

## WOOD TOBÉ-COBURN SCHOOL

8 East 40<sup>th</sup> Street  
New York, NY 10016-0190  
(212) 686-9040 (phone)  
(212) 686-9171 (fax)

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### COURSE SYLLABUS

**COURSE / SECTION NUMBER:** CA 103 Programming Logic

**SEMESTER:** FALL SEMESTER – TERM II

**DAY(S) / HOURS:** M-F 1:00PM – 1:50PM

**ROOM:** 006C

**INSTRUCTOR:** Professor D. Safonte

Email: [safonte.wtcs@gmail.com](mailto:safonte.wtcs@gmail.com) (Preferred)

Email: [dsafonte@woodtobecoburn.edu](mailto:dsafonte@woodtobecoburn.edu)

Office Phone: (212) 897-0169

**OFFICE HOURS:** Conference Room C

Wednesday 12:00 PM – 12:50 PM

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### PROGRAMMING LOGIC COURSE OUTLINE

**COURSE DESCRIPTION:** This course introduces the students to computer programming and problem solving in structured and procedural environments. Students will also learn syntax, algorithms, program design, and logic controls.

**PREREQUISITE(S):** CA110 Computer Concepts

**CREDITS:** 2 Semester Credits

**HOURS:** 24 Lecture / 14 Lab

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### INSTRUCTIONAL MATERIALS AND REFERENCES

#### Required Text:

Farrell, Joyce. Programming Logic And Design, 7<sup>th</sup> Edition. Course Technology, 2013. ISBN-13: 978-1-111-96975-2

Visual Logic 2.2.7. (Access Code included with your textbook. DON'T LOSE IT!)

1. You must create a Visual Logic Signature File using the Access Code, by visiting <http://visuallogic.org/create>. That will cause a VLSig file to be emailed to you. Download that VLSig file to your flash drive so you can use the software on any computer.
2. You must also download the Visual Logic executable file to your flash drive, so you can use the application on any computer. There is no installation file. You just run the executable, select your signature file, and start working with the software. Download from <http://visuallogic.org/download>.

Microsoft Visio Trial Download

You can download a 60-day trial version of Microsoft Visio by searching for it on <http://microsoft.com>. This trial version will expire after 60 days. It may also have some other limitations.

#### Additional Requirements:

- A loose leaf binder or notebook to keep notes.
- A flash drive is suggested to keep your data files and programming projects on, so you can take them with you between class and home.
- -OR- Use of a Google Drive folder where you save your items DAILY!
- LOGIN TO YOUR CENGAGE COURSEMATE and JOIN THIS CLASS:
  - CODE ID: **CM-9781133527237-0000038**

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*There will be assignments that may be started in class, but need to be completed at home. This will be the easiest way for you to do that. If you do not have a flash drive and cannot obtain one, then you are responsible for compressing your files into a single ZIP file and emailing it to yourself daily, so you have access to them at home. You will then have to download the zip file from your email and extract it to your hard drive before you can begin working again. This is why a flash drive is easier, faster and better.*

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### **COURSE OBJECTIVES:**

Upon completion of the course, the student will be able to use programming logic and design software to:

- A. Describe and use syntax and data types.
  - B. Solve basic algebraic algorithms.
  - C. Describe and evaluate Boolean expressions and assignment statements.
  - D. Implement and design algorithms and procedural programs.
  - E. Utilize problem solving methods.
  - F. Develop flowcharts, pseudo code, and IPOs.
  - G. Use logic control structures.
  - H. Manage files and paths with operating system commands.
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**COURSE POLICIES:** To successfully complete the course, students are expected to follow these classroom policies:

- A. Bring the textbook to every class session. The book may be needed to complete labs.
  - B. Maintain regular attendance at all class sessions. If you are absent, it is your responsibility to complete all required lessons and assignments. It is also your responsibility to turn in work due on the date of the absence via email to the professor. Late work may only be accepted at the discretion of the instructor with an excused absence (court date with written proof, or doctors' note). No one is guaranteed acceptance of late work.
  - C. Complete your own work. Submission of someone else's work as your own will result in a 0 for that assignment and possible failure of the course.
  - D. Demonstrate professional courtesy in speaking and behavior shown towards the instructor and classmates.
  - E. All cell phones and electronic devices **MUST** be **OFF** during class!
  - F. No Instant Messaging, Tweeting, Facebook Usage, Web Surfing, or anything of the sort in the classroom, whether on the school computers or your own devices.
  - G. No eating or drinking allowed in class.
  - H. You are required to be in dress code to every class session. If you are not, you will be asked to leave and see the Director of Education.
  - I. **Homework and Lab Work count for 40% of your grade!** Homework will be counted as 100% when handed in on time. There will be a 5% deduction for each DAY that assignment is late. If you are absent from class, you are required to get the day assignment from either myself or a classmate.
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### **ATTENDANCE AND LATE ARRIVAL POLICY**

