

CMPS 280 - Course Syllabus

I. Algorithm Design and Implementation II. Credit 3 hours. Prerequisite: Computer Science 161 or 169, or 258. An intensive capstone of the material covered in Computer Science 161 or 169 and an introduction to elementary data structures, searches, simple and complex sorts, and objects. Credit may not be given for both Computer Science 270 and 280.

II. Instructor: **Dr. Troy Kammerdiener** Office Hours: 1:00 p.m. – 3:30 p.m. Monday and Wednesday,
Office: Fayard Hall, Room 327F 2:00 p.m. – 3:30 pm Tuesday and Thursday, and by
Office Phone: (985) 549-5314 appointment. You are also welcome to just drop
Email Address: tkammerdiener@selu.edu by during the day. If I'm here and I'm not on a
World Wide Web: <http://aslan.nix.selu.edu/~tkammerd/> deadline, I'd be happy to take some time with you.

III. Goals and Objectives:

- To solidify understanding of arrays, including multidimensional arrays, as well as some of the fundamental algorithms associated with arrays, such as basic searching and sorting.
- To learn to solve problems using the object-oriented paradigm, including both design methodology and fundamental concepts such as class abstraction, class hierarchies, encapsulation, inheritance and polymorphism.
- To learn to utilize the power of pre-existing classes in the Java API and other third party API's, especially for graphics and graphical user interfaces.
- To learn to use simple text file input and output, and to understand the concept of a record.
- To understand the concept of event driven programming and how it can be used.
- To appreciate some topics in software evolution and the purpose and role of operating systems, especially where simple file management is concerned.

IV. Course Requirements:

A. Required Text and other materials:

Text: *Introduction to JAVA Programming, 6th Ed.*, by Y. Daniel Liang.

Backup & Storage: Each student must have a USB flash drive with at least 128Mb available, and they should bring it with them to any class or lab. These devices are available for less than \$25 from stores like Office Depot and BestBuy. Students are expected to make regular, commented commits of their programming projects to the class CVS system, but are responsible for maintaining their own backups of these materials. Do not depend on the reliability of the CVS facility.

Internet Access: Internet access is required for submission of assignments and class communication. Students are expected to check their SELU-provided email accounts, as well as the class web page, at least once every class day, more often if possible. Adequate on-campus labs are provided at SELU with the necessary Internet access, although necessary software may only be available on a limited schedule in special laboratories. If you wish to work on your own computer, consult the instructor for information about required software. If you wish to have Internet access from off-campus, you will have to provide for Internet service at your own expense.

B. Class Schedule and Place:

Tuesday and Thursday, 12:30 p.m. – 1:45 p.m. in Fayard 215.

C. Probable Test Dates:

Test #1 Thursday, September 20, 2007.

Test #2 Thursday, October 25, 2007.

Final Exam Thursday, December 6, 2007 from 8:00 a.m. – 10:00 a.m.

Note: These are only estimated test dates. The actual dates will be dictated by convenient closure of topics, and should be very close to those listed, but this cannot be guaranteed. Any deviation from this schedule however, will be announced at least one week prior to the actual test date.

D. Programming Assignments: There will be about 7 required programming assignments (give or take 1 or 2). Exact requirements and due date will be given with each assignment. Any deviations to this will be noted in the assignment. Programs which do not fulfill the assignment specifications, which do not execute, or which contain errors or incomplete output, may be rejected, and thus result in a failing grade for the course. Programs which are excessively late (see "Late Assignments", below) may receive no credit. You may drop one required programming assignment grade, and the remainder will be averaged to form your assignment grade. If there are 6 required assignments, each of the top 5 grades will be worth 8 points of your final score.

E. Exercises: Exercises from your textbook will be recommended at a later date. These will not be collected or graded, but you are expected to do them as part of your regular outside study for this class. If you have difficulty with them, please feel free to get assistance during my office hours (even if you have to make an appointment). You may also ask questions about them in the first part of each class.

