

Approved by Faculty Senate 4/23/09

**GRADUATE MAJOR CHANGE BULLETIN NO. 5
Spring 2009**

The requirements and courses listed below reflect the graduate major curricular changes approved by the Catalog Subcommittee and the Graduate Studies Committee since approval of the last Graduate Major Change Bulletin. All new and revised courses are printed in their entirety under the headings Proposed and Current, respectively. The column to the far right indicates the date each change becomes effective.

Prefix	Course Number	New Revise Drop	Current	Proposed	Effective Date
C E	504	New	-- N/A --	Sustainability Engineering I 3 Graduate-level counterpart of C E 404; additional requirements. Credit not granted for both C E 404 and 504.	8-09
C E	505	New	-- N/A --	Sustainability Engineering II 3 Graduate-level counterpart of C E 405; additional requirements. Credit not granted for both C E 405 and 505.	8-09
C E	593	Revise	Polymer Materials and Engineering 3 Prereq MSE 402. Same as MSE 543.	Polymer Materials and Engineering 3 Prereq MSE 402. <u>Preparation and structure-property relationship of polymer materials with emphasis on fracture mechanics and toughening.</u>	8-09
C E	594	Revise	Natural Fibers 3 Prereq graduate standing. Same as MSE 544.	Natural Fibers 3 Prereq graduate standing. <u>Structural aspects and properties of natural fibers including anatomy, ultrastructure, and chemistry.</u>	8-09
C E	595	Revise	Polymer and Composite Processing 3 Prereq graduate standing. Same as MSE 545.	Polymer and Composite Processing 3 Prereq graduate standing. <u>Polymer and composite processing from fundamental principles to practical applications.</u>	8-09
C E	596	Revise	Engineered Wood Composites 3 Prereq graduate standing. Same as MSE 546.	Engineered Wood Composites 3 Prereq graduate standing. <u>Theory and practice of wood composite materials, manufacture and development. Cooperative course taught by WSU, open to UI students (MSE 550)</u>	8-09
C E	597	Revise	Polymers and Surfaces for	Polymers and Surfaces for	8-09

			Adhesion 3 Prereq MSE 402 or 404. Same as MSE 547.	Adhesion 3 Prereq MSE 402 or 404. <u>Physical chemistry of polymers and surfaces needed to understand interface morphology, adhesion mechanisms and bond performance. Cooperative course taught by WSU, open to UI students (FORPR532).</u>	
C E	598	Revise	Natural Fiber Polymer Composites 3 Prereq graduate standing. Same as MSE 548.	Natural Fiber Polymer Composites 3 Prereq graduate standing. <u>Fundamentals, development and application of composite materials produced from polymers reinforced with natural fibers and wood as major components. Cooperative course taught by WSU, open to UI students (FORPR533).</u>	8-09
Engl	584	New	-- N/A --	English Literature of the 16th Century 3 Graduate-level counterpart of Engl 484; additional requirements. Credit not granted for both Engl 484 and 584.	8-09
FS	501	Revise	Topics in Food Science and Human Nutrition V 1-3 May be repeated for credit; cumulative maximum 6 hours. Graduate-level counterpart of FSHN 401; additional requirements. Credit not granted for both FSHN 401 and 501.	(FSHN) Topics in Food Science V 1-3 May be repeated for credit; cumulative maximum 6 hours. <u>Selected topics in food science.</u>	8-09
FS	510	New	-- N/A --	Functional Foods and Health 3 Prereq MBioS 303 and one year of biology. Benefits of foods beyond basic nutrition; bioactive compounds in functional foods and nutraceuticals relating to disease prevention and health promotion.	8-09
FS	511	Revise	Food Carbohydrates, and Lipids 3 Rec biochemistry, food chemistry. Occurrence, structure, chemical and physical properties; functions of carbohydrates and lipids in foods. Cooperative course taught by WSU, open to UI students (FST 512).	(FSHN) Food Lipids 3 Rec biochemistry, food chemistry. Occurrence, structure, chemical and physical properties; functions of lipids in foods. Cooperative course taught <u>jointly</u> by WSU and UI (FS 511).	8-09
FS	529	Revise	Dairy Products 4 (3-3) Prereq	(FSHN) Dairy Products 3 Prereq	8-09

