Idaho State University
Computer Science and Informatics 1182

Computer Science / Informatics and Programming II
Spring 2017

General Course Information

Instructor: Jon Holmes (282-3215, holm**jona**@isu.edu)
Office: BA 541
Office Hours: **Pocatello** – Mon & Wed 11:00 AM – 12:00PM (and by appointment)
Idaho Falls – Tues & Thurs 1:00 – 2:00PM (and by appointment)
Except 2nd and 4th Tuesdays of each month

Course Number: CS 1182 and INFO 1182

PREREQ: CS 1181 or INFO 1181

Class Time: 11:00am – 12:15pm Tues & Thurs (LIB 32 & 6 & CHE 308)
Final Exam: May 4th 2017, 10:00am – 12:00pm

Course Description

CS1182 is a standard ACM CS-II second programming course focused on building and refining students' object-oriented programming skills.

Topic List

- Design and create C# Console Applications
- Design and create C# Windows WPF Applications
- Design, create, and use C# classes with instance data, constructors, property get and set methods, and member methods
- Understand the Object-oriented concepts of Abstraction, Encapsulation, Inheritance, and Polymorphism
- Understand how to associate objects in a "has a" relationship using aggregation and composition
- Understand how to associate objects ins an "is a" relationship using inheritance
- Understand how to use interfaces to enforce common behavior
- Understand how to use polymorphism to use different object behavior using a common reference
- Use binary file input and output
- Understand the use of database technology
- Use Lambdas and delegates
- Use LINQ
- Understand abstract, virtual, and static classes, data, and methods and know when and how to use them
- Introduction to the use of databases in code
- Introduction to the use of Web applications

Text - Required

C# 6.0 and the .NET 4.6 Framework; By Andrew Troelsen, Philip Japikse
ISBN: 978-1-484213-33-9 Apress

Course Objectives

CS1182 Learning Objectives (Adapted ACM Curriculum Guidelines).

At the completion of this class the successful student should be able to:

- Design object-oriented systems using UML class diagrams that meet system requirements and user tasks and needs.
- Trace and create object oriented programs including reference variables, constructors, overloading, overriding, base constructors, abstract classes, interfaces, etc.
- Trace and create programs that deal with advanced topics such as recursion.

Student Expectations

These objectives cannot be met unless the student takes an active part in the educational process. Students are expected to:

- Attend class on a regular basis and devote their attention to the material presented
- Prepare for class by reading assigned material
- Ask questions when presented material is not clear or understood
- Devote the necessary time to preparing assignments and turning them in on time. Programming is time intensive. Students should be prepared to give the time needed for each assignment. Earlier assignments will require less time (3-4 hours), however you can expect to devote a minimum of 8 hours to complete later assignments.
- **NOT PROCRASTINATE**. The amount of time you will need to complete each assignment cannot be predicted. For this reason you are encouraged to begin assignments at the earliest possible date so you will be able to complete them on time.

Facebook Page

The Facebook page for the Informatics and Computer Science programs at ISU can be found at:
https://www.facebook.com/groups/5643817087/

Students are encouraged to join this page to get the latest information about the computer programs at ISU, internships, job openings, guest speakers, and other important events.

Moodle

Course material including assignment requirements, handouts, and solutions can be viewed using your Moodle account. Announcement and Help forums will are also available on Moodle. Students are expected to access their Moodle account on a daily basis to keep apprised of developments.

Course Schedule

Week		Topic		Reading	Assignment
1	1-10	Introduction		Skim 1, 2, 3, & 4	Upload your Picture
	1-12	WPF Applications		Skim 2, 6, & 7	Cheating Quiz Closes
2	1-17	Abstraction		26	
	1-19			Skim 27	Exercise 1 Due
3	1-24	Encapsulation	1/23 Last Date to add/drop	5	
	1-26				Exercise 2 Due
4	1-31	Inheritance			
	2-2				Deliverable 1 Due
5	2-7	Interfaces & Abstract Classes		6.1-6.4 & 8	
	2-9				Deliverable 2 Due
6	2-14	Exam 1			
	2-16				Deliverable 3 Due
7	2-21	Associations			
	2-23				
8	2-28	Collections			
	3-2				Deliverable 4 Due
9	3-7	Generics		9	
	3-9	LINQ		12	
10	3-14	Exam 2			
	3-16		3/17 Last Date to Withdraw		Deliverable 5 Due
	3-21	**Spring Break**			
	3-23				
11	3-28	Polymorphism		6.5+	
	3-30	Operator Overloading		11.2	
12	4-4	Threading			
	4-6				Deliverable 6 Due
13	4-11	I/O			
	4-13				
14	4-18	Web Development			
	4-20				Final Deliverable (7) Due
15	4-25	Mobile Apps			
	4-27				
16	5-4		**10:00 AM Final Exam**		

This schedule may be changed. The schedule for each week that is located on Moodle should be used as the official schedule for this course.

Grading

Final grade in the class will be based on the following:

Examinations 50%
Assignments 50%

The final letter grade in the class is based on your numeric average:

Numeric Average	Letter Grade	Numeric Average	Letter Grade
93-100	A	90-92	A-
87-89	B+	83-86	B
80-82	B-	77-79	C+
73-76	C	70-72	C-
67-69	D+	63-66	D
60-62	D-	Below 60	F

Exams

There will be three examinations: two exams during the course and a final examination which is required. Examinations will be comprehensive. No makeup on examinations will be given.

