

# CS 221

## Intro to Computer Science for Engineers

Prof. Ken Calvert

30 August 2011

<http://protocols.netlab.uky.edu/~calvert/classes/cs221/>

# Today's Agenda

- I. Intro the course and instructor
- II. Intro the students
- III. Solving problems with computing tools

# What This Course Is About

- Solving Problems with Computing Tools
  - Microsoft® Excel®
  - MATLAB® by The MathWorks®
- Basic Programming Concepts
- Engineering-oriented Applications

# Instructor Info

- Professor Ken Calvert
  - [calvert@netlab.uky.edu](mailto:calvert@netlab.uky.edu), 257-3961
  - Office Hours (in Davis Marksbury 102F)
    - Tuesday 11-12 noon
    - Wednesday 9-10:30
    - Other times **by appointment**
- TA Office hours (in Multilab) To Be Announced

**Note:** take advantage of office hours!

# Communicating with the Instructor

- Email is best (calvert@netlab.uky.edu)
- Everyone will be happier if you compose and send a coherent message

Do:

- Ask a specific question
- If you need to set up a meeting, explain **why you need to meet**
- Use complete sentences
- Proofread before sending

Don't:

- Be vague
- Use text-ese

# Where's Marksbury?

Davis Marksbury Building  
329 Rose Street  
(Calvert Office Hours)

Multilab  
(Annex 203)  
TA Office Hours



You  
Are  
Here

# TA Info

Mehmet (Onur) Ascigil

Sections 001 (8:00) & 002 (9:30)

Office Hours:

Tue & Thu 12 – 1:30

All TA Office Hours are in  
the Multilab:

Engineering Annex 203



# TA Info

Pavel Tariqul Islam

Sections 003 (11:00) & 009 (6:00)

