

Cover Sheet: Request 10487

Packaging Engineering

Info

Process	Specialization New/Modify/Close Ugrad
Status	Pending
Submitter	Leary, James Daniel drleary@ufl.edu
Created	10/12/2015 4:44:51 PM
Updated	2/15/2016 3:58:55 PM
Description	Courses in the Packaging Engineering specialization will be used to replace two previously required courses, resulting in 6 credits of additional elective credits.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	ENG - Agricultural and Biological Engineering	Haman, Dorota Zofia		10/19/2015
Added Proposed Changes to the Packaging Engineering Specialization.docx					10/12/2015
College	Approved	ENG - College of Engineering	Caple, Elizabeth		12/3/2015
No document changes					
University Curriculum Committee	Comment	PV - University Curriculum Committee (UCC)	Baker, Brandi N	Added to January agenda	12/14/2015
No document changes					
University Curriculum Committee	Comment	PV - University Curriculum Committee (UCC)	Case, Brandon	Item not addressed at the January meeting. Added to the February agenda.	1/21/2016
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			1/21/2016
No document changes					
Office of the Registrar					
No document changes					
Student Academic Support System					
No document changes					
Catalog					
No document changes					
College Notified					
No document changes					

Specialization|Modify for request 10487

Info

Request: Packaging Engineering
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Form version: 1

Responses

Specialization Name : Packaging Engineering

Specialization Code : PK

Effective Term : Earliest Available

Effective Year : Earliest Available

Proposed Changes: The required EMA3010, Materials course, will be used to replace ABE 3652C, Physical and Rheological Properties class. PKG4101C, Computer Tools for Packaging, will replace CGN2328, Technical Drawing and Visualization OR EML2023, Computer-Aided Graphics and Design.

Pedagogical Rationale/Justification : Both EMA3010 and PKG4101C cover similar material to the classes they will replace. This will result in freeing up 6 credits of electives for the Packaging Engineering specialization that had only one, 3-credit elective. Having 9 credits of electives will allow for needed flexibility in elective choices.

Impact on Other Programs : This flexibility in elective credits has the potential to enhance enrollment and retention of students in the Packaging Engineering specialization and improve graduation rates. Student with credit in ABE3652C and/or CGN2328 OR EML2023, will be provided appropriate credit.

Packaging Engineering

- Required courses: 21 credits
 - EMA 3010 Materials (3)
 - EMA 3066 Polymer Science and Engineering (3)
 - PKG 3001 Principles of Packaging (3)
 - PKG 3103 Packaging Applications (3)
 - PKG 4008 Transportation and Distribution Packaging (3)
 - PKG 4101C Computer tools for Packaging Engineering (3)
 - PKG 4011 Production and Processing (3)
- Technical electives: 3 credits

Critical Tracking

To graduate with this major, students must complete all university, college and major requirements.

Equivalent critical-tracking courses as determined by the State of Florida [Common Course Prerequisites](#) may be used for transfer students.

Semester 1

- Complete 1 of 8 tracking courses with a minimum grade of C within two attempts: CHM 2045 or CHM 2095, CHM 2046 or CHM 2096, MAC 2311, MAC 2312, MAC 2313, MAP 2302, PHY 2048, PHY 2049
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 2

- Complete 1 additional tracking course with a minimum grade of C within two attempts
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 3

- Complete 2 additional tracking courses with minimum grades of C within two attempts
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 4

- Complete 2 additional tracking courses with minimum grades of C within two attempts
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 5

- Complete all 8 critical-tracking courses with minimum grades of C in each course within two attempts
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

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Recommended Semester Plan

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold.

Semester 1	Credits
CHM 2045 General Chemistry 1 or	3
CHM 2095 Chemistry for Engineers 1 (both GE-B/P)	
CHM 2045L General Chemistry 1 Laboratory (GE-B/P)	1
MAC 2311 Analytic Geometry and Calculus 1 (State Core GE-M)	4
Humanities (State Core GE-H , N or D)	3
Social and Behavioral Sciences (State Core GE-S , D or N)	3
Total	14

Semester 2	Credits
ABE 2062 Biology for Engineers or	3
BSC 2010 Intermediate Biology 1	
CHM 2046 General Chemistry and Qualitative Analysis or	3
CHM 2096 Chemistry for Engineers 2 (both State Core GE-B/P)	
CHM 2046L General Chemistry 2 Laboratory (GE-B/P)	1
IUF 1000 What is the Good Life (GE-H)	3
MAC 2312 Analytic Geometry and Calculus 2 (GE-M)	4
Total	14

Semester 3	Credits
ABE 2012C Introduction to Biological Engineering	3
ENC 1101 Expository and Argumentative Writing or	3
ENC 1102 Argument and Persuasion (State Core GE-C)	
MAC 2313 Analytic Geometry and Calculus 3 (GE-M)	4
PHY 2048 with Calculus 1 (GE-B/P)	3
PHY 2048L Physics with Calculus 1 Laboratory (GE-B/P)	1
Total	14

