

This section of Engr. 123 provides an introduction to programming in the C# programming language. No prior programming experience is needed but a working familiarity with computers is expected.

Text: Deitel, Paul and Deitel, Harvey Visual C# 2012, How to Program 5th edition, Pearson, 2014. A pdf version of this book is available (free) from:

<https://archive.org/details/VisualC2012HowToProgramPaulDeitelHarveyDeitel5thEditionPrenticeHall2014>

Click on pdf on the left side of the screen under *View Book*. Alternatively, a used hard copy from Amazon is about \$100.

References:

1. C# 6 for Programmers (6th Edition) (Deitel Developer Series) 6th Edition by Paul J. Deitel (Author), Harvey Deitel (Author) (Available from Amazon for about \$40 used).
2. Nakov, Svetlin and Kolev, Veselin, Fundamentals of Computer Programming in C#. This is a free book. You can download the pdf from <http://www.introprogramming.info/>
3. Microsoft Corporation, C# Programming Guide, (web only)
<http://msdn.microsoft.com/en-us/library/67ef8sbd.aspx>

Tutorials:

1. <http://csharp-station.com/Tutorial/CSharp/SmartConsoleSetup.aspx> This is set of html files which can be read in a browser on C# topics. It includes code files for each lesson which can be made into a C# project.
2. https://mva.microsoft.com/en-US/training-courses/c-fundamentals-for-absolute-beginners-16169?l=Lvld4EQIC_2706218949 This is a set of u-tube like tutorials from Microsoft. It is arranged in chapters so you can skip through and get what you are interested in. Open the website and click on the *play* button to see all of the tutorials.

Software: Microsoft Visual Studio 2015 is available on the campus network. For your personal computer you can use Visual Studio Express for Windows Desktop which can be downloaded from <http://www.visualstudio.com/en-us/products/visual-studio-express-vs.aspx>
Download Express 2015 for Windows Desktop.

There will be 3 hour exams, graded homework assignments, and a two hour comprehensive final exam. All exams are open book and open notes. The hour exams will count (50/3)% each, the final will count 25%, and the homework projects will count 25% of the final grade.

All students must receive a grade of at least 50% on the programming assignments to pass the course regardless of exam scores.

Contact Information:

Dr. Blandford
KC 266A
(812)-488-2291
blandford@evansville.edu

Help sheets, assignments, and other information will be posted on the web site at
<http://csserver.evansville.edu/~blandfor>

Final Exam is Monday May 1, 2016 at 8:00am

Engr. 123**Spring, 2016/17**

Monday	Wednesday
Jan. 9 Ch 1-2 pp. 1-59 What is C#? Intro and overview Visual Studio 7 IDE A simple C# program	Jan. 11 Ch 3 pp. 60-100 Console programs Memory concepts - variables arithmetic and logical operators – logical if
Jan. 16 Martin Luther King Day	Jan. 18 Ch 4 pp. 101-135 Intro to classes, objects, and methods instance and local variables constructors, value and reference types
Jan. 23 Ch 5 pp. 136-182 If and If/else control structures Assignment, incr/decr operators	Jan. 25 Ch 6 pp. 183-225 While, For, Switch structure Loops plus increment and decrement operators
Jan. 30 Ch 1-6 Review	Feb. 1 Ch 1-6 Hour Exam 1
Feb. 6 Ch 7 pp. 226-279 Methods, static methods Argument types and namespaces pass by value and pass by reference	Feb. 8 Ch 7-8 pp. 245-293 Examples, Random number generation Games of chance Method overloading Intro to one-dimensional arrays
Feb. 13 Ch 8 pp. 280-343 Passing arrays by value and by reference Multi-dimensional arrays, Examples	Feb. 15 Ch 8 pp. 280-343 For-Each structure Examples and Review
Feb. 20 Ch 7-8 Examples and Review	Feb. 22 Ch 7-8 Hour Exam 2
Feb. 27 Ch. 10 pp. 365-397 More on classes and objects this operator memory management, class library	Mar. 1 Ch 10 pp. Object based programming Class scope constructors and overloading
March 6 Spring Break	Mar. 8 Spring Break
March 13 Ch 14 pp. 510-560 GUI concepts labels, picture boxes, text boxes mouse and keyboard events	Mar. 15 Ch 15 pp. 561-629 GUI concepts list boxes, combo box, tab control, menus
March 20 Ch 16 pp. 630-660 Strings String constructor, basic string ops	Mar. 22 Ch 16 pp. 630-660 Strings, indexers, insert, remove, and replace methods, Examples
March 27 Review and examples	Mar. 29 Ch 10, 14, and 16 Hour Exam 3 <i>Last day to withdraw with a W is Mar. 31</i>
April 3 Ch 17 pp. 661-706 File I/O Sequential files	Apr. 5 Ch 17 pp. 661-706 File I/O – Examples
April 10 Ch 20 pp. 799-829 Searching and sorting	Apr. 12 Notes Intro to graphics
April 17 Notes Intro to graphics	Apr. 19 Notes Intro to graphics
April 24 Review and examples	Apr. 26 Reading/Study Day

