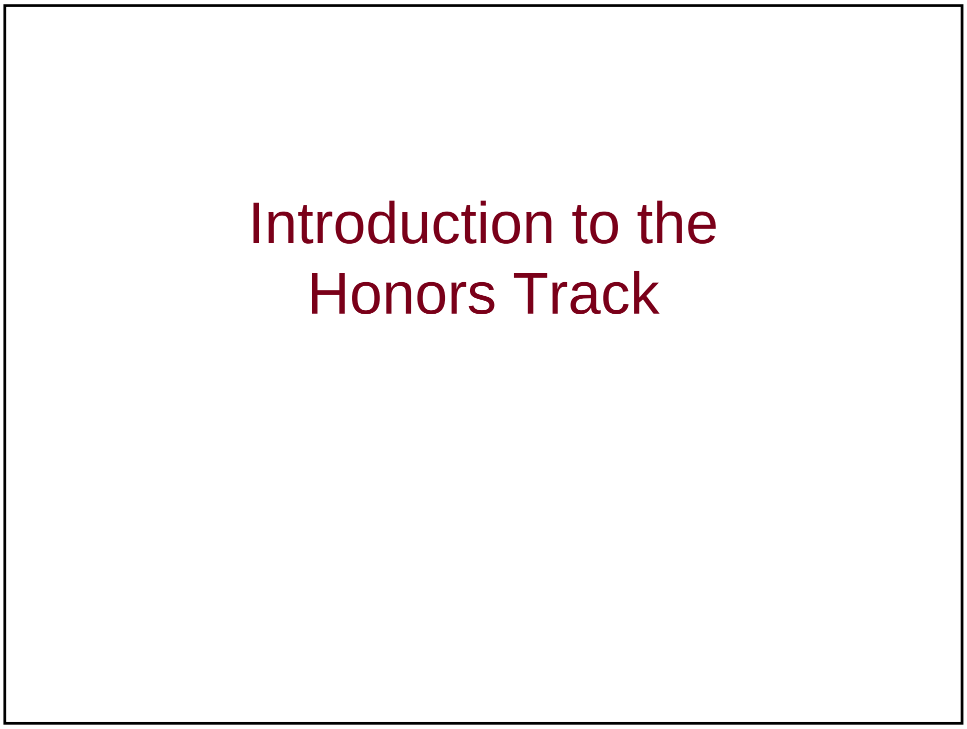
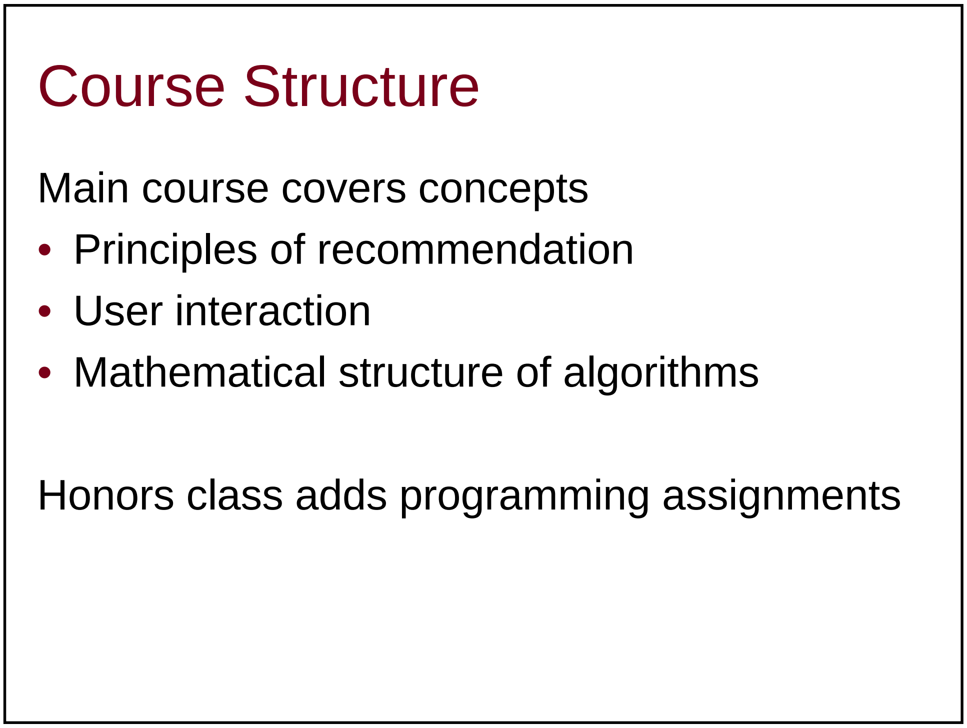


