COSC 2321 – Intro to OOP (C++)

Instructor: Dr. Mircea Agapie   **Phone**: (254) 968-0792   **E-mail**: agapie@tarleton.edu
Include course # and assignment in subject line, e.g. **2321 Lab 1**   **Website**: www.agapie.net
Office hours: Mon and Wed-Fri 11-12:30 in SCIENCE 213-C.

Lecture	Lab	Midterms (during lab)	Final exam
MWF 10-10:50 AM, in NURS **208**	Mon 2-3:50 PM, in NURS **208**	Mon, Feb.19 Mon, Mar.26	Mon, May 7, 3-5:30

Textbook: *Thinking in C++ 2nd Edition, by Bruce Eckel*. It is a free web-book, found here: http://mindview.net/Books/TICPP/ThinkingInCPP2e.html We shall cover vol. 1 and the first chapter of vol. 2; download, unzip, and read with any browser. If you so choose, you can get a cheap copy on Amazon or elsewhere on the Internet; the Tarleton bookstore is NOT stocking it.

Catalog Description: Applies the object-oriented programming paradigm using one or more object oriented programming languages, focusing on the definition and use of classes, interfaces, data encapsulation, inheritance, and polymorphism. An introduction to object oriented design is presented.

Effort expected: The average student will need **7 hours of individual work[1] per week** to master the material in this course. Please reserve these 7 hours on your weekly schedule. What you should do during this time:
- Immerse yourself in C++ ☺
- Study the material covered from the textbook, along with the notes taken in class.
- Solve the individual work problems assigned for the next class.
- Solve homework problems.
- Go over quiz problems, and solve the additional "individual work" problems.
- Develop your own "memory-sheet".

Intended Student Learning Outcomes: At the conclusion of the course the student will be able to:
- Create Object-Oriented programs using a modern OO programming language (C++).
- Use data encapsulation; develop applications that hide/reveal appropriate variables and methods.
- Use constructors/destructors by developing applications that provide multi-parameter constructors to initialize an object.
- Use containment and inner classes by developing applications that embed additional functionality using these techniques.
- Use inheritance; develop applications that use multiple classes in a hierarchical manner.
- Use polymorphism; develop applications that incorporate polymorphic behavior in derived classes.
- Overload and override methods; develop applications that utilize these techniques.
- Develop applications that handles program exceptions using try blocks.

Keeping in touch: the following channels of communication will be used. Please do your best to check them often (evening before class is a good idea):
- Email. Please check your Tarleton student email and make sure you clean your mailbox regularly – if it's full, the messages will bounce back.
- Messages posted on the course website www.agapie.net

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[1] Individual work does not include the lectures and labs.

Grading:
- **Individual work and quizzes** (not graded): During most classes, short quizzes will be assigned to solve on the spot. At the end of class, the instructor will provide a list of easy problems which are recommended to solve <u>before the next class</u>. They are intended as a self-check for the student, to make sure the material covered was understood. Solve both quizzes and individual work in your notebook (see below).
- **Homework:**   Sets of problems will be assigned, due in one week.
  - The homework is due <u>at the beginning of class</u>. Late submissions will not be credited. Exceptions are allowed only in extraordinary circumstances, <u>if</u> you have notified the instructor <u>before</u> the due date.
  - All homework will involve programming; give the instructor a <u>hard-copy</u>, but keep all your programs in electronic form for reference.
- **Lab** reports are due at the end of the lab.
- **100-page notebook:** Carry it with you to all lectures, labs and exams. Contains: class notes, solutions to individual work problems, quizzes, memory sheets, interesting tidbits from the lab, etc. You may want to attach a section of code printouts. **About one page of notes for each lecture and lab is expected.**

Weights: Homework 15%   Lab reports 15%   Notebook 10%   3 exams 20% each
Intervals: 90-100 = **A,** 80-90 = **B,** 70-80 = **C,** 60-70 = **D,** below 60 = **F**.
- Up to 5% of the final score can be gained as <u>extra-credit</u> for answering questions in class or lab, or for solving homework problems assigned as extra-credit.

Academic Conduct: Students guilty of academic dishonesty, cheating, or plagiarism in academic work shall be subject to disciplinary action. The instructor may initiate disciplinary action in any case of academic misconduct.
- It is allowed (actually recommended) for students to brainstorm and think about solutions together, however, <u>**the writing and coding have to be done individually**</u>.
- Speciffically forbidden: A and B write a program together, and then they both turn it in in their own name.
- Unless instructed otherwise, <u>**all code must be written from scratch**</u>, individually by each student.

Absence Policy: Attendance will not be recorded for this course. The student is responsible for any material covered, and for obtaining assignments for lectures and labs they missed.

Make-up Policy: The instructor has the responsibility and authority to determine if work can be made-up because of absences. Students may request to make-up work for valid and verifiable reasons such as: illness, death in the immediate family, legal proceedings, or participation in sponsored University activities. Let the instructor know <u>in advance</u> of any absence/make-up issues. <u>**No make-up requests after the due date**</u>!

Students with disabilities: It is the policy of Tarleton State University to comply with the Americans with Disabilities Act and other applicable laws. If you are a student with a disability seeking accommodations for this course, please contact the Center for Access and Academic Testing at 254.968.9400 or caat@tarleton.edu. The office is located in Math 201. More information can be found at www.tarleton.edu/caat, in the University Catalog, or at www.ada.gov.