Final Exam is Monday May 1, 2017 at 8:00am

Engr 123 Syllabus Supplement

Catalog Description Introduction to structured programming of computers in a modern high level language. Students complete programming projects that include loop and branch constructs, the use of subprograms, algorithm design, arrays, debugging software and techniques, file I/O, and class constructs. Spring.

Credit Hour Policy This course meets the federal requirements of 15 in-class hours plus an expected 30 hours of out-of-class work per credit hour over a semester. (At least 135 hours total; 9 per week)

Time & Place Engr 123 meets Tuesday and Thursday from 8:00AM to 10:00Am in Koch Center 267

Course Objectives Statement

The objective of this course is to teach students to solve computational problems using structured top-down design, functional decomposition, and abstraction techniques. Each student will complete weekly programming assignments in an appropriate high-level language and several larger programming projects

Course outcomes by program outcome

- 1a. Students will use math and science to solve problems in their major field of study.
Students will have a basic understanding of C# (1a ABET a)
- 1b. Students will be able to apply the concepts of their field of study to formulate problems and identify creative solutions.
Students will be able to solve basic problems using knowledge gained in the C# language. (1b ABET e)
- 1c. Students will have mastered the skills and tools of their profession.
All students will demonstrate a working familiarity with the Microsoft Visual Studio programming and debugging environment. (1c ABET k)
- 2c. *Students will be able to communicate effectively both orally and in writing.*
 - Students will write complete explanations of computer architecture concepts in a clear and effective manner.
 - Students will complete a formal term paper on a computer architecture topic.
 - All students will demonstrate an ability to orally explain topics in computer architecture in a clear and effective manner.
- 3b. *Graduates will be cognizant of contemporary issues.*
 - Students will be introduced to contemporary professional issues.
 - Students will complete a term paper on a contemporary professional issue related to computer architecture.

Homework Problems will be assigned daily. Assignments are posted on the website.

Attendance Policy You are expected to attend all class sessions. Absences may adversely affect your grade.

Office Hours Dr. Blandford's office is Koch Center 266, Campus phone is 2201. He will usually be in his office from 7:00 to 8:00 AM and 2:00-3:00 PM on MWF and from 7:00 to 10:00AM on TT.

Disability Policy It is the policy and practice of the University of Evansville to make reasonable accommodations for students with properly documented disabilities. Students should contact the Office of Counseling and Health Education at 488-2663 to seek services or accommodations for disabilities. Written notification to faculty from the Office of Counseling and Health Education is required for academic accommodations.

Honor code This course will be governed by the University of Evansville Honor Code, which is

I will neither give nor receive unauthorized aid, nor will I tolerate an environment that condones the use of unauthorized aid

This code has two fundamental expectations:

- Students will submit as their own work only those items that are indeed their own work
- Students will hold each other responsible for adhering to the Code