COURSE OUTLINE

Course Number | Course Title                  | Credits
-------------|-------------------------------|--------
IST 102      | Computer Concept With Programming | 3

Hours: lecture/Lab/Other 2/2

Co- or Pre-requisite: ENG 034; MAT 037 (or MAT 037A and 037B) or equivalent proficiency

Implementation: semester/year
Spring 2012

Catalog description (2011-2013 Catalog):
Computer Concept With Programming lectures computer literacy that includes fundamentals of hardware, software, networking and internet. The laboratory part of Computer Concept With Programming instructs structures of programming; implemented by solving business related problems with Java programming language.

Required texts/materials:
5. One USB drive.

The first four items are bundled together and sold at the MCCC Bookstore.

Revision date: Fall 2011
Course coordinator: Assistant Professor Okike-Iroka (609) 570-3464 okikeq@mccc.edu

Information resources: (Describe the primary information resources that support the course, including books, videos, journals, electronic databases, websites, etc. To request new materials for your course, use the library request form at: www.mccc.edu/student_library_course_form.shtml)

Course Competencies/Goals: [List the most important 5-8 overall student learning outcomes for your course. Course-level student learning outcomes (or Course Competencies/Goals) are statements that
describe the specific, measurable knowledge, skills, and/or values that the student is expected to
demonstrate, perform or exhibit after completion of the course. Student learning outcomes should focus
on what the students will learn (rather than what the instructor will teach) and must include verbs
(explain…, demonstrate…, analyze…) that reflect lower-order and higher-order learning goals.]

Course goals:
At the completion of the course, the student will be able to:

1. Comprehend diverse concepts of computers
   a. Examine why computers are indispensable machineries in the business world and society in general.
   b. Describe computer terminology and categorization, with regard to personal computer hardware,
      software, data, networking, careers.
   c. Distinguish between the various functions of computer hardware.

2. Utilize computer software for business purposes
   a. Store data on a flash drive for effective future reference.
   b. Manipulate programming software (Java) fundamentals.
   c. Show competency with fundamentals of programming (Java).

3. Display comprehension of information literacy
   a. Accumulate information from library databases and the Web in order to complete a research project
      on a current topic in information technology.
   b. Appraise sources of information for authority, reliability, currency, bias.
   c. Represent a position either for or against a current ethical issue related to information technology.
   d. Organize and portray the information in an ethical and legal manner.

Course-specific General Education Knowledge Goals and Core Skills. [To an extent consistent with
its primary purposes, each course in every program is expected to reflect the college’s commitment to
general education, as affirmed in the 2005 General Education Policy. A General Education Course is
one whose primary purposes and overall design coincide strongly with one or more of the approved
general education goals and objectives. For any approved (or proposed) General Education Course, the
General Education Goals and Objectives form (the form identified as the “Gen Ed Attachment”) should be
completed and attached to the course outline. Below is a complete list of Mercer’s General Education
Knowledge Goals and Core Skills. Retain on this course outline the Goals and Skills that pertain to your
course and delete those that are not a central part of the course.]

General Education Knowledge Goals
   Goal 1. Communication. Students will communicate effectively in both speech and writing.

   Goal 4. Technology. Students will use computer systems or other appropriate forms of
technology to achieve
      educational and personal goals.

**MCCC Core Skills**

**Goal A. Written and Oral Communication in English.** Students will communicate effectively in speech and writing, and demonstrate proficiency in reading.

**Goal B. Critical Thinking and Problem-solving.** Students will use critical thinking and problem solving skills in analyzing information.

**Goal C. Ethical Decision-Making.** Students will recognize, analyze and assess ethical issues and situations.

**Goal D. Information Literacy.** Students will recognize when information is needed and have the knowledge and skills to locate, evaluate, and effectively use information for college level work.

**Goal E. Computer Literacy.** Students will use computers to access, analyze or present information, solve problems, and communicate with others.

**Goal F. Collaboration and Cooperation.** Students will develop the interpersonal skills required for effective performance in group situations.

**Units of study in detail.** [Each unit should center around a topic, theme or skill that supports the Course Competencies/Goals (the course-level student learning outcomes [SLOs]) and general education student learning outcomes. For each unit, identify specific student learning outcomes that focus on content knowledge or process skills. Units of study are not simply the chapters of the textbook; they are independent of the selected textbook. Unit-level student learning outcomes should state (in terms that can serve as the frame of reference for ongoing assessment of both student achievement and of the course’s effectiveness) what successful students will be able to demonstrate, perform or exhibit at the end of the unit. Connect the unit-level SLOs back to the course-level SLOs and the General Education and Core Skills SLOs either by cross-referencing them by number or by explaining the connections in a brief narrative. It is not expected that every unit-level SLO will connect to the General Education and Core Skills SLOs; each unit-level SLO, however, must connect to at least one course-level SLO. See the attached examples.]