- F. Required Reading: There is far too much detail in this course to cover explicitly during class time. Therefore it is important that you keep up with the required reading, indicated in the course outline. The reading should be done prior to the class indicated -- not after, and you will be required to take quizzes over this reading. You will also be responsible for the reading on exams. Unless you are told otherwise, read the entire chapter. The topics mentioned in the schedule are points of special interest -- not a limitation on the reading.
- G. Reading Quizzes: There will be a BlackBoard quiz on each chapter, covering the reading. You will have 1 week to take the quiz, and you may retake it as often as you like during that week. There will be a time limit on the quiz. If you exceed the time limit, the grade will not be recorded, and you will have to take the quiz again (or accept the grade of a previous attempt. These quizzes all together are worth 15% of your grade in this class.
- H. Attendance Policy: Attendance will be taken each day, as required by the University Regulations. This policy may be found in the Undergraduate Catalog, and you should make yourself familiar with it. In particular, note that excessive unexcused absences are considered 10% of the total classes, which for this semester and class is three (3) classes. According to the University Regulations, this may result in your being withdrawn from class by the instructor. This is not automatic however, so you should consult the instructor if you think you may have been withdrawn from class. Do not assume that you will be automatically withdrawn from class for non-attendance. Even if you are allowed to continue, please understand that your grade will suffer from lack of attendance. You will miss material that is only available in class, and classroom participation is crucial to your success in this class. In the event of an excused absence, you are responsible for providing acceptable documentation and making arrangements for making up for the lack of participation. Every student is responsible for anything covered in class, even if it is not in the text. This includes announcements of assignments or test dates, so if forced to miss class, be sure to contact the instructor and ask to be informed of those announcements.
- I. Withdrawal from Class: The last day you may withdraw from this class without a grade penalty is Friday, October 19, 2007.
- J. Return of Rental Textbooks: The last day to return rental textbooks without a fine is Monday, December 10, 2007.
- K. Accommodation of Disabilities: If you are a qualified student with a disability seeking accommodations under the Americans with Disabilities Act, you are required to self-identify with the Office of Disability Services, Room 203, Student Union. No accommodations will be granted without documentation from the Office of Disability Services.
- L. Class Decorum: Free discussion, inquiry, and expression is encouraged in this class. Classroom behavior that interferes with either (a) the instructor's ability to conduct the class or (b) the ability of students to benefit from the instruction is not acceptable. Examples may include routinely entering class late or departing early; use of beepers, cellular telephones, or other electronic devices; repeatedly talking in class without being recognized; talking while others are speaking; or arguing in a way that is perceived as "crossing the civility line." In the event of a situation where a student legitimately needs to carry a beeper/cellular telephone to class, prior notice and approval of the instructor is required.
- M. Children in Class: It is the policy of the University that the classroom is not a place for children, and that students are not to bring their family members for day care or baby sitting.
- N. Email Communication: University e-mail policy reads (in part) as follows, "[Faculty] Uses of non-Southeastern e-mail addresses for communication with students regarding University business or educational matters are not acceptable...." In compliance with this policy, please use only your SLU e-mail address when contacting me about the course. I will not respond to non-SLU e-mail addresses in any professional capacity. Recall that your SLU e-mail accounts are accessible through the Internet via "Web-Mail" which can be reached from the SLU homepage: <http://www.selu.edu>.
- O. Turnitin.com: In the event that essays or papers are required as part of any assignment in this class, you should be aware that plagiarism will not be tolerated, and may be detected through the use of Turnitin.com. Students agree by taking this course that all required papers may be subject to submission for textual similarity to Turnitin.com for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Terms and Conditions of Use posted on the Turnitin.com website.
- P. Cancellations: If you suspect a class cancellation due to weather or any other reason, call my office number at 549-5314. If there is a cancellation, my voice mail will reflect that fact within 2 hours of class time (sooner if possible). If no message, assume that class will be held. I will also try to put a notice on the class web page. I will normally be in class on time. If I am not, you should wait at least 15 minutes before leaving, and someone should check my office to make sure I am not there. If I am unavoidably detained, I will normally call and have the class instructed to either wait, or go home.
- Q. Changes in Requirements: Due date changes, test postponements, etc. will be announced in class. In case of emergencies, I may attempt to contact you by phone, so please make sure that I have your phone number, and let me know if it changes. Notices may also be given by email, or on the class World Wide Web page. This syllabus will be posted on the class World Wide Web page, and that copy will always be the official copy, not the paper one received at the beginning of the semester.

