



IST 311/602 - Spring 2018 - Tentative Schedule/Syllabus
Advanced Programming of Business Systems

IMPORTANT MESSAGES	
	<p>Lecture Notes (Review)</p> <p>Click here (PDF) Midterm & Final grades Spring-2018</p> <p>Click here (PDF) Code Snippets – Summary of C# code discussed in class</p> <p>Click here (PDF) Microsoft Corp. C# Language Specification V3 (long file)..</p> <p>Click here Text for Generic Dictionary Problem (Cookie Monster Case)</p>
	<p>Optional Partial Makeup exam on Tuesday, Feb 20th.</p> <p>The partial makeup exam (chapter 1-7) only replaces the C# coding portion of the first test. The best grade will be retained.</p> <p>The complexity of the test is similar to the problem given in the original exam (see solution in 'Code Snippets')</p> <p>The exam's duration is one hour and will be taken at the beginning of the class.</p>
	<p>Homework1 - Due: Feb 6th</p> <p>The arrays <code>list1</code> and <code>list2</code> are <i>identical</i> if they have the same contents. Write a method that returns <code>true</code> if <code>list1</code> and <code>list2</code> are identical, using the following header:</p> <pre>public static boolean equalArrays (int[] list1, int[] list2)</pre> <p>Write a test program that prompts the user to enter two lists of integers and displays whether the two are identical. Here are the sample runs. Note that the first number in the input indicates the number of the elements in the list.</p> <p>Test1 Enter list1: 5 5 2 6 1 6 Enter list2: 5 2 5 6 6 1 Two lists are identical</p> <p>Test2 Enter list1: 5 2 5 6 1 6 Enter list2: 5 5 5 6 6 1 Two lists are not identical</p>
	<p>Homework2 - Due: Th. March 22nd</p> <p>Westeros Database. Click here for the assignment</p>
	<p>Homework3 - Due: April 19 << NEW DATE</p> <p>Using Generic Lists. Click here for the assignment</p>
	<p>Homework4 – OPTIONAL (May 1st) - Replaces your lowest homework score</p> <p>Problem 8.8 - YOU MUST CREATE A GUI SOLUTION USING WINDOWS FORMS</p> <p><code>reAay ouyay aay hizway ithway igPay atinLay?</code> (Translated: “Are you a whiz with Pig Latin?”) Write a program that converts an English phrase into a pseudo- Pig Latin phrase (that is Pig Latin that doesn’t follow all the Pig Latin syntax rules). Use predefined methods of the Array and string classes to do the work. For simplicity in your conversion, place the first letter as the last character in the word and prefix the characters “ay” onto the end. For example, the word “example” would become “xampleeay”, and “method” would become “ethodmay.” Allow the user to input the English phrase. After converting it, display the new Pig Latin phrase. Test the program with the following two sentences:</p> <p>“When you play a game of thrones you win or you die.”</p> <p>“A Lannister always pays his debts”</p>
	<p>Exam 1 – Tuesday February 13</p> <p>Exam 2 – Tuesday March 27 Subjects included: (First part of Chapter 8) Strings, Generic List, BitArray, Dictionary</p> <p>Exam 3 – Tuesday May 8</p>

Cleveland State University

IST 311 / IST 602 Adv. Programming of Bus Sys (4-0-4)

Department of Information Systems
Monte Ahuja College of Business Administration

Prerequisites:	IST 203
Instructor:	Dr. Victor Matos
Office Location:	BU342 (Tu. & Th.)
Office Hours:	Tue & Thu. BU342 10:00-12:00AM & 6:00-7:00PM (or by appointment)
Phone:	216 687-3911
Email:	v.matos@csuohio.edu [Preferred]
Webpage:	http://grail.cba.csuohio.edu/~matos
Class Location/Time:	LB-0242 Tue. & Thu . 12:30 PM – 2:20 PM
Class Nbrs:	4971 / 4972

Course Description: (*Prerequisite: IST 211*). This course is a continuation of IST211. It emphasizes the fundamental concepts of object-oriented programming using a contemporary OO language. Topics include classes and objects, data types, control structures, methods, arrays, and strings; the mechanics of running, testing, and debugging programs; definition and use of user-defined classes; advanced collections, classic data-structures, event-driven programming; Windows and Web programming, databases and files.

