Prefix and Number: COMP 3010
Initial Term: Spring 2009

Select One:
New _______  Delete _______  Course Modification X _______

Type of modification:
X _______ Prerequisites  _______ Grade Type
_______ Number: Old _______
_______ New _______

Title: Spreadsheet-Based Applications with Visual Basic

College/School: Engineering  Dept: CSSE

Abbreviated Title: Spreadsheet-Based App with VB  (30 spaces total)

<table>
<thead>
<tr>
<th>CREDIT OFFERED</th>
<th>CONTROLS</th>
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<tbody>
<tr>
<td>Levels: (select all that apply)</td>
<td>Grading Rule:</td>
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<tr>
<td>_______ None (Blank)</td>
<td>U _______ Undergraduate (U)</td>
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<tr>
<td>U _______ Undergraduate (U)</td>
<td>_______ Graduate (G)</td>
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<tr>
<td>_______ Graduate (G)</td>
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<td>Maximum: 3 _______</td>
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<td>Minimum: 3 _______</td>
<td>X _______ Normal grading (Blank)</td>
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<td>_______ Pass/Fail only (SU)</td>
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<td>_______ Thesis/Dissertation (TD)</td>
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<td>Connector: (select one)</td>
<td>Term Offered: (select one)</td>
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<td>_______ To be Arranged (T)</td>
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<td>(Total number of credit hours that may</td>
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<td>be earned, not total number of times</td>
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<td>course may be taken)</td>
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<td>Session Duplicate:</td>
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<td>yes _______ no X _______</td>
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Prerequisites (course must be taken prior to this course)
COMP 1200 or higher

Corequisites (course must be taken the same term of this course)

Prerequisite with concurrency (course may be taken prior to this course or taken during the same term)
**Brief Description for Bulletin**

Design and implementation of applications such as simulations, spreadsheet front-ends for modeling, interfaces to databases, and multimedia applications.

Credit will not be given for both ___________ and ___________.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Contact Group</th>
<th>Hours Indiv</th>
<th>Credit</th>
<th>Max Enroll</th>
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<td>2nd: LAB</td>
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<td>3rd: ____</td>
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**Justification (Indicate reason for change)**
The engineering department for which CSSE is offering this course as a service indicated that the students need to have a greater background in programming before taking COMP 3010.

**Additional resources or resource shifting required. If none, please explain.**
No additional resources will be required. Existing resources are sufficient to offer this course.

Attach a copy of syllabus to add a new course.

To modify an existing course, attach a copy of the old syllabus and the new syllabus.

To add an honors version of an existing course or to add a distance education version of an existing, attach the existing syllabus and the syllabus for the proposed new course.

No attachment is required to delete course.

Contact Person: Dr. Dean Hendrix

Email: hendrtcl@auburn.edu

Phone #: 844-6305

Revised June 2008
Approvals

**Undergraduate Requests**

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<thead>
<tr>
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<td>Chair</td>
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<tr>
<td>College/School Curriculum Committee</td>
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<td>University Curriculum Committee</td>
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**Graduate Requests**

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<td>College or School</td>
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<td>University Curriculum Committee</td>
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</table>
Course: COMP 3010 Spreadsheet-Based Applications with Visual Basic
Department: Computer Science and Software Engineering
Credit Hours: 3 hours (LEC. 2, LAB. 3)
Prerequisites: COMP 1000 or higher

1. Texts or Major Resources
   Software: Visual Basic Application for Excel

2. Course Description
   Design and implementation of applications such as simulations, spreadsheet front-ends for modeling, interfaces to databases, and multimedia applications.

3. Course Objectives
   In this course, students will develop the ability to design and implement software applications using technologies that include programmable spreadsheets and databases. Students will be able to develop software tools that interface with production systems and embed analytical models into these systems.

4. Course Requirements and Evaluation
   Exam 1 – 20%
   Exam 2 – 20%
   Homework Assignments – 10%
   Project – 15%
   Final Exam – 35%
   Letter grades will be assigned on the standard 10%-point scale: A = 90-100; B = 80-89; C = 70-79; D = 60-69; F = 0-59.