Office Hours: TBD



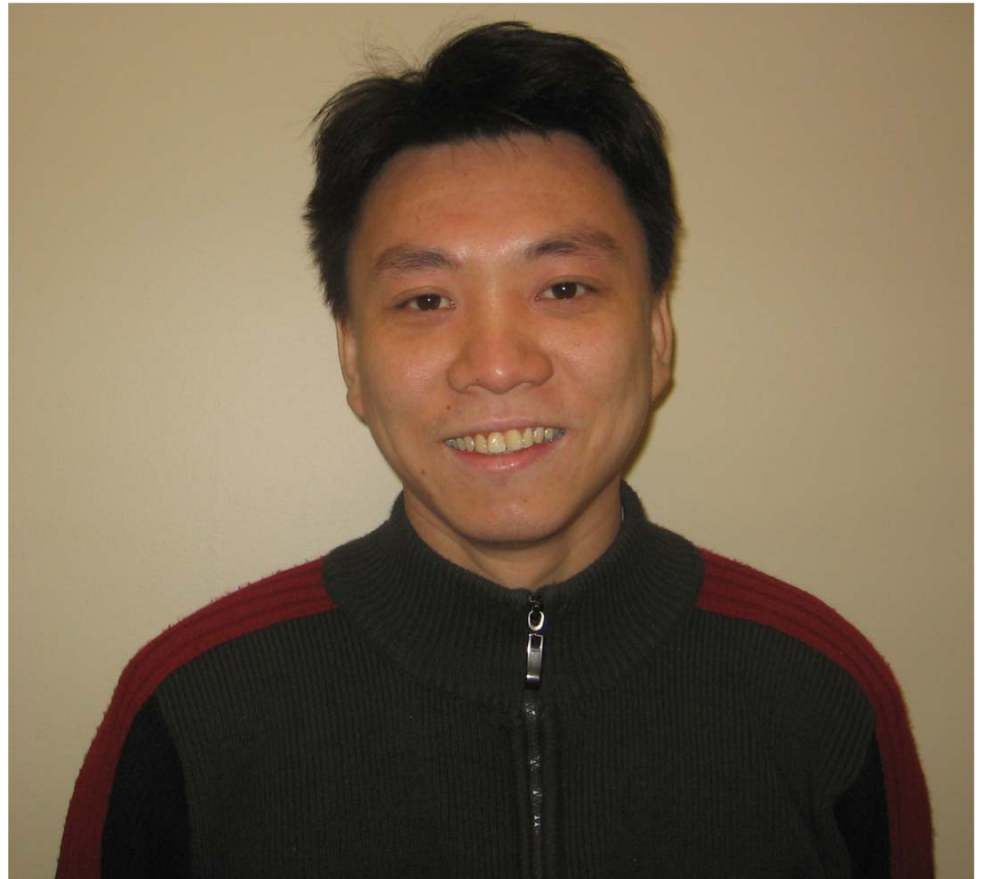


# TA Info

Ju Shen

Sections 004 (12:30) & 005 (2:00)

Office Hours: Fri 9 - 12



# TA Info

Manish Sapkota

Sections 006 (3:00) & 007 (4:00)

Office Hours: TBD



# TA Info

Tom Allen

Section 008 (6:00)

Office Hours: TBD

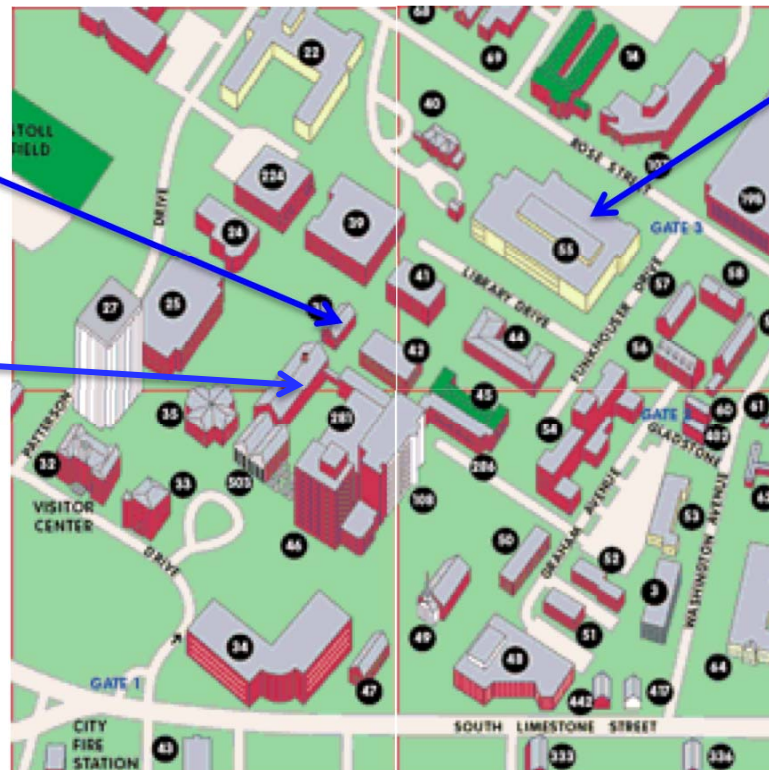


# Where's the “Lab”?

Annex --  
TA Office Hrs

CS 221 Lab  
Sections:  
RGAN 103

You  
Are  
Here



# Course Organization

- Lecture:
  - Tuesday 2-3:15
  - Focus on computing/programming concepts
  - Example applications from Engineering
- Laboratory
  - 50 minutes on Thursday (various times)
  - All 9 sections meet in RGAN 103 (20 seats)
  - Hands-on working with tools (Excel and MATLAB)
  - A new lab exercise weekly

# Learning Aids

- Lab Exercises
  - One per week
  - Involve hands-on use of tools
  - Posted after lecture, before lab, due in 2<sup>nd</sup> lab following posting
  - MUST be demo'd for TA in lab
    - **Not** graded or handed back
  - Upload via CS PORTAL after demoing
    - [www.cs.uky.edu/csportal/](http://www.cs.uky.edu/csportal/)
- Homework Assignments
  - Problems to solve/programs to develop
  - Approximately five during the semester
  - Graded and handed back with feedback

# How To Succeed in Lab (& Hw)

- Start early
  - Read the exercise before going to class
  - Come prepared with questions
- Work outside lab
  - You can (and will need to) work on it outside class
  - Work individually!
- Ask questions!
  - If you don't understand something, get help!