Semester 4	Credits
EGM 2511 Engineering Mechanics: Statics	3

EML 3007 Elements of Thermodynamics and Heat Transfer	3
MAP 2302 Elementary Differential Equations (GE-M)	3
PHY 2049 Physics with Calculus 2 (GE-B/P)	3
PHY 2049L Physics with Calculus 2 Laboratory (GE-B/P)	1
Social and Behavioral Sciences (GE-S, D or N)	3
Total	16

Semester 5 (Summer Semester)

Credits

Technical Elective

CGN 2328 Technical Drawing and Visualization or	3
EML 2023 Computer Aided Graphics and Design	
CGN 3710 Experimentation and Instrumentation in Civil Engineering or	3
EEL 3003 Elements of Electrical Engineering	
CHM 2200 Fundamentals of Organic Chemistry or	3
BCH 3023 Elementary Organic and Biological Chemistry	
EGM 3520 Mechanics of Materials	3
Total	12

Semester 6

Credits

ABE 3612C Heat and Mass Transfer in Biological Systems	4
CGN 3421 Computer Methods in Civil Engineering (4) or	
ENV 3040C Computer Methods in Environmental Engineering (3) or 3-4	
ESI 4327C Matrix/Numerical Methods in Systems Engineering (4)	
EGM 3400 Elements of Dynamics	2
ENC 3246 Professional Communication for Engineers (GE-C)	3
PKG 3001 Principles of Packaging	3
Total	15-16

Semester 7

Credits

ABE 3000C Applications in Biological Engineering	3
ABE 4033 Fundamentals and Applications of Biosensors or	3
ABE 4413C Post Harvest Operations Engineering	
EMA 3010 Materials	3
PKG 4101C Computer Tools for Packaging	3
PKG 4011 Production and Processing	3
Total	15

Semester 8

Credits

ABE 4042C Biological Engineering Design 1	2
ABE 4171 Power and Machines for Biological Systems	3
EGN 3353C Fluid Mechanics (3) or	3-4
CWR 3201 Hydrodynamics (4)	
EMA 3066 Polymer Science and Engineering	3

PKG 3103 Food Packaging	3
Elective	1
Total 15-16	

Semester 9

Credits

ABE 3652C Physical and Rheological Properties of Biomaterials (3) or CGN 3501C Civil Engineering Materials (4)	3-4
ABE 4043C Biological Engineering Design 2	2
ABE 4931 Professional Issues in Biological Engineering	1
PKG 4008 Transportation and Distribution Packaging	3
<u>Engineering elective*</u>	<u>3</u>
Technical electives *	<u>3-4</u>

Total 13-14

* ~~Department approved electives~~ See list of electives

Technical Electives:

AEB 3300	Agricultural and Food Marketing	3
AEB 3133	Principles of Agribusiness Management	3
AEC3414	Leadership Development	3
AEC3070C	Digital Media Production in Agricultural and Life Sciences	3
AEC4036	Advanced Agricultural Communication Production	3
AOM 4062	Principles of Food Engineering	4
FOS 3042	Introductory Food Science	3
FOS4427C	Principles of Food Processing	4
FOS4731	Government Regulations and the Food Industry	2
PKG 4941	Packaging Engineering Internship	3

Engineering Electives:

EGN 4641	Engineering Entrepreneurship	3
EGN4643	Engineering Innovation	3
EGN 4038	Engineering Leadership	3
EGN 4912	Undergraduate Research in Engineering	0-3
EGS4038	Engineering Leadership	3
EMA 3011	Fundamental Principles of Materials	3
EMA3513C	Analysis of the Structure of Materials	4
EMA3800	Error Analyses and Optimization Methodologies in Materials Research	3
EMA4062	Biopolymers: Manufacture, Stability and Biocompatibility	3
EMA4223	Mechanical Behavior of Materials	3
EMA4666	Polymer Processing	3
PKG 4941	Packaging Engineering Internship	3

Proposed Changes to the Packaging Engineering Specialization in the BS Biological Engineering Degree

Narrative Discussion

The following changes were approved at a May 21, 2015 ABE Curriculum Committee Meeting.

EMA3010, *Materials*, is a required course in the Packaging Engineering specialization. It covers material properties that are more aligned with packaging than the course we are proposing it replaces, ABE3652C, *Physical and Rheological Materials*.

PKG4101C, *Computer Tools for Packaging*, is a required course in the Packaging Engineering specialization. It covers CAD-related to the packaging industry and we are proposing it as a replacement for CGN2328, *Technical Drawing and Visualization*, or EML2023, *Computer-Aided Graphics and Design*.

This change will free up 6 credits of elective credits. Only 3 credits of elective credits are currently available.