APPROVAL FORM FOR

DEGREE PROGRAMS

MISSISSIPPI STATE UNIVERSITY

NOTE: This form is a cover sheet that must accompany the degree program change proposal. The actual proposal should be prepared in accordance with format requirements provided in the *Guide and Format for Curriculum Proposals* published by the UCCC. Both cover sheet and proposal should be submitted, along with all required copies, to UCCC, Garner Hall, Room 279, Mail Stop 9702.

College: Agriculture & Life Sciences **Department:** Plant and Soil Sciences

Contact Person: Richard Harkess **Mail Stop:** 9555 **E-mail:** rlh18@msstate.edu

Nature of Change: Modification **Date:** 10/15/2019

Program will be offered at: Starkville (Campus 1)

Current Degree Program Name: Bachelor of Science **Effective Date:** Fall 2023

Major: Agronomy **Concentration:** SOSI (AESS), GSTM, ICM, IPM

New Degree Program Name: Select One

Major: **Concentration:**

Summary of Proposed Changes:

See the attached sheet for an itemized list of proposed changes to the curriculum.

Darrin M. Dodds — Darrin Dodds Digitally signed by Darrin Dodds Date: 2022.09.26 07:51:53 -05'00'

Department Head

Will Davis — Will Davis Digitally signed by Will Davis Date: 2022.10.21 12:17:48 -05'00'

Chair, College or School Curriculum Committee

Darrell Sparks (for Scott Willard) — 10/31/22

Dean of College or School

Chair, University Committee on Courses and Curricula

Chair, Graduate Council (if applicable)

Chair, Deans Council

☐ SACS Letter Sent

APPROVAL FORM FOR

DEGREE PROGRAMS

MISSISSIPPI STATE UNIVERSITY

NOTE: This form is a cover sheet that must accompany the degree program change proposal. The actual proposal should be prepared in accordance with format requirements provided in the *Guide and Format for Curriculum Proposals* published by the UCCC. Both cover sheet and proposal should be submitted to UCCC Mail Stop 9702 (281 Garner Hall), Phone: 325-9410.

College: Agriculture & Life Sciences **Department:** Plant and Soil Sciences

Contact Person: Richard Harkess **Mail Stop:** 9555 **E-mail:** richard.harkess@msstate.edu

Nature of Change: Program Modification **Date Initiated:** 9/26/22 **Effective Date:** Fall 2023

Current Degree Program Name: Bachelor of Science

Major: Agronomy **Concentration:** SOSI (AESS), GSTM, ICM, IPM

New Degree Program Name:

Major: **Concentration:**

Summary of Proposed Changes:

See the attached sheet for an itemized list of proposed changes to the curriculum.

Approved:	Date:
Department Head	
Dana Pomykal Franz — Digitally signed by Dana Pomykal Franz Date: 2022.10.10 15:01:58 -05'00'	
Director of Academic Quality	
Chair, College or School Curriculum Committee	
Dean of College or School	
Chair, University Committee on Courses and Curricula	
Chair, Graduate Council(if applicable)	
Chair, Deans Council	

Itemized Changes to the core Agronomy Curriculum

1. Modified the PSS program description to include reference to the availability of the Distance Education graduate degree programs.

English Gen Ed

2. Deleted EN 1163 from English Gen Ed – course no longer taught.

Math Gen Ed

3. Deleted MA 1313 – no longer required in Gen Ed

Science Gen Ed

4. Deleted "See Concentration"

Fine Arts Gen Ed

5. Changed from "see concentration" to "Select from General Education List"

Social Sciences Gen Ed

6. Changed from select from Gen Ed list to See Concentrations

Major Core

7. Added AEC 3133 Introduction to Agribusiness Management
8. Added Business Electives (Choose 1 course) – requested from PSS Advisory Board
    a. Added ACC 2013 Principles of Financial Accounting
    b. Added BL 2413 Legal Environment of Business
    c. Added MGT 3513 Intro Human Resource Management
    d. Added MKT 3013 Principles of Marketing

Itemized changes to Agronomy: Ag & Environmental Soil Sciences (AESS) concentration:

9. Changed the acronym from SOSI to AESS
10. Deleted MA 1323 Trigonometry from Additional Gen Ed Courses
11. Added ST 2113 Intro to Statistics to Additional Gen Ed Courses
12. Added OR MA 2113 Intro to Statistics to Additional Gen Ed Courses

AESS Concentration Courses

13. Deleted MA 1713 Calculus I
14. Deleted CH 4513 Organic Chemistry I
15. Deleted CH 4523 Organic Chemistry II
16. Deleted Computer Science Requirement and moved computer course to AESS Concentration Courses
17. Deleted TKT 1273 from computer course options – course no longer taught.
18. Added AEC 1223 Computer Applications in Ag and Life Sciences as an OR to the computer courses.
19. Updated AIS 4203 to AELC 4203 in computer courses.
20. Added CH 2501 Elementary Organic Chemistry Lab
21. Added CH 2503 Elementary Organic Chemistry
22. Added PH 1133 General Physics III
23. Added Agronomy Crop Production Elective 3 hrs
    a. Added PSS 4103 Forage and Pasture Crops
    b. Added PSS 4123 Grain Crops
    c. Added PSS 4133 Fiber and Oilseed Crops
24. Reduced restricted electives from 15 to 12 hours.

AESS Restricted Electives

25. Decreased restricted electives from 15 to 12 hours to bring degree total to 124 hours.
26. Deleted ABE 4263 Soil and Water Management
27. Deleted ADS 1113 Animal Science
28. Deleted AEC 3133 Intro Agribusiness Management
29. Deleted CH 3213 Inorganic Chemistry
30. Deleted CH 4303 Environmental Chemistry
31. Deleted CH 4404 Biophysical Chemistry
32. Deleted CH 4413 Thermodynamics and Kinetics
33. Deleted EPP 2213 Introduction to Insects
34. Deleted EPP 4113 Principles of Plant Pathology
35. Deleted GG 3133 Intro Environmental Geology
36. Deleted GG 4114 Mineralogy
37. Deleted GG 4304 Prin. Sedimentary Deposits I
38. Deleted MA 1723 Calculus II
39. Deleted PSS 4223 Seed Production
40. Added GR 4303 Principles of GIS
41. Added PSS 2543 Precision Agriculture I
42. Added PSS 3633 Sustainable and Organic Horticulture
43. Added PSS 4153 Sustainable Agroecology
44. Added PSS 4383 Ag Remote Sensing I
45. Added PSS 4393 Ag Remote Sensing II
46. Added PSS 4411 Remote Sensing Seminar
47. Added PSS 4543 Precision Agriculture II
48. Added PSS 4733 Ag Flight Technology I
49. Added PSS 4800 Undergraduate Research in PSS

Itemized changes to Agronomy: Golf & Sports Turf Management (GSTM) concentration:

GSTM Concentration courses

50. Deleted BIO 1134 Biology I – it is not a prerequisite for BIO 1144 Biology II.
51. Deleted *Computer Science Requirement satisfied by completion of PSS 4423 and 4443 and associated asterisks next to those courses.
52. Added OR EPP 4163 Plant Disease Management as alternate to EPP 4523.
53. Increased Restricted Electives from 6 to 9 hours (due to deletion of MA 1313)

GSTM Restricted Electives

54. Course name change on ABE 2173 from Internal Comb. Eng to Agr Off-Road Machines
55. Deleted CO 2253 Fund. Of Interpersonal Communication
56. Deleted CO 3833 Interviewing
57. Deleted FIN 2003 Personal Money Management
58. Deleted GR 1603 Intro to Meteorology
59. Deleted LA 3603 Design of Golf Environments
60. Deleted PE 1081 Beginning Golf
61. Deleted PH 1113 General Physics I
62. Deleted PSS 4043 International Horticulture
63. Deleted PSS 4223 Seed Production

64. Deleted PSS 4314 Microbiology and Ecology of Soils
65. Deleted PSS 4323 Soil Classification
66. Deleted PSS 4333 Soil Conservation
67. Deleted PSS 4503 Soil Chemistry
68. Added GR 1604 Weather and Climate
69. MA 1313 College Algebra – instead of adding a free elective, this will give option of counting it or a major specific elective.
70. Added PSS 2543 Precision Ag I
71. Added PSS 4153 Sust. Agroecology
72. Added PSS 4383 Ag Remote Sensing I
73. Added PSS 4393 Ag Remote Sensing II
74. Added PSS 4483 Introduction to Remote Sensing
75. Added PSS 4543 Precision Ag II
76. Added PSS 4733 Ag Flight Tech I
77. Added PSS 4800 Undergraduate Research in PSS

GSTM Sustainability Electives

78. Added PSS 2543 Precision Agriculture I
79. Added PSS 4153 Sustainable Agroecology

Itemized changes to Agronomy: Integrated Crop Management (ICM) concentration:

ICM Concentration courses

80. Deleted AEC 3133 Intro to Agribusiness Management. – added to core for AGN
81. Deleted OR PSS 4314 Microbiology and Ecology of Soil
82. Deleted MKT 3013 Principles of Marketing
83. Deleted Unrestricted electives
84. Deleted Computer Science Requirement and moved computer course to ICM Concentration Courses
85. Deleted TKT 1273 Computer Applications – no long taught.
86. Updated AIS 4203 to AELC 4203 in computer courses.
87. Added AEC 1223 Computer Applications in Ag and Life Sciences as an OR to the computer courses.
88. Added PSS 4103 Forage and Pasture Crops
89. Added PSS 4123 Grain Crops
90. Added PSS 4133 Fiber and Oilseed Crops
91. Added PSS 4493 Plant Genetics as an alternative to PO 3103 Genetics.
92. Reduced Unrestricted Electives from 6 to 3 hours
93. Increased degree requirement from 121 hours to 124 hours

ICM Restricted Electives

94. Deleted MA 1713 Calculus I
95. Deleted PSS 4103 Forage and Pasture Crops – moved to required concentration courses
96. Deleted PSS 4123 Grain Crops – moved to required concentration courses
97. Deleted PSS 4133 Fiber and Oilseed Crops – moved to required concentration courses
98. Deleted PSS 4143 Advanced Fruit Science

99. Added MA 1313 College Algebra – instead of adding a free elective, this will give option of counting it or a major specific elective.
100. Added PSS 2543 Precision Agriculture I
101. Added PSS 3633 Sustainable and Organic Horticulture
102. Added PSS 4153 Sust. Agroecology
103. Added PSS 4383 Ag Remote Sensing I
104. Added PSS 4393 Ag Remote Sensing II
105. Added PSS 4473 Hydroponic and Soilless Crops
106. Added PSS 4543 Precision Agriculture II
107. Added PSS 4733 Ag Flight Tech I
108. Added PSS 4800 Undergraduate Research in PSS.
109. Adjusted final AGN/ICM degree hours from 121 to 124

Itemized changes to Agronomy: Integrated Pest Management (IPM) concentration:

IPM Concentration courses

110. Deleted BIO 1134 Biology I – it is not a prerequisite for BIO 1144 Biology II.
111. Deleted Unrestricted Electives
112. Deleted Computer Science Requirement and moved computer course to IPM Concentration Courses
113. Deleted TKT 1273 Computer Applications – no long taught.
114. Added AEC 1223 Computer Applications in Ag and Life Sciences as an OR to the AELC 4203 App Comp Tech AELS computer course.
115. Added PSS 4493 Plant Genetics as an alternative to PO 3103 Genetics.
116. Added **Crop Production Electives** 6 hrs
    a. Added PSS 4103 Forage and Pasture Crops
    b. Added PSS 4123 Grain Crops
    c. Added PSS 4133 Fiber and Oilseed Crops
117. Reduced Unrestricted Electives from 6 to 3 hours

IPM Restricted Electives

118. Deleted ABE 3513 GPS & GIS in Ag & Engineering
119. Deleted ABE 4313 Biol Trtmt Nonpoint Src Pollut
120. Deleted ACC 2013 Princ of Financial Accounting
121. Deleted AEC 3113 Intro Quantitative Economics
122. Deleted AEC 3133 Intro Agribusiness Management
123. Deleted AEC 3213 International Trade in Agriculture
124. Deleted AEC 3233 Intro to Environ Econ and Policy
125. Deleted AEC 3513 Econ Food and Fiber Production
126. Deleted AEC 4123 Fin Commodity Futures Mrkt
127. Deleted EPP 4244 Aquatic Entomology
128. Deleted FO 4313 Spatial Tech Nat Res Mgmt
129. Deleted FO 4451 Remote Sensing Applications Lab
130. Deleted FO 4452 Remote Sensing Applications
131. Deleted GR 4323 Cartographic Sciences
132. Deleted LA 2433 Landscape Syst Plant Comm
133. Deleted MGT 3513 Intro Human Resource Mgmt

134. Deleted MKT 3013 Prin. Marketing
135. Deleted WFA 4153 Prin Wildlife Conserv & Mgmt
136. Deleted WFA 4253 App Spat Tech Wild Fish Mgmt
137. Added MA 1313 College Algebra – instead of adding a free elective, this will give option of counting it or a major specific elective.
138. Added PSS 2543 Precision Agriculture I
139. Added PSS 3043 Fruit Science
140. Added PSS 3633 Sustainable and Organic Horticulture
141. Added PSS 4143 Advanced Fruit Science
142. Added PSS 4153 Sustainable Agroecology
143. Added PSS 4383 Ag Remote Sensing I
144. Added PSS 4393 Ag Remote Sensing II
145. PSS 4483 Introduction to Remote Sensing
146. Added PSS 4543 Precision Agriculture II
147. Added PSS 4613 Floral Crop Programming
148. Added PSS 4733 Ag Flight Tech I
149. Added PSS 4800 Undergraduate Research in PSS.