# Evaluation

- In-class Quizzes
  - Cover basic concepts
  - Closed-book, closed-notes
  - Three times during semester
  - Last 20 minutes of class
- Lab Quizzes
  - Work Individually in lab to solve problems using Excel and MATLAB
  - Three times during semester
- Comprehensive Final Exam
  - Tuesday @ 10:30 during Finals Week



# Grading

Homework Assignments	30%
Lab exercises	18%
In-class Quizzes (3 @ 6%)	18%
Lab Quizzes (3 @ 7%)	21%
Comprehensive Final Exam	13%

$\geq 90\%$  (of top marks in the class) = A

80 – 89.9% = B

70 – 79.9% = C

60 – 69.9% = D

$< 60\%$  = E

# Policies

- Attendance
  - Come to class!
  - Attendance taken in lecture on quiz days
  - Attendance taken in lab via lab exercises
  - If you have to miss for a legitimate reason, contact the TA or Prof. Calvert ASAP to discuss makeup
- Late turn-ins
  - There will be penalties for late turnins – typically 50% off

# Policies

- Accomodation
  - If you have a documented disability that requires accomodation, please inform the instructor ASAP
    - You need a letter from the Disability Resource Center on campus (Alumni Gym, Room 2)
- Withdrawing
  - Don't just stop coming! Do the paperwork!
    - A "W" is much better than an "E"

# Expectations

- Courtesy (= consider others)
  - Please silence your cell phone
  - Carrying on a conversation when others are trying to listen is **rude**
- Honesty
  - **Cheating** in any form will not be tolerated
  - See University Senate Rules §6.3 for definitions, §6.4 for process
- Responsibility
  - Take advantage of the resources available to help you!
- Maturity
  - You're an adult now! Please act like one 😊

# Expectations

This course is worth **two credit hours**

- 2/3 of a “typical” course
- That does not mean it is “easy”!
- Rule of thumb:
  - For each “contact hour”, expect to spend 2-3 hours outside class, preparing.
- Expect to spend 4-6 hours/week on average
  - Some will spend more, some less

# Academic Conduct

- I expect each student to act honestly and do his/her own work.
- My job is to look out for the interests of the students who act honestly.
- Anything you turn in with your name on it MUST be your own work, except where explicitly noted.

**CHEATING IN ANY FORM  
WILL NOT BE TOLERATED!**

- Definitions and procedures in University Senate Rules will be followed in all suspected cases.

# Access to Tools

MATLAB (R2011) is installed and available in:

- All Engineering Computer Labs\*
- RGAN 102, 103, 111, 114, 211
- OHR 228
- Most Campus Computer Labs
- Business & Econ
- W. T. Young
- M. I. King

See syllabus for Complete listing

Labs generally are open until 10:00pm or later

\* Note that many of these are used for classes during the day

# MATLAB Access Outside Labs

## (Optional!)

- Student Edition
  - Purchase directly from The MathWorks online  
(UK Bookstore may also have it)
  - \$99, lasts forever, no Internet connection needed
    - Basic MATLAB, Simulink, and 6 handy **toolboxes**
- License through UK
  - Register and pay through SSTARS (W.T. Young Lib.)
  - \$60, lasts to end of FY (June 30, 2012)
    - Basic MATLAB, Simulink, 16 toolboxes
  - Requires your computer to be connected to campus network (directly, or via VPN)



# Access to Tools, cont.

- **Excel** is part of Microsoft Office®
  - Installed on every lab machine on campus
- Students can purchase Office 2010 for \$9.95
  - Go to [download.uky.edu](http://download.uky.edu) and click on “purchase Software from e-academy”

# Basic Programming Concepts

- variable
- data type
- operator
- expression
- assignment
- control flow
- conditional statement
- boolean logic
- algorithm
- bounded iteration  
(for-loops)
- unbounded iteration  
(while-loops)
- procedural/functional  
abstraction