

# EE 5371: Computer Systems Performance Measurement and Evaluation

Fall, 2008

## Course Objectives:

- Learn to use appropriate statistical techniques to compare systems and interpret measured data.
- Learn how to develop and apply measurement tools and techniques.
- Learn how to use analytical modeling.
- Learn how to appropriately design experiments.
- Learn how to develop and use various types of simulations.
- Learn to choose an appropriate performance evaluation technique.

## Time & Location:

Time: 2:30 - 3:45 pm, Tuesdays and Thursdays.

Classroom: [3-125 EE/CSci Bldg.](#) and [UNITE.](#)

Credits: 3

Prerequisites: EE 4363/CS 4203 or equivalent (computer architecture); or instructor's permission.

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## Instructor:

[David J. Lilja](#)

- Office: [6-131 EE/CSci Bldg.](#)

- Email: lilja at umn dot edu

Office hours: Tuesdays and Thursdays, 10:00-11:00 am

## Teaching Assistant:

Shruti Patil

- E-mail: pati0036 at umn.edu

- Office: [6-112 EE/CSci Bldg.](#)

- Phone: 612-624-1845

- Office hours: TBD

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## Required Texts:

1. "[Measuring Computer Performance: A Practitioner's Guide.](#)" David J. Lilja, Cambridge University Press, 2000, ISBN 0-521-64670-7 (paperback).

[Errata](#) -- This is the list of corrections for the book. Please let me know if you find any other errors. The textbook is available at the bookstore in Coffman Union.

2. Papers from the supplemental reading list shown in the [syllabus](#).

These papers are available through the University library's electronic reserve system, accessible through this link: <http://eres.lib.umn.edu/eres/coursepage.aspx?cid=1323>. As a student registered in this course, you have free access to these electronic journals through the library. For this free access to work properly, you will need a course password, which we will email to you. You also may need your X.500 login to access some of the papers.

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## [Syllabus](#)

[Important announcements.](#)

[Project information](#)

[Project grading information.](#)

[Poster grading information.](#)

[Resources and ideas for creating a great poster](#)

[Homework information](#)

[Add yourself to the EE 5371 e-mail list.](#)

[Check the scores we have recorded for you on WebVista through the myU web portal.](#)

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[Programs that may be useful in this class.](#)

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Other items of interest:

- **Comments on using means.**
    1. [What the means mean](#)
    2. [SPECmarks considered harmful](#)
  - [Perfect Benchmark.](#)
  - [NAS Benchmark.](#)
  - [BLAS Benchmark.](#)
  - [HINT Benchmark.](#)
  - [National Trace Database.](#)
  - [Performance Evaluation Lab \(more trace information\)](#)
  - [SPEC benchmarks.](#)
  - [Java version of the Linpack benchmark](#)
  - [Himeno benchmark.](#)
  - [Parkbench Benchmark.](#)
  - [The Performance Database Server.](#)
  - [Information about high-resolution timers.](#)
  - [Timer for Unix machines.](#)
  - [Timer for Pentium processors.](#)
  - [Supercomputing and Parallel Computing Resources](#)
  - [Advice on research and writing.](#)
  - [A free C/C++ compiler for PCs.](#)
  - [MacAnova -- free statistical software.](#)
  - [DTrace -- a dynamic tracing framework for Solaris.](#)
  - [The Pin software instrumentation tool for Intel processors.](#)
  - [The Calibrator tool for analyzing memory systems.](#)
  - [The IATO toolkit for simulating the Intel IA64 instruction set architecture.](#)
  - [MicroLib: A Modular Processor Simulation Library](#)
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