Key Concepts: Introduction to computing and programming, data types and expressions, methods and behaviors, creating your own classes, making decisions, repeating instructions, arrays, advanced collections, Windows programming, programming based on events, advanced Object-Oriented programming features, debugging and handling exceptions, working with files, database access using LINQ and ADO.NET, Web-Based applications, debugging and testing.

Expected Outcomes: At the end of this course, a successful student will be able to:

1. Understand the history of computers and programming languages including the evolution of C# and .NET.
2. Gain an understanding of how types, classes, and objects are related.
3. Write statements that call methods and return a variable number of arguments.
4. Learn to create user-defined classes using C# Properties, Constructors, Mutators, and user-defined methods.
5. Understand control structures that alter the sequential flow of execution.
6. Describe how to declare and perform compile-time initialization of array elements.
7. Effectively use the automated mechanism of debugging and testing.
8. Use advanced generic collection classes such as lists, stacks, queues, and maps.
9. Understand the principle of recursion.
10. Understand classic sorting algorithms including simple but slow performers (Selection and Insertion sorts) as well as better performing methods (Merge-Sort and Heap-Sort).
11. Understand the principles supporting sequential, binary, and dictionary driven data searching.
12. Create and use classes constructed through the mechanism of Inheritance.
13. Implement and use Interfaces such as IComparable, and ICloneable.
14. Effectively use Exception management constructs.
15. Use the standard System.IO mechanism to read and write persistent data.
16. Create, test and deploy Windows applications using the .NET platform.
17. Create simple web-based .NET applications.

Text: C# Programming From Problem Analysis to Program Design; Barbara Doyle, 5th Edition (2016). Published by Cengage Learning. ISBN10: 1-285-85687-2 ISBN13: 978-1-285-85687-2

Publisher's Link:

<http://www.cengage.com/c/c-programming-from-problem-analysis-to-program-design-5e-doyle/9781285856872>

Video Reference

Bob Tabor – Microsoft Virtual Academy. C# for Absolute Beginners [Internet] Cited July 26, 2017.

https://mva.microsoft.com/en-US/training-courses/c-fundamentals-for-absolute-beginners-16169?l=Lvld4EQIC_2706218949

Course Type: Lecture/discussion and programming, assignments.

Collaboration Rule: You may consult your classmates on general issues about the assignment, but your code remains private. You should neither show another your program nor permit another to look at your program. Beyond that, you should adopt an "empty hands" attitude toward collaboration: talk about the project as you wish, but leave the conversation with nothing written. You expect that submission will be screened for code-sharing by an automated service. It is your responsibility to keep your source code protected and not readable by others.

Exam Make-up Policy: Make-up exams can be arranged if the student has a proper reason for missing the exam and has notified the instructor before the exam has been given to the class or as soon as possible after the exam in the class of an emergency. Student must provide supporting evidence or documents (e.g., doctor's note).

Grading: The course grade is based on a student's overall performance through the entire Semester. The final grade is distributed among the following components:

Programming Assignments	25%	(Approx. 5 assignments - <i>Completion is required for obtaining a passing grade</i>)
Term Examination	75%	(three exams – same value each)

A	93 +	A: Outstanding (student's performance is genuinely excellent)
A-	90 - 92	
B+	88 - 89	
B	82 - 87	B: Very Good (student's performance is clearly commendable but not necessarily outstanding)
B-	80 - 81	
C	75 - 79	C: Good (student's performance meets every course requirement and is acceptable; not distinguished)
D	65 - 74	D: Below Average (student's performance fails to meet course objectives and standards)
F	< 65	F: Failure (student's performance is unacceptable)

Assignments: All lab assignments *are due at the beginning of class* on the date specified. *Assignments cannot be submitted through e-mail.* Laboratory Assignments handed in after the class has begun will be accepted with a 50% grade penalty for a period of ONE week and then not accepted at all. All laboratory assignments must be completed. Failure to do so will lower your course grade one additional letter grade.

