



Nikki R. Haley  
Governor

Emily H. Farr  
Interim Director

South Carolina  
Department of Labor, Licensing and Regulation

Board of Registration for  
Professional Engineers and Surveyors



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[www.llronline.com/POI/Engineers](http://www.llronline.com/POI/Engineers)

November 29, 2016

Via email

Dr. Patricia A. Layton  
Clemson University  
Wood Utilization & Design Institute  
219 Harris Smith Building  
Clemson, SC 29634

Dear Dr. Layton:

The SC Board of Registration for Professional Engineers and Surveyors considered your proposed curriculum change to the Forest Resource Management - Land Surveying Emphasis program.

During the November 15, 2016 meeting, the Board reviewed the current and proposed curriculum provided in your correspondence dated November 2, 2016. After careful consideration, the Board voted to approve the change as submitted.

We appreciate your efforts to maintain a surveying curriculum.

Please contact our office if we may be of assistance.

Sincerely,

Lenora Addison-Miles, CPM, MBA  
Administrator

**Change Major**

If Gen Ed requirements are changed a separate Gen Ed Checklist form must accompany this form.

Major Name: Land Surveying Emphasis

Degree: Bachelor of Science

Effective Catalog Year: 2018-2019

Change Major Name to: Curriculum Curriculum Map Current and Proposed-20170125115522.pdf  
Map:

Change Curriculum Requirements Description: Curriculum Maps (2016-17 and Proposed)

Change General Education Requirements  
 Add, Change, or Delete Concentration(s) Additional LicenseBoardApprovalLetter-20161212103736.pdf  
 Add, Change, or Delete Emphasis Area(s) Information: SC Board of Registration

Description: Approval Letter

**Summary/Explanation**

Currently the Forest Resource Management - Land Surveying Emphasis curriculum requires students to take BE 3220 - Small Watershed Hydrology & Sedimentology. This course has a prerequisite of CE 3410 - Introduction to Fluid Mechanics, which has a prerequisite of CE 2080 - Dynamics, which in turn has 3 more prerequisites. Our students are not taking any of these courses and thus are not being allowed to enroll in BE 3220. To provide students with the required content in hydrology and sedimentology, we propose to change the curriculum requirement of BE 3220 to AGM 3010 - Soil and Water Conservation. This change was also proposed to the South Carolina Board of Registration for Professional Engineers and Surveyors and was approved on November 15, 2016. The approval letter is attached.

**Rationale for Change Major**

- Strengthen Program Requirement(s)
- Alignment of Student Learning Outcomes
- Alternative Delivery of Content
- Improve Time to Degree
- Evolution of the Discipline
- Changing Prerequisites
- Address DWF Rates
- General Education Modifications
- Other (Please specify.)

**Form**

User ID: phiest Name: Patrick Hiest

Date: 01/25/2017 Number: 28509

Alan R. Joh  
Chair, Department Curriculum Committee 1/30/17  
Date

[Signature]  
Department Chair 1/30/17  
Date

[Signature]  
Chair, College Curriculum Committee 2/29/17  
Date

[Signature]  
College Dean 2/20/17  
Date

Director, Calhoun Honors College  
[Signature]  
Chair, Undergraduate Curriculum Committee 4/7/2017  
Date

Chair, Graduate Curriculum Committee  
Robert B. Jones 8/24/17  
Date  
Provost

President  
Date

Forest Resource Management - Land Surveying Emphasis				2016/17	
<b>Freshman Year</b>					
<b>First Semester</b>			<b>Second Semester</b>		
BIOL 1030	General Biology I	3	BIOL 1040	General Biology II	3
BIOL 1050	General Biology Lab. I	1	BIOL 1060	General Biology Lab. II	1
CH 1010	General Chemistry	4	ENGL 1030	Accelerated Composition	3
ENR 1010	Intro to Environment & Natural Resources I	1	STAT 2300	Statistical Methods I	3
MATH 1020	Intro. to Mathematical Analysis	3	FOR 1010	Introduction to Forestry	1
Oral Communication Requirement <sup>1</sup>		3	CH 1020 or PHYS 2000 or higher general physics <sup>2</sup>		4
Semester Hours: 15			Semester Hours: 15		
<b>Sophomore Year</b>					
<b>First Semester</b>			<b>Second Semester</b>		
FNR 2040 or PES 2020	Soil Information Systems or Soils	4	ENGR 2100	Engineering Graphics for Civil Engr.	2
FOR 2050	Dendrology (make sure if you take section 1 of lecture, you have to take section 1 of LAB and etc.)	2	ENGL 3140	Technical Writing (must be taken in Junior year because it is a 3000 Level course)	3
FOR 2210	Forest Biology	3	FOR 2060	Forest Ecology	3
Arts and Humanities (Lit.) Requirement <sup>1</sup>		3	Arts and Humanities (Non-Lit.) Requirement <sup>1</sup>		3
Economics Requirement <sup>3</sup>		3	Social Science Requirement <sup>1</sup>		3
Semester Hours: 15			Semester Hours: 14		
<b>Forestry Summer Camp (7 weeks)</b>					
FOR 2510	Forest Communities	2	FOR 2530	Forest Mensuration	4
FOR 2520	Forest Operations	1	FOR 2540	Forest Products	1
Semester Hours: 8					
<b>Junior Year</b>					
<b>First Semester</b>			<b>Second Semester</b>		
FOR 3020	Forest Biometrics	2	AGM 2210	Surveying: Earthwork & Area Meas.	3
FOR 3040	Forest Resource Economics or AGRB 357 (will have to process a sub)	3	FOR 3080	Remote Sensing in Forestry	2
FOR 3410	Wood Procurement Practices in Forest Indust.	3	FOR 4080	Wood and Paper Products	3
FOR 4130	Integrated Forest Pest Management	4	FOR 4180	Forest Resource Valuation	3
FOR 4340	GIS for Landscape Planning	3	FOR 4650	Silviculture	4
Semester Hours: 15			Semester Hours: 15		
<b>Summer</b>					
FNR 4900	Field Training in Natural Resources <sup>4</sup>	3			
<b>Senior Year</b>					
<b>First Semester</b>			<b>Second Semester</b>		
FOR 4100	Harvesting Processes	4	DE 3220	Small Watershed Hydrology & Sedimentology	3
FOR 4160	Forest Policy and Administration (satisfies the STS requirement)	3	FNR 4990	Natural Resources Seminar	1
FOR 4170	Forest Resource Management and Regulation	3	FOR 4060	Forested Watershed Management	2
FOR 4310	Recreation Resource Planning in For. Mgmt.	2	FOR 4150	Forest Wildlife Management	3
FOR 4330	GPS Applications	3	FOR 4250	Forest Resource Management Plans	2
Semester Hours: 15			FOR 4330	Real Estate Law	3
			Semester Hours: 14		