MISSISSIPPI STATE UNIVERSITY

COLLEGE OF AGRICULTURE & LIFE SCIENCES
Department of Plant and Soil Sciences

117 Dorman Hall, Box 9555
32 Creelman Street
Mississippi State, MS 39762

P. 662.325.2311
F. 662.325.8742
www.pss.msstate.edu

September 23, 2022

University Courses & Curriculum Committee
Andy Perkins, Chair
281 Garner Hall;
Post Office Box 5268
Mailstop: 9702
Mississippi State, MS 39762

UCCC:

The PSS CCC met as a committee to discuss the proposed degree modification: Agronomy, Horticulture, and Environmental Sciences in Ag Systems. After review and discussion, the committee voted unanimously to support the degree modifications. The committee determined the degree modifications were deemed necessary to update the PSS curriculum to current practices, reflect current departmental curriculum needs, and are relevant to student success. These degrees do not represent a duplication of effort from other degrees offered at Mississippi State University.

Sincerely,

Richard L Harkess

Richard L. Harkess, Chair

Plant and Soil Sciences Courses & Curriculum Committee

PSS CCCommittee:

Michael S Cox
Michael Cox

Jagman Dhillon
Jagman Dhillon (Sep 23, 2022 16:55 CDT)
Jagman Dhillon

Fred Musser
Fred Musser (Sep 25, 2022 21:16 CDT)
Fred Musser

Coleman Etheredge
Cole Etheredge

William Kingery
William Kingery

Barry Stewart
Barry Stewart

c: Darrin Dodds, Dept. Head, PSS

Cindy Williams, Administrative Assistant

Signature: Michael S Cox (Sep 23, 2022 16:35 CDT)

Email: msc15@msstate.edu

Signature: Coleman Etheredge (Sep 26, 2022 07:06 CDT)

Email: cle248@msstate.edu

Signature: William Kingery (Sep 26, 2022 07:10 CDT)

Email: wlk2@msstate.edu

Signature: Barry Stewart (Sep 26, 2022 12:09 CDT)

Email: brs40@msstate.edu

Signature:

Email: rlh18@msstate.edu

PROPOSAL FOR CHANGE IN CURRICULUM
Degree: BACHELOR OF SCIENCE
Major: AGRONOMY
Concentrations:
AGRICULTURAL AND ENVIRONMENTAL SOIL SCIENCE
GOLF AND SPORTS TURF MANAGEMENT
INTEGRATED CROP MANAGEMENT
INTEGRATED PEST MANAGEMENT

1. CATALOG DESCRIPTION
   No significant changes were made in the mission of the program. Minor changes to the catalog description appear below.

2. CURRICULUM OUTLINE
   Deletions in Italics
   Additions in Bold
   New course proposals designated with an asterix (*)

CURRENT Degree Description		PROPOSED Degree Description	
Degree: Bachelor of Science Major: Agronomy		Degree: Bachelor of Science Major: Agronomy	
Plant and Soil Sciences curricula focus on the application of sciences to the integrated management of plants, soil, and climate for high-quality production of food, fiber, and ornamental plants. Central to this course of study is the dedication to conserve, maintain, and enhance our environment. An undergraduate student may major in Agronomy (AGN), Environmental Science in Agricultural Systems (ESAS) or Horticulture (HO) and specialize in various concentration areas such as Agricultural and Environmental Soil Science (AGN), Integrated Pest Management (AGN), Golf and Sports Turf Management (AGN), Integrated Crop Management (AGM), Floriculture and Ornamentals (HO), Floral Management (HO) and Fruit and Vegetable Production (HO). A grade of "C" or better is required in all required PSS courses in the student's major prior to completion of the degree. *Graduate programs (M.S. and Ph.D.) are also offered in the Department of Plant and Soil Sciences* in Agronomy, Horticulture, and Weed Science. Consult the Graduate Bulletin for additional details.		Plant and Soil Sciences curricula focus on the application of sciences to the integrated management of plants, soil, and climate for high-quality production of food, fiber, and ornamental plants. Central to this course of study is the dedication to conserve, maintain, and enhance our environment. An undergraduate student may major in Agronomy (AGN), Environmental Science in Agricultural Systems (ESAS) or Horticulture (HO) and specialize in various concentration areas such as Agricultural and Environmental Soil Science (AGN), Integrated Pest Management (AGN), Golf and Sports Turf Management (AGN), Integrated Crop Management (AGN), Floriculture and Ornamentals (HO), Floral Management (HO) and Fruit and Vegetable Production (HO). A grade of "C" or better is required in all required PSS courses in the student's major prior to completion of the degree. **The Department of Plant and Soil Sciences also offers on-campus and online M.S. and Ph.D. graduate programs** in Agronomy, Horticulture, and Weed Science. Consult the Graduate Bulletin for additional details.	
CURRENT CURRICULUM OUTLINE	Req. Hours	**PROPOSED CURRICULUM OUTLINE**	Req. Hours
English EN 1103 English Comp. I[1] *or EN 1163 Accelerated Comp. I[1]* EN 1113 English Comp. II[1]	 3 3	English EN 1103 English Comp. I[1] EN 1113 English Comp. II[1] or EN 1173 Accelerated Comp. II[1]	 3 3

or EN 1173 Accelerated Comp. II[1]			
Math *MA 1313 College Algebra*[1] See Concentrations	 3 3	Math See Concentrations	3
Science BIO 2113 Plant Biology[1] or BIO 1144 Biology II[1] PSS 1313 Plant Science[1] *See major core/concentration*	 3-4 3 *3*	Science BIO 2113 Plant Biology[1] or BIO 1144 Biology II[1] PSS 1313 Plant Science[1]	 3 3
Humanities See concentrations	6	Humanities See concentrations	6
Fine Arts See concentration or General Education list	3	Fine Arts **Select from General Education list**	3
Social Sciences AEC 2713 Intro Food & Res. Econ[1] or EC 2113 Prin. Macroeconomics[1] or EC 2123 Prin. Microeconomics[1] *Select 3 hours from General Education list*	 3 3	Social Sciences AEC 2713 Intro Food & Res. Econ[1] or EC 2113 Prin. Macroeconomics[1] or EC 2123 Prin. Microeconomics[1] **See concentrations**	 3 3
Major Core Courses BIO 4214 General Plant Physiology or PSS 4113 Ag. Crop Physiology PSS 3301 Soils Laboratory PSS 3303 Soils PSS 4313 Soil Fertility and Fertilizers	 3-4 1 3 3	Major Core Courses **AEC 3133 Intro Agribusiness Mgmt** PSS 4113 Ag. Crop Physiology or BIO 4214 General Plant Physiology PSS 3301 Soils Laboratory PSS 3303 Soils[1] PSS 4313 Soil Fertility and Fertilizers **Business Elective**	 **3** 3 1 3 3 **3**
Oral Communication Requirement CO 1003 Fund Public Speaking[1] Or CO 1013 Intro Communication	 3	Oral Communication Requirement CO 1003 Fund Public Speaking[1] Or CO 1013 Intro Communication	 3
Writing Requirement AELC 3203 Professional Writing ANRHS	 3	Writing Requirement AELC 3203 Professional Writing ANRHS	 3
		Business Electives (choose 1 course) **ACC 2013 Principles of Financial Acct.** **BL 2413 Legal Environment of Business** **MGT 3513 Intro Human Resource Mgmt** **MKT 3013 Princ of Marketing**	**(3)**
Total hours	52-54	**Total hours**	**52**