Academic Integrity - Student Conduct: Students are expected to do their own work. Academic misconduct, student misconduct, cheating and plagiarism will not be tolerated. Violations will be subject to disciplinary action as specified in the [CSU Student Conduct Code](https://www.csuohio.edu/sites/default/files/StudentCodeOfConduct.pdf). A copy can be obtained at: <https://www.csuohio.edu/sites/default/files/StudentCodeOfConduct.pdf> or by contacting the Judicial Affairs Officer in the Department of Student Life (MC 106). For more information consult the following web page *CSU Judicial Affairs* available at <https://www.csuohio.edu/studentlife/judicial-affairs>

Homework Policy: The students are expected to attend all classes. The students are responsible for collecting the notes, handouts and any other course material distributed during the class period. All assignments must be individually and independently completed and must represent the effort of the student turning in the assignment. Should two or more students turn in *substantially the same solution* or output, in the judgment of the instructor, the solution will be considered group effort. All involved in group effort homework will receive a zero grade for that assignment. A student turning in a group effort assignment more than once will automatically receive an "F" grade for the course.

Examination Policy: **Students are allowed to bring to the tests a summary page (standard letter size) with their own notes.** During the exams: (1) the use of books, cell phones, calculators, or any electronic devices is prohibited, and (2) students must not share any materials.

Make-Up Exam Policy: No makeup exams will be given unless notified and agreed to in advance. Requests will be considered only in case of exceptional demonstrated need.

Tentative Course Schedule: Every effort will be made to follow the published schedule, but topics covered and their sequence may vary depending upon the progress made. You are expected to read the topics for discussion prior to the class.

Week	Chapter – Topic.
1-2	Review 1. Introduction to Computing and Programming. 2. Data Types and Expressions. 3. Methods and Behaviors. 4. Creating Your Own Classes. 5. Making Decisions. 6. Repeating Instructions. 7. Arrays.
3-4	8. Advanced Collections. Exam 1 (Feb-13)
5-6	11. Advanced Object Oriented Programming Features. Inheritance and Polymorphism (Lecture notes)
7	Interfaces (Lecture notes)
8-10	Recursion, Sorting, and Searching methods
11-12	Exam 2 (March-27) Subjects included: (First part of Chapter 8) Strings, Generic List, BitArray, Dictionary 12. Debugging and Handling Exceptions. 13. Working with Files.
13-14	9. Windows Programming.
15	15. Web Programming.
16	Exam 3 (May-8)

Method of Instruction

This course will use (a) traditional lectures based on recitation of the material, (b) live presentation of the software in the classroom, and (b) directed tutorials. During those supervised tutorials students will implement small pieces of code related to the topics discussed in class. Students are encouraged to actively participate in the class discussions. *Please bring your portable computer.* Students may be asked to make a class presentation of their computer projects. Your instructor will try to reduce the amount of documents handed to you on paper; important messages, lecture notes, assignments, examples of previous coursework, code samples, etc., will be posted on the course web-page.

What is expected of you and I

- Class participation and regular attendance is expected.
- Students are responsible for bringing themselves up-to-date on class material, evaluation schedule and assignments.
- All students are expected to read the assigned chapters before attending classes.
- Exams will be a combination of material presented in lectures, covered in the textbook and additional notes, homework problems, and lab experiences.
- Homework and lab assignments should be completed and returned in operational form.
- If I have to cancel a class, I will try to place a message on the course web page as early as possible.
- I will make efforts in recuperating any lost time
- All grading mistakes must be corrected no later than a week after receiving your graded papers.

Official Calendar: Please consult the page <http://www.csuohio.edu/enrollmentservices/registrar/calendar/index.html>

Class Meeting Time	Final Exam Day	Time
12:30 – 2:20 Tu-Th (LB242)	Tuesday, May 8	12:30 – 2:20PM

List of Assignments: *Assignments will be announced in class and posted on the course's web-site.*

Programming Standards: Every program must include your name, CSU ID number, the words 'Homework # ...', and a brief description of the assignment. Failure to do this will impact your grade. The report must include all of your source code and corresponding screen-shots illustrating the app's functionality. A sample homework report is shown in the appendix.

Recommendations

- Every variable should have a meaningful name (this includes function/procedure/method names. For instance a variable named X is less meaningful than one called *monthlyInterestRate*).
- Every portion of the program should be as cohesive (single purposed) as possible. This leads to a large number of small methods.
- Non-obvious code within a function should be explained.
- Code should not be over-commented.

Apply the following procedure (Window's users).