**Units of study in detail.**

**Unit I: Course Introduction and the Web**

*The student will be able to*

- Communicate effectively with other classmates and with professor. (*Course Competencies 1; Gen Ed Goal 1; Core Skills A, F*)
- Understand course objectives and course requirements.
- Discuss why computers are essential components in the business world and society in general. (*Course Competencies 1; Gen Ed Goal 1; Core Skills A*)
- Demonstrate knowledge of popular web search engine. (*Course Competencies 5; Gen Ed Goal 1,4; Core Skills E*)
- Manage data on a flash drive for efficient future reference. (*Course Competencies 4; Gen Ed Goal 1,4; Core Skills E*)
Unit II: Hardware and Programming
The student will be able to
• Describe computer terminology and categorization, with regard to personal computer hardware, software, data, networking, careers. (Course Competencies 2; Gen Ed Goal 1,4; Core Skills A)
• Distinguish between the various functions of computer hardware. (Course Competencies 3; Gen Ed Goal 1,4; Core Skills A)
• Utilize computer software for business purposes (Course Competencies 5,6; Gen Ed Goal 1,4; Core Skills E)
• Manipulate programming software (Java) fundamentals (Course Competencies 5,6; Gen Ed Goal 1,4; Core Skills E)

Unit III: Software, Ethics, and Programming
The student will be able to
• Describe computer terminology and categorization, with regard to personal computer hardware, software, data, networking, careers. (Course Competencies 2; Gen Ed Goal 1,4; Core Skills A)
• Represent a position either for or against a current ethical issue related to information technology. (Course Competencies 9; Gen Ed Goal 1,9; Core Skills C)
• Manipulate programming software (Java) fundamentals (Course Competencies 5,6; Gen Ed Goal 1,4; Core Skills E)
• Show competency with fundamentals of programming (Java). (Course Competencies 2; Gen Ed Goal 1,4; Core Skills A).

Unit IV: Data, Networking, Careers, and PowerPoint
The student will be able to
• Describe computer terminology and categorization, with regard to personal computer hardware, software, data, networking, careers. (Course Competencies 2; Gen Ed Goal 1,4; Core Skills A)
• Manipulate programming software (Java) fundamentals (Course Competencies 5,6; Gen Ed Goal 1,4; Core Skills E)
• Use presentation software to generate documents and demonstrate competence with advanced features of presentation software. (Course Competencies 5,6; Gen Ed Goal 1,4; Core Skills E)
• Represent a position either for or against a current ethical issue related to information technology. (Course Competencies 9; Gen Ed Goal 1,9; Core Skills C)

Unit IV: Information Literacy Project
The student will be able to
• Accumulate information from library databases and the Web in order to complete a research project on a current topic in information technology (Course Competencies 7; Gen Ed Goal 1,4; Core Skills A,B,D,E)
• Appraise sources of information for authority, reliability, currency, bias. (Course Competencies 8; Gen Ed Goal 1,4; Core Skills B,D)
• Represent a position either for or against a current ethical issue related to information technology. (Course Competencies 9; Gen Ed Goal 1,9; Core Skills B,C,D)

• Organize and portray the information in an ethical and legal manner. (Course Competencies 10; Gen Ed Goal 1,4; Core Skills B,C,D)
The following topics will be covered in lectures and laboratory assignments. The instructor may alter this schedule. Changes will be announced. Chapter reading assignments include Special Features at the end of some chapters, especially the review questions. Current topics will also be presented and may be included in tests.

<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
<th>Lab: Starting Out With JAVA by Tony Gaddis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Introductions</td>
<td>Lab 1 - Internet Explorer, MercerMail Internet</td>
</tr>
<tr>
<td>2.</td>
<td>Ch. 1 – Why Computers Matter to you</td>
<td>Lab 2 – Compiling and running a Java program. Ch. 1.</td>
</tr>
<tr>
<td>3.</td>
<td>Ch. 2 – Looking at Computers: Understanding the Parts</td>
<td>Lab 3 – Display Console output. Ch. 2.</td>
</tr>
<tr>
<td>4.</td>
<td>Ch. 3 – Understanding and Assessing Hardware</td>
<td>Lab 4 – The If statements. Ch. 3</td>
</tr>
<tr>
<td>5.</td>
<td>Ch. 4 – Under the Hood</td>
<td>Lab 5 – The While Loop. Ch. 4</td>
</tr>
<tr>
<td>6.</td>
<td>Ch. 5 – Digital Lifestyle Ch. 6 - IT Ethics</td>
<td>Lab 6 – Passing arguments to a method. Ch. 5.</td>
</tr>
<tr>
<td>7.</td>
<td>Ch. 7 – Application Software</td>
<td>MID-TERM EXAM 1 (ch 1-6)</td>
</tr>
<tr>
<td>8.</td>
<td>Ch. 8 – Using System Software</td>
<td>Lab 7 – Writing classes and creating objects. Ch. 6.</td>
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<tr>
<td>9.</td>
<td>Purdue OWL website review <a href="http://owl.english.purdue.edu/owl/">http://owl.english.purdue.edu/owl/</a> Assign Research Project</td>
<td>Lab 8 – Information literacy</td>
</tr>
<tr>
<td>10.</td>
<td>Ch. 9 – Databases and Information Systems</td>
<td>Lab 9 – Creating a simple GUI application. Ch. 7</td>
</tr>
<tr>
<td>11.</td>
<td>Ch. 10 – Using the Internet Collect Research project</td>
<td>Lab 10 – Accessing Array elements in a loop. Ch. 8.</td>
</tr>
<tr>
<td>12.</td>
<td>Ch. 12 – Networking Assign final project</td>
<td>Lab 11 – Research project due</td>
</tr>
<tr>
<td>13.</td>
<td>Ch. 13 – Careers in IT</td>
<td>Lab 12 – Format and enhance/presentation of final project</td>
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<tr>
<td>14.</td>
<td>Final Projects Due</td>
<td>Lab 13 – Presentation of final project</td>
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<tr>
<td>15.</td>
<td>Course evaluation</td>
<td>FINAL EXAM</td>
</tr>
</tbody>
</table>

**TEACHING METHODS**

1. **Lectures/Demonstrations**: Vital material from the text and outside sources will be covered in class. Students should plan to take notes as not all material can be found in the texts or readings. Discussion is encouraged, as is student-acquired, outside material relevant to topics being covered.

2. **Assignments**: Concepts Reviews, Programming Skills Reviews, Programming projects and other projects and readings will be periodically assigned to help support and supplement material found in the lessons. These assignments may require the use of various software applications (Java, Microsoft Office Suite).

3. **Quizzes**: Systematic scheduled quizzes will be given to help ensure students stay up with assigned lectures material.

4. **Exams**: Exams will be given. The exams will be closed book/notes and will test assigned readings and material discussed in class. The instructor will discuss in advance details of all exams and tests.

5. **Internet Support**: Textbook Web pages augment classroom learning.

6. **Oral Presentation**: Students will be required to make an oral presentation in class on an assigned topic.
Evaluation of student learning:

Lab assignments 30%
Homework, Quizzes, Attendance 20%
Midterm and Final Exam 30%
Final Project 20%

Lab assignments, quizzes, homework assignments and exams are assigned and collected in the course management tool, Angel.

The final project requires a student to select from a list of significant issues in Information Technology, research the topic, write a paper using APA formatting, and present the findings to the class. The project is graded using a rubric on the use of presentation software, the ethical and legal use of information, and paper content, composition, and formatting.

Plan to spend approximately six to eight hours each week on reading, homework, and laboratory assignments.

<table>
<thead>
<tr>
<th>Grades will be assigned in accordance with the following: Letter grade</th>
<th>Nominal %</th>
<th>QPA quality points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93-100</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
<td>3.4</td>
</tr>
<tr>
<td>B</td>
<td>83-86</td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td>80-82</td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>77-79</td>
<td>2.4</td>
</tr>
<tr>
<td>C</td>
<td>70-76</td>
<td>2.0</td>
</tr>
<tr>
<td>D</td>
<td>60-69</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Academic Integrity Statement

A student who knowingly represents work of others as his/ her own, uses or obtains unauthorized assistance in the execution of any academic work, or gives fraudulent assistance to another student is guilty of cheating. The penalty for violating the honor code is severe. (See Student Handbook.) Any student violating the honor code is subject to receive a failing grade for the course and will be reported to the Office of Student Affairs. If a student is unclear about whether a particular situation may constitute an honor code violation, the student should meet with the instructor to discuss the situation.

It is permissible to assist classmates in general discussions of computing techniques; general advice and interaction are encouraged. Each person, however, must develop his or her own solutions to the assigned homework and laboratory exercises. Students may not "work together" on graded assignments. Such collaboration constitutes cheating, unless it is a group assignment. A student may not use or copy (by any means) another's work (or portions of it) and represent it as his/ her own.

Classroom Conduct Statement

It is the student’s responsibility to attend all classes. As stated in the catalog, Mercer has no class cut policy. If a student misses a class meeting for any reason, he/she is responsible for all content that is covered, for announcements made, and for acquiring any materials that may have been distributed in
class. It is expected that students be on time for all classes. Students who walk into class after it has begun are expected to choose seats close to where they entered the room so that they do not disrupt the class meeting. It is also expected that cell phones will not be used during classes. Should a cell phone ring or be used during a test, the grade for that test will be zero.

Students are expected to follow ordinary rules of courtesy during the class sessions. Engaging in private, side conversations during class time is distracting to other students and to the instructor. Leaving class early without having informed the instructor prior to class is not appropriate. Unless there is an emergency, leaving class and returning while the class is in session is not acceptable behavior. Disruptive behavior of any type, including sharpening pencils during class while someone is speaking, is not appropriate.

The college welcomes all students into an environment that creates a sense of community of pride and respect; we are here to work cooperatively and to learn together.

**Reasonable Accommodations for Students with Documented Disabilities**

Mercer County Community College is committed to supporting all students in their academic and co-curricular endeavors. Each semester, a significant number of students document disabilities, which may require learning, sight, hearing, manual, speech, or mobility accommodations to ensure access to academic and co-curricular activities. The college provides services and reasonable accommodations to all students who need and have a legal entitlement to such accommodations.

For more information regarding accommodations, you may visit the Office of Academic Support Services in FA129 or contact them at 609.570.3422 or urbanb@mccc.edu.