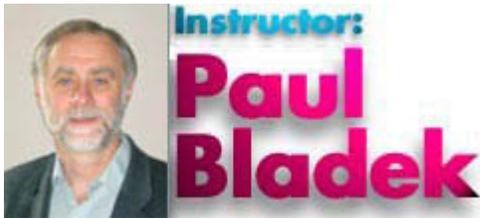


# Edmonds Community College

## CS 115 *formerly CMPSC Introduction to Computer Programming*

Fall 2014 Section D: 2:50 - 4:30 pm, Monday & Wednesday

## Introduction to Computer Programming



- OFFICE: [Alderwood](#), Room 204A
- E-MAIL: [pbladek@edcc.edu](mailto:pbladek@edcc.edu) \*preferred
- PHONE: (425)640-1177
- FAX: (425)771-3366

### OFFICE HOURS: Winter 2014

- 10:30 - 11:120 am Monday – Thursday
- 2:20 – 2:45 p.m. Wednesday and Thursday
- or by appointment

- **COURSE DESCRIPTION:** An introductory course in programming using VB.NET 2010. No previous programming experience is expected. Topics include designing, creating and debugging interactive, event-driven programs with a graphical user interface and developing problem-solving skills.

CREDITS	PRE-REQUISITES
5	Math 090, Math 95 or CIS 114 (2.0 or better) or instructor's permission

### COURSE OBJECTIVES:

**Upon successful completion of this course, the student should be able to:**

Reason clearly using varied analytic and creative approaches

- Use correct syntax and structure of the Visual BASIC language.
- Design an appropriate User Interface for a simple Visual Basic application.
- Analyze problems typical of the business, scientific or home environment and to formulate solutions in quantitative terms capable of computer solution.

Communicate and interact respectfully through critical and imaginative expression

- Design algorithms typically used in computer programming.
- Lay out a flow chart for a typical algorithm.
- Utilize Sequence, Selection and Iteration constructs in the design of solutions.
- Design, code, correct, test and execute a Visual BASIC program.

This course is part of one or more certificates or degrees. **Outcomes** for Edmonds Community College degrees and certificates can be found in the online college catalog (<http://catalog.edcc.edu>) at the bottom of each degree or certificate. To find specific outcomes, click on the Degrees and Certificates link and select a program from the list. **Computer Science** Degrees, Certificates and their Outcomes are listed at <http://cs.edcc.edu/degrees.php>.

## CS 115: Course Information: Fall 2014

Schedule#	Section	Time	Location
Lecture: 2864	<b>DA</b>	2:50 - 4:30 p.m., Monday & Wednesday	<b>Alderwood</b> Room 105
Lab:	<b>DL</b>	4:35 - 5:25 p.m., Monday & Wednesday	

### COURSE TEXT:

*bookstore:* [www.edcc.edu/bookstore](http://www.edcc.edu/bookstore)

- **REQUIRED: "Starting Out with Visual Basic 2012" Sixth Edition**

by Tony Gaddis, Kip Irvine **Pearson**

ISBN-10: 0133128083

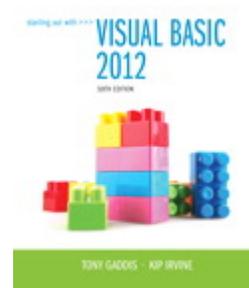
ISBN-13: 9780133128086; Copyright 2013, 912 pp.

suggested retail price: **\$146.40**

with e-text, suggested retail price: **\$153.07**

*Amazon:* \$123.82

*Kindle:* \$102.94



- **OTHER MATERIALS:**

- A **USB memory stick** or other offline storage
- a notebook *for taking notes*
- Two (2) Deluxe Locking Project File Folders DOCU Manager or equivalent
- Access to a computer with a compiler and the Internet. There are over 400 computers on the Edmonds CC campus.
  - **ACS labs.** All ACS lab machines should have Visual Studio.Net 2012 installed.
  - **Campus Computer Resources.** (*downloadable pdf*)
  - **WiFi Connection**
  - **Student Technical Support:** Contact START at 425.640.1101.

- **SOFTWARE USED:**

- Microsoft Visual Studio.Net 2012 (*available in lab*)
  - also available **free** to current students through the department
  - contact Misty Cline (ALD 235A) 8-10 am or 1-3 pm



Successful completion of student responsibilities in this class requires access to Canvas via an Internet browser. Additional materials will be posted in the CS 115 area. Instructions for access to Canvas may be located online at the following address: <http://guides.instructure.com/>.