[1] Satisfies General Education requirement

CONCENTRATION DESCRIPTION	CONCENTRATION DESCRIPTION
Agricultural and Environmental Soil Sciences Concentration (*SOSI*) The Agricultural and Environmental Soil Sciences curriculum provides an educational foundation in soil processes involving physical, chemical and biological interrelationships. The soil resource is an integral component of our environment and is subject to loss and degradation through man's activities. Humanity's dependence on soil for food and fiber production and the need for ensuring environmental quality requires individuals trained in the management of this resource. Career opportunities exist both nationally and internationally in agricultural and environmental consulting, agribusiness, government agencies, teaching, and research. Required courses provide soil science training, while elective courses can be selected to meet specific needs. Internship: *SOSI* students must complete a minimum one semester internship with an approved internship sponsor in industry, private consulting firms/individuals, or governmental agencies.	Agricultural and Environmental Soil Sciences Concentration **(AESS)** The Agricultural and Environmental Soil Sciences curriculum provides an educational foundation in soil processes involving physical, chemical, and biological interrelationships. The soil resource is an integral component of our environment and is subject to loss and degradation through man's activities. Humanity's dependence on soil for food and fiber production and the need for ensuring environmental quality requires individuals trained in the management of this resource. Career opportunities exist both nationally and internationally in agricultural and environmental consulting, agribusiness, government agencies, teaching, and research. Required courses provide soil science training, while elective courses can be selected to meet specific needs. Internship: **AESS** students must complete a minimum one semester internship with an approved internship sponsor in industry, private consulting firms/individuals, or governmental agencies.

CURRENT CURRICULUM OUTLINE		Req. Hours	**PROPOSED CURRICULUM OUTLINE**		Req. Hours
Additional General Education Courses			Additional General Education Courses		
MA 1323	*Trigonometry* [1]	3	**ST 2113**	**Intro to Statistics OR**	3
GR 1123	Intro World Geography [1]	3	**MA 2113**	**Intro to Statistics**[1]	
Humanities - Select from General Education[1]		6	GR 1123	Intro World Geography [1]	3
			Humanities - Select from General Education[1]		6
SOSI Concentration Courses			**AESS** Concentration Courses		
MA 1713	*Calculus I*	3	**AEC 1223**	**Computer App Ag Life Sci OR**	3
ST 3123	Intro Statistical Inference	3	AELC 4203	App Comp Tech AELC	
BIO 3304	General Microbiology	4	BIO 3304	General Microbiology	3
CH 1211	Investigations in Chemistry I	1	CH 1211	Investigations in Chemistry I	4
CH 1213	Chemistry I [1]	3	CH 1213	Chemistry I [1]	1
CH 1221	Investigations in Chemistry II	1	CH 1221	Investigations in Chemistry II	3
CH 1223	Chemistry II	3	CH 1223	Chemistry II	1
CH 2311	Analytical Chemistry I Lab	1	CH 2311	Analytical Chemistry I Lab	3
CH 2313	Analytical Chemistry I	3	CH 2313	Analytical Chemistry I	1
CH 4513	*Organic Chemistry I*	3	**CH 2501**	**Elem. Organic Chemistry Lab**	3
CH 4523	*Organic Chemistry II*	3	**CH 2503**	**Elem. Organic Chemistry**	**3**
GG 1111	Earth Sciences I Laboratory	1	GG 1111	Earth Sciences I Laboratory	**3**
GG 1113	Survey of Earth Sciences I	3	GG 1113	Survey of Earth Sciences I	1
PH 1113	General Physics I	3	PH 1113	General Physics I	3
PH 1123	General Physics II	3	PH 1123	General Physics II	3
PSS 3423	Agronomy Internship	3	**PH 1133**	**General Physics III**	3
PSS 4314	Microbiol and Ecology of Soil	4	PSS 3423	Agronomy Internship	**3**
PSS 4323	Soil Classification	3	PSS 4314	Microbiol and Ecology of Soil	3
PSS 4333	Soil Conservation & Land Use	3	PSS 4323	Soil Classification	4
PSS 4603	Soil Chemistry	3	PSS 4333	Soil Conservation & Land Use	3

Restricted Electives (see advisor) *Computer Science Requirement* *AIS 4203 App Comp Tech Ag Info Sci Ed or* *TKT 1273 Computer Applications*	*15* *3*	PSS 4603 Soil Chemistry ST 3123 Intro Statistical Inference **Agronomy Crop Production Elective 3 hrs** **Restricted Electives 12 hours**	3 3 **3** **12**
Restricted Electives *ABE 4263 Soil and Water Management* *ADS 1113 Animal Science* *AEC 3133 Intro Agribusiness Management* BCH 4013 Principles of Biochemistry BIO 4213 Plant Ecology BIO 4404 Environmental Microbiology *CH 3213 Inorganic Chemistry* *CH 4303 Environmental Chemistry* *CH 4404 Biophysical Chemistry* *CH 4413 Thermodynamics and Kinetics* *EPP 2213 Introduction to Insects* *EPP 4113 Principles of Plant Pathology* *GG 3133 Intro Environmental Geology* *GG 4114 Mineralogy* *GG 4304 Prin. Sedimentary Deposits I* GG 4503 Geomorphology: GR 2313 Maps and Remote Sensing GR 3113 Conserv. Natural Resources GR 4603 Climatology *MA 1723 Calculus II* PSS 3133 Introduction to Weed Science PSS 4103 Forage and Pasture Crops PSS 4123 Grain Crops PSS 4133 Fiber and Oilseed Crops *PSS 4223 Seed Production* PSS 4373 Geospatial Ag Management PSS 4413 Turf Management PSS 4483 Intro Remote Sensing Tech PSS 4553 Plant Growth and Development	(15)	**Agronomy Crop Production Elective** **PSS 4103 Forage and Pasture Crops** **PSS 4123 Grain Crops** **PSS 4133 Fiber and Oilseed Crops** Restricted Electives BCH 4013 Principles of Biochemistry BIO 4213 Plant Ecology BIO 4404 Environmental Microbiology GG 4503 Geomorphology: GR 2313 Maps and Remote Sensing GR 3113 Conserv. Natural Resources **GR 4303 Principles of GIS** GR 4603 Climatology **PSS 2543 Precision Agriculture I** PSS 3133 Introduction to Weed Science **PSS 3633 Sustainable and Organic Hort.** PSS 4103 Forage and Pasture Crops PSS 4123 Grain Crops PSS 4133 Fiber and Oilseed Crops **PSS 4153 Sustainable Agroecology** PSS 4373 Geospatial Ag Management **PSS 4383 Ag Remote Sensing I** **PSS 4393 Ag Remote Sensing II** **PSS 4411 Remote Sensing Seminar** PSS 4483 Intro Remote Sensing Tech **PSS 4543 Precision Agriculture II** PSS 4553 Plant Growth and Development **PSS 4733 Ag Flight Tech I** **PSS 4800 Undergraduate Research in PSS**	(3) (12)
Total Hours	122	**Total Hours**	**124**