			MBioS 101 or 301; Chem 345; MBioS 303. Graduate-level counterpart of FSHN 429; additional requirements. Credit not granted for both FSHN 429 and 529. Cooperative course taught by WSU, open to UI students (FST 529).	MBioS 101 or 301; Chem 345; MBioS 303. Graduate-level counterpart of FS 429; additional requirements. Credit not granted for both FS 429 and 529. Cooperative course taught <u>jointly</u> by WSU and UI (FS 529).	
FS	530	New	-- N/A --	(FSHN) Dairy Products Lab 1 (0-3) Prereq c// FS 529. Graduate-level counterpart of FS 430; additional requirements. Credit not granted for both FS 430 and 530. Cooperative course taught jointly by WSU and UI (FS 530).	8-09
FS	564	Revise	Food Toxicology 3 Prereq permission of instructor . Graduate-level counterpart of FSHN 464; additional requirements. Credit not granted for both FSHN 464 and 564. Cooperative course taught by UI, open to WSU students (FST 564).	(FSHN) Food Toxicology 3 Prereq <u>MBioS 303</u> . Graduate-level counterpart of FS 464; additional requirements. Credit not granted for both FS 464 and 564. Cooperative course taught <u>jointly</u> by WSU and UI (FS 564).	8-09
M E	509	Add crosslist only	MEMS Engineering 3 (2-3) Prereq graduate standing or permission of instructor. Introduction to the design, fabrication and application of microelectromechanical systems.	MEMS Engineering 3 (2-3) Prereq graduate standing or permission of instructor. Introduction to the design, fabrication and application of microelectromechanical systems.	8-09
M E	514	New	-- N/A --	Thermodynamics of Solids 3 Rec MSE 312. Same as MSE 514.	8-09
M E	517	New	-- N/A --	Thin Films 3 Prereq graduate standing or senior in engineering or science. Same as MSE 517.	8-09
M E	520	Add crosslist only	Multiscale Modeling in Thermodynamics of Materials 3 Prereq Math 540 or Phys 571; Math 570, M E 501, 521, 526, 531 or MSE 513. Multiscale problems in thermodynamics of materials; practical and computational aspects of homogenization, granular materials, dislocation plasticity and atomistic methods.	Multiscale Modeling in Thermodynamics of Materials 3 Prereq Math 540 or Phys 571; Math 570, M E 501, 521, 526, 531 or MSE 513. Multiscale problems in thermodynamics of materials; practical and computational aspects of homogenization, granular materials, dislocation plasticity and atomistic methods.	8-09
M E	530	Revise and add crosslist	Elasticity 3 Prereq graduate standing. Theory of kinematics of solid deformable bodies;	Elasticity 3 Prereq <u>M E 414</u> ; graduate standing. Theory of kinematics of solid deformable	8-09