- Student Technical Support: Contact START 425-640-1101.
- E-mail communications should use the student's EdMail account. Instructions are at: <http://www.edcc.edu/edmail>.

- **FINAL EXAM:**

**Fall 2014 Section D: Tuesday, December 9, 2014 1:30 - 3:20 pm**  
***TEST MUST BE TAKEN AT THIS TIME!***

- **COURSE WORK:** Course work will include class discussion, programming assignments (including written documentation), written assignments, quizzes, tests, and a final comprehensive exam. *There will be no make-up exams without sufficient reason AND prior notice of the absence.* Quizzes will not necessarily be announced in advance.

- **Statement on Academic Integrity**

Edmonds CC students shall demonstrate Academic Integrity. I am expected to report all violations of Academic Integrity (academic dishonesty, cheating, plagiarism, and unauthorized collaboration) to the College. The College's database of such incidents will be monitored by the Office of the Vice President for Student Services. Data will be maintained for three years. Evidence of repeat incidents will result in additional action by the Office of the Vice President for Student Services as governed by the Student Code of Conduct. In this class, cheating and plagiarism will result in an assignment or grade penalty ranging from redoing at 1/2 credit to a zero on the assessment. A second incident in this class will result in an assignment or grade penalty ranging from a zero on the assessment to a zero for the course.

- **LEARNING SUPPORT:** Tutoring is available in the [Learning Support Center](#) located in [Mukilteo Hall #113](#) (425-640-1750)

- **COURSE TOPICS:**

- Computer Basics
- Programming Basics
- Design Tools
  - Flow Charts
  - Pseudocode
- Microsoft Visual Studio
  - Layout View
  - Code View
  - Solution Explorer
  - Toolbox
  - Properties Window
  - Debugger
- GUI design
  - Layout
    - Group Boxes
  - Interface Control Objects
    - Labels
    - Textboxes
    - Buttons
    - Radio Buttons
    - Check Boxes
    - List Boxes
    - Combo Boxes
    - PictureBoxes
- Data
  - primitive types
  - constants
  - strings
  - arrays
  - conversion
  - controls/Objects
- Operators
  - Assignment
  - Arithmetic
  - Relational
  - Logical
- Control Structures
  - sequence
  - selection
    - If..Then..Endif
    - If..Then..Else..Endif
    - If..Then..ElseIf..Else..Endif
    - Select Case
  - iteration
    - Do While...Loop

- Do...Loop While
  - Do Until...Loop
  - Do...Loop While
  - For...Next
  - For Each
- Sub Procedures
  - calling
  - parameters
    - ByVal
    - ByRef
- Function Procedures
  - calling
  - Return
    - Type
    - Value
  - parameters
    - ByVal
    - ByRef
- Algorithms
  - swap
  - total & average
- Related Topics

# Class Policies

- A. Students are expected to follow all **Edmonds Community College Policies and Procedures**. Special notice should be paid to:
- Academic Information and Requirements
  - Edmonds Community College Policies
  - college-wide abilities

**STUDENT SERVICES INFORMATION:** <http://www.edcc.edu/studentinfo/>

- o Academic Calendar: [http://www.edcc.edu/calendar/\\_academic.php](http://www.edcc.edu/calendar/_academic.php)
- o Advising: [www.edcc.edu/advising](http://www.edcc.edu/advising)
- o Center for Student Engagement and Leadership: <http://www.edcc.edu/csel/>
- o College Policies and Procedures: <http://catalog.edcc.edu>
- o Counseling and Resource Center: [www.edcc.edu/counseling](http://www.edcc.edu/counseling)
- o Diversity Student Center: [www.edcc.edu/dsc](http://www.edcc.edu/dsc)
- o eLearning Office: <http://www.edcc.edu/elearning/>
- o Enrollment Services: [www.edcc.edu/es](http://www.edcc.edu/es)
- o Learning Support Center: [www.edcc.edu/lsc/Tutoring\\_Center.php](http://www.edcc.edu/lsc/Tutoring_Center.php)
- o Library, including online resources: [www.edcc.edu/library](http://www.edcc.edu/library)
- o Services for Students with Disabilities - <http://www.edcc.edu/ssd/>
- o Student Printing Guidelines: [www.edcc.edu/acs/Printing](http://www.edcc.edu/acs/Printing)
- o Student Support Resources: [www.edcc.edu/support](http://www.edcc.edu/support)
- o TRIO: <http://www.edcc.edu/trio/>
- o Title IX and Gender Discrimination: <http://www.edcc.edu/titleix/what-is-titleix/definitions/gender-discrimination.html>

- B. Both the textbook and lectures are necessary for properly understanding this material. You are responsible for **both** sources.