CONCENTRATION DESCRIPTION Golf and Sports Turf Management Concentration (GSTM) Golf and Sports Turf Management (GSTM) is the study of plant and soil sciences for the culture of turfgrass on golf and sports facilities. The GSTM curriculum prepares individuals for careers as golf superintendents at private, daily fee, and resort courses or as sports turf managers at city, school and professional sports turf facilities (i.e. football, baseball, soccer fields). New construction of golf courses and sports facilities has led to a heightened demand for trained golf and sports turf management professionals. The curricula focus is on the application of	CONCENTRATION DESCRIPTION Golf and Sports Turf Management Concentration (GSTM) Golf and Sports Turf Management (GSTM) is the study of plant and soil sciences for the culture of turfgrass on golf and sports facilities. The GSTM curriculum prepares individuals for careers as golf superintendents at private, daily fee, and resort courses or as sports turf managers at city, school and professional sports turf facilities (i.e. football, baseball, soccer fields). New construction of golf courses and sports facilities has led to a heightened demand for trained golf and sports turf management professionals. The curricula focus is on the application of

sciences to the integrated management of turfgrasses for athletic fields and golf courses. Central to this course of study is the dedication to conserve, maintain, and enhance our environment. Cooperative Education Requirements: GSTM students must complete a minimum 12 month or three semesters COOP Work at a golf course with an individual who is certified or progressing toward certification with the Golf Course Superintendent Association of America or at a sports stadium with a recognized sports turf manager. One of the three COOP semesters enrolled by the student must be a non-summer semester period. A 2.50 cumulative QPA on all MSU work is required to participate in the GSTM COOP program. All new students must register with their Career Center Advisor early in their initial semester of enrollment.	sciences to the integrated management of turfgrasses for athletic fields and golf courses. Central to this course of study is the dedication to conserve, maintain, and enhance our environment. Cooperative Education Requirements: GSTM students must complete a minimum 12 month or three semesters COOP Work at a golf course with an individual who is certified or progressing toward certification with the Golf Course Superintendent Association of America or at a sports stadium with a recognized sports turf manager. One of the three COOP semesters enrolled by the student must be a non-summer semester period. A 2.50 cumulative QPA on all MSU work is required to participate in the GSTM COOP program. All new students must register with their Career Center Advisor early in their initial semester of enrollment.

CURRENT CURRICULUM OUTLINE	Req. Hours	**PROPOSED CURRICULUM OUTLINE**	Req. Hours
Additional General Education Courses		Additional General Education Courses	
MA 1323 Trigonometry[1]	3	MA 1323 Trigonometry[1]	3
or MA 2113 Introduction to Statistics[1]		or MA 2113 Introduction to Statistics[1]	
or ST2113 Introduction to Statistics[1]		or ST2113 Introduction to Statistics[1]	
FLS 1113 Spanish I[1]	3	FLS 1113 Spanish I[1]	3
FLS 1123 Spanish II[1]	3	FLS 1123 Spanish II[1]	3
Social science- Select from Gen.Educ. list	3	Social science- Select from Gen.Educ. list	3
GSTM Concentration Courses		GSTM Concentration Courses	
ABE 2873 Land Surveying	3	ABE 2873 Land Surveying	3
ACC 2013 Principles of Financial Acct.	3	ACC 2013 Principles of Financial Acct.	3
BIO 1134 Biology I	*4*	CH 1043 Survey of Chemistry I [1] OR	3
CH 1043 Survey of Chemistry I [1] OR	3	CH 1213 Chemistry I [1]	
CH 1213 Chemistry I [1]		CH 1051 Experimental Chemistry OR	1
CH 1051 Experimental Chemistry OR	1	CH 1121 Investigations in Chemistry	
CH 1121 Investigations in Chemistry		CH 1053 Survey of Chemistry II OR	3
CH 1053 Survey of Chemistry II OR	3	CH 1223 Chemistry II	
CH 1223 Chemistry II		CH 2501 Elem. Organic Chem. Lab	1
CH 2501 Elem. Organic Chem. Lab	1	CH 2503 Elem. Organic Chemistry	3
CH 2503 Elem. Organic Chemistry	3	EPP 3423 Ornamental & Turfgrass Insects	3
EPP 3423 Ornamental & Turfgrass Insects	3	EPP 4113 Principles of Plant Pathology	3
EPP 4113 Principles of Plant Pathology	3	EPP 4523 Turfgrass Diseases **OR**	3
EPP 4523 Turfgrass Diseases	3	**EPP 4163 Plant Disease Management**	
LA 4344 Landscape Arch. Constr. IV	4	LA 4344 Landscape Arch. Constr. IV	4
MGT 3513 Intro to Human Res. Mgt.	3	MGT 3513 Intro to Human Res. Mgt.	3
PSS 2111 Turfgrass Management Lab	1	PSS 2111 Turfgrass Management Lab	1
PSS 2113 Intro to Turfgrass Science	3	PSS 2113 Intro to Turfgrass Science	3
PSS 2423 Plant Materials I	3	PSS 2423 Plant Materials I	3
PSS 3313 Intro to Weed Science	3	PSS 3313 Intro to Weed Science	3
PSS 3411 Turf Seminar I	1	PSS 3411 Turf Seminar I	1
PSS 3421 Turf Seminar II	1	PSS 3421 Turf Seminar II	1
PSS 4353 Arboriculture & Landsc. Maint.	3	PSS 4353 Arboriculture & Landsc. Maint.	3
PSS 4413 Turfgrass Management	3	PSS 4413 Turfgrass Management	3
PSS 4423* Golf Course Operations	3	PSS 4423 Golf Course Operations	3