**129 Total Semester Hours**

<sup>1</sup> See General Education Requirements. Three of these credits must also satisfy the Cross-Cultural Awareness Requirement. (Note: Social Science Requirement must be in the area other than economics or applied economics.)

<sup>2</sup> See Advisor. We highly recommend PHYS 200 or higher general physics so that you have the correct pre-requisites for subsequent courses.

<sup>3</sup> AGRB 2020, ECON 2000, 2110 or 2120

<sup>4</sup> Summer Internship must be in land surveying.

Forest Resource Management - Land Surveying Emphasis				Proposed 2017/18	
<b>Freshman Year</b>					
<b>First Semester</b>			<b>Second Semester</b>		
BIOL 1030	General Biology I	3	BIOL 1040	General Biology II	3
BIOL 1050	General Biology Lab. I	1	BIOL 1060	General Biology Lab. II	1
CH 1010	General Chemistry	4	ENGL 1030	Accelerated Composition	3
ENR 1010	Intro to Environment & Natural Resources I	1	STAT 2300	Statistical Methods I	3
MATH 1020	Intro. to Mathematical Analysis	3	FOR 1010	Introduction to Forestry	1
Oral Communication Requirement <sup>1</sup>			CH 1020 or PHYS 2000 or higher general physics <sup>2</sup>		
Semester Hours: 15			Semester Hours: 15		
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FNR 2040 or PES 2020	Soil Information Systems or Soils	4	ENGR 2100	Engineering Graphics for Civil Engr.	2
FOR 2050	Dendrology (make sure if you take section 1 of lecture, you have to take section 1 of LAB and etc.)	2	ENGL 3140	Technical Writing (must be taken in Junior year because it is a 3000 Level course)	3
FOR 2210	Forest Biology	3	FOR 2060	Forest Ecology	3
Arts and Humanities (Lit.) Requirement <sup>1</sup>			Arts and Humanities (Non-Lit.) Requirement <sup>1</sup>		
Economics Requirement <sup>3</sup>			Social Science Requirement <sup>1</sup>		
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FOR 2510	Forest Communities	2	FOR 2530	Forest Mensuration	4
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FOR 3040	Forest Resource Economics or AGRB 357 (will have to process a sub)	3	FOR 3080	Remote Sensing in Forestry	2
FOR 3410	Wood Procurement Practices in Forest Indust.	3	FOR 4080	Wood and Paper Products	3
FOR 4130	Integrated Forest Post Management	4	FOR 4180	Forest Resource Valuation	3
FOR 4340	GIS for Landscape Planning	3	FOR 4050	Silviculture	4
Semester Hours: 15			Semester Hours: 15		
<b>Summer</b>					
FNR 4900	Field Training in Natural Resources <sup>4</sup>	3			
<b>Senior Year</b>					
<b>First Semester</b>			<b>Second Semester</b>		
FOR 4100	Harvesting Processes	4	AGM 3010	Soil and Water Conservation	3
FOR 4160	Forest Policy and Administration (satisfies the STS requirement)	3	FNR 4990	Natural Resources Seminar	1
FOR 4170	Forest Resource Management and Regulation	3	FOR 4060	Forested Watershed Management	2
FOR 4310	Recreation Resource Planning in For. Mgmt.	2	FOR 4150	Forest Wildlife Management	3
FOR 4330	GPS Applications	3	FOR 4250	Forest Resource Management Plans	2
Semester Hours: 15			LAW 3330 Real Estate Law		
			Semester Hours: 14		

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<sup>2</sup> See Advisor. We highly recommend PHYS 200 or higher general physics so that you have the correct pre-requisites for subsequent courses.

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