1. Add a 'header' including the entries: Author, Date, and Goal. *Goal* explains what the program does, not how it works.
2. Every method (including the main function) should be preceded by a brief comment indicating its arguments and a description of the transformation that it performs.
3. Copy -and-Paste each class into an MS-Word file (use Ctrl-A, Ctrl-C, Ctrl-V). Begin with the portion containing the Main class.
4. Add a line indicating the class' name. Highlight the line with a background color.
5. Repeat steps 1 and 2 until all classes are included in the Word document.
6. Use the Window's Snipping Tool (look into the Accessory folder) to select the portion of your app's Console input/output. Paste the image(s) into the Word file.
7. Print the report; turn it in at the beginning of the class on the due date.

ADA Adherence: If you need course adaptations or accommodations because of a disability, if you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible. My office location and hours are listed on top of this syllabus. If you need further information, please contact the Office of Disability Services (Main Classroom 147), phone number 216.687.2015, on the web at <http://www.csuohio.edu/offices/disability/>

Software: Microsoft Visual Studio Community Edition (this version is non expiry and free of charge)

Download link: <https://www.visualstudio.com/en-us/downloads/download-visual-studio-vs.aspx>

Keyboard Shortcuts

Windows <https://code.visualstudio.com/shortcuts/keyboard-shortcuts-windows.pdf>

Mac OS <https://code.visualstudio.com/shortcuts/keyboard-shortcuts-macos.pdf>

Linux <https://code.visualstudio.com/shortcuts/keyboard-shortcuts-linux.pdf>

TUTORS - Spring 2018 Lab Schedule					
	Monday	Tuesday	Wednesday	Thursday	Friday
Prasanna	OFF	9:00 am - 5:00 pm	OFF	9:00 am - 5:00 pm	2:30 pm - 6:00 pm
Nisarg	9:00 am - 5:00 pm	OFF	9:00 am - 5:00 pm	OFF	9:00 am - 2:00 pm

	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:00 am	Nisarg	Prasanna	Nisarg	Prasanna	Nisarg
10:00 - 11:00 am	Nisarg	Prasanna	Nisarg	Prasanna	Nisarg
11:00 am - 12:00 pm	Nisarg	Prasanna	Nisarg	Prasanna	Nisarg
12:00 - 1:00 pm	Nisarg	Prasanna	Nisarg	Prasanna	Nisarg
1:00 - 2:00 pm	Nisarg	Prasanna	Nisarg	Prasanna	Nisarg
2:00 - 3:00 pm	Nisarg	Prasanna	Nisarg	Prasanna	Prasanna (2:30 pm)
3:00 - 4:00 pm	Nisarg	Prasanna	Nisarg	Prasanna	Prasanna
4:00 - 5:00 pm	Nisarg	Prasanna	Nisarg	Prasanna	Prasanna
5:00 - 6:00 pm					Prasanna
6:00 - 7:00 pm					
7:00 - 8:00 pm					

Common C# Shortcuts – MS Visual Studio IDE

FORMAT: **Ctrl + EF**
 FULL-SCREEN **Shift + Alt + Enter**
 COMMENTS **Ctrl + KC**
 SURROUND **Ctrl + KS**
 WRITELINE **cw Tab Tab**
 OVERRIDE **ov TAB SPACE**
 CONSTRUCT. **ctor cw propf**

C# Statements – Programming Guide

Link visited Jan 13, 2016. <https://msdn.microsoft.com/en-us/library/ms173143.aspx>

Professional Support Groups

StackOverflow Visited on Jan 13, 2016. Link <http://stackoverflow.com/>

Microsoft C# FAQs Visited Jan 13, 2016. Link <http://blogs.msdn.com/b/csharpfaq/>

Microsoft Virtual Academy – Online Learning Resources (C#, Web Dev, etc.) Visited March 7, 2018.

<https://click.email.microsoftemail.com/?qs=134b14139a3afb1181ca7ce6c6ffa66640b908d30667e92436ecc6177539f8174edcfa18729cd20fa60d97bff839e8abad9c0ce4c9eab6c1>

Program.cs Class

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace CSapp1
{
    // AUTHOR: Maria Macarena - CSU ID: 1234567 - Homework #1
    // DATE: Sep-15-2018
    // GOAL: Printing a greeting message on the screen
    class Program
    {
        // The Main method uses the Console class to print a line of text
        static void Main( string[] args )
        {
            Console.WriteLine("Hola Mundo");
            Console.ReadKey();
        }
    }
}
```

Console

