Present: Met 261 Proposed: 3. Course Title: Present: Materials Senior Design I Proposed: Abbreviated Course Title (24 Spaces or Less. Only needed for New Courses or Title Changes.): 4. Catalog Description (360 character spaces or less.) Present: Students working in groups will be assigned a capstone design project related to a specific materials technology. This course will focus on project plan and all aspects of product and process design. Prerequisite: Sonior standing. (Co listed with Cer Eng 261)-Proposed: Overview of the methods, approaches, and techniques required to execute materials related capstone senior design projects. Formation of teams, assignment of projects, review of department curriculum concepts and topics, and comprehensive project management skills needed to complete projects will be used as means to learn the design process. Prerequisite: 5. If course requires field trip check box: Lecture O Present: Lab 1 Total 1 6. Credit Hours: Proposed: Lecture 3 Lab O 7. Prerequisites: Present: Senior Standing Proposed: Met 216 and Met 218, or Cer 231 with a "C" or better Elective for Majors: 8. Required for Majors: 🔀 9. Justification: Increased hours needed to expand course content & expectations; prerequisite grade of "C" new dept. standard to improve student 10. Semesters previously offered as an experimental course (101, 201, 301, 401): success

11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

3) 4) 2)

Recommended by Department (Chair signature

Recommended by DSCC (Chair signature)

Approved by Faculty Senate:_

Approved by Curricula Committee: (Chair signature)

(Chair signature)

From: 573 341 4362 Page: 19/19 Date: 5/10/2013 12:21:55 PM cc file# 8446-2013-MFT FNG-262-31 Effective Term: Summer 🔲 Fall 🔀 Spring 🗌 Effective Year: 2013 Course Change Form (CC) This form is for creating or modifying permanent courses. Course Changes (Check all changes.) Prerequisites 🔀 Credit Hours Course Deletion New Course Co-listing Catalog Description Course Number Course Title Course Information (Sections 1-9 must be completed. Leave "Proposed" items blank if no change is being made.) 1. Department: Materials Science & Engineering 2. Discipline and Course Number: Present: Met 262 Proposed: 3. Course Title: Present: Materials Senior Design II Proposed: Abbreviated Course Title (24 Spaces or Less, Only needed for New Courses or Title Changes.): 4. Catalog Description (360 character spaces or less.) Present: A continuation of the Materials Senior Design I. Students working in groups will complete a capstone design project including process and product simulation and/or fabrication, safety aspects, environmental impact and capital and operating economics. Prerequisite: Cor Eng 351 or Met Eng 361. (Co-listed with Cor Eng 362) Proposed: A continuation of the Materials Senior Design I. Students working in groups will complete a capstone design project including process and product simulation and/or fabrication, safety aspects, environmental impact and capital and operating economics. Prerequisite: Cer Eng 261 or Met Eng 261 with "C" or better: (Co-listed with Cer Eng 262) 5. If course requires field trip check box: Lecture Ø Lab 2 Total 2 6. Credit Hours: Present: Proposed: Lecture O Total 3 Lab 3 7. Prerequisites: Present: Cer 261 or Met 261 Proposed: Cer 261 or Met 261 with "C" or better in either CER ENG 261 or MET ENG 261 Elective for Majors: 8. Required for Majors: 9. Justification: Increased hours needed to expand course content & expectations; Prerequisite grade requirement - new dept. standard to improve 10. Semesters previously offered as an experimental course (101, 201, 301, 401): student success 11. List all co-listed courses, initialed by Dept. Chair, if signature does not appear below.

_____ Date:______

1) Cer 262

Recommended by Department

Approved by Curricula Committee:

Approved by Faculty Senate:_

2)

Recommended by DSCC

4)

(Chair signature)

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