C PROGRAMMING WITH APPLICATIONS
ENCE 300 - Fall 2010

Professor: Gary Spivey, Ph.D.
Office: WMR 218
Phone: (503) 554-2781
email: gspivey@georgefox.edu

Course Description:
3 hours. Introduction to the C programming language as a means to perform low-level access and control of hardware with a high-level language. Custom software applications, portability issues, application of pointers, and introduction to data structures. Applications to engineering problems, including data acquisition and control systems. Additional course fee is required. Prerequisites: ENGE 220 Digital Logic Design.

Objectives: By the end of the course, students should be able to:
- Evaluate effective uses of standard C data types.
- Explain operator precedence in C.
- Organize elements of programs into effective functional subroutines.
- Evaluate the use of pointers and arrays in a program.
- Implement structures for effective data manipulation.
- Design a significant computer program in the C language.
- Design a C program and implement the program on an embedded target.

Required Text(s):  
C.S. Lewis Mere Christianity

Assignments:  
Assignments are due at the beginning of the designated class period and must be handed in individually; no late assignments are accepted and assignments will not be accepted from another classmate’s hand. Assignments that are not turned in count double for the purpose of calculating grades. Prior approval or unforeseen emergencies may, at the instructor’s discretion, be considered as acceptable reasons for late assignments.

Programs:  
As this is a programming class, assignments will be graded on program functionality as well as their structure and documentation. Program grades are given pending a functional program. That is to say, any partially completed assignment must be turned in by the due date, and will be graded accordingly. However, the grade will not be recorded until a functional assignment has been turned in. In the event that a functional assignment is not turned in, the grade will revert to a 0 for the assignment.
Quizzes:
Quizzes will be given most days to test comprehension of assigned readings and lectures. Quizzes will be conducted in the first five minutes of class.

Course Web Page:
http://engr.georgefox.edu/Courses/ENGE300

Course E-mail list:
http://engr.georgefox.edu/mailman/listinfo/enge300
It is your responsibility to sign up for the e-mail list. Class information may be routinely distributed using this medium. When you sign up, the system will send you a confirmation e-mail. **You must respond to this e-mail to be signed up!**

Tentative Exam Schedule:
Exam 1 Tuesday, Oct. 12
Exam 2 Tuesday, Nov. 23

Grading:
The course grade will be based on the following point system.
Any missed assignments will count double towards the cumulative average.

<table>
<thead>
<tr>
<th>Points Breakdown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
</tr>
<tr>
<td>Exam 2</td>
</tr>
<tr>
<td>Final</td>
</tr>
<tr>
<td>Quizzes</td>
</tr>
<tr>
<td>Programs</td>
</tr>
<tr>
<td>Project</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Projected Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
</tr>
<tr>
<td>Exam 2</td>
</tr>
<tr>
<td>Final</td>
</tr>
<tr>
<td>Quizzes</td>
</tr>
<tr>
<td>Programs</td>
</tr>
<tr>
<td>Project</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Engineering Your Soul:
The third mission objective of the George Fox University Engineering program states: “GFU Engineers will understand responsible service from a Christian worldview that emphasizes integrity in every aspect of this service, motivates individuals to a life of responsible service to humankind, and recognizes the need for a life of continued learning.”
As one step towards the fulfillment of this objective, the engineering faculty is excited to present another Engineering Your Soul reading for the semester. Each semester, we will collectively identify influential Christian writing(s) to be read and reflected upon by all engineering faculty and students throughout the term. This will be treated as an official component of every engineering course and will be uniquely integrated and assessed at the discretion of each course instructor.
It is our hope that students will not view this as one more task to complete, but as a catalyst for continued discussion ultimately leading to a deeper experience of Jesus Christ.

**Disability Services Information**
If you have specific physical, psychiatric, or learning disabilities and require accommodations, please contact the Disability Services Office as early as possible so that your learning needs may be appropriately met. You will need to provide current documentation of your disability to Disability Services. For more information, contact Rick Muthiah, Director of Disability Services (ext. 2314 or rmuthiah@georgefox.edu), or go to ds.georgefox.edu for more information.

**Academic Resource Center**
The Academic Resource Center (ARC) on the Newberg campus provides all students with free writing consultation, academic coaching, and learning strategies (e.g., techniques to improve reading, note-taking, study, time management). The ARC, housed on the second floor of the Murdock Learning Resources Center (library), is open from 1:00-10:00 p.m., Monday through Thursday, and 12:00-4:00 p.m. on Friday. Call 503-554-2327 or email the.arc@georgefox.edu to schedule an appointment. Visit arc.georgefox.edu for information about ARC Consultants’ areas of study, instructions for scheduling an appointment, and helpful learning tools.