Introduction to the Honors Track



Course Structure

Main course covers concepts

- Principles of recommendation
- User interaction
- Mathematical structure of algorithms

Honors class adds programming assignments

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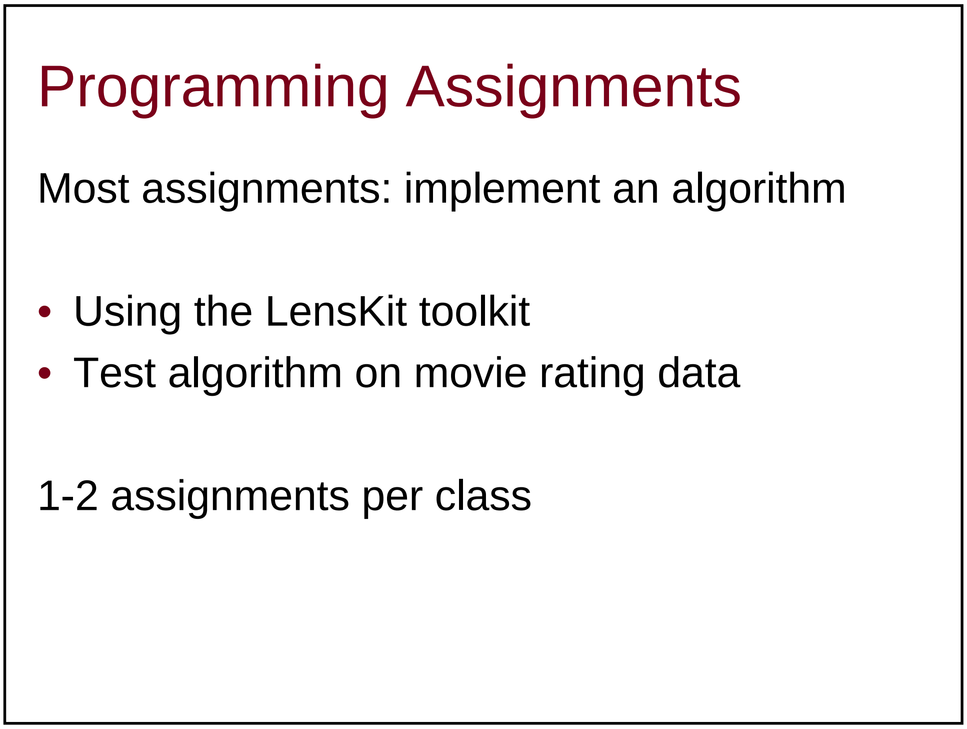
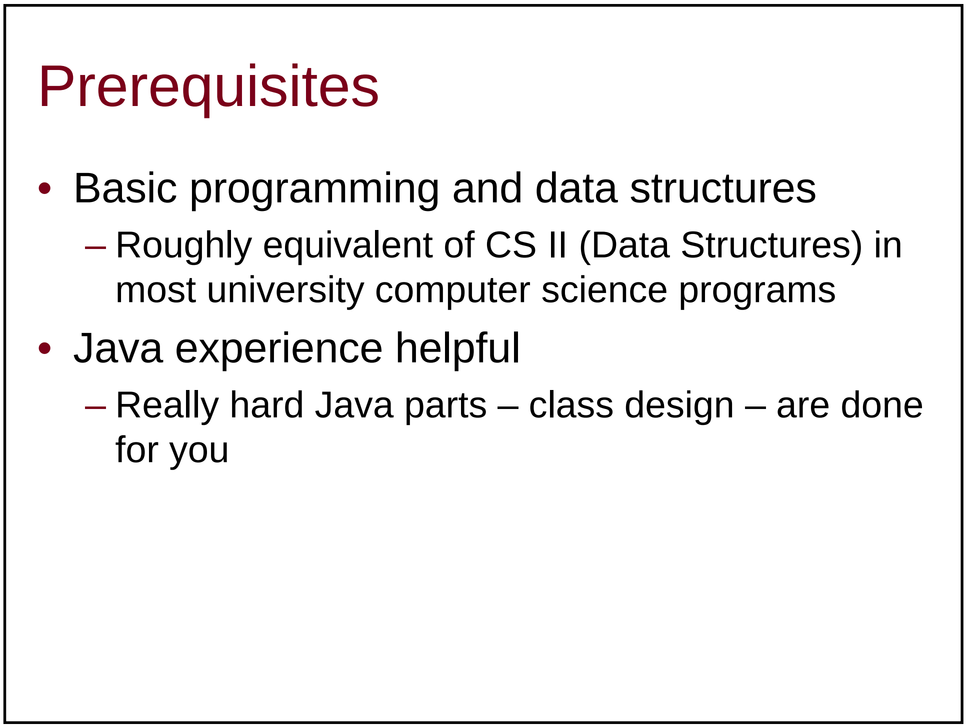


