DIGITAL SYSTEM DESIGN
ENGE410 - Spring 2010

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Course Description:
3 hours. Practical aspects of digital design with Hardware Description Languages including the design, construction, and testing of significant digital subsystems. Explorations of advanced digital design concepts such as timing-driven synthesis, integration of intellectual property and design for reuse. Extensive use is made of computer-aided engineering (CAE) tools and Field-Programmable-Gate-Array (FPGA) technology in course assignments. Two lectures and one two-hour laboratory per week. Additional course fee is required. Prerequisite: ENGE 420 Microprocessors

Required Texts:

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.

Homeworks and Quizzes:
Homework assignments will be given along with solutions. Students are encouraged to attempt the problems before looking at the provided solutions. Quiz questions will also be provided that test comprehension of the assigned readings and lecture. At the beginning of each class period, students will take a short quiz generally consisting of one of the homework problems and five of the quiz questions. Quizzes that are not turned in count double for the purpose of calculating grades.

Course Web Page:
http://engr.georgefox.edu/ENGE410

Course E-mail list:
http://engr.georgefox.edu/mailman/listinfo/enge410
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!

Lab Experiments:
The lab experience will consist of approximately 11 laboratory sessions. Lab sessions might require more work to be done than can be accomplished in the 2 hour lab. Completed labs are due at the beginning of the following lab session.
Tentative Exam Schedule:
Exam 1 – Wednesday, Feb. 24
Exam 2 – Wednesday, Mar. 17
Final - Thursday, Apr. 29, 1:00 PM

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>
<th>Projected Scale</th>
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<tbody>
<tr>
<td>Exam 1</td>
<td>B+ 1246</td>
</tr>
<tr>
<td>Exam 2</td>
<td>B 1120</td>
</tr>
<tr>
<td>Laboratory</td>
<td>C+ 1106</td>
</tr>
<tr>
<td>Homeworks</td>
<td>C 980</td>
</tr>
<tr>
<td>Quizzes</td>
<td>D+ 966</td>
</tr>
<tr>
<td>Total</td>
<td>D 840</td>
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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 a new initiative. Each semester, we will collectively identify an influential Christian writing 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) provides all students with free writing consultation, general tutoring, academic coaching, and learning strategies (e.g., techniques to improve reading, note-taking, study, time management). The ARC hours of operation are from 1:00-10:00 p.m., Monday through Thursday, and 12:00-4:00 p.m. on Friday. Call ext. 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. Call Rick Muthiah, Director of the Academic Resource Center, at ext. 2314 if you have questions.