- A. All Classes being on the hour.
- B. Attendance will be taken at the beginning of each class (within first 5 minutes).
- C. Arrival after last name is called is LATE!
- D. Three late arrivals will equate to one absence and will be recorded as such in our school attendance records.
- E. **Students who arrive 20 minutes or more late to class will be considered absent.** Students are encouraged

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to enter the class at this time as long as they do not disrupt the class, so they can at least benefit from the lesson for the day.

- F. Regular class attendance is essential. Regular and punctual attendance is extremely important while in school and makes it considerably easier to satisfy employers who demand this behavior. Development of professional conduct at Wood Tobé-Coburn School is just as important as the development of skills
  - G. Absence from class, regardless of reason involves a loss to both the student and to other members of the class. Wood Tobé-Coburn School policy requires students to attend all classes. While it is recognized that certain reasons beyond the control of the student may make it impossible to attend class, excessive absenteeism may result in a lowered grade or other administrative action. An absence rate in excess of 10% of the classes scheduled may result in dismissal from school. A student who accumulates ten consecutive days of absence is considered to have withdrawn from school
  - H. Attendance is expected and is taken each day. If you will not be able to attend class, email me at [Safonte.wtcs@gmail.com](mailto:Safonte.wtcs@gmail.com) within class hours. Also call a classmate to obtain the homework assignments. You are responsible for the content covered during your absence; this includes all assignments, class work, and work due on the day of your absence
  - I. Please do not ask to leave the class early. If you are late or leave class early, you will not earn credit for attending class that day. If you are late to class, wait until after class to tell me. It is your responsibility to inform me that you were in class and see that it is marked on my attendance sheet
  - J. Professional behavior is expected of all students. You are expected to abide by the Wood Tobé-Coburn School Academic Catalog and the student handbook for conduct, ethical behavior, and other rules/regulations
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### **ACADEMIC DISHONESTY POLICY**

Academic dishonesty includes, but is not limited to, using unauthorized aids to complete an exam or project, submitting another student's work, sharing data via the network or diskette/flash drive, and copying from another student with or without their permission.

The Director of Education will suspend students who are caught cheating from school for a minimum of 24 hours. In addition, the students will not receive any credit for the work in question or any other work missed during the period of suspension.

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### **DRESS CODE POLICY**

Students are required to dress in appropriate professional attire. The Wood Tobé-Coburn School student is expected to maintain the same high standard of appearance and grooming that are expected by the business, design, and health care communities.

Students who are not in compliance with the dress code will be sent home. Faculty members may send students home from class or may elect to send them to the Director of Education to be sent home. Students will not be allowed to make up work missed during the period of suspension.

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### **ASSIGNMENTS**

In order to achieve the course objectives, you will use the textbook and other reference sources to complete in-class and homework exercises, as well as a final project. Completing all homework and in-class assignments will help you maximize your achievement on the tests and other writing assignments.

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Attendance	5%
Participation	5%
Homework/Labs	40%
Mid Term Exam	15%
Quizzes	10%
Final Exam	15%
Final Project	10%

### METHODS OF EVALUATION

\* Professor Reserves the Right to Eliminate/Recalculate Any Assessment.

