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STATION 1
UNIVERSITY OF FLORIDA

Department of Materials Science and Engineering

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February 15, 2007

To: College of Engineering Curriculum Committee
From Elliot P. Douglas
Re: Changes to MSE Undergrad Requirements

The Department of Materials Science and Engineering requests a change to the requirements for the Bachelor's degree in Materials Science and Engineering. The changes are as follows:

- Remove EMA 3123, Metallurgical Engineering (3 credits) as a requirement. The content of this course is being incorporated into EMA 3050, Introduction to Inorganic Materials, which was approved as a course name change at the last COE Curriculum Committee meeting.
- Remove STA 3032, (3 credits) as a requirement.
- Add EMA 3xxx, Error Analyses and Optimization Methodologies in Materials Research (3 credits) as a requirement. This was approved as a new course at the last COE Curriculum Committee meeting.
- Remove EMA 4760, Plastics Design (3 credits) as a requirement for the polymers specialty. The content of EMA 4760 will be incorporated into the capstone design course, EMA 4714, Materials Selection and Failure Analysis.
- Require EMA 4121, Interfacial Engineering (3 credits) as a core MSE course for all students. Currently this course is a specialty course, required of all specialties except Polymers.
- Add 3 credits of technical electives to each specialty.

A flowchart showing the additions and deletions to the curriculum is attached. Overall, these changes result in no net change to the number of credits required for the degree.

**Materials Science and Engineering
1st Two Years**

Fall Term	Spring Term	Fall Term	Spring Term
Gen Ed - S (3)	Gen Ed - H (3)	EIN 4354 (3) Eng Economy OR	EMA3010 (3) Materials
Gen Ed - H (3)	ENC 2210 (3) Tech Writing OR	MAN 3025 (4) Prin Management OR	MAP 2302 (3) Dfferential Eq
MAC 2311 (4) Calc 1	ENC 3254 (3) Prof Writ for Eng	MAR 3023 (4) Prin Marketing	PHY 2049 (3) Phy w/ Calc 2
CHM 2045 (3) Gen Chem 1	MAC 2312 (4) Calc 2	CHM2200 (3) Organic Chem	PHY 2049L (1) Phy w/ Calc 2 Lab
CHM 2045L (1) Gen Chem 1 Lab	CHM 2046 (3) Gen Chem 2	MAC 2313 (4) Calc 3	EGM 2511 (3) Statics
	CHM 2046L (1) Gen Chem 2 Lab	PHY 2048 (3) Phy w/ Calc 1	EMA 3xxx (3) Error Analysis
		PHY 2048L (1) Phy w/ Calc 1 Lab	Gen Ed - S (3)
		Comp Prog (2)	

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**Materials Science and Engineering
Last Two Years**

Summer Term	Fall Term	Spring Term	Fall Term	Spring Term
<i>CORE COURSES</i>	EMA 3080C (2) Materials Lab I	EMA 3013C (2) Materials Lab II	EMA 4913 (2) Res in MSE 1	EMA 4914 (2) Res in MSE 2
Gen Ed - S (3)	EMA 3123 (3) Metal Engr	EMA 3050 (3) Intro Ceramics		STA 3032 (3) Statistics
EEL 3003 (3) Electric. Eng.	EMA 3413 (3) Elec Prop Matls	EMA 3066 (3) Polymer Sci	EMA 4125 (3) Transport Pheno	Gen Ed (3) H or S
	EMA 4314 (3) Engr & Kinet	EMA 3513C (4) Analy of Struct	EMA 4324 (3) Stability Matls	EMA 4714 (3) Matis Selection
	EGM 3520 (3) Mech of Matls	EMA 4223 (3) Mech Behavior		54 credits
	EMA 3050 (3) Int Inorganic Mtls	EMA 4121 (3) Interfacial Eng.		
	EMA 3066 (3) Int Organic Mtls	EMA3413 (3) Elc Prop Matls		

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**Materials Science and Engineering
Specialties**

<p align="center"><i>CERAMICS</i></p> <p align="center">Technical Electives 3</p>	<p align="center">EMA 4041L (1) Ceramics Lab 1</p> <p align="center">EMA 4144 (3) Phys Ceramics 1</p> <p align="center">EMA 4121 (3) Interfacial Eng.</p>	<p align="center">EMA 4042L (1) Ceramics Lab 2</p> <p align="center">EMA 4145 (3) Phys Ceramics 2</p> <p align="center">EMA 4645 (3) Proc of Cer Mtls</p>
<p align="center"><i>ELECTRONIC MATERIALS</i></p> <p align="center">Technical Electives 3</p>	<p align="center">EEL 3396 (3) Solid State Dev</p> <p align="center">EMA 4614 (3) Proc Elec Mtls</p> <p align="center">EMA 4121 (3) Interfacial Eng.</p>	<p align="center">EMA 3414C (2) Char of Elec Mtls</p> <p align="center">EMA 4615 (3) Semiconductors</p>
<p align="center"><i>METALS</i></p> <p align="center">Technical Electives 5</p>	<p align="center">EMA 4120 (3) Physical Met 1</p> <p align="center">EMA 4121 (3) Interfacial Eng.</p>	<p align="center">EMA4224 (3) Physical Met 2</p> <p align="center">EMA 4623 (3) Process Metallurgy</p>
<p align="center"><i>POLYMERS</i></p> <p align="center">Technical Elective 4</p>	<p align="center">EMA 4161C (4) Polymer Phys</p> <p align="center">EMA 4666C (4) Polymer Proc</p>	<p align="center">EMA4 4760 (3) Plastic Design</p> <p align="center">CHM 4272 (2) Org Chem Poly</p>
<p align="center"><i>BIOMATERIALS</i></p> <p align="center">Technical Electives 3</p>	<p align="center">BSC 2010 (3) Biology</p> <p align="center">EMA 4935 (3) Biomat: Struct & Prop</p> <p align="center">EMA 4121 (3) Interfacial Eng.</p>	<p align="center">EMA 4935 (3) Biomat: Manuf & Stab</p> <p align="center">CHM 4272 (2) Org Chem Poly OR CHM 4207 (4) Intro Biochem & Molec Bio OR EGM 4590 (3) Biodynamics</p>

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