# ECE 429/629 Organization of Computers
## Fall 2008

**Objective**

This course introduces the principles of advanced computer architecture. The student is expected to enter this class with an understanding of basic computer architecture, assembler, and some experience programming in a high level language (such as C or Java). Using these fundamentals, this course describes advanced architectural concepts that allow computers to run orders of magnitude faster. In concurrent lab work, a simulation architecture will be developed by each student, implementing and evaluating the design concepts.

**Instructor**

Tarek Taha
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**Office Hours**

You are welcome to meet me at my office any time. If you are unable to get hold of me, send me an email or give me a call to set up an appointment.

**Course Text**

Computer Architecture: A Quantitative Approach, 4th edition, by Hennessy and Patterson, Morgan Kaufmann Publishers, 2007.

**Course Webpage**

http://www.ces.clemson.edu/~tarek/ece429/

**Topics Covered**

Review, history of architecture
Performance evaluation
Instruction sets
Pipelining
Data and control hazards
Instruction level parallelism
Branch prediction
Dynamic scheduling and hardware prediction
Superscalar issue
Cache memory

**Grading Policy**

Your final grade for this course will be determined by the following averaging procedure (subject to change):

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|---|---|
| Midterm | ≈ 20 % |
| 2nd Exam | ≈ 20 % |
| Short Quizzes/Homework/Class Participation | ≈ 5 % |
| Simulation Lab | ≈ 25 % |
| Final Examination | ≈ 30 % |

**Academic Integrity**

*"As members of the Clemson University community, we have inherited Thomas Green Clemson's vision of this institution as a 'high seminary of learning.' Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form."*