- C. Read the appropriate section of the text and make a first attempt at some of the problems and tracing through samples before the lecture is given on a topic. Lectures are given on the assumption that you have already made this attempt. Unless you keep up in this way, lectures may well be confusing, and lose their main value. You are responsible for your learning.

- D. Arrive promptly for class; come prepared to take notes.

- E. Participation credit is not given *just* for attendance. However, attendance will be taken every day. An attendance sheet will be sent around to be initialed at the beginning of each class. **It is the student's responsibility to sign in!** Points are also given for involvement in the process, and will not be given to those who are uninvolved, distracting to others, or in any way not fully a part of the class effort. Participation includes, but is not limited to: being prepared for class (this includes having read the text), following and contributing to class discussions and doing required research and class presentations.
- F. Students are expected to follow the ethical standards of the college and the profession, as outlined by the ACM.
- o Edmonds CC students shall demonstrate Academic Integrity. Instructors are expected to report all violations of Academic Integrity (cheating and plagiarism) to the College. The College's database of such incidents will be monitored by the Office of the Vice President for Student Services. Data will be maintained for three years. Evidence of repeat incidents will result in additional action by the Office of the Vice President for Student Services as governed by the Student Code of Conduct. In this class, cheating or plagiarism on a test, quiz, exercise or assignment will result in a grade penalty ranging from a grade of F (0.0) for the item to a grade of F (0.0) for the class). A second incident in this class will result in a grade of F (0.0) for the class.
  - o **All programming assignments must be primarily your own work** (for group assignments, that means the work of your group).  
**You may NOT:**
    - A. directly use code or documents not written by yourself (except where instructed -- and even then, you must give credit to the source)
    - B. do the work with other students (except for group projects)
    - C. share your code with other students.
    - D. use other students' ideas or look at other students' code.
    - E. use parts of other programs (*found on the web or otherwise, decompiled or otherwise*)
- "Honesty is the best policy"**
- G. Although efforts will be made to remain on track, all schedules set out at the beginning of the quarter are subject to change. **It is the responsibility of the student to keep informed about changes.** The current schedule is always available on the class web site.
- H. Students must laugh at a minimum of **50%** of the instructors jokes. If you are unsure if something was a joke or not, smile, just to be safe.
- I. If you require an accommodation for a disability, please contact Services for Students with Disabilities at MLT 159, 425-640-1320 or [ssdmail@edcc.edu](mailto:ssdmail@edcc.edu).
- J. Try to keep a positive attitude.  
*"A positive attitude may not solve all your problems, but it will annoy enough people to make it worth the effort." - Herm Albright*

K. Other procedures may be established during the course of the quarter.

## Grading

Grading is based on a 1000 point scale, with different weights attached to tests, quizzes, programming assignments, and participation. The points are:

activity	number	points	total
midterm test	1	200	200
quiz	<i>best 4</i>	25	100
program/assignment	4	100	400
participation	<i>various</i>		100
Final	1	200	200
<b>Total</b>			<b>1000</b>

- **GRADING SCALE:**  $((\text{Total points}) - 500) / 100 = G.P.A.$   
(Anything over 4.0 becomes 4.0. Anything under 1.0 becomes 0.0). *E.g., 850 = 3.5, 620 = 1.2, etc.*
- **QUIZZES** may or may not be announced beforehand, and cannot be made up. There will be a number of quizzes over the quarter, but only the top four grades will be counted. Unless otherwise announced, all quizzes are **open-book, open-note**, but **no use of computers** or other electronic devices.
- **PARTICIPATION** will included being prepared for and actively involved in class discussions, in-class work and group work, as well as class presentations.
- **TESTS** will require critical thinking skills beyond memorization. You must know the material well enough to think about its consequences, and you must act on your own abilities, as well as those of the author of the book. Except for extreme emergencies, missed tests may not be made up without prior approval and sufficient cause.

For the **midterm**, students will be given the opportunity to **make up some lost points** after the test. The process will be explained in class on the day after the test (*the day the tests are returned*). It is important for students to attend on this day!

- **PROGRAMMING** assignments will be given to you in more detail as they come up. In general, though, each program should contain a structured plan (this will be discussed) and full documentation. Programs are not merely a collection of code, but a well thought-out and executed sequence. You must also decide what a sufficient testing of the code should be, and do so. Programs are worth 100 points each.

# Programming Assignments

For each assignment, the deliverables are indicated on the assignment sheet.

In general, assignments **MUST** be submitted at the time stated, usually at the beginning of class.

