Proposal Form For Addition And Revision Of Courses

1. Proposing College / School: Agriculture
   Department: Agronomy & Soils

2. Course Prefix and Number: AGRN 5180/6180
   Effective Term: Fall 2011

4. Course Title: Sports Turf Management
   Abbreviated Title (30 characters or less): Sports Turf Management

5. Requested Action:
   - Renumber a Course
   - Add a Course
   - Revise a Course
   Current Course Number: 5180/6180
   Proposed Course Number: 5180/6180
   Type of Revision: 

6. Course Credit:
<table>
<thead>
<tr>
<th>Maximum Hours</th>
<th>Contact/Group Hours</th>
<th>Scheduled Type</th>
<th>Weekly or Per Term?</th>
<th>Credit Hours</th>
<th>Anticipated Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3</td>
<td>Lecture</td>
<td>weekly</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Laboratory</td>
<td>weekly</td>
<td>1</td>
<td>20</td>
</tr>
</tbody>
</table>
   Total Credit Hours: 3

7. Grading Type:
   - Regular (ABCDF)
   - Satisfactory/Unsatisfactory (S/U)
   - Audit

8. Prerequisites/Corequisites:
   - P - AGRN 3150 - Turfgrass Management and P - AGRN 2040 - Introductory Soil Science, both prerequisites.

9. Restrictions: List specific restriction in space above.
   - College
   - Major
   - Standing
   - Degree

10. Course Description:
    (20 Words or Less; exactly as it should appear in the Bulletin)
    This course will cover the design, construction and management of sports fields and the turfgrass cover on those fields.

11. May Count Either
    Program Type or Program Title
    (Indicate if this particular course cannot be counted for credit in addition to another)
    (e.g.: minor, major, etc.) (e.g.: MS in Chemistry, Performance Option, Minor in Art) (required or optional?)

12. Affected Program(s):
    (Respond "N/A" if not included in any program; attach memorandum if more space is required)
    | Program Type | Program Title | Requirement or Elective? |
    |--------------|---------------|--------------------------|
    | Major        | Turfgrass option in Agronomy & Soils | Required |

13. Overlapping or Duplication of Other Units' Offerings:
    (If course is included in any other degree program, is used as an elective frequently by other unit(s), or is in an area similar to that covered by another college/school, attach correspondence with relevant unit)
    - Applicable
    - Not Applicable
14. Justification: Such a specialized course is missing from the Turfgrass Option. This level of detail is needed by our students.

(Include a concise, yet adequate rationale for the addition/revision of the course, citing accreditation, assessments (faculty, graduate, and/or external) where applicable)

15. Resources: No additional resources are needed. A current faculty member is teaching this course in addition to their other teaching load.

(Indicate whether existing resources such as library materials, classroom/laboratory space, and faculty appointments are adequate to support the proposed addition/revision; if additional resources are required, indicate how such needs will be met, referencing the appropriate level of authorization -- i.e.: Dean -- where necessary; if no additional resources or shifting of resources will be necessary, respond “Not Applicable”)

16. Student Learning Outcomes: Please see the attached syllabus with stated objectives and Learning outcomes.

(State in measurable terms (reflective of course level) what students should be able to do when they have completed this course)

17. Course Content Outline: Please see the attached syllabus.

(Provide a comprehensive, week-by-week breakdown of course content, including assignment due dates)

18. Assignments / Projects: Please see attached syllabus.

(List all quizzes, projects, reports, activities and other components of the course grade -- including a brief description of each assignment that clarifies its contribution to the course's learning objectives)

19. Rubric and Grading Scale: Please see the attached syllabus.

(List all components of the course grade -- including attendance and/or participation if relevant -- with point totals for each; indicate point totals and ranges or percentages for grading scale; for S/U grading, detail performance expectations for a passing grade)

20. Justification for Graduate Credit: Please see attached syllabus.

(Include a brief statement explaining how the course meets graduate educational standards (i.e.: rigorous standards for evaluation, development of critical thinking and analytical skills, etc.))