V. **Course Outline and Reading Assignments**: Provided Separately.

VI. Course Methodology:

- This course will consist primarily of interactive lectures with periodic assignments to reinforce major points of discussion. Most assignments will involve programming in Java. You may use any development platform that you like on your own computer, but your final submission must compile without error and run on the CSstick environment (which currently includes JDK 5.0 and jGrasp 1.8).
- The Internet is used extensively as a communications tool in this class. Announcements, copies of assignments, a copy of this syllabus, and various examples and data files will be available on the class page on the World Wide Web. Announcements of a time critical nature may be emailed to class members. In addition, students will use an Internet-based Concurrent Versions System for management of source code and submission of programming assignments.
- There will be 3 tests to assess individual understanding of the material presented. These tests will be spaced evenly throughout the semester, with the last test functioning as the final exam. All tests will have equal weight.
- Reading assignments are indicated in the course outline. Students should be aware that they will be tested over the contents of their reading, as well as lecture topics. Some things will be in the text but not in the lecture, others will be in the lecture but not in the book. Both parts are necessary for success in this class.

VII. Evaluation Procedure

- A. Make-up Tests: You are expected to arrange your schedule around the dates indicated in this syllabus as much as is possible. Make-up tests arranged **at least one full week prior to the test date** can be obtained:
- to avoid direct conflict with participation in an unavoidable official school-sponsored activity, such as playing in an intercollegiate sporting event (documentation from the sponsor is required)
 - in the event that a test occurs on a day other than those given in this syllabus, for an unavoidable personal conflict (this is at my discretion, but I try to be reasonable)
- Make-up tests will be arranged after the test date only:
- in the event of an unexpected and professionally documented medical condition which prevented attendance. If you are experiencing a long term illness, please keep me informed each week of your status.
 - with an excused absence authorization from the Vice President for Academic Affairs. Note that the basic courtesy of advance notification and arrangements are expected if you have advance knowledge of such an excused absence.
 - in the event of the death of an immediate family member (see the undergraduate catalog for specific details).
- B. Late Assignments: Unless specified otherwise, assignments are due at the beginning of class on the date due. Late penalties are 10% per day (including weekends and holidays), with a maximum penalty of 50% off. Assignments turned in more than 7 days late **will not be graded**. Most assignments will be submitted online to a CVS server, and that timestamp will be used for determining appropriate penalties. Physical portions of late assignments must be given directly to the instructor, or to the CS&IT Department front desk worker or secretary for timestamping, and the timestamp should be within one school day of the electronic timestamp. Do **not** just slip them under or in the door, or in my departmental mailbox. No assignments of any sort will be accepted after 2:00 p.m. on the last official day of classes, even if this would result in a failing grade.
- C. Grade Calculation: Your grade will be calculated according to the following point distribution:
- | | |
|-----|-------------------------|
| 45% | Tests (15% each) |
| 15% | Reading Quizzes |
| 40% | Programming Assignments |

Letter grades will probably be assigned by the following chart:

A	B	C	D	F
90-100	80-89	70-79	60-69	0-59

Some grades might be improved above that given in the chart if I feel that an anomalous statistical grouping requires it, but your letter grade will never be worse than that indicated by the chart.

