COURSE SYLLABUS: CPSC4899 – INDEPENDENT STUDY – FALL 2014

INSTRUCTOR: Angkul Kongmunvattana, Ph.D. (Associate Professor of Computer Science)
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PHONE: (706) 507-8170

OFFICE HOURS AND LOCATION: 2pm to 5pm on Tuesday, Wednesday, and Thursday; 11am to 12pm on Wednesday; and also by appointment / CCT 426
MEETING TIME AND PLACE: Wednesday 2pm to 3pm / CCT 426

COURSE INFORMATION

COURSE CRN NUMBER/TITLE: CRN 82863 / CPSC4899 – Independent Study
CREDIT HOURS/PREREQUISITES: 3 credits / Junior Standing

COURSE DESCRIPTION: Course project approved and supervised by a faculty member. May be taken only once for credit.

REQUIRED TEXTBOOK AND MATERIALS: NONE

SUPPLEMENTARY BOOKS AND MATERIALS (OPTIONAL):

- FIPS PUB 197: Advanced Encryption Standard
- Quartus II Handbook
- Intel 64 and IA-32 Architectures Software Developer Manuals
- Selected Papers from FPGA, FCCM, and FPL conferences/symposia

LEARNING OUTCOMES

Course Objective:
The aim of this course is to introduce students the digital logic circuit prototyping of real-world applications using field programmable gate arrays.

Course Outcomes:

- Students will demonstrate knowledge and skills of digital logic circuit prototyping using FPGA.
  - Strategies and Actions used to produce the outcome:
    - Study of real-world applications.
    - Study of previous work in the area.
    - Design of digital logic circuits.
    - Optimization of digital logic circuits.
    - Implementation of digital logic circuits.
    - Simulation of digital logic circuits.
    - Prototyping of digital logic circuits.
  - ABET Criteria covered: A, B, C, I, and J.
  - Program Objectives covered: 2 and 3.
- Students will demonstrate knowledge and skills of performance benchmarking.
  - Strategies and Actions used to produce the outcome:
    - Study of performance benchmarking techniques.
    - Conduct comparative performance evaluations.
  - ABET Criteria covered: A, B, C, I, and J.
Program Objectives covered: 2 and 3.

COURSE ASSESSMENT

LEARNING ACTIVITIES
1. The class will meet once a week for one hour.
2. Each student is expected to attend all class meeting, to read assigned materials, and to come prepare for discussions. Students will be expected to submit their project proposal, progress report, and final report.
3. Students must have access to computers and/or computer labs for their work.

COURSE EVALUATION

<table>
<thead>
<tr>
<th>GRADED LEARNING ACTIVITIES</th>
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<tbody>
<tr>
<td>Project Proposal</td>
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<tr>
<td>Progress Reports</td>
<td>30%</td>
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<tr>
<td>Final Report</td>
<td>50%</td>
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<tr>
<td>Presentations</td>
<td>10%</td>
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<tr>
<td>Total</td>
<td>100%</td>
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<table>
<thead>
<tr>
<th>Percentage Range</th>
<th>Final Grade</th>
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<tbody>
<tr>
<td>90-100%</td>
<td>A</td>
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<tr>
<td>80-89%</td>
<td>B</td>
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<td>70-79%</td>
<td>C</td>
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<td>60-69%</td>
<td>D</td>
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<td>59% and below</td>
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ADMINISTRATIVE POLICIES AND ACADEMIC RESOURCES

CSU DISABILITY POLICY
If you have a documented disability as described by the Americans with Disabilities Act (ADA) and the Rehabilitation Act of 1973, Section 504, you may be eligible to receive accommodations to assist in programmatic and/or physical accessibility. We recommend that you contact the Office of Disability Services located in Schuster Student Success Center, Room 221, 706-507-8755 as soon as possible. Students taking online courses can contact the Office of Disability
services at [http://disability.columbusstate.edu/](http://disability.columbusstate.edu/). The Office of Disability Services can assist you in formulating a reasonable accommodation plan and in providing support. Course requirements will not be waived but accommodations may be able to assist you to meet the requirements. Technical support may also be available to meet your specific need.

**ACADEMIC INTEGRITY**

All students are expected to recognize and uphold standards of intellectual and academic integrity. As a basic and minimum standard of conduct in academic matters that students be honest and that they submit for credit only the products of their own efforts. Both the ideals of scholarship and the need for fairness require that all dishonest work be rejected as a basis for academic credit. They also require that students refrain from any and all forms of dishonorable or unethical conduct related to their academic work.

Students are expected to comply with the provisions of Section III, "Student Responsibilities," of the Columbus State University Student Handbook. This specifically includes the sections on "Academic Irregularity," and "Conduct Irregularity." In particular, the Columbus State University Student Handbook states:

“No student shall give or receive assistance in the preparation of any assignment, essay, laboratory report, or examination to be submitted as a requirement for any academic course in such a way that the submitted work can no longer be considered the personal effort of the student submitting the work."