( Included below are standard statements regarding course policies. If necessary, a statement may be altered to reflect the academic policies of individual faculty members and/or the academic unit or department, provided that there is no conflict with the Tiger Cub, Faculty Handbook, or any existing university policy.)

POLICY STATEMENTS

Attendance: Although attendance is not required, students are expected to attend all classes, and will be held responsible for any content covered in the event of an absence.

Excused Absences: Students are granted excused absences from class for the following reasons: illness of the student or serious illness of a member of the student's immediate family, the death of a member of the student's immediate family, trips for student organizations sponsored by an academic unit, trips for university classes, trips for participation in intercollegiate athletic events, subpoena for a court appearance, and religious holidays. Students who wish to have an excused absence from class for any other reason must contact the instructor in advance of the absence to request permission. The instructor will weigh the merits of the request, and render a decision. When feasible, the student must notify the instructor prior to the occurrence of any excused absences, but in no case shall such notification occur more than one week after the absence. Appropriate documentation for all excused absences is required. Please see the Tiger Cub for more information on excused absences.

Make-Up Policy: Arrangement to make up a missed major examination (e.g., hour exams, mid-term exams) due to properly authorized excused absences must be initiated by the student within one week of the end of the period of the excused absence(s). Except in unusual circumstances, such as the continued absence of the student or the absence due to university holidays, a make-up exam will take place within two weeks of the date that the student initiates arrangements for it. Except in extraordinary circumstances, no make-up exams will be arranged during the last three days before the final exam period begins.

Academic Honesty Policy: All portions of the Auburn University student academic honesty code (Title XII) found in the Tiger Cub will apply to university courses. All academic honesty violations or alleged violations of the SGA Code of Laws will be reported to the Office of the Provost, which will then refer the case to the Academic Honesty Committee.

Disability Accommodations: Students who need special accommodations in class, as provided for by the Americans With Disabilities Act, should arrange for a confidential meeting with the instructor during office hours in the first week of classes (or as soon as possible if accommodations are needed immediately). The student must bring a copy of their Accommodation Letter and an Instructor Verification Form to the meeting. If the student does not have these forms, they should make an appointment with the Program for Students with Disabilities, 1288 Haley Center, 844-2066 (V/TT).
Sports Turf Management
AGRN 5200/6200
Fall Semester
Dr. Scott McElroy

Office: 250 Funchess Hall
Phone number: 844-3992
Email: jsm0010@auburn.edu
Lecture: MWF - 10 to 10:50
Laboratory: W – 3 to 4:50
Credit Hours: 3 hours
Prerequisites: AGRN 3150 Principles of Turfgrass Management and AGRN 2040 Basic Soil Science.


Other printed course materials will be provided.

Course Description: This course will cover methodology for design, construction, and management of sports field turfgrass. Sports field turfgrass includes: football, baseball, softball, soccer, cricket, rugby, lacrosse, field hockey, bocce, bowling greens, and multi use fields. This course will cover set up for these sports venues and problems with managing turfgrasses and soils for each. This course will go beyond that of Principles of Turfgrass Management (AGRN 3150) by focusing in detail on the complexities of managing various types of sports turf. Detailed study of root-zone (soil) construction will be covered, including the impact of root-zones on irrigation, drainage, turfgrass root, rhizome, and stolon development, drainage, ability of turfgrass to tolerate athlete traffic, impact on athlete traction and performance, and overall turfgrass quality. This class will cover in detail the management of soil surface areas on baseball and softball fields and the correct management to improve player safety. Information will be covered to related to pest management of athletic fields including, disease, insect, and weed management.
Course Objectives and Learning Outcomes

This course has six primary learning objectives related to construction and maintenance of various sport fields.

Objective 1: Root-zone construction and turfgrass establishment. Proper soil root-zone construction and grading is the basis for all functional sport fields. Without a proper root-zone, turfgrass cannot develop to withstand athlete traffic and provide adequate performance. Along with root-zone construction, the selection and establishment of the correct turfgrass species is important to maximize field performance. Important aspects include: species and cultivar selection, establishment methods, and management constrains after selection.