Programming Assignments

Most assignments: implement an algorithm

- Using the LensKit toolkit
- Test algorithm on movie rating data

1-2 assignments per class



Prerequisites

- Basic programming and data structures
  - Roughly equivalent of CS II (Data Structures) in most university computer science programs
- Java experience helpful
  - Really hard Java parts – class design – are done for you

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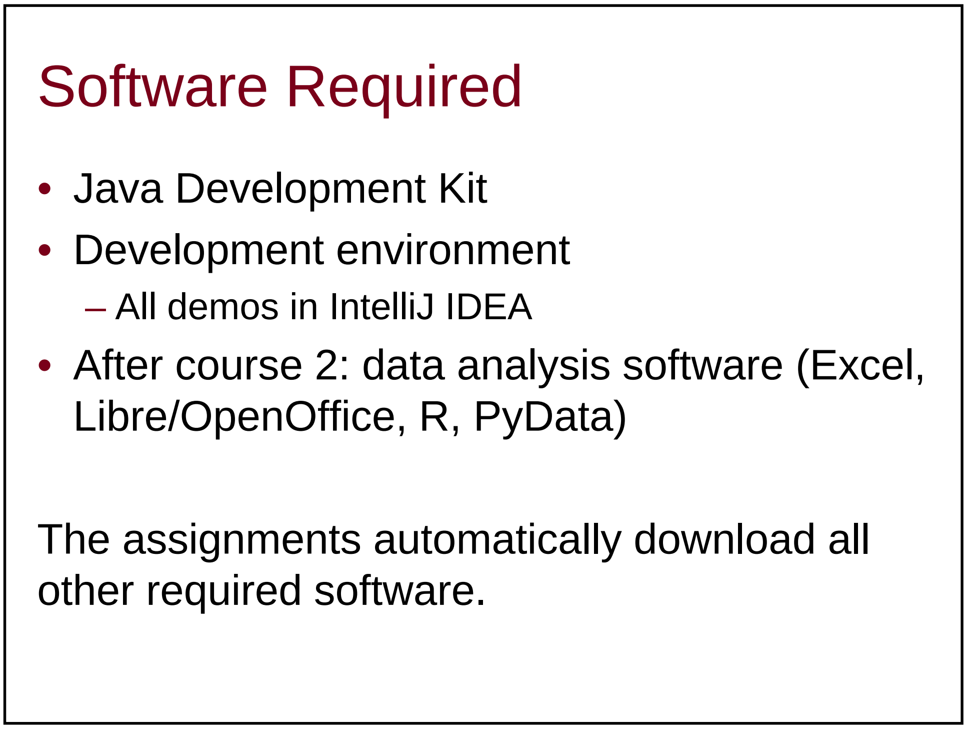