5. Topical Outline
   Chapter 1: Introduction to Computer Systems (1 week)
       1.1 Introduction to computer technology
       1.2 Computer technology in production systems
       1.3 Examples
   Chapter 2: Visual Basic Applications (VBA) for Excel (3 weeks)
       2.1 Introduction to spreadsheet modeling with Excel
       2.2 VBA for Excel
       2.3 VBA editor
       2.4 Recording, playing, and visualizing macros
2.5 Worksheet objects and methods
2.6 Cell objects and methods
2.7 Application objects and methods
2.8 Worksheet and cell reference in VBA
2.9 VBA object browser

Chapter 3: Fundamentals of Programming with VBA (6 weeks)
3.1 Concepts of computer programming
3.2 VBA variables and data types
3.3 Procedures
3.4 Control structures
3.5 Math functions
3.6 Arrays
3.7 Functions

Chapter 4: Fundamentals of Databases (2 weeks)
4.1 Introduction to databases
4.2 Relational databases
4.3 Tables
4.4 Database operations

Chapter 5: Application Development (2 weeks)
5.1 The development process
5.2 Case study

Project presentations and exams (1 week)

6. Labs
  1. Excel
  2. Excel
  3. VBA editor
  4. Excel macros
  5. VBA browser
  6. VBA procedures
  7. VBA control structures
  8. VBA control structures
  9. VBA math functions
  10. VBA arrays
  11. VBA functions
12. Database retrieval
13. Database modification
14. Case study
15. Case study

7. Course Policies

**Accommodation Policy:** A student needing special accommodations (e.g., school events, disabilities, etc.) should bring that need to the instructor's attention as soon as possible, along with the appropriate written verification.

**Academic Honesty:** Each student will be held responsible for adherence to the University’s Student Academic Honesty Code.

**Attendance:** While there is no attendance policy per se for the course, attendance at all scheduled class meetings is expected and is crucial to passing the course. There will be no unannounced quizzes.

**Make-up Work:** Work missed during the semester will be assigned a grade of zero points. Make-up work will be given only for valid University excuses with appropriate written verification. It is always the student's responsibility to initiate arrangements for make-up work, and these arrangements must be initiated within one week of the original missed due date.
Course: COMP 3010 Spreadsheet-Based Applications with Visual Basic Department: Computer Science and Software Engineering Credit Hours: 3 hours (LEC. 2, LAB. 3) Prerequisites: COMP 1200 or higher

1. Texts or Major Resources
   Software: Visual Basic Application for Excel

2. Course Description
   Design and implementation of applications such as simulations, spreadsheet front-ends for modeling, interfaces to databases, and multimedia applications.

3. Course Objectives
   In this course, students will develop the ability to design and implement software applications using technologies that include programmable spreadsheets and databases. Students will be able to develop software tools that interface with production systems and embed analytical models into these systems.

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Project presentations and exams (1 week)

6. Labs
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11. VBA functions
12. Database retrieval
13. Database modification
14. Case study
15. Case study

7. Course Policies
University and Departmental Rules and Policies:
All university, college, and departmental policies will be followed in this class. This includes policies regarding class absences and official excuses, and policies regarding rescheduling of final exams (i.e., instructors may not change final exam times scheduled by the university and prior-scheduled travel plans do not constitute an approved excuse for students to miss or reschedule an exam). If you have questions about policies, please see the Tiger Cub or the university Bulletin.

Attendance: While there is no attendance policy per se for the course, attendance at all scheduled class meetings is expected and is crucial to passing the course. There will be no unannounced quizzes.

Make-Up Policy:
Work missed during the semester will be assigned a grade of zero points. Make-up work will be given only for valid University excuses with appropriate written verification. It is always the student's responsibility to initiate arrangements for make-up work, and these arrangements must be initiated within one week of the original missed due date.

Arrangement to make up 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 from the end of the period of the excused absences. Except in unusual circumstances, such as continued absence of the student or the advent of University holidays, a make-up exam will take place within two weeks from the time 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
Guidelines governing questions of academic honesty are outlined in the Tiger Cub, and will be adhered to in this class. University policy stipulates that any suspected violation be reported to the Academic Honesty Committee, thus you are encouraged to read this material (see Tiger Cub).

Students with Special Needs
It is a policy of Auburn University to provide accessibility to its programs and activities, and reasonable accommodations for persons defined as having a disability under Section 504 of the Rehabilitation Act of 1973, as amended, and the American with Disabilities Act of 1990. Students who need special accommodations should make an appointment to discuss the Accommodation Memo with me or with the Graduate Teaching Assistant during her office hours. If the scheduled office hours conflict with classes, please arrange an alternate time. If you do not have an Accommodations Memo, but need special accommodations, contact the Program for Auburn Students with Disabilities, 1244 Haley Center; 844-2096 (Voice/TO)