Instructor:	Leigh Little, Ph.D.	Office Hours:	MWF 10:00 - 11:00
			MWF 12:30 - 1:30
			and by appointment
Office:	Lennon Hall, Room 223	Phone:	395-5283
Mailbox:	Lennon Hall, Room 319	Email:	llittle@brockport.edu
Website:	www.cps.brockport.edu/~little		

Textbooks:

* *Fortran95/2003 for Scientists and Engineers, 3rd Ed.*, S. Chapman

* Supplementary materials as distributed in class

Description:

This is an introductory course in structured programming with an emphasis on scientific computing. Scientific computing involves the design and analysis of mathematical models and computer programs used to study problems in a variety of disciplines such as biology, physics, engineering, mathematics, chemistry, and business. Topics include program construction, array variables, conditional logic, looping strucutres, subroutines, functions and applications to the sciences.

Prerequisites:

1. MTH 201 (or concurrent enrollment)

Objectives:

At the completion of this course the student will:

• Understand floating point arithmetic and its possible consequences in numerical computing,

• Translate mathematical models from the sciences into programming languages,

• Understand numerical programming in Fortran 90,

• Present results from computational models in a coherent, ordered manner.

Topics:

1. Floating point arithmetic

2. Fortran 90 programming including syntax, program flow, variables, formulas, conditional branching, looping structures, array variables, subroutines, functions and file input/output.

3. Using and understanding computational models

4. Technical writing

5. Matlab programming (if time allows)

Grading: Your final grade will be computed according to the following table:

- 60% Homework assignments

- 10% Programming Project

- 15% Midterm examination

- 15% Final examination

Your final weighted average will be determined using the weights indicated and your grade will be determined according to the following scale

Average	Grade	Average	Grade
100-95.0	A	74.0-76.9	C
94.9-90.0	A-	70.0-73.9	C-
87.0-89.9	B+	67.0-69.9	D+
84.0-86.9	B	64.0-66.9	D
80.0-83.9	B-	60.0-63.9	D-
77.0-79.9	C+	< 60.0	E

Assignments:

Homework assignments will have varying due dates. Short assignments will usually be due at the next class meeting while longer assignments will be due in 1-2 weeks time. These assignments typically involve analytical investigation and computer programming.

As the semester proceeds, some assignments will need to be produced using document processing software as MS Word.

General Class Policies

- Homework assignments are due before the start of class on the due dates.

- Problems submitted after they have been discussed in class will receive no credit.

- Late assignments will be penalized 25% per day (including weekends and holidays).

- Students can discuss homework, but all work submitted must be your own. Outright copying of assignments will result in a score of zero for all parties involved.

- When computer output is requested, provide printouts of the program, sample output and other material as requested. Do not submit large volumes of printed data.

- Do not print out documents during class. This is very distracting.

- All of my Blackboard mail gets forwarded to my brockport email address. I only use Blackboard to send out mass emails to the class. You don't need to use Blackboard to email me, but if you do, my response will go to your usual Brockport email address.

- I reserve the right to administer quizzes in class (announced or unannounced) at any time. These will be counted as homework assignments. This will almost certainly be done if significant numbers of students fail to submit homework assignments on a timely basis or produce a very low quality of work.

Doing Well in the Class

- Start the assignments right away. Programming can be time consuming and a problem that seems simple can be more complex than it initially appears.

- Attend class regularly.

- Ask questions, either in class, in my office or by email.

- You can always email me your program if you are having problems with it.

- If you decide to email me the program, either attach it to your email or paste it into the email. Also, give me some indication of what the problem is (i.e., tell me the error messages you are getting, etc.). Don't just say the program doesn't work.

- All course material (including programs written in class) will be posted on the course website. You should study these between class meetings. You should download and run the programs we write in class to gain insight into how they work.

Policies

Attendance:

You are expected to attend all classes. Significant amounts of material are not contained in the textbook. If you miss a class, it is your responsibility to get class notes and handouts and find out what you missed. The instructor reserves the right to fail any student who acquires more than 4 unexcused absences. No incompletes or withdrawals will be given for this course except in cases of illness, personal tragedy, or extraordinary circumstances beyond the student's control, and then only if documented to the instructor's satisfaction.

Here is the official College at Brockport Attendance Policy:

The student is responsible for all assigned course work and cannot be absolved of this responsibility. When enrolled in a particular course, the student is obligated to do all of the work assigned. Punctual and regular attendance is vital to the discharge of this obligation. Absences, excused or not, do not alter this responsibility. Absences deemed excessive by the instructor may result in a lowered grade. Students whose unexcused absenced exceed 15% of the scheduled classes and laboratories will be subject to failure at the instructors discretion. Absences will be excused for (a) documented illness, (b) official representation of the college, (c) death of a close relative, (d) religious holiday, and (e) circumstances beyond the control of the student. Excuses for official representation of the college must be obtained from the official supervising that activity or event. Policies regarding absences from quizzes, exams, and laboratory sessions will be at the discretion of the instructor. Substantiation of excused absences is, in any case, the responsibility of the student. Regulations more restrictive than those stated above may be established by the instructor.

Title IX Statement

Gender discrimination and sexual harassment are prohibited in class. Title IX legislation requires the College to provide gender equity in all areas of campus life. If you or someone you know has experienced gender discrimination, sexual harassment, or sexual assault, we encourage you to seek assistance and to report the incident through resources available at www.brockport.edu/titleix/index.html. Confidential assistance is available at Hazen Center for Integrated Care. For these and other regulations governing campus life, please see all of our Student Polices at www.brockport.edu/policies/index.php.

Authorship:

When you turn in an assignment, you are certifying it as your own work. Submitting material as you own work that is not entirely of your own authorship, or knowingly providing an answer to another person constitutes cheating. If I am convinced beyond a reasonable doubt that cheating has occurred, the person(s) submitting the illicitly obtained answer, and any person(s) knowingly providing same, will receive a grade of zero for that assignment. Further disciplinary procedures may also be considered.

Buckley Amendment:

The purpose of the Buckley Amendment is to protect the confidentiality of your grades. This law states that I cannot reveal any information regarding your performance in the course to anyone other than yourself and authorized college administrators without your written permission.

Disclaimer:

Announcements given in class are considered official addenda to this policy. All policies described are subject to change as the situation warrants. Should changes be necessary, all students will be notified in a timely fashion.