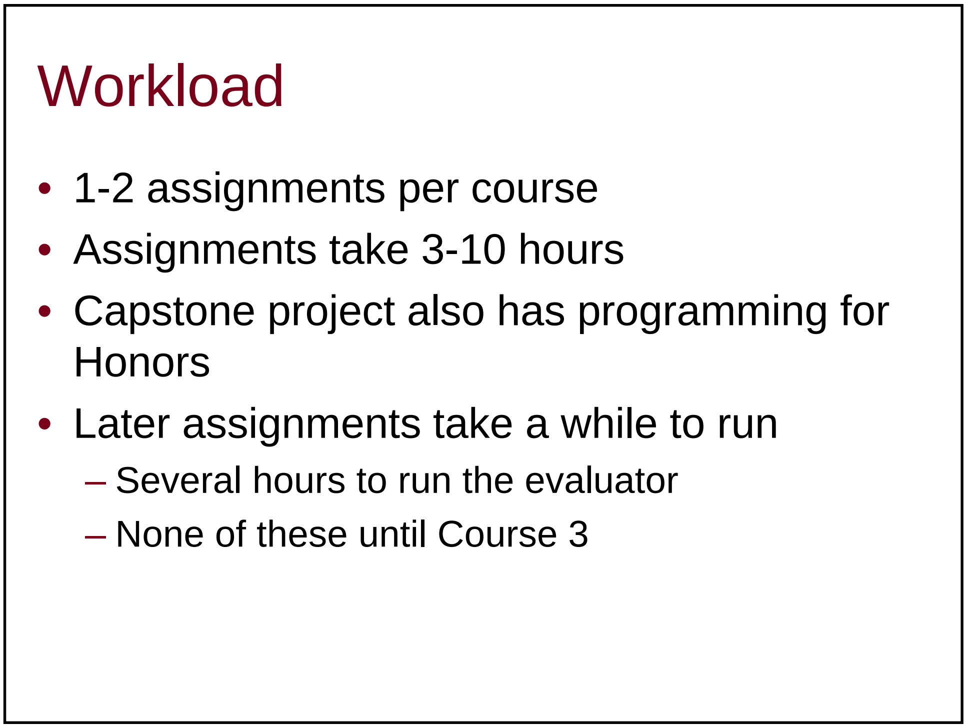


Software Required

- Java Development Kit
- Development environment
  - All demos in IntelliJ IDEA
- After course 2: data analysis software (Excel, Libre/OpenOffice, R, PyData)

The assignments automatically download all other required software.



Workload

- 1-2 assignments per course
- Assignments take 3-10 hours
- Capstone project also has programming for Honors
- Later assignments take a while to run
  - Several hours to run the evaluator
  - None of these until Course 3