Except when otherwise noted (*such as the first assignment*), deliverables include the following:

## Deliverables:

### Physical:

- *Projects should be turned in inside a clear plastic Deluxe Locking Project File Folder DOCU Manager or equivalent. This folder should have a simple flap to hold paper in place--NO buttons, strings, Velcro, etc.* Pages should be in order, **not** stapled.
- Assignment Sheet (*printed from the web*), with your **name** written on it, as a cover sheet.
- **Data Dictionary, Flow Charts**
- Printed **Source Code** with Comments (*including heading blocks*). *The frm---.vb file be sure to "expand" all code before printing*  
Be sure to include "Option Strict On" and "Option Explicit On" at the top of the code, along with:

```
'-----  
' <Program name>  
' by <Your Name>  
' Version 1.0  
' compiled using MS Visual Studio 2010  
' tested on Intel Xeon PC running MS  
Windows 7  
' CS 115 Section <this section>  
' <The date completed>  
' <Description of the program>  
'-----
```

- **Sample Output** (*initial screen and 2 other sample screen captures*)
- a simple **test plan** including explanations of any discrepancies and reasons for each test. Show actual input & **ALL** actual values output as well as **ALL** expected output. Test each possible **action**.

### IMPORTANT!

ALL assignments and folders should be labeled with:

- **<Your Name>**
- **CS 115**  
**Section <this Section>**
- **<this quarter>**  
**<this year>**

## Electronic:

- All **.vb**, **.designer.vb**, and **.exe(Release Version)** files, *along with any test input or output files*, **zipped** together
- Submit this single **zip** file by going to **canvas**, select this class, select the **Course Material** button on the left, select the **project**, by **attach file, browse** to find the file, and **Submit**.

Programs will be graded based on the following criteria:

<p><b>Planning</b></p>	<ul style="list-style-type: none"> <li>• Have you set the <b>algorithm(s)</b>, as shown in <b>flow charts</b>, so that the logic of the program is evident and in modular form?</li> <li>• Have you set up a complete <b>data dictionary</b> that includes <b>ALL objects, variables</b> and <b>parameters</b>?</li> <li>• Does the program follow all specifications?</li> </ul>	<p>20%</p>
<p><b>Execution</b></p>	<ul style="list-style-type: none"> <li>• Does the program meet <b>ALL</b> of the project requirements?</li> <li>• Does it run well?</li> <li>• Is it well structured?</li> <li>• Is it efficient?</li> <li>• Is it user friendly?</li> <li>• Does it deal with possible errors?</li> </ul>	<p>40%</p>
<p><b>Documentation</b></p>	<ul style="list-style-type: none"> <li>• Have all paper materials been submitted, properly labeled, unstapled, in correct order in the proper folder?</li> <li>• Have all <b>.vb</b>, <b>.designer.vb</b>, and <b>.exe (release version)</b>, <i>along with any test input or output files</i>, files been sent as a single <b>.zip</b> file named "<b>&lt;your_name&gt;project&lt;n&gt;.zip</b>" to the appropriate assignment page for the class in <b>canvas</b> ?</li> <li>• Is there a complete <b>HEADING BLOCK</b> for the <i>form</i> and each <i>sub procedure</i> and <i>function procedure</i>?</li> <li>• Does the code follow standard <b>Style</b> guidelines?</li> </ul> <p><i>(The grade for this includes general "readability")</i></p>	<p>20%</p>
<p><b>Testing</b></p>	<p>Your assignment should include a <b>test plan</b>, laying out a reasonable number of tests to see if the program works as it should in foreseeable circumstances. Implementation of the test plan should show the <b>reason</b> for <i>each</i> test, <b>actual specific test input, specific expected results, specific actual results</b> and a <b>stated reason for any differences</b>.</p> <p>Include at <i>least</i> three sample runs (<b>screen shots</b>) of the program.</p>	<p>20%</p>

- **Planning** must lay out flow of control using **flow charts** for each non-trivial sub procedure or function procedure. These may be done using *Visio*, other design programs, or by hand.
- **PROGRAMS *MUST BE THE WORK OF THE INDIVIDUAL STUDENT, AND MUST BE TURNED IN ON TIME.*** Late projects will lose **20%** of their possible value for each calendar weekday late.  
*However-- Programs 1 and 2 may be resubmitted.* Programs turned in for re-evaluation within two weeks (*14 calendar days*) of being returned to the student by the instructor will be re-assessed.

Students resubmitting projects should turn in the **full** original project--**complete with grade sheet**, along with the **corrected project**, with the word "**RESUBMITTAL**" written at the top of the cover page.