VIII. Academic Integrity:

Learning is a social experience, and I wouldn't dream of trying to change that. Studying with friends, and talking among yourselves about how to attack a problem is important to success in this class. But if you don't do your own thinking -- if you only take from these discussions, and never give -- then you won't understand well enough to perform on tests. That's enough to ruin your grade in this class. Make sure that your work is your own, because you might have to pass a quiz over the content of your assignment to receive credit. **If a project is supposed to be done by a group, it will be specifically announced that way.** And if you need further help, please come see me. I try to be as accessible as I know how. If you can't make my office hours, drop by anyway -- if I'm not covered up with something, I'll be glad to work with you. And if we need to, we can make a special appointment. And if we need to, we can make a special appointment. And remember that you can always leave me a phone message or use email.

More formally, students are expected to maintain the highest standards of academic integrity. Behavior that violates these standards is not acceptable. Examples are the use of unauthorized material, communication with fellow students during an examination, attempting to benefit from the work of another student and similar behavior that defeats the intent of an examination or other class work. Cheating on examinations, plagiarism, and improper acknowledgement of sources in essays and the use of a single essay or paper in more than one course without permission are considered very serious offenses and shall be grounds for disciplinary action as outlined in the current General Catalogue.

CMPS 280 Tentative Course Outline

Associated Reading provides page numbers or sections of the class references, abbreviated as follows:

- L – *Introduction to JAVA Programming, 6th Ed.* by Y. Daniel Liang

Date	Topic	Associated Reading
8/21	Course Intro and Syllabus; Review of Control Structures, Methods, Data Types, and Arrays	Syllabus; L 1-5
8/23	Review of Control Structures, Methods, Data Types, and Arrays, con't.	L 6.1-6.5
8/27	Searching and Sorting Arrays; The Arrays Class	L 6.7-6.9
8/29	Multi-dimensional Arrays	L 6.10-6.11
9/4	Objects and Classes: Classes, Constructors, Accessing Objects	L 7.1-7.4
9/6	Objects and Classes: Using Library Classes; Examples: JOptionPane vs. JTF I/O, Date Class, Random Class	L 7.5
9/11	Objects and Classes: Statics, Using "public static void main", Visibility, Encapsulation, Immutability	L 7.6-7.9
9/13	Objects and Classes: Passing Objects to Methods, Scope, The this Keyword, Arrays of Objects, Class Abstraction and Encapsulation	L 7.10-7.14
9/18	Strings and Text I/O: String vs. StringBuffer, Character Class, Command line arguments	L 8.1-8.5
9/20	Test #1	
9/25	Strings and Text I/O: File Class, Text I/O, Console input with Scanner class vs. Console Input with JTF packages	L 8.7-8.8
9/27	Strings and Text I/O: Exceptions and Simple Text File I/O, Concept of a Record, Interaction with and Purpose of Operating Systems	L 8.7-8.8
10/2	Inheritance and Polymorphism	L 9
10/4	Inheritance and Polymorphism	L 9
10/9	Inheritance and Polymorphism	L 9
10/11	Abstract Classes and Interfaces	L 10
10/16	Abstract Classes and Interfaces	L 10
10/18	Abstract Classes and Interfaces	L 10
10/19	(Not a class day) <i>Last Day to Withdraw from Class or Resign from SELU</i>	
10/23	Object-Oriented Design	L 11
10/25	Test #2	
10/30	GUI Programming	L 12
11/1	GUI Programming	L 12
11/6	Graphics	L 13
11/8	Graphics	L 13
11/13	Event Driven Programming	L 14
11/15	Event Driven Programming	L 14
11/20	Creating User Interfaces	L 15
11/22	Thanksgiving Day – SLU Closed	
11/27	Creating User Interfaces	L 15
11/29	TBA	
12/6	Final Exam (12:30-2:30 PM)	
12/10	(Not a class day) <i>Last Day to Return Rental Textbooks Without a Fine</i>	