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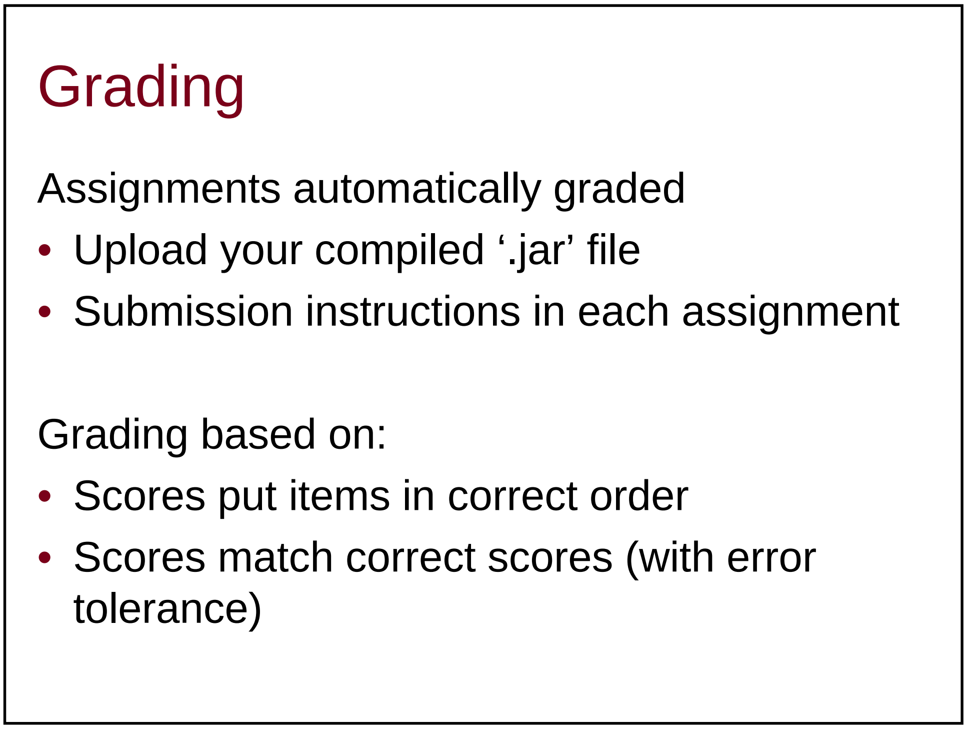


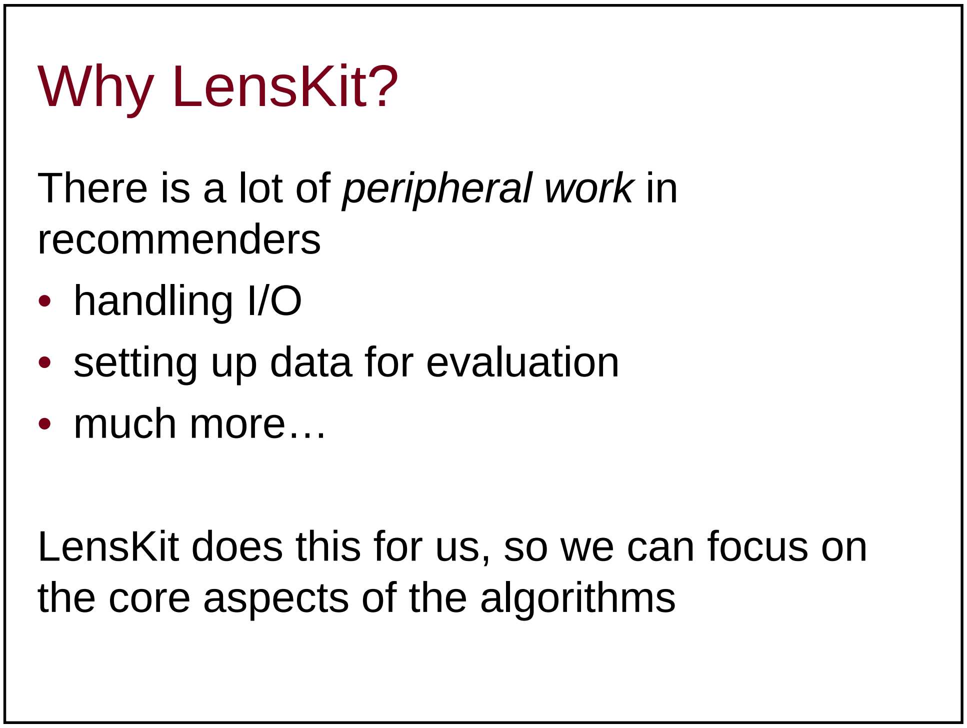
Grading

Assignments automatically graded

- Upload your compiled ‘.jar’ file
- Submission instructions in each assignment

Grading based on:

- Scores put items in correct order
- Scores match correct scores (with error tolerance)



Why LensKit?

