EEL 6935  Billion Transistor Computer Architecture

1. Catalog Description – (3 credits)

2. Pre-requisites and Co-requisites (Be specific – 5000 level courses should list topics, for example Phys 2049 or equivalent)

3. Course Objectives – To learn and understand the latest industries R&D trends and academic research in the fields of computer architecture and system design; to learn how to conduct innovative, high-quality research

4. Contribution of course to meeting the professional component (ABET only – undergraduate courses) - NA

5. Relationship of course to program outcomes: Skills student will develop in this course (ABET only undergraduate courses) - NA

6. Instructor – Dr. Tao Li
   a. Office location: 339 Larsen
   b. Telephone: 392-9510
   c. E-mail address: taoli@ece.ufl.edu
   d. Class Web site:
   e. Office hours: TBD

7. Teaching Assistant - None
   a. Office location:
   b. Telephone:
   c. E-mail address:
   d. Office hours:

8. Meeting Times -

9. Class/laboratory schedule, i.e., number of sessions each week and duration of each session - 3 class periods consisting of 50 minutes each

10. Meeting Location -

11. Material and Supply Fees -

12. Textbooks and Software Required – Student will read and present latest papers. No formal textbook

13. Recommended Reading - None

14. Course Outline –
- Graphic Processor Unit (GPU) and Heterogeneous Multi-Core Architecture
- Non-volatile based Cache/Memory Hierarchy
- Power Management for Computer Systems
- Silicon Nano-photonic Techniques and their SoC Application
- Processing Technology Scaling Challenges and Robust Architecture Design
- Architecture Design Issues for Data Center and Cloud Computing

15. Attendance and Expectations - Cell phones and other electronic devices are to be silenced. No text messaging during class or exams.

Requirements for class attendance and make-up exams, assignments, and other work are consistent with university policies that can be found at:
https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx


17. Grading Scale –

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93-100</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
</tr>
<tr>
<td>B</td>
<td>83-86</td>
</tr>
<tr>
<td>B-</td>
<td>80-82</td>
</tr>
<tr>
<td>C+</td>
<td>77-79</td>
</tr>
<tr>
<td>C</td>
<td>73-76</td>
</tr>
<tr>
<td>C-</td>
<td>70-72</td>
</tr>
<tr>
<td>D+</td>
<td>67-69</td>
</tr>
<tr>
<td>D</td>
<td>63-66</td>
</tr>
<tr>
<td>D-</td>
<td>60-62</td>
</tr>
<tr>
<td>E</td>
<td>0-59</td>
</tr>
</tbody>
</table>

In order to graduate, graduate students must have an overall GPA and an upper-division GPA of 3.0 or better (B or better).” Note: a B- average is equivalent to a GPA of 2.67, and therefore, it does not satisfy this graduation requirement. For more information on grades and grading policies, please visit:
http://gradschool.ufl.edu/catalog/current-catalog/catalog-general-regulations.html#grades

18. Make-Up Exam Policy - If you have a University-approved excuse and arrange for it in advance, or in case of documented emergency, a make-up exam will be allowed and arrangements can be made for making up missed work. University attendance policies can be found at:
https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

Otherwise, make-up exams will be considered only in extraordinary cases, and must be taken before the scheduled exam. The student must submit a written petition to the instructor two weeks prior to the scheduled exam and the instructor must approve the petition.

19. Honesty Policy – All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a UF
student and to be honest in all work submitted and exams taken in this course and all others.

“...failure to comply with this commitment will result in disciplinary action compliant with the UF Student Honor Code Procedures (http://www.dso.ufl.edu/sccr/procedures/honorcode.php)

20. Accommodation for Students with Disabilities – Students Requesting classroom accommodation must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the course instructor when requesting accommodation.

21. UF Counseling Services – Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:
   · UF Counseling & Wellness Center, 3190 Radio Rd, 392-1575, psychological and psychiatric services.
   · Career Resource Center, Reitz Union, 392-1601, career and job search services.

22. Software Use – All faculty, staff and student of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.