**Examples of Academic Dishonesty include but are not limited to:** Plagiarism (see definition below), giving or receiving unauthorized assistance on exams, quizzes, class assignments or projects, unauthorized collaboration, multiple submissions (in whole or part) of work that has been previously submitted for credit.

Plagiarism is any attempt to represent the work or ideas of someone else as your own. This includes purchasing or obtaining papers from any person and turning them in as your own. It also includes the use of paraphrases or quotes from a published source without properly citing the source. All written assignments may be submitted for textual similarity review to Turnitin.com for the detection of plagiarism.

Any work turned in for individual credit must be entirely the work of the student submitting the work. **All work must be your own.** You may share ideas but submitting identical assignments (for example) will be considered cheating. **You may discuss the material in the course and help one another with debugging, however, I expect any work you hand in for a grade to be your own.** A simple way to avoid inadvertent plagiarism is to talk about the assignments, but don’t read each other’s work or write solutions together. Keep scratch paper and old versions of assignments until after the assignment has been graded and returned to you. **If you have any questions about this, please see me immediately.**

For assignments, access to notes, textbook, books and other publications is allowed. Stealing, **giving or receiving** any code, diagrams, drawings, text or designs from another person (CSU or non-CSU) is not allowed. Having access to another person’s work on the system or giving access to your work to another person is not allowed. It is your responsibility to keep your work confidential.

No cheating in any form will be tolerated. Please be aware that anyone caught cheating or plagiarizing in this class will receive a “0” for the assignment/exam and may receive an “F” for the course.

**STUDENT COMPLAINT PROCESS**

Information and resources for student complaints and academic appeals are located at the following link on the Columbus State University website [http://aa.columbusstate.edu/appeals/](http://aa.columbusstate.edu/appeals/).
COURSE ATTENDANCE POLICY

Class attendance is the responsibility of the student, and it is the student’s responsibility to independently cover any materials missed. At my discretion, I may drop you from the course when you accumulate more than four (4) absences. Missing an exam or a quiz is considered an absence. Missed classes caused by participation in documented, formal, University-sponsored events will not count as absences provided you notify me of such anticipated absences in advance and as soon as possible. You are responsible for all class work missed, regardless of the reason for the absence(s). Late assignments will not be accepted, so if you are absent on the day an assignment is due, it is your responsibility to make alternate arrangements. No makeup exams or quizzes will be given, so please make sure you are present for all exams/quizzes.

Refer to the CSU Catalog (http://ace.columbusstate.edu/advising/a.php#AttendancePolicy) for more information on class attendance and withdrawal.

ABET Criteria:

Students in CS/IT will have a(n)

A. ability to apply knowledge of computing and mathematics appropriate to the discipline;
B. ability to analyze a problem, and identify and define the computing requirements appropriate to its solution;
C. ability to design, implement and evaluate a computer-based system, process, component, or program to meet desired needs;
D. ability to function effectively on teams to accomplish a common goal;
E. understanding of professional, ethical, legal, security, and social issues and responsibilities;
F. ability to communicate effectively with a range of audiences;
G. ability to analyze the local and global impact of computing on individuals, organizations and society;
H. recognition of the need for, and an ability to engage in, continuing professional development;
I. ability to use current techniques, skills, and tools necessary for computing practice.
J. ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices;
K. ability to apply design and development principles in the construction of software systems of varying complexity.

CS Program Objectives:

Our graduates will have achieved:
1) A broad general education assuring an adequate foundation in science and mathematics relevant to computing.
2) A solid understanding of concepts fundamental to the discipline of computer science.
3) Good analytic, design, and implementation skills required to formulate and solve computing problems.
4) The ability to function and communicate effectively as ethically and socially responsible computer science professionals.

By signing below, you (_______________________________________________________________________________)

PRINT YOUR NAME HERE

are hereby acknowledged that you have carefully read and agreed to abide by the rules and policies stated in this course syllabus.

_____________________________________________________________ ______________________
(Signature) (mm/dd/yyyy)
ACM Code of Ethics and Professional Conduct

THE CODE represents ACM’s commitment to promoting the highest professional and ethical standards, and makes it incumbent on all ACM Members to:

- Contribute to society and human well-being.
- Avoid harm to others.
- Be honest and trustworthy.
- Be fair and take action not to discriminate.
- Honor property rights including copyrights and patent.
- Give proper credit for intellectual property.
- Respect the privacy of others.
- Honor confidentiality.

And as computing professionals, every ACM Member is also expected to:

- Strive to achieve the highest quality, effectiveness and dignity in both the process and products of professional work.
- Acquire and maintain professional competence.
- Know and respect existing laws pertaining to professional work.
- Accept and provide appropriate professional review.
- Give comprehensive and thorough evaluations of computer systems and their impacts, including analysis of possible risks.
- Honor contracts, agreements, and assigned responsibilities.
- Improve public understanding of computing and its consequences.
- Access computing and communication resources only when authorized to do so.

This flyer shows an abridged version of the ACM Code of Ethics. The complete version can be viewed at: www.acm.org/constitution/code