

**Maryland in Europe Graduate Programs
Bowie State University**

**Introduction to Object-Oriented Programming
INSS 505**

**March 29 – May 17, 2003
Rota Education Center, Rota, Spain**

Meeting Times: 0900-1700, 29 March, 5, 12, 26 April, 3, 10, 17 May 2003

Instructor: Edmund I. Deaton
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Consultation: Before and after each class; Tuesdays, Wednesdays and Thursdays at 1700 in the computer lab.

Official Course Description for INSS 505

This course teaches the principles and techniques of object-oriented programming and design. It is designed to teach students an object-oriented programming language such as C++ or Java. This course satisfies the programming language prerequisite for the M.S. program. It is open only to students who have not previously taken an object-oriented programming course.

Student deliverables for this class:

1. Programming Projects: There will be six programming projects for this course. Projects must be turned in on a floppy disk and as a printout. Source code should be in ASCII text files. Projects should produce error-free byte code with a single Java compiler command. Specific topics for the projects will be announced on the first day of class. The projects will enable the student to write programs of intermediate difficulty in the Java language.

2. Writing Assignment: Due the last day of class; write an 800-1200 word essay describing a noncomputer system in object oriented terms. The goals of this assignment are to demonstrate understanding of the object oriented paradigm as a model for complex systems and to recognize the practical application of this model in diverse environments. The topic of your paper may be a social system or a physical system but should be a system that lends itself to an object oriented discussion. References are encouraged but not required, but your discussion should be firmly grounded in the principles covered in class and in the text. Papers should be prepared according to the manuscript style described by the American Psychological Association's publication manual.

3. Exams: This class will have a single, comprehensive exam on the last day. This exam may consist of code writing, short-essay, system modeling, and other challenges.

Required Text

Wu, C. T. (2002). An Introduction to object-oriented programming with Java 2nd Edition, New York: McGraw-Hill.

System Requirements

All programming will be done using the Java Runtime Environment version 1.4, or version 1.3.1 available for free download from <http://java.sun.com/> or on the CDROM available in class. Students should have sufficient computing resources to allow projects and homework to be fully completed outside of class. While we will hold some class time in the computer lab, we will have limited class time for working on assignments.

Grading Policies

Each project is worth 10%, the essay is worth 10%, and the final exam is worth 30% of the final grade. Final letter grades will be assigned as follows:
100-90% == A, 89-80% == B, 79 -70% == C, 69 on down == F

Attendance and Late Policies

The class is very concentrated and class attendance is very important. If you must miss a class due to an emergency, please contact the instructor immediately. Late assignments may be accepted for less than full credit.

Programming Styles

This course will require a moderate amount of programming. Attention to code formatting and comments is essential. Format will be graded along with function. Minimum guidance:

1. Every source code file should begin with a comment block identifying the project, title, student, course, school, term, and due date for the file. Multiple-file assignments should also note which file is the primary code and which files are supporting code.
2. Every file should have a comment block to briefly describe the general purpose or function of the code in the file.
3. All variables should have a comment defining their purpose when they are first initialized unless their purpose is clear by the variable name. Loop increment variables do not need to be defined.
4. All code lines within the same block should be indented the same amount when possible. Code blocks defined by brackets should be commented to show which block is being started or ended.
5. When possible, file names should reflect the assignment and student name.
6. It is most strongly suggested, recommended and advised that the student acquire the editing program TextPad for use in writing the programs. It may be

downloaded from the Web. The fully enabled program may be used for several weeks without a fee. The fee is very small. I would not consider writing programs without using TextPad.

Plagiarism

The UMUC catalog suggests that any help you receive on a written work may be considered cheating unless otherwise stated. For this class, you are highly encouraged to make use of any printed or electronic programming reference available to you, but it is not acceptable to copy and paste code for your projects or homework. Use of standard code libraries distributed with the Java Development Kit is acceptable but use of third-party libraries may not be. If in doubt, check with the instructor. Code that is found to have been copied from another source will receive a grade of zero for the assignment.

Office Hours

The instructor will be available after class, by appointment, and any time via email to discuss class related issues. Regular office hours will be held in the computer lab, Tuesday, Wednesday and Thursday at 1700. Hours are subject to change.

Tentative Schedule

Day 1:

The object oriented paradigm in detail; key terms and concepts; classes, objects, and interfaces; imperative programming syntax in Java; Chapters 1, 2, & 3.

Day 2:

Project 1 due.

Object oriented system design; continued discussion of classes and interfaces; concept and practice of encapsulation; primitive and complex data types in Java; Chapters 3 & 4.

Day 3:

Project 2 due.

Inheritance concept and practice; designing classes for reuse; introducing polymorphism; working with the Java Foundation Classes; Chapter 3, 4, 12, & 14.

Day 4:

Project 3 due.

Inheritance continued; application of polymorphism; treating input and output in an object oriented way; Chapters 11 & 14.

Day 5:

Project 4 due.

The graphical user interface and the object-oriented paradigm; Chapter 5 & 13.

Day 6:

Project 5 due.

Graphical interfaces continued; Practical applications of object oriented system design.

Day 7:

Project 6 due; Essay due.

Total review of OOP.

Final Exam.

Celebration of end of the course.

Academic Policies: Please refer to the UMUC Maryland in Europe Graduate Catalog, available online at http://www.ed.umuc.edu/visit/pubs/catalog/grad_02-03.pdf or from your local Education Center, for information on the following:

Academic Integrity

Course Load

Exception to Policy

Grade Appeal Process

Make-up Examinations

Nondiscrimination

Students with Disabilities

CODE OF CIVILITY

To promote a positive, collegial atmosphere among students, faculty, and staff, Maryland in Europe has developed the following Code of Civility:

Respect

Treat all students, faculty, and staff with respect and in a professional and courteous manner at all times and in all communications, whether in person or in written communication (including e-mail).

Kindness

Refrain from using profanities, insults, or other disparaging remarks.

Truth

Endeavor to cite only the truth and not knowingly misrepresent, mischaracterize, or misquote information received from others.

Responsibility

Take responsibility for our own actions instead of blaming others.

Cooperation

Work together with other students, faculty, and staff in a spirit of cooperation toward our common goals of seeking and providing quality education.

Privacy

Strive to uphold the right to privacy and not talk about others.

Nondiscrimination

Respect the differences in people and their ideas and opinions and reject bigotry.

Introduction to the Instructor: Edmund Deaton

Dr. Deaton received his Ph.D. in Mathematics from the University of Texas. He has been teaching and doing research in Computer Science since 1980. After many years at San Diego State University he retired in 1992. He was a visiting professor at Hope College, Holland, Michigan during 1993-1995. He spent two years at Oklahoma State University from 1980 to 1982 as a visiting professor and visited there again in 1992. He worked as a management consultant with a Southern California consulting firm for several years in the 1980's. He specialized in database design for governmental entities. He has been with the University of Maryland, European Division since 1995. He teaches in the graduate MIS program and also teaches undergraduate computer science courses. His academic specialty is data base design. His primary hobbies are hiking and Alpine climbing. Although based in Heidelberg, he calls Rota, Spain home and hopes to be assigned there for some time each year.

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