PSS 4443* Athletic Field Management PSS 4823 Turf Weed Management **Computer Science Requirement satisfied by completion of PSS 4423 and 4443* *6 hours Restricted Electives (see below)* 3 hours Sustainability Elective *(see below)*	3 3 6 3	PSS 4443 Athletic Field Management PSS 4823 Turf Weed Management **9 hours Restricted Electives** 3 hours Sustainability Elective	3 3 **9** 3
Required Co-op Classes CP 2103 CP 2203 CP 3303	(9)	Required Co-op courses CP 2103 CP 2203 CP 3303	(9)
Restricted Electives ABE 2173 *Internal Comb. Engines* BCH 4013 Principles of Biochem. CO 2213 Small Group Comm. *CO 2253 Fund. of Interpersonal Comm.* *CO 3833 Interviewing* *FIN 2003 Personal Money Management* *GR 1603 Intro to Meteorology* KI 2213 Emergency Health Care *LA 3603 Design of Golf Environment* LA 4753 Sustainable Landscape Mgt. *PE 1081 Beginning Golf* *PH 1113 General Physics* PSS 3473 Plant Materials II PSS 3633 Sustainable and Organic Hort. PSS 3923 Plant Propagation *PSS 4043 International Horticulture* *PSS 4223 Seed Production* *PSS 4314 Microbiol and Ecology of Soil* *PSS 4323 Soil Classification* *PSS 4333 Soil Conservation* PSS 4343 Controlled Env. Ag. PSS 4363 Sustainable Nursery Prod. PSS 4373 Geospatial Agron. Mgt. *PSS 4503 Soil Chemistry* PSS 4553 Plant Growth and Develop.	(6)	Restricted Electives ABE 2173 **Agri Off-Road Machines** BCH 4013 Principles of Biochem. CO 2213 Small Group Comm. **GR 1604 Weather and Climate** KI 2213 Emergency Health Care LA 4753 Sustainable Landscape Mgt. **MA 1313 College Algebra** **PSS 2543 Precision Agriculture I** PSS 3473 Plant Materials II PSS 3633 Sustainable and Organic Hort. PSS 3923 Plant Propagation **PSS 4153 Sustainable Agroecology** PSS 4343 Controlled Env. Ag. PSS 4363 Sustainable Nursery Prod. PSS 4373 Geospatial Agron. Mgt. **PSS 4383 Ag Remote Sensing I** **PSS 4393 Ag Remote Sensing II** **PSS 4483 Intro. Remote Sensing** **PSS 4543 Precision Agriculture II** PSS 4553 Plant Growth and Develop. **PSS 4733 Ag Flight Tech I** **PSS 4800 Undergraduate Research in PSS**	(6)
Sustainability Electives LA 4753 Sustainable Landscape Mgt. PSS 3633 Sustainable and Organic Hort. PSS 4363 Sustainable Nursery Prod.	(3)	Sustainability Electives LA 4753 Sustainable Landscape Mgt. **PSS 2543 Precision Agriculture I** PSS 3633 Sustainable and Organic Hort. **PSS 4153 Sustainable Agroecology** PSS 4363 Sustainable Nursery Prod.	(3)
Total Hours	122	**Total Hours**	**124**

CONCENTRATION DESCRIPTION	CONCENTRATION DESCRIPTION
Integrated Crop Management Concentration (ICM) Integrated Crop Management (ICM) is the study of food and fiber production utilizing ecologically sound and technologically advanced methods. Areas covered include basic concepts of plant science and specific practices in crop initiation, culture, harvesting, processing, distribution, and marketing. Methods of germplasm enhancement are taught. Specific program areas of study include agronomic crop production, crop science, *fruit science*, seed science, seed technology, *and vegetable crop production*. Students completing the Integrated Crop Management curriculum are prepared for careers as producers, consultants, technical representatives, assistant plant breeders, extension agents, or inspectors with USDA and state agencies. This curriculum also provides a good background of basic sciences for those who wish to pursue graduate studies. Internship: ICM students must complete a minimum one semester internship with an approved internship sponsor in industry, private consulting firms/individuals, or governmental agencies.	Integrated Crop Management Concentration (ICM) Integrated Crop Management (ICM) is the study of food and fiber production utilizing ecologically sound and technologically advanced methods. Areas covered include basic concepts of plant science and specific practices in crop initiation, culture, harvesting, processing, distribution, and marketing. Methods of germplasm enhancement are taught. Specific program areas of study include agronomic crop production, crop science, seed science, **and** seed technology. Students completing the Integrated Crop Management curriculum are prepared for careers as producers, consultants, technical representatives, assistant plant breeders, extension agents, or inspectors with USDA and state agencies. This curriculum also provides a good background of basic sciences for those who wish to pursue graduate studies. Internship: ICM students must complete a minimum one semester internship with an approved internship sponsor in industry, private consulting firms/individuals, or governmental agencies.

CURRENT CURRICULUM OUTLINE	Req. Hours	**PROPOSED CURRICULUM OUTLINE**	Req. Hours
Additional General Education Courses		Additional General Education Courses	
Math - Select from General Education list	3	Math - Select from General Education list	3
Humanities - Select from Gen. Education list	6	Humanities - Select from Gen. Education list	6
Social science- Select from Gen. Educ. list	3	Social science- Select from Gen. Educ. list	3
ICM Concentration Courses		ICM Concentration Courses	
AEC 3133 Intro Agribusiness Mgmt	3	**AEC 1223 Computer App Ag Life Sci**	3
BCH 4013 Principles of Biochemistry	3	or AELC 4203 App Comp Tech AELC	
BIO 3304 General Microbiology *OR*	4	BCH 4013 Principles of Biochemistry	3
PSS 4314 Microbiol and Ecology of Soil		BIO 3304 General Microbiology	4
CH 1043 Survey of Chemistry I	3	CH 1043 Survey of Chemistry I	3
or CH 1213 Chemistry I		or CH 1213 Chemistry I	
CH 1051 Experimental Chemistry or	1	CH 1051 Experimental Chemistry or	1
CH 1211 Investigations in Chemistry		CH 1211 Investigations in Chemistry	
CH 1053 Survey of Chemistry II or	3	CH 1053 Survey of Chemistry II or	3
CH 1223 Chemistry II		CH 1223 Chemistry II	
CH 2501 Elem Organic Chemistry Lab	1	CH 2501 Elem Organic Chemistry Lab	1
CH 2503 Elem Organic Chemistry	3	CH 2503 Elem Organic Chemistry	3
EPP 2213 Introduction to Insects	3	EPP 2213 Introduction to Insects	3
EPP 4113 Principles of Plant Pathology	3	EPP 4113 Principles of Plant Pathology	3
MKT 3013 Prin. Marketing	3	PSS 3133 Introduction to Weed Science	3
PO 3103 Genetics I	3	PSS 3423 Agronomy Internship	3
PSS 3133 Introduction to Weed Science	3	**PSS 4103 Forage and Pasture Crops**	3
PSS 3423 Agronomy Internship	3	**PSS 4123 Grain Crops**	3
Restricted Electives *(see advisor)*	24	**PSS 4133 Fiber and Oilseed Crops**	3
Unrestricted Electives 6 hrs	*6*	**PSS 4493 Plant Genetics* or**	3
		PO 3103 Genetics I	

