

ICS 32: Programming with Software Libraries

Lecturer Mark S Baldwin, PhD

TA Dandan Ren

TA Kazi Khurshidi Haque Dia

Agenda for Today

1. Course Background
2. Course Overview
3. Assignment Overview
4. Course Staff and Format

ICS 31 – ICS 32 – ICS 33

Agenda for Today

1. **Course Background**
2. Course Overview
3. Assignment Overview
4. Course Staff and Format

What you've learned so far...

Information and Operation

- Inputs, outputs, and managing intermediate results
- Structure and organization of the program

ICS 31 – ICS 32 – ICS 33

Agenda for Today

1. **Course Background**
2. Course Overview
3. Assignment Overview
4. Course Staff and Format

What you've learned so far...

Data Types

- Program data has a type...examples?
- Understand the rules for working with different types

ICS 31 – ICS 32 – ICS 33

Agenda for Today

1. **Course Background**
2. Course Overview
3. Assignment Overview
4. Course Staff and Format

What you've learned so far...

Functions

- How/when to write a function
- How to use function parameters

ICS 31 – ICS 32 – ICS 33

Agenda for Today

1. **Course Background**
2. Course Overview
3. Assignment Overview
4. Course Staff and Format

What you've learned so far...

Data Structures

- Structures for organizing and manipulating data
- Lists, sets, tuples, dictionaries, and the differences between each.

ICS 31 – ICS 32 – ICS 33

Agenda for Today

1. **Course Background**
2. Course Overview
3. Assignment Overview
4. Course Staff and Format

What you've learned so far...

Control Structures

- Conditional statements...?
- Loops...example?

ICS 31 – ICS 32 – ICS 33

Agenda for Today

1. **Course Background**
2. Course Overview
3. Assignment Overview
4. Course Staff and Format

What you've learned so far...

Abstraction

- ?

ICS 31 – ICS 32 – ICS 33

Agenda for Today

1. **Course Background**
2. Course Overview
3. Assignment Overview
4. Course Staff and Format

What you've learned so far...

Abstraction

- Hide complexity to simplify your code
- Support code reuse

ICS 31 – ICS 32 – ICS 33

What you will learn next...

Agenda for Today

1. Course Background
2. **Course Overview**
3. Assignment Overview
4. Course Staff and Format

Software Libraries

- A pre-existing codebase designed to solve a particular type of problem
- Designed to be used in your code to reduce programming work
- Examples?

ICS 31 – ICS 32 – ICS 33

Agenda for Today

1. Course Background
2. **Course Overview**
3. Assignment Overview
4. Course Staff and Format

What you will learn next...

Software Libraries

- Trade-offs of using a library?

ICS 31 – ICS 32 – ICS 33

What you will learn next...

Python Standard Library

Agenda for Today

1. Course Background
2. **Course Overview**
3. Assignment Overview
4. Course Staff and Format

ICS 31 – ICS 32 – ICS 33

What you will learn next...

Agenda for Today

1. Course Background
2. **Course Overview**
3. Assignment Overview
4. Course Staff and Format

Python Standard Library

- Calendaring
- File Management
- Compression
- Networking and Web
- Drawing
- Sounds

ICS 31 – ICS 32 – ICS 33

What you will learn next...

Agenda for Today

1. Course Background
2. **Course Overview**
3. Assignment Overview
4. Course Staff and Format

Building Real Programs

- Creating new objects with classes
- Handling errors
- Assembling classes and functions into programs
- Testing the functions, classes, and programs that you build

ICS 31 – ICS 32 – ICS 33

Agenda for Today

1. Course Background
2. **Course Overview**
3. Assignment Overview
4. Course Staff and Format

What you will learn next...

Final Thoughts

The assignments in this course are going to be challenging, and quite different from what you have experienced in previous courses.

ICS 31 – ICS 32 – ICS 33

Agenda for Today

1. Course Background
2. **Course Overview**
3. Assignment Overview
4. Course Staff and Format

What you will learn next...

Final Thoughts

Building real programs is complex and often not resolved through straightforward solutions.

If you are stuck, reach out early and often!

ICS 31 – ICS 32 – ICS 33

Agenda for Today

1. Course Background
2. Course Overview
3. **Assignment Overview**
4. Course Staff and Format

Assignment Overview

A0: Getting Started with Python

Due: Thu Oct. 8 by 11:59pm

2 pts

ICS 31 – ICS 32 – ICS 33

Agenda for Today

1. Course Background
2. Course Overview
3. **Assignment Overview**
4. Course Staff and Format

Assignment Overview

A1: File Explorer

Due: Fri Oct. 16 by 11:59pm

10 pts

ICS 31 – ICS 32 – ICS 33

Agenda for Today

1. Course Background
2. Course Overview
3. **Assignment Overview**
4. Course Staff and Format

Assignment Overview

A2: Chatting with Friends

Due: Fri Oct. 30 by 11:59pm

12 pts

ICS 31 – ICS 32 – ICS 33

Agenda for Today

1. Course Background
2. Course Overview
3. **Assignment Overview**
4. Course Staff and Format

Assignment Overview

A3: Extending the Platform

Due: Fri Nov. 13 by 11:59pm

12 pts

ICS 31 – ICS 32 – ICS 33

Agenda for Today

1. Course Background
2. Course Overview
3. **Assignment Overview**
4. Course Staff and Format

Assignment Overview

A4: Encrypting the Platform

Due: Fri Nov. 27 by 11:59pm

12 pts

ICS 31 – ICS 32 – ICS 33

Agenda for Today

1. Course Background
2. Course Overview
3. **Assignment Overview**
4. Course Staff and Format

Assignment Overview

A5: A Graphical User Interface

Due: Fri Dec. 11 by 11:59pm

12 pts

ICS 31 – ICS 32 – ICS 33

Agenda for Today

1. Course Background
2. Course Overview
3. **Assignment Overview**
4. Course Staff and Format

Project Overview

Paired project – partner up (same lab TA)!

Project Plan

Due: Mon Nov. 9 by 11:59pm

5 pts

ICS 31 – ICS 32 – ICS 33

Agenda for Today

1. Course Background
2. Course Overview
3. **Assignment Overview**
4. Course Staff and Format

Project Overview

Final Project

Due: Tue Dec. 15 by 11:59pm

(finals week)

30 pts

ICS 31 – ICS 32 – ICS 33

Agenda for Today

1. Course Background
2. Course Overview
3. **Assignment Overview**
4. Course Staff and Format

Course Participation

Attend 5 out of 8 live quiz participation

5 pts

Extra Credit:

- Attend all 8 – 1 pt
- Slack activity – 2 pt

Agenda for Today

1. Course Background
2. Course Overview
3. Assignment Overview
4. **Course Staff and Format**

Lecturer Mark S Baldwin, PhD

- Ph.D. Informatics,
University of California, Irvine 2020
- Master of Human-Computer Interaction,
Carnegie Mellon University 2013
- B.A. Computing,
DePaul University 2012
- Joined UCI Informatics in 2020
- Industry work:
Principal/Founder, Baldwin Technology Consulting,
2002-2012
Manager/Web Developer, BBDS Advertising, 1998-2002

Agenda for Today

1. Course Background
2. Course Overview
3. Assignment Overview
4. **Course Staff and Format**

TA Dandan Ren

- 3rd Year Ph.D. Electrical Engineering and Computer Science,
University of California, Irvine
- B.S. in Materials Science
- Interested in RF/Biosensor research

Agenda for Today

1. Course Background
2. Course Overview
3. Assignment Overview
4. **Course Staff and Format**

TA Kazi Khurshidi Haque Dia

- 3rd Year Ph.D. Electrical Engineering, University of California, Irvine
- B.S. & M.S. in Electrical and Electronic Engineering
- Interested in wearable technology and biosensors

Agenda for Today

1. Course Background
2. Course Overview
3. Assignment Overview
4. **Course Staff and Format**

Tutors

Brandon Takaki

ICS 32 Lab A1 TuTh 10:00-11:50

Arianna Vaezi

ICS 32 Lab A2 TuTh