Texas State University
CS7333 - Advanced Green Computing

Semester: Fall 2019
Classroom: CMAL 103
Time: Thursday 6:30 pm – 9:20 pm
Website: http://cs.txstate.edu/~zz11/cs7333

Instructor: Dr. Ziliang Zong
Office: CMAL 301C
Phone: 512-245-8344
Email: ziliang@txstate.edu
Office Hours: Thursday 10 am – noon and 1:00 pm – 4:00 pm

Course Description:
This course covers hardware and software techniques to improve the energy-efficiency of computing systems. Topics include best practices in building energy-efficient data centers and mobile devices, current trends in reducing the energy consumption of processors and storage components, energy-aware resource management, software optimizations, and hands-on experience on power-measurable systems.

Selected Topics:
- Course Logistics and Introduction to Green Computing (1 Week)
- Green Computing: Challenges and Opportunities (1 Week)
- Green Data Center (2 Weeks)
- Hardware Energy Efficiency (2 Weeks)
- Power Measurement (1 Week)
- Software Energy Efficiency (3 Weeks)
- Energy-Efficient Resource Management (1 Week)
- Energy-Efficient Storage Systems (1 Week)
- Mobile and Edge Computing (3 Weeks)

Prerequisites: CS 5351 and CS 5369Y or equivalent with a grade of B or higher, or consent of the instructor.

Textbook: No textbooks. The instructor will use the state-of-the-art research papers in the field as the teaching material.

Course Evaluation:
Grades for this course will be based on:

1) Class participation 10%
2) Research Blogs 10%
3) Paper Summaries 20%
4) Paper Presentations 20%
5) Final Project 40%

and will be assigned as follows:
Attendance Policy:
Attendance is required for all class sessions.

Late Policy
No late assignments will be accepted.

Withdrawal Policy
Please follow the withdrawal and drop policy set up by the University and the College of Science. You are responsible for making sure that the drop process is complete.

Academic Integrity
Although you may exchange ideas with your classmates, you must complete assignments by yourself (or with members of your team, in the case of group projects). In particular, it is forbidden under any circumstances whatsoever to exchange assignments or source code with your classmates. CLAIMING OTHER PEOPLE’S WORK (INCLUDING WORK PUBLICALLY AVAILABLE ONLINE) AS YOUR OWN IS A SERIOUS INFRINGEMENT UPON THE ACADEMIC INTEGRITY POLICY, AND WILL BE TREATED SERIOUSLY. Please refer to the University's Academic Honor Code at [http://www.txstate.edu/effective/upps/upps-07-10-01.html](http://www.txstate.edu/effective/upps/upps-07-10-01.html) for more information.

ADA Compliance
Students with special needs or requiring special accommodations should contact the instructor during the first two weeks of classes. The student should also contact the office of disability services at the LBJ student center.

Email Contact
The instructor will contact you only using your official university email and please use your txstate email to contact your instructor as well. Your email may be automatically filtered or considered as junk email when you email your instructor using other email accounts.