Learning Outcome: Students will be able to recognize and describe a correctly built athletic field. They will be able to interpret laboratory reports and other data, including soil analyses and other field test methods. If a field is poorly built or not performing students will be able to suggest proper methods for altering the field for better performance.

Objective 2: Water management for optimizing turfgrass performance and longevity. Excessive water in a sport field can be the most detrimental aspects to the turfgrass. This is because the lateral strength of turfgrass is greatly reduced when excessive moisture is present, reducing an athletes footing and reducing player safety. This objective will cover irrigation, root-zone drainage, and reducing the impact of excessive surface and root-zone moisture on turfgrass strength and performance.

Learning Outcome: Students will understand how to conduct an irrigation audit and how to correctly monitor an irrigation system.

Objective 3: Sport turf cultural management practices. Once the root-zone has been constructed and turfgrass has been established, management practices must be utilized that maximize the long-term sustainability of the sport field. All management practices must revolve around one key factor—to conduct no practices that create stratification within the rhizosphere that could disrupt water percolation and drainage. Management practices covered will include: Mowing, aerification, verticutting, topdressing, and painting of sport fields.

Learning Outcome: Students will understand key factors that affect sustainability of the sports field, and will be able to define differences between vertical mowing, aerification and topdressing.

Objective 4. Overseeding sport fields. Overseeding is the practice of seeding a cool-season grass, such as perennial ryegrass, in the fall that will germinate and provide green turfgrass color while the warm-season turfgrass is dormant during the winter. Overseeding is a common management practices on warm-season turfgrass sport fields. However, overseeding greatly increases the cost of sport field management, and increases water, pesticide, and fertilizer use as well. This objective will explore the benefits and problems associated with overseeding, along with proper agronomic practices for overseeding turfgrass.

Learning Outcome: Students will be able to identify when overseeding is a best management practice for a sports facility, and when it is in the best interest of the sports field manager to not overseed.
Objective 5: Pesticide usage on sport fields. Similar to all other turfgrass scenarios, sport fields require the use of pesticide or other inputs to minimize the impact of pests on turfgrass performance. Pests include: insects, fungal diseases, weeds, and burrowing rodents. This objective will focus on identifying major pests in the southeast and minimizing pesticide inputs to control these pests.

Learning Outcome: Students will be able to: 1) identify common pests of sports fields, 2) select appropriate and legally registered pesticides for best pest control, 3) be able to read and interpret a pesticide label, and, 4) calibrate pesticide application equipment.

Objective 6: Management of synthetic sport fields. Synthetic sports turf has come a long way since the advent of AstroTurf in 1967. New synthetic turfgrass systems are highly complex systems that have improved traction and improved player safety aspects. This objective will cover the management of synthetic turfgrass fields, including brand selection, infill selection, and improving the longevity of the field.

Learning Outcome: Students will understand the benefits and negatives of a synthetic sports field. They will be able to communicate the relative costs, care levels and safety issues of synthetic sports fields to stakeholder groups who might be considering such fields.

Course Schedule:

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>Week 1</td>
<td>Sport turf management defined. What is a sports turf and why are some better than others?</td>
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<tr>
<td>Week 2</td>
<td>Turfgrass species and cultivar selection</td>
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<tr>
<td>Week 3</td>
<td>Introduction to root-zone construction</td>
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<tr>
<td>Week 4</td>
<td>Soil physics and root-zone management</td>
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<tr>
<td>Week 5</td>
<td>Turfgrass establishment- seeding, spriging, and sodding</td>
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<tr>
<td>Week 6</td>
<td>Overseeding turfgrass. Exam 1 will be given in this week.</td>
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<tr>
<td>Week 7</td>
<td>Mowing practices</td>
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<tr>
<td>Week 8</td>
<td>Topdressing, verticutting, and aerification methods</td>
</tr>
<tr>
<td>Week 9</td>
<td>Irrigation and drainage</td>
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<tr>
<td>Week 10</td>
<td>Fertilizer and soil fertility</td>
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<tr>
<td>Week 11</td>
<td>Turfgrass stress management- Diseases and environmental stress.</td>
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<tr>
<td>Week 12</td>
<td>Turfgrass stress management- Weeds and insects</td>
</tr>
<tr>
<td>Week 12</td>
<td>Management of different sport field types: Part 1- Turfed fields only. Exam 2 will be given in this week.</td>
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<tr>
<td>Week 13</td>
<td>Management of different sport field types: Part 2 – Management of fields with skinned/soil surface areas.</td>
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<tr>
<td>Week 14</td>
<td>Turfgrass painting and synthetic turfgrass management. Final exam will be given in the regularly scheduled final exam period.</td>
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Course Requirements:

Course Evaluation:

Two semester exams and a final exam will be given. The final exam will be comprehensive of all lecture material.

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<thead>
<tr>
<th></th>
<th>Undergrad</th>
<th>Grad</th>
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</thead>
<tbody>
<tr>
<td>Exam I:</td>
<td>33%</td>
<td>25%</td>
</tr>
<tr>
<td>Exam II:</td>
<td>33%</td>
<td>25%</td>
</tr>
<tr>
<td>Final Exam:</td>
<td>33%</td>
<td>25%</td>
</tr>
<tr>
<td>Graduate Project</td>
<td>0%</td>
<td>25%</td>
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Course Participation: Class attendance is expected, but will not be monitored by the instructor. This is an upper level undergraduate and graduate class; thus, a certain degree of academic enthusiasm is expected by the instructor. Specific information about excused and unexcused attendance can be found at: [http://www.auburn.edu/tigercub/rules/section1a.pdf](http://www.auburn.edu/tigercub/rules/section1a.pdf)

Exams: Exams will be comprised of plant identification, herbicide symptom identification, sprayer calibration, and discussion questions.

Graduate Project: In order to achieve graduate credit students must conduct a thorough analysis of a local sport field and write a detailed annual management plan and budget for this sport field. The instructor will provide assistance in locating a local sport field. The students must meet with the field manager; investigate field history and current use; evaluate soil and turfgrass characteristics; and thoroughly map elevation and drainage patterns. Following collecting the necessary background information, students must write a thorough annual management plan for this facility that includes recommendations for all cultural practices, pesticides, and future potential renovations to improve the field. Students must provide a cost and time estimate for low and high budget (as set by instructor) management of this facility. In writing their management plan, students must provide justification from peer-reviewed and popular press literature to justify their management practices. It is suggested that literature searches be conducted utilizing the “Turfgrass Information File” that can be accessed through the Auburn University Library website ([http://lib.auburn.edu](http://lib.auburn.edu)).

Following the development of this management plan, student seeking graduate credit will give a 15 minute presentation on the sport field they analyzed.

Grading:
Standard grading practices will be utilized.
90 to 100    A  
80 to 89     B  
70 to 79     C  
60 to 69     D  
<59         F

Course Policy Statements:  
1. Lecture attendance will be closely monitored but is not required.  
2. Student seeking graduate credit will need to provide their own transportation to a locally selected sport field. There are several athletic fields within walking distance of campus that could potentially be utilized for their graduate project; however most of these are baseball and softball fields. Thus, if a student wishes to research a different type of sport field for their graduate project they must provide their own transportation.  

Students with Disabilities:  
Students who need special accommodations in class, as provided for by the American Disabilities Act, should arrange a confidential meeting with the instructor during office hours the first week of classes - or as soon as possible if accommodations are needed immediately. You must bring a copy of your Accommodation Memo and an Instructor Verification Form to the meeting. If you do not have these forms but need accommodations, make an appointment with The Program for Students with Disabilities, 1244 Haley Center, 844.2096 (V/TT) or email: scw0005@auburn.edu

Academic Honesty Policy:  
The Student Academic Honesty Code applies to all students taking classes at Auburn University, and thus will apply to all students enrolled in this class. Specific information about the Code can be found at: http://www.auburn.edu/tigercub/rules/section1a.pdf