Computer Science Requirement *AIS 4203 App Comp Tech Ag Info Sci Ed or* *TKT 1273 Computer Applications*	*3*	Restricted Electives **Unrestricted Electives 3 hours**	24 3
Restricted Electives ABE 3513 GPS/GIS - Ag. & Eng. EPP 4163 Plant Disease Management EPP 4234 Field Crop Insects EPP 4263 Prin Insect Pest Management GA 1111 Survey of Agriculture *MA 1713 Calculus I* PH 1113 General Physics I PSS 2423 Plant Materials I PSS 3043 Fruit Science PSS 3923 Plant Propagation *PSS 4103 Forage and Pasture Crops* *PSS 4123 Grain Crops* *PSS 4133 Fiber and Oilseed Crops* *PSS 4143 Advanced Fruit Science* PSS 4223 Seed Production PSS 4314 Microbiology amd Ecology of Soil PSS 4323 Soil Classification PSS 4333 Soil Conservation and Land Use PSS 4343 Cont Environment Agriculture PSS 4363 Sustainable Nursery Production PSS 4373 Geospatial Ag Management PSS 4413 Turf Management PSS 4453 Vegetable Production PSS 4483 Intro Remote Sensing Tech PSS 4503 Plant Breeding PSS 4553 Plant Growth and Development PSS 4603 Soil Chemistry PSS 4633 Weed Biology and Ecology PSS 4813 Herbicide Technology	(24)	Restricted Electives ABE 3513 GPS/GIS - Ag. & Eng. EPP 4163 Plant Disease Management EPP 4234 Field Crop Insects EPP 4263 Prin Insect Pest Management GA 1111 Survey of Agriculture **MA 1313 College Algebra** PH 1113 General Physics I PSS 2423 Plant Materials I **PSS 2543 Precision Agriculture I** PSS 3043 Fruit Science **PSS 3633 Sustainable and Organic Hort.** PSS 3923 Plant Propagation **PSS 4153 Sustainable Agroecology** PSS 4223 Seed Production PSS 4314 Microbiology amd Ecology of Soil PSS 4323 Soil Classification PSS 4333 Soil Conservation and Land Use PSS 4343 Cont Environment Agriculture PSS 4363 Sustainable Nursery Production PSS 4373 Geospatial Ag Management **PSS 4383 Ag Remote Sensing I** **PSS 4393 Ag Remote Sensing II** PSS 4413 Turf Management PSS 4453 Vegetable Production **PSS 4473 Hydroponic & Soilless Crops** PSS 4483 Intro Remote Sensing Tech PSS 4503 Plant Breeding **PSS 4543 Precision Agriculture II** PSS 4553 Plant Growth and Development PSS 4603 Soil Chemistry PSS 4633 Weed Biology and Ecology **PSS 4733 Ag Flight Tech I** **PSS 4800 Undergraduate Research in PSS** PSS 4813 Herbicide Technology	(24)
Total Hours	121	**Total Hours**	**124**
CONCENTRATION DESCRIPTION Integrated Pest Management Concentration (IPM) Integrated Pest Management (IPM) is an interdisciplinary concentration of study in Entomology, Plant Pathology and Weed Science jointly administered by the Department of Entomology and Plant Pathology and the Department of Plant and Soil Sciences. Effective management of pest problems requires a broad base of knowledge in the pest		CONCENTRATION DESCRIPTION Integrated Pest Management Concentration (IPM) Integrated Pest Management (IPM) is an interdisciplinary concentration of study in Entomology, Plant Pathology and Weed Science jointly administered by the Department of Entomology and Plant Pathology and the Department of Plant and Soil Sciences. Effective management of pest problems requires a broad base of knowledge in the pest	

disciplines and practical field experience. The Integrated Pest Management concentration features a strong core of courses in the three pest disciplines (entomology, plant pathology, and weed science); a strong background in biological and physical sciences; and practical training through an internship. The curriculum is designed to meet the needs of students who wish to pursue advanced degrees and of students who wish to terminate their higher education with a baccalaureate degree. A range of restricted and non-restricted electives allows students to personalize their degree program for careers in crop production, agri-business, natural resource management, and/or graduate studies preparation. A grade of "C" or better is required in all courses with the EPP or PSS prefix prior to completion of the degree. No course may be transferred for credit from another college or university in which a grade of "D" was made. Graduates are well prepared for employment with industry; state and federal research, extension and regulatory agencies; private agricultural consulting firms; farmer's cooperatives; nurseries, home and garden centers; greenhouse plant production; and corporate farms. Internship: IPM students must complete a minimum one semester internship with an approved internship sponsor in industry, private consulting firms/individuals, or governmental agencies.	disciplines and practical field experience. The Integrated Pest Management concentration features a strong core of courses in the three pest disciplines (entomology, plant pathology, and weed science); a strong background in biological and physical sciences; and practical training through an internship. The curriculum is designed to meet the needs of students who wish to pursue advanced degrees and of students who wish to terminate their higher education with a baccalaureate degree. A range of restricted and non-restricted electives allows students to personalize their degree program for careers in crop production, agri-business, natural resource management, and/or graduate studies preparation. A grade of "C" or better is required in all courses with the EPP or PSS prefix prior to completion of the degree. No course may be transferred for credit from another college or university in which a grade of "D" was made. Graduates are well prepared for employment with industry; state and federal research, extension and regulatory agencies; private agricultural consulting firms; farmer's cooperatives; nurseries, home and garden centers; greenhouse plant production; and corporate farms. Internship: IPM students must complete a minimum one semester internship with an approved internship sponsor in industry, private consulting firms/individuals, or governmental agencies.

CURRENT CURRICULUM OUTLINE	Req. Hours	**PROPOSED CURRICULUM OUTLINE**	Req. Hours
Additional General Education Courses		Additional General Education Courses	
ST 2113 Introduction to Statistics [1] or ST 3123 Intro Statistical Inference [1]	3	ST 2113 Introduction to Statistics [1] or ST 3123 Intro Statistical Inference [1]	3
Humanities - Select from Gen. Education list	6	Humanities - Select from Gen. Education list	6
Social science- Select from Gen. Educ. list	3	Social science- Select from Gen. Educ. list	3
IPM Concentration Courses		IPM Concentration Courses	
BIO 1134 Biology I	4	**AEC 1223 Computer App Ag Life Sci** or AELC 4203 App Comp Tech AELC	3
CH 1043 Survey of Chemistry I [1] or CH 1213 Chemistry I [1]	3	CH 1043 Survey of Chemistry I [1] or CH 1213 Chemistry I [1]	3
CH 1051 Experimental Chemistry or CH 1211 Investigations in Chemistry	1	CH 1051 Experimental Chemistry or CH 1211 Investigations in Chemistry	1
CH 1053 Survey of Chemistry II or CH 1223 Chemistry II	3	CH 1053 Survey of Chemistry II or CH 1223 Chemistry II	3
CH 2503 Elementary Organic Chemistry	3	CH 2503 Elementary Organic Chemistry	3
EPP 4113 Principles of Plant Pathology	3	EPP 4113 Principles of Plant Pathology	3
EPP 4154 General Entomology	4	EPP 4154 General Entomology	4
EPP 4163 Plant Disease Management	3	EPP 4163 Plant Disease Management	3
EPP 4263 Prin Insect Pest Management	3	EPP 4263 Prin Insect Pest Management	3
PO 3103 Genetics I	3	PSS 3133 Introduction to Weed Science	3
PSS 3133 Introduction to Weed Science	3	PSS 3423 Agronomy Internship	3
PSS 3423 Agronomy Internship	3	**PSS 4493 Plant Genetics* or** PO 3103 Genetics I	3
PSS 4553 Plant Growth and Development	3		
PSS 4633 Weed Biology and Ecology	3		