There is a lot of *peripheral work* in recommenders

- handling I/O
- setting up data for evaluation
- much more…

LensKit does this for us, so we can focus on the core aspects of the algorithms

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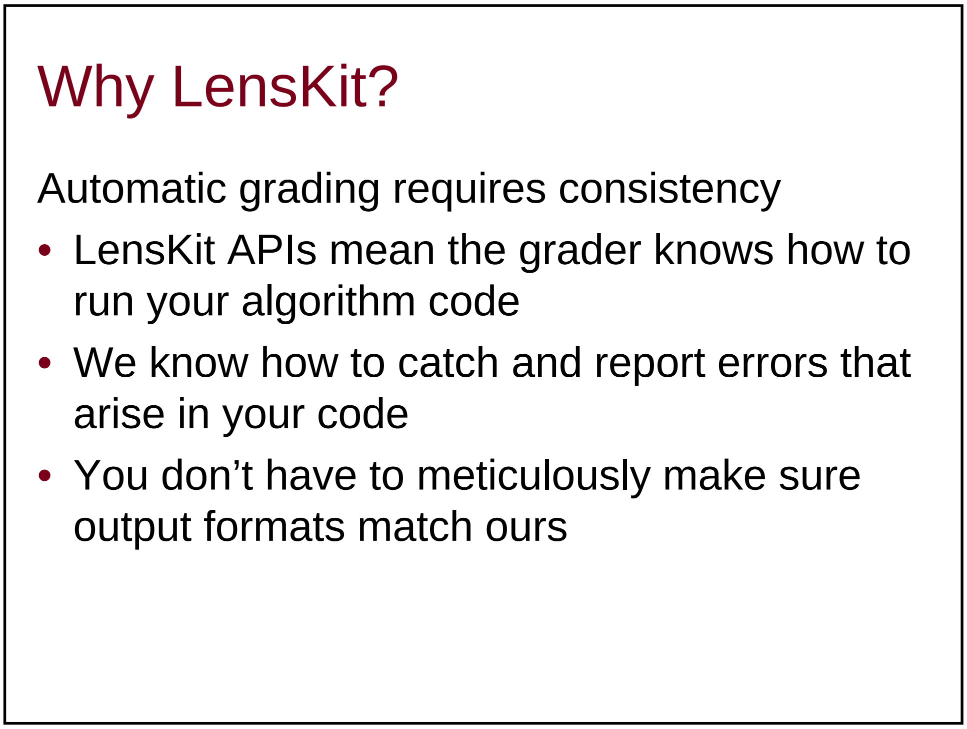
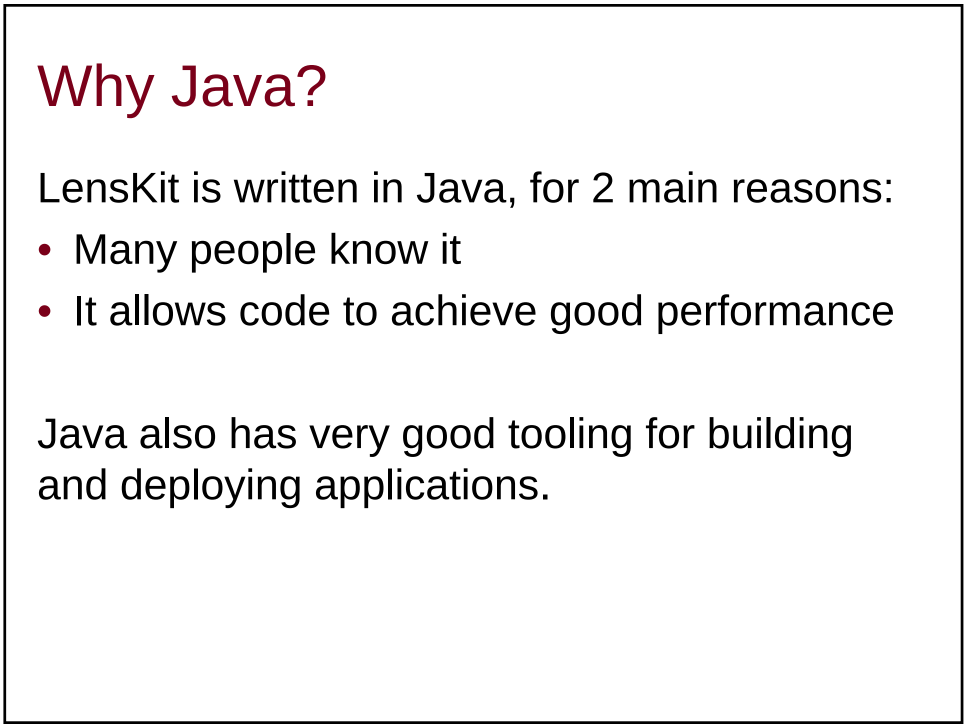