			conservation laws applied to an elastic continuum; generalized linear stress-strain behavior with applications. Cooperative course taught by WSU, open to UI students (ME 530)	bodies; conservation laws applied to an elastic continuum; generalized linear stress-strain behavior with applications. Cooperative course taught by WSU, open to UI students (ME 530)	
M E	531	Add crosslist only	Theory of Plasticity 3 Rec M E 501. The fundamentals of the theory of plasticity; the classical theory of plasticity; the classical theory and modern continuum theories of large elasto-plastic deformations. Cooperative course taught by WSU, open to UI students (ME 531)	Theory of Plasticity 3 Rec M E 501. The fundamentals of the theory of plasticity; the classical theory of plasticity; the classical theory and modern continuum theories of large elasto-plastic deformations. Cooperative course taught by WSU, open to UI students (ME 531)	8-09
M E	534	Add crosslist only	Mechanics of Composite Materials 3 Prereq M E 414. Analysis of micromechanical and macromechanical behavior of composite materials with emphasis on fiber-reinforced composite; prediction of properties; stiffness and strength theories; laminated beams and plates; dynamic behavior; environmental effects. Cooperative course taught jointly by WSU and UI (ME 534).	Mechanics of Composite Materials 3 Prereq M E 414. Analysis of micromechanical and macromechanical behavior of composite materials with emphasis on fiber-reinforced composite; prediction of properties; stiffness and strength theories; laminated beams and plates; dynamic behavior; environmental effects. Cooperative course taught jointly by WSU and UI (ME 534).	8-09
MSE	509	New	-- N/A --	MEMS Engineering 3 (2-3) Prereq graduate standing. Same as M E 509.	8-09
MSE	514	Add crosslist only	Thermodynamics of Solids 3 Rec MSE 312. Thermodynamic properties of solid solutions; models for substitutional and interstitial solutions; configurational and non-configurational contributions; calculation of phase diagrams.	Thermodynamics of Solids 3 Rec MSE 312. Thermodynamic properties of solid solutions; models for substitutional and interstitial solutions; configurational and non-configurational contributions; calculation of phase diagrams.	8-09
MSE	517	Add crosslist only	Thin Films 3 Prereq graduate standing or senior in engineering or science. Materials science aspect of thin films, including growth, characterization, and properties for electrical, mechanical, corrosion, and optical behavior.	Thin Films 3 Prereq graduate standing or senior in engineering or science. Materials science aspect of thin films, including growth, characterization, and properties for electrical, mechanical, corrosion, and optical behavior.	8-09

MSE	520	New	-- N/A --	Multiscale Modeling in Thermodynamics of Materials 3 Prereq Math 540 or Phys 571; Math 570, M E 501, 521, 526, 531 or MSE 513. Same as M E 520.	8-09
MSE	530	New	-- N/A --	Elasticity 3 Prereq M E 414; graduate standing. Same as M E 530.	8-09
MSE	531	New	-- N/A --	Theory of Plasticity 3 Rec M E 501. Same as M E 531.	8-09
MSE	534	New	-- N/A --	Mechanics of Composite Materials 3 Prereq M E 414. Same as M E 534.	8-09
MSE	543	Revise	Polymer Materials and Engineering 3 Prereq MSE 402. Preparation and structure-property relationship of polymer materials with emphasis on fracture mechanics and toughening.	Polymer Materials and Engineering 3 Prereq MSE 402. <u>Same as C E 593.</u>	8-09
MSE	544	Revise	Natural Fibers 3 Prereq graduate standing. Structural aspects and properties of natural fibers including anatomy, ultrastructure, and chemistry.	Natural Fibers 3 Prereq graduate standing. <u>Same as C E 594.</u>	8-09
MSE	545	Revise	Polymer and Composite Processing 3 Prereq graduate standing. Polymer and composite processing from fundamental principles to practical applications.	Polymer and Composite Processing 3 Prereq graduate standing. <u>Same as C E 595.</u>	8-09
MSE	546	Revise	Engineered Wood Composites 3 Theory and practice of wood composite materials, manufacture and development. Cooperative course taught by WSU, open to UI students (MSE 550).	Engineered Wood Composites 3 <u>Same as C E 596.</u>	8-09
MSE	547	Revise	Polymers and Surfaces for Adhesion 3 Prereq MSE 402 or 404. Physical chemistry of polymers and surfaces needed to understand interface morphology, adhesion mechanisms and bond performance. Cooperative course taught by WSU, open to UI students (FORPR532).	Polymers and Surfaces for Adhesion 3 Prereq MSE 402 or 404. <u>Same as C E 597.</u>	8-09
MSE	548	Revise	Natural Fiber Polymer Composites 3 Prereq graduate	Natural Fiber Polymer Composites 3 Prereq graduate	8-09

		standing. Fundamentals, development and application of composite materials produced from polymers reinforced with natural fibers and wood as major components. Cooperative course taught by WSU, open to UI students (FORPR533).	standing. <u>Same as C E 598.</u>	
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