PSS 4813 Herbicide Technology Restricted Electives 18 hrs *Unrestricted Electives 6 hrs* *Computer Science Requirement* *AELC 4203 App Comp Tech AELC* *or TKT 1273 Computer Applications*	3 18 *6* 3	PSS 4553 Plant Growth and Development PSS 4633 Weed Biology and Ecology PSS 4813 Herbicide Technology **Agronomy Crop Production Electives 6 hrs** Restricted Electives 18 hrs **Unrestricted Electives 3 hrs**	3 3 3 **6** 18 **3**
Restricted Electives *ABE 3513 GPS & GIS in Ag & Engineering* *ABE 4313 Biol Trtmt Nonpoint Src Pollut* *ACC 2013 Princ of Financial Accounting* *AEC 3113 Intro Quantitative Economics* *AEC 3133 Intro Agribusiness Management* *AEC 3213 International Trade in Agriculture* *AEC 3233 Intro to Environ Econ and Policy* *AEC 3513 Econ Food and Fiber Production* *AEC 4123 Fin Commodity Futures Mrkt* BIO 3304 General Microbiology BIO 4203 Taxonomy of Spermatophytes EPP 3124 Forest Pest Management EPP 3423 Ornamental and Turfgrass Insects EPP 4214 Diseases of Crops EPP 4234 Field Crop Insects EPP 4523 Turfgrass Diseases *EPP 4244 Aquatic Entomology* EPP 4543 Toxicology and Insecticide Chem *FO 4313 Spatial Tech Nat Res Mgmt* *FO 4451 Remote Sensing Applications Lab* *FO 4452 Remote Sensing Applications* GR 2313 Maps and Remote Sensing GR 3303 Survey Geospatial Technologies GR 3311 Geospatial Applications GR 4303 Principles of GIS *GR 4323 Cartographic Sciences* *LA 2433 Landscape Syst Plant Comm* *MGT 3513 Intro Human Resource Mgmt* *MKT 3013 Prin. Marketing* PSS 2423 Plant Materials I PSS 3473 Plant Materials II PSS 4103 Forage and Pasture Crops PSS 4123 Grain Crops PSS 4133 Fiber and Oilseed Crops PSS 4314 Microbiol and Ecology of Soil PSS 4323 Soil Classification PSS 4333 Soil Conservation and Land Use PSS 4343 Contr Environment Ag PSS 4353 Arboriculture &Landscape Maint PSS 4363 Sustainable Nursery Production PSS 4373 Geospatial Agronomic Mgmt PSS 4411 Remote Sensing Seminar PSS 4413 Turf Management PSS 4453 Vegetable Production	(18)	**Agronomy Crop Production Electives** **PSS 4103 Forage and Pasture Crops** **PSS 4123 Grain Crops** **PSS 4133 Fiber and Oilseed Crops** Restricted Electives BIO 3304 General Microbiology BIO 4203 Taxonomy of Spermatophytes EPP 3124 Forest Pest Management EPP 3423 Ornamental and Turfgrass Insects EPP 4214 Diseases of Crops EPP 4234 Field Crop Insects EPP 4523 Turfgrass Diseases EPP 4543 Toxicology and Insecticide Chem GR 2313 Maps and Remote Sensing GR 3303 Survey Geospatial Technologies GR 3311 Geospatial Applications GR 4303 Principles of GIS **MA 1313 College Algebra** PSS 2423 Plant Materials I **PSS 2543 Precision Agriculture I** **PSS 3043 Fruit Science** PSS 3473 Plant Materials II **PSS 3633 Sustainable and Organic Hort.** **PSS 4143 Advanced Fruit Science** **PSS 4153 Sustainable Agroecology** PSS 4314 Microbiol and Ecology of Soil PSS 4323 Soil Classification PSS 4333 Soil Conservation and Land Use PSS 4343 Contr Environment Ag PSS 4353 Arboriculture &Landscape Maint PSS 4363 Sustainable Nursery Production PSS 4373 Geospatial Agronomic Mgmt **PSS 4383 Ag Remote Sensing I** **PSS 4393 Ag Remote Sensing II** PSS 4411 Remote Sensing Seminar PSS 4413 Turf Management PSS 4453 Vegetable Production **PSS 4483 Intro. Remote Sensing** **PSS 4543 Precision Agriculture II** **PSS 4613 Floral Crop Programming** **PSS 4733 Ag Flight Tech I** **PSS 4800 Undergraduate Research in PSS**	**(6)** (18)

WFA 4153 Prin Wildlife Conserv & Mgmt *WFA 4253 App Spat Tech Wild Fish Mgmt*			
Total Hours	123	Total hours	123

[1] Satisfies General Education requirements

3. JUSTIFICATION

The proposed curriculum revisions will update the agronomy curriculum to reflect current advising practices and changes to the undergraduate catalog. Several courses were moved/added to the agronomy core to strengthen the major. Business related course requirements were added for all agronomy majors reflecting industry expectations of graduates.

EXPECTED LEARNING OUTCOMES

Agronomy graduates are expected to be able to:

- apply knowledge from the classroom in a practical field experience through participation in the internship/co-op program.
- understand the development, production, harvesting, handling, and marketing of agricultural crops;
- integrate content knowledge and apply it to agricultural crop production.
- identify and discuss primary production issues related to agriculture.
- know and understand current trends and important issues in agronomy.
- collect and analyze agricultural crop data and interpret results.
- conduct a cost-benefit analysis for agricultural crop production.
- develop systematic strategies for agricultural crop production based on the results of analysis.

The curriculum provides a variety of educational experiences including lectures, discussion, simulations, computer applications, and individual and group projects in laboratories and field experiences. These experiences will ensure graduates of the program can knowledgeably develop, apply and execute crop management plans related to agricultural crop production.

1. Will this program change meet local, state, regional, and national educational and cultural needs? If so, please describe.

   Yes, this program change will meet the educational and cultural needs of the program's clientele. The changes being made will update the curriculum and improve student advising to improve the student educational experience. Several of the changes were made at the request of the PSS Advisory Board.

2. Will this program change result in duplication in the System? If so, please describe.

   The proposed changes will not result in a duplication in the System.

3. Will this program change/advance student diversity within the discipline? If so, please describe.

The proposed changes are not expected to have a significant effect on student diversity within the discipline.

4. Will this program change result in an increase in the potential placement of graduates in MS, the Southeast, and the U.S.? If so, please describe.

The proposed changes in the curriculum will result in fewer course substitutions required. The strengthening of the Agronomy major core will increase the integrity of the Agronomy major which is expected to increase the program prestige in Mississippi and the Southeast region. These changes are expected to increase new student recruiting and placement of graduates.

5. Will this program change result in an increase in the potential salaries of graduates in MS, the Southeast, and the U.S.? If so, please describe.

The proposed changes are not expected to result in an increase in potential salaries of graduates but should improve market readiness and increase potential for career advancement.

4. SUPPORT

No additional faculty resources will be required to implement the proposed curriculum changes.

A letter from the PSS curriculum committee is attached.

5. PROPOSED 4 LETTER ABBREVIATION

AGN (No change)

6. EFFECTIVE DATE

Fall 2023