Comp 331 – Introduction to Computer Hardware
Fall 2012
Course Syllabus

Instructor: Brian J. Shelburne (bshelburne@wittenberg.edu)
Office: 329E Science (x7862)
Class Meetings: TTH 9:40 – 11:10 Rm 261 BDK Science
Office Hours See course web-site

Text & Materials
Digital Design Using Digilent FPGA Boards VHDL/Active-HDL Edition;
Richard E. Haskell & Darrin M. Hanna
BASYS-2™ (100 die) FPGA board

Overview of Course: This course is about building stuff – hardwired circuits that run on your BASYS2 FPGA board. There is some theory and materials on designing circuits, a lot of material about using hardware design languages especially VHDL (Very High Speed Integrated Circuit Hardware Design Language) and a lot of just designing circuits and applications. Much of class time will be spent on implementing the many examples in the text. Think of the course as one extended lab.

Grading

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
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<tbody>
<tr>
<td>Three in class quizzes</td>
<td>300</td>
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<tr>
<td>Design Projects (pledged assignments)</td>
<td>300</td>
</tr>
<tr>
<td>Final Project &amp; Presentation</td>
<td>200</td>
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<td><strong>Total</strong></td>
<td>800</td>
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The course will be graded on 800 points with the course letter grade determined by the following percentages:
≥ 90% (A), ≥ 80% (B), ≥ 70% (C) ≥ 60% (D), <60% (F).

Reading Assignments: Reading Assignments will be assigned the class period before the material is covered in class. Therefore it is expected that you will have some familiarity with the material to be covered in class.

One-Time Quiz Retake: If you do poorly on one quiz you will be allowed to redo the same quiz as a take home. The quiz grade earned will be the average of the in-class quiz and the take home retake. For example if you make a 50% on the in class quiz and a 100% on the take home retake, your grade for that quiz will be 75%.

1. You may only do this only once!
2. You are not allowed to consult with anyone on the retake. This especially applies to other class members and math workshop tutors. You may make free use of your text book, class notes, class handouts, course website materials and/or homework assignments but no other sources. Think serious about Wittenberg’s Code of Academic Integrity!
3. You will have one week to complete the take home quiz (but you may hand it in early). You do not need to hand in the original in-class test
4. Since time is not a factor for the take-home retake, grading will be stricter. Therefore it is strongly suggested that you do not copy correct answers from the in-class quiz to your take home retake as grading will be stricter. Redo each question.
5. If you elect to retake a quiz you must contact me within 24 hours of the time a return the quiz so that I can give you a clean copy for the retake.

Design Projects (pledged assignments): A number of (pledged) design projects will be assigned during the course of the semester. These will be either problems found at the end of each chapter or extension of the examples you will
be doing in class. Generally I will require that you hand in design documentation (mostly VHDL code files –
sometimes schematics) as well as electronic copies of the bitfiles you generate so I can test your work.

**Final Project and Presentation:** In place of a final exam, you will design, implements, document and demonstrate a FPGA based project. Details for the final project will be forth coming but basically the application you would like to implement is up to you. Part of the project grade will be based on the presentation of your project to the rest of the class (including feedback by the class on your presentation). This will be done during the time slot scheduled for the final exam.

**Academic Integrity:** Cases of academic dishonesty will result in a grade of 0 for all parties involved and will be reported to the Honor Council. A second allegation of a violation of academic integrity will *automatically* result in an Honor Board hearing.

If you have any questions about my expectations for academic integrity for this course, ask me. A good rule of thumb is, if you have any doubts about something, don’t do it. Seek clarification first.

All quizzes and design projects will include the following signed pledge on the assignment sheet which must be signed

*I affirm that my work upholds the highest standards of honesty and academic integrity at Wittenberg and that I have neither given nor received unauthorized assistance.*

**Classroom Behavior:** Over the years a couple or three things began happening in class that really bug me! So I'm going to request that you do the following

1. Please - Switch off your cell phones and no texting in class!
2. Please - don't get up in the middle of class to visit the water fountain or the rest room - unless it is *ABSOLUTELY NECESSARY*
3. Please do not surf the web

Thank you!

**Class Attendance & Class Attendance Bonus:** You are expected to attend every class. If a class is missed you are still responsible for any missed material (i.e. all lecture notes are on-line). If you miss no more than 2 classes, 20 points will be added to your total points for the course. Note: Absences due to legitimate university sponsored events will not be counted provided I receive notification ahead of time.

**SMACCM Attendance:** Because participation departmental functions is important, attendance at SMACCM colloquia will earn 4 points extra credit for each colloquium attended up to 5 colloquia total (max amount of extra credit is 20 points)

**Final Note** *Your learning in this course is important to me. I invite you to talk with me about ways to ensure your full participation in this course. Please be aware that Wittenberg is committed to providing reasonable accommodations for students with documented disabilities. If you are eligible for course accommodations because of a disability, you need to register with the Academic Services Office, 206 Recitation Hall. After you register, give me your self-identification memo from Academic Services and arrange to talk with me about your learning needs privately in a timely manner. Early identification at the start of the term is essential to ensure timely provision of services. If you have questions or would like more information about services for students with disabilities, please contact Vancenia Rutherford, Assistant Provost for Academic Services, 206 Recitation Hall, extension 7891 or by e-mail at vrutherford@wittenberg.edu.*

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