Why LensKit?

Automatic grading requires consistency

- LensKit APIs mean the grader knows how to run your algorithm code
- We know how to catch and report errors that arise in your code
- You don’t have to meticulously make sure output formats match ours



Why Java?

LensKit is written in Java, for 2 main reasons:

- Many people know it
- It allows code to achieve good performance

Java also has very good tooling for building and deploying applications.

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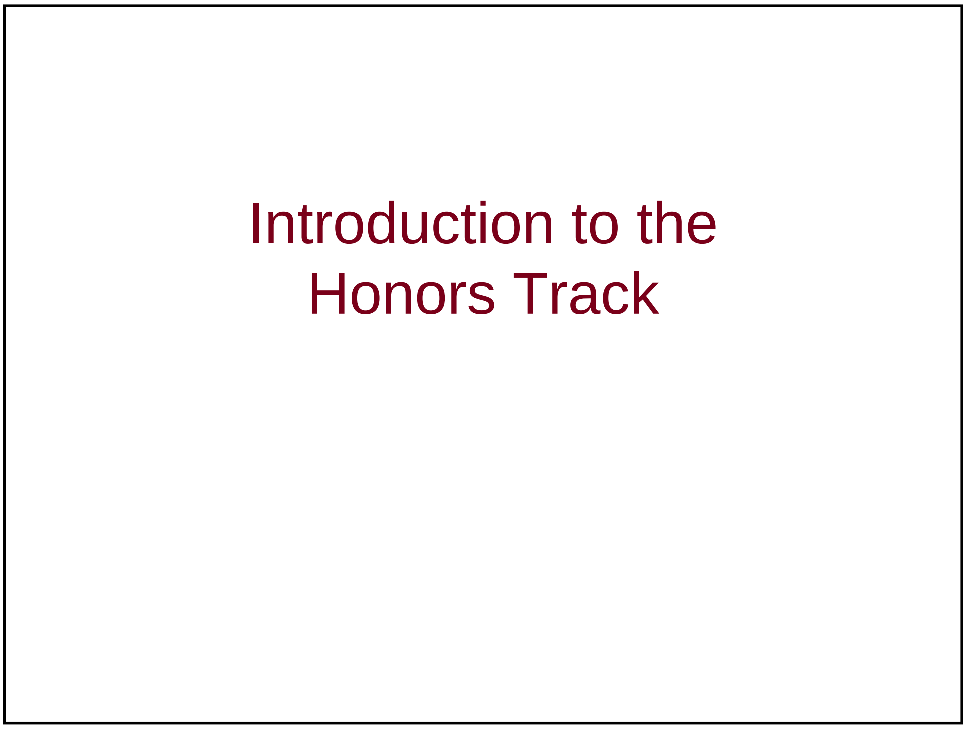

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