Justification for Graduate Credit:  
Students achieving graduate credit must complete the graduate project of writing a sport turf management plan and giving a 15-minute presentation on their selected sport field. This will require extensive research on the field in question and literature research to determine the correct course of action to manage the field. This will require time inputs that increase the demands on the graduate student; thus justifying graduate credit for the course.
AGRN 5180/6180 Sports Turf Management Lab
Fall 201#
Lab Time: Wednesday 3 to 4:50pm
Instructor: Dr. Scott McElroy
Office: 250 Funchess Hall Phone: 334-844-3992
Email: mcelroy@auburn.edu
Office Hours: 3-5 pm Monday or by appointment

Lab Locations: Labs will be held in one of three locations:
1. 203b Funchess- The Crops Lab.
2. Auburn University Turfgrass Research Unit, 105 Shug Jordan Parkway (at the corner of Shug Jordan Pkwy and S. College St)

Lab location is subject to change based on weather and availability of Auburn University Athletic Facilities. The lab location will be announced on Blackboard, via Email, and will be announced at the two classroom lectures prior to a specific lab. Directions to these locations will be provided. Travel arrangements to the turfgrass research unit and athletic facilities can be arranged upon request.

Lab Objective: This lab will provide hands on experience of learned lecture materials.

Course Grading: Your grade in this lab consists of weekly quizzes and two exams. Average quiz grade, exam I, and exam II will be weighted equally. Lab grades will count for 25% of undergraduate course grades and 20% for those seeking graduate credit (see lecture syllabus for more information on grading procedures).

Attendance: Attendance is mandatory. Unexcused absences will result in a zero for any quiz or exam missed. If you must miss a lab for an acceptable reason, prior notice is appreciated. ‘Acceptable reason’ will follow attendance guidelines as published in the Tiger Cub – please see the lecture syllabus for complete details.

General Lab Notes: Please be on time for lab. We have lots of material to cover in only an hour and 50 minutes. Quizzes will be given at the beginning of each lab unless otherwise stated. If you are late, make-up quizzes are given at the instructor’s discretion depending on the degree of tardiness and if on-time students have completed their quiz or exam.

Materials Needed: Paper, writing utensil(s), calculator, clipboard or other hard surface on which to write.

A Word About Lab Conditions: Much of this lab will be conducted outdoors. Please come prepared (i.e. sunscreen, hat, water, and be aware of fire ant mounds). The weather will likely be hot for the first few lectures, so be prepared. Rain does not necessarily cancel lab even if it is outdoors. Unless the University is closed for inclement weather, we will still be having lab. Please always be aware of fire ants when we are outdoors and try to point out them for other students to avoid.

Recommended Text: Lab materials will be provided by the instructor.

Schedule:

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug 24</td>
<td>Analyzing the grade of a sport field</td>
<td>Jordan-Hare Stadium</td>
</tr>
<tr>
<td>Aug 31</td>
<td>Mapping and calculating water movement of an sport turf surface</td>
<td>203B Funchess</td>
</tr>
<tr>
<td>Sept 7</td>
<td>Analyzing soil textures and sport field soil profiles</td>
<td>203B Funchess</td>
</tr>
<tr>
<td>Sept 14</td>
<td>Calculating water infiltration rates; measuring soil moisture and compaction</td>
<td>AU Softball and Intramural Field</td>
</tr>
<tr>
<td>Sept 21</td>
<td>Overseeding turfgrass for winter color and performance</td>
<td>Turf Unit</td>
</tr>
<tr>
<td>Sept 28</td>
<td>Lab Mid-Term</td>
<td>Jordan-Hare Stadium</td>
</tr>
<tr>
<td>Oct 5</td>
<td>Painting Football Fields- Impacts on soil chemistry</td>
<td>Jordan-Hare Stadium</td>
</tr>
</tbody>
</table>
Specific Learning Outcomes:

- Be able to measure and calculate grade of a sports field.
- Be able to read and determine soil texture, both by hand and via a textural triangle.
- Use and determine infiltration rate via a double-ring infiltrometer.
- Be able to operate a field paint sprayer and correctly apply a logo design.
- Use hand-held and remote devices to measure water content in a sports field.