> You must have a 60% or higher average on class exams in order to be eligible to earn a C- or above grade for the course. In other words, unless your average is 60% or higher on the exams; your course grade will be at most a D.

Students must take the final examination in order to pass the course.

Assignments

All assignments must be turned in using Moodle with the Moodle time stamp used to determine submission time. Assignments are due by 10:00 pm on the date specified on Moodle. Assignments turned in late will be procure an increasing penalty based on lateness. Assignments will not be accepted more than 24 hours late. Assignments should be submitted in the format specified in each assignment instruction documentation. All programs must conform to the variable and object naming standards and all other coding and documentation standards and styles specified.

Required Material and Assumed Skills

The pre-requisite for this course is CS1181, which assumes successful completion of Math 1143 or higher. All courses for the CS and EE majors including CS 1181 and Math 1143 must be completed with a grade of C- or higher to take subsequent classes in these majors.

Students are assumed to have sufficient skills with computers to install, run, and use Visual Studio Enterprise IDE that will be used in the course, interact with Moodle, zip files, use email to interact with faculty and graders, etc. the course is run through Moodle and all homework must be submitted through Moodle. Visual Studio is provided free to CS 1182 students through Dreamspark. If you have not received notification of this system, it is up to the student to contact the professor.

Visual Studio is available in the computer labs in Pocatello. It may be run within Linux and MACS environments using a virtual machine and windows 7, which is also available free through Dreamspark. CS and EE students are assumed to be able to organize the use of this software or to use the provided laboratory. Neither the grader nor I have access to a MAC or Linux so if you want to operate within this environment; you are on your own.

While real time interactive video is not required for this course, you are probably going to want to down load the short video lectures provided for a number of the course modules. You will need a sufficiently fast internet connection.

Course Assistance

Moodle Help Forum

You can ask questions on material that you do not understand on this forum. Anyone can answer these questions.

Tutors

Tutors are located in both Pocatello (Engineering student lounge), and Idaho Falls (room to be announced on Moodle). Consult Moodle to find the times and locations for the tutors.

If you cannot attend these office hours please send us email. Please include "CS1182" or "INFO1182" at the beginning of the subject line. Attach your project file to the email if you have a programming question. The TRiO office does not offer tutoring for this course and has been instructed to refer you to our tutors. It is well advised that getting a tutor other than one of ours may affect your ability to perform well in the course. If you feel this is necessary, you need to contact the professor.

Special Needs and ADA

Our program is committed to all students achieving their potential. If you have a disability or think you have a disability (physical, hearing, vision, psychiatric, or learning disability) that may need a reasonable accommodation, please contact the ADA & Disabilities Resource Center located in the Rendezvous Complex, Room 125, 282-3599, as early as possible.

Closed Week Policy

Information about the ISU Closed Week Policy can be found online. Note that the policy does not prevent the presentation of new material during closed week.

Academic Integrity

Academic integrity is expected at Idaho State University and the College of Business. All forms of academic dishonesty, including cheating and plagiarism, are strictly prohibited, the penalties for which range up to permanent expulsion from the university with "Expulsion for Academic Dishonesty" noted on the student's transcript. If you are unclear as to what constitutes academic dishonesty, read the College of Business Policy on Academic Integrity and the ISU Student Code of Conduct.

Academic dishonesty includes, but is not limited to 1) cheating on examination, 2) plagiarism, or 3) collusion.
Definitions:

A. Cheating on an examination includes:
    1. Copying from another's paper, any means of communication with another during an examination, giving aid to or receiving aid from another during an examination;
    2. Using any material during an examination that is unauthorized by the proctor;
    3. Taking or attempting to take an examination for another student or allowing another student to take or attempt to take an examination for oneself.
    4. Using, obtaining, or attempting to obtain by any means the whole or any part of an unadministered examination.
    5. Talking to anyone other than the professor during an exam.
B. Plagiarism is the unacknowledged incorporation of another's work into work which the student offers for credit.
C. Collusion is the unauthorized collaboration of another in preparing work that a student offers for credit.
D. Other types of academic dishonesty include using other student's content from the labs or students' disk, etc.
E. Performing any act designed to give unfair advantage to a student or the attempt to commit such acts is considered cheating.

Notes:

1. The use of the source code of another person's program, even temporarily, is considered plagiarism.
    a. Copying material from a source without attributing (citing) the source.
    b.
2. Allowing another person to use your source code, even temporarily, is considered collusion.
3. In this class, the specific exceptions given below are not considered scholastically dishonest acts:
    A. Discussion of the algorithm and general programming techniques used to solve a problem
    B. Giving and receiving aid in debugging
    C. Discussion and comparison of program output

If the instructor finds an assignment that has been submitted as your own work and is not, it will be recorded as a 0. If you are found cheating on exam, your exam will be taken and your result for the exam will be recorded as a 0.

Minimum Grade for College of Business Students

A minimum grade of C- or better is required to fulfill all College of Business Core Requirements, Major Requirements, and Specific Graduation Requirements.

The C- or better requirement extends to satisfying prerequisites for all College of Business courses. Do not assume that successful enrollment in a course for which this course is a prerequisite means that you have satisfied the C- or better requirement.

If you do not pass this course with a C- or better, YOU WILL NOT RECEIVE A DEGREE FROM THE COLLEGE OF BUSINESS.