Tentative Syllabus

EECS 1580 – Non-Linear Data Structures

Semester:	Summer 2006	**Sections:**	041	**Credit Hours:**	3
Class Times:	M W 8:00 a.m. – 9:40 a.m.	**Class room:**	PL 2450		

Instructor Information

Instructor:	Dr. Lawrence Miller	**Office:**	NI 2036	**Office Hours:**	M,W 9:45 – 11:45 a.m. (Or by appointment)
Phone:	419-530-8193	**e-mail:**	lmiller@eecs.utoledo.edu		

Catalog Data: 3 hours. Prerequisites: EECS 1570 or equivalent. Corequisites: EECS 1590. In this course, the data structures started in EECS 1570 are extended to include trees (binary, balanced, and n-ary), graphs, and advanced sorting techniques. In addition, the C++ language is used as the main vehicle and is introduced in this course. Students are expected to have a strong background in Java prior to this course.

Textbooks: Mark Weiss, "C++ for Java Programmers," Prentice Hall, 2003.

Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, and Clifford Stein, "Introduction to Algorithms – Second Edition," McGraw-Hill, 2001.

Course Web Page: http://www.eecs.utoledo.edu/~lmiller/Courses/eecs1580/main_index.html

Grading Formula:

Exam #1	15%
Exam #2	15%
Final	20%
Projects	35%
Homework	15%

Grading Scale: Grading will be done on a straight scale with the exception that no D-'s will be given in the course. Plus and minus grades will be assigned at the upper and lower portions of the range for each letter, respectively.

90-100	A	77-80	B-	64-67	D+
87-90	A-	74-77	C+	60-64	D
84-87	B+	70-74	C	0-60	F
80-84	B	67-70	C-		

Exams: No makeup exams are given. A student missing an exam due to an excused absence may have the grading weights adjusted, placing more weight in other categories, at the instructors discretion. Whether an absence is "excused" or not is determined by the instructor. Documentation of a valid excuse is required. This policy does not apply to the final exam.

All exams are **comprehensive** in nature. This is because much of the material taught at the end of the semester depends heavily on the material taught at the beginning. However, each exam will focus more on the material covered since the last exam. This does not mean that there will be no questions focused on "old" material. Requests for re-grading a exam must be received within 1 week following the return of the exam.

Homework: Homework is due at the beginning of class on the assigned due date. Late Homework **will <u>not</u> be accepted**. If you have not finished your homework, turn it in anyway. I will give partial credit, and anything is better than a 0. Requests for re-grading a homework assignment must be received within 1 week following the return of the assignment. You are required and expected to do your homework by yourself.

Programming Projects: Programming projects are due on the date and time specified. Late projects **will be accepted**. However, 25% will be deducted from your grade for each day it is late. It is in your best interest to turn in your programs on time. Instructions for submitting your project will be given in class. Requests for re-grading a project must be received within 1 week following the return of the project.

Course Outline:

Intro to C/C++
- Basic Syntax
- Functions and Parameter Passing
- I/O
- Pointers
- Dynamic Memory Allocation / Deallocation
- Available Libraries
- Templates

Trees
- Binary Trees
- Tree Traversals
- N-ary Trees
- Red-Black Trees
- AVL Trees
- B-Tree

Advanced Sorting
- Quicksort
- Heapsort

Graphs
- Graph Representations
- Graph Searches
- Shortest Path Algorithms

Instructor's Policies: Students wishing to withdraw from the course may do so up to the deadline of June 23, 2006 (this is a student initiated action and must be done by the student through the Records Office). All students not withdrawing by this date are assumed to be enrolled in this class through to completion.

No Drops or Incompletes will be given to avoid a failing grade in the course. Medical Drops are given through a certification by the University Health Service. If a student is failing or wishes to drop for another reason it is the student's responsibility to do so by the deadline.

Attendance: The UT Missed Class Policy states:

> "Students are expected to attend every class meeting of courses in which they are registered. Only in specific, unavoidable situations does the University excuse absences from class …"

These situations include: illness, death in the family, religious observances, participation in university sponsored activities, government required activities, and any other absence which the professor approves. More information about the missed class policy can be found at:

http://web00.utad.utoledo.edu/publicinfo/policy/newapril2002/3360-20-15.htm

If you must miss a class, please notify the instructor as soon as possible (ASAP) either via written notice, e-mail, or via voice-mail. You should make every attempt to notify the instructor at least 24 hours in advance, when possible.

Academic Dishonesty:

Academic dishonesty will not be tolerated. Issues involving dishonesty are taken very seriously by this instructor and are dealt with according to College and Department policy. Academic dishonesty, as defined by the "Academic Dishonesty Policy and Procedures—College of Engineering," includes:

1) Improper access to evaluation material or records.
2) Submission of material which is not the student's own work.
3) Conduct which interferes with the work or evaluation of other students.

Specifically, for this course, dishonesty involves:

1) Copying from another person, book, magazine, or other electronic or printed media, including the Internet.
2) Obtaining another person's exam answer or answers.
3) Assisting another student in submitting work that is not the student's own.
4) Any activity that falls under the general College of Engineering definition.

Copying from a book, the Internet, or a periodical is considered unoriginal work and will be treated as cheating (unless prior permission has been given by **both** the instructor and the author).

It is unacceptable to share program code. It is unacceptable to share homework solutions. It is ok to talk about program algorithms and homework solution strategies, but it is not acceptable to use the same code or code segments, or to share actual solutions to homework problems.

Any act of academic dishonesty will result in a grade of zero (0) for that item for the first occurrence. An automatic F in the course will result for the second offense. This policy holds for homework assignments and programs, as well as for tests. In order to be fair, penalties will be applied to all parties involved regardless of culpability or fault.

Important Dates:

First Day of Class	**Monday, May 15, 2006**
Memorial Day Holiday	**Monday, May 29, 2006**
Last Day to Add/Drop	**See Summer Calendar**
Last Day to Withdraw	**Friday, June 23, 2006**
Independence Day Holiday	**Tuesday July 4, 2006**
Last Day of Class	**Wednesday, August 2, 2006**
Final Exam	**Wednesday, August 2, 2006 8:00 – 9:40 a.m.**