#### GRADING SYSTEM:

A = 95 < 100 A- = 90 < 94 B+ = 87 < 89 B = 84 < 86 B- = 80 < 83 C+ = 76 < 79 C = 72 < 75 C- = 68 < 71 D+ = 64 < 67 D = 60 < 63 F = 0 < 59

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### All Assignment Submissions

All Homework and class work assignment submissions MUST include Your Name, Course Number and Section, Assignment Name in the email subject line; *eg: Email Subject:, CA103, Homework 1 Review Questions*

**ALL SUBMISSIONS MUST BE SUBMITTED VIA Shared Google Drive or email to**

[Safonte.WTCS@gmail.com](mailto:Safonte.WTCS@gmail.com)

**\*\*NO PRINTED SUBMISSIONS! \*\***

### Homework/Labs

You may be given various classroom hands-on labs and/or homework assignments to be completed individually throughout the term, in addition to hands-on exercises we complete as a class together during lectures. These assignments are to solidify your programming skills in preparation for the final project and exams. They do need to be handed in, and will be graded. The professor may float the room and inspect progress.

**Regular completion of classroom labs and homework also count toward classroom participation.**

Assignments have **DUE DATES** that need to be met for full credit. Any late assignment, if approved by the instructor, will be subject to a **5% PENALTY PER DAY against the grade of that assignment**, up to 10 days late. Thereafter, the assignment **will not be accepted**. You are responsible for checking the course website daily for new homework assignments, as I may post them at ANY time, whether or not discussed in class.

**YOU WILL NOT PASS THIS CLASS IF YOU DO NOT SUBMIT YOUR HOMEWORK AND LABS!**

### Attendance/Participation

**EACH STUDENT STARTS WITH 5 POINTS EACH FOR ATTENDANCE/PARTICIPATION ON DAY ONE!**

It's up to you to work hard to keep them. Your participation encompasses a lot of work. Labs, Reading Assignments, Homework Assignments, Classroom Discussions, Quizzes, Attendance, Punctuality and Classroom Etiquette all fall under this part of your grade. Your participation is graded on completion, as well as attendance and punctuality. If you do ALL the work, including quizzes, respect the policies and classroom etiquette, and you are never absent or late, then you will keep the full 10 points. Miss any work and points may be deducted as discussed earlier. One Point may also be deducted for each absence, and ½ point for lateness. If you are more than 20 minutes late, a full point will be deducted as if you were absent. Make no mistake; participation heavily affects your grade! A loss of all participation points means you will likely NOT earn better than a "B+" in this class!

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**Quizzes**

There will be 5 quizzes throughout the term. Quizzes will generally be every week, except on the week of the Midterm Exam and Final Exam. They may be given on different days during the week. Quizzes cannot be made up if you are absent, regardless of reason or note.

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**Midterm Exam & Project**

There WILL be a multi-chapter, cumulative written exam at the Midterm Point. This assessment will be graded on a 100% scale and will include True/False and Multiple Choice questions. There will also be critical thinking questions in the form of desk-checking, debugging and writing of code.

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**The date of this exam will be: Thursday, November 22<sup>th</sup>, 2013**

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**Final Exam & Project**

There WILL be a multi-chapter, cumulative written exam at the Final Point. This assessment will be graded on a 100% scale and will include include True/False and Multiple Choice questions. There will also be critical thinking questions in the form of desk-checking, debugging and writing of code.

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**The date of this exam will be: Thursday, December 19<sup>th</sup>, 2013**

There will be a Final Project in this class. Students will be responsible for working individually to create a comprehensive working application based on the skills learned throughout the term. Students will be permitted to choose from two projects from the text book.

**The due date will be Wednesday December 18<sup>rd</sup>, 2013.**

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**TOPICAL OUTLINE: This is a tentative Outline/Schedule. Some chapters may need more than one week. That will be determined as we progress through the semester.**

Week	Topics	Chapter Readings	Exams/Labs/HW
<b>Wk. 1</b> <b>10/28 - 11/01</b>	<ol style="list-style-type: none"> <li>1. Syllabus Overview</li> <li>2. Website Overview</li> <li>3. FTP Overview</li> <li>4. Computer Systems &amp; Program Logic</li> <li>5. Program Development Cycle</li> <li>6. Writing Pseudocode</li> <li>7. Drawing Flowcharts</li> <li>8. Repeating Statements</li> <li>9. Using Sentinels</li> <li>10. Programming &amp; User Environments</li> <li>11. Evolution of Programming Models</li> </ol>	Chapter 1	<b>Quiz #1 - TBA</b>  Lab #1 – Ch. 1 Lab #2 – Ch. 1 Homework: Due: Wednesday
<b>Wk. 2</b> <b>11/04 – 11/08</b>	<ol style="list-style-type: none"> <li>1. Visual Logic Software Overview</li> <li>2. Variables and Constants</li> <li>3. Arithmetic Operations</li> <li>4. Modularization</li> <li>5. Hierarchy Charts</li> <li>6. Good Program Design</li> </ol>	Chapter 2	<b>Quiz #2 - TBA</b>  Lab #1 – Ch. 2 Lab #2 – Ch. 2 Homework: Due: Wednesday
<b>Wk. 3</b> <b>11/11 – 11/15</b>	<ol style="list-style-type: none"> <li>1. Microsoft Visio Overview</li> <li>2. Three Basic Structures</li> <li>3. Priming Input</li> <li>4. Understanding Reasons for Structure</li> <li>5. Recognizing Structure</li> <li>6. Fixing Unstructured Logic</li> </ol>	Chapter 3	<b>Quiz #3 – TBA</b>  Lab #1 – Ch. 3 Lab #2 – Ch. 3 Homework: Due: Wednesday
<b>Wk. 4</b> <b>11/18 – 11/22</b>	<ol style="list-style-type: none"> <li>1. Boolean Expressions &amp; Selections</li> <li>2. Relational Comparison Operators</li> <li>3. Understanding AND Logic</li> <li>4. Understanding OR Logic</li> <li>5. Making Selections within Ranges</li> <li>6. Logical Operator Precedence</li> <li>7. Midterm Exam</li> </ol>	Chapter 4	<b>MIDTERM 11/22</b>  Lab #1 – Ch. 4 Lab #2 – Ch. 4 Homework: Due: Wednesday
<b>Wk. 5</b> <b>11/25 – 11/27</b>	<ol style="list-style-type: none"> <li>1. Advantages of Looping</li> <li>2. Loop Control Variables</li> <li>3. Nested Loops</li> <li>4. Common Loop Mistakes</li> <li>5. Using a For Loop</li> </ol>	Chapter 5	<b>MIDTERM PROJECT 11/25</b>  <b>Quiz #4 – TBA</b> Lab #1 – Ch. 5 Lab #2 – Ch. 5

THANKSGIVING  
BREAK

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6. Common Loop Applications

7. Midterm Project Due

Homework:

Due: Wednesday

**Wk. 6**  
**12/02 – 12/06**

1. Storing Data in Arrays
2. Replacing Nested Decisions
3. Using Constants with Arrays
4. Searching Arrays for Exact Match
5. Using Parallel Arrays
6. Searching Arrays for Range Match
7. Array Bounds
8. Using For Loops to Process Arrays

Chapter 6

**Quiz #5 – TBA**

Classwork:

Lab #1 – Ch. 6

Lab #2 – Ch. 6

Homework:

Due: Wednesday

**Wk. 7**  
**12/09 – 12/13**

1. Understanding Computer Files
2. Understanding Data Hierarchy
3. Performing File Operations
4. Sequential Files & Control Break
5. Merging Sequential Files
6. Master & Transaction File Processing
7. Random Access Files

Chapter 7

**Quiz #6 – TBA**

Classwork:

Lab #1 – Ch. 7

Lab #2 – Ch. 7

Homework:

Due: Wednesday

**Wk. 8**  
**12/16 – 12/20**

1. Event Driven Programming
2. *User-Initiated Actions/GUI*
3. Designing Graphical User Interfaces
4. Developing an Event-Driven App
5. Threads and Multithreading
6. Creating Animation
7. Final Project
8. Final Exam

Chapter 12

Exam:  
Ch. 5 – 7, 12

Classwork:

Wednesday 10/23:

Review for Final

**Final Exam – Thursday 12/19**

## EXTRA CREDIT

### EXTRA CREDIT 1: Lottery Game, P. 167

Complete the requirements of Game Zone #12 by Friday November 22<sup>th</sup>, 2013. Successful completion of this extra credit assignment will result in 5% extra credit on your overall course grade. You may earn a maximum of 10% Extra Credit throughout the semester.

### EXTRA CREDIT 2: Magic 8 Ball, P. 253

Complete the requirements of Game Zone #14 by Wednesday December 18<sup>th</sup>, 2013. Successful completion of this extra credit assignment will result in 5% extra credit on your overall course grade. You may earn a maximum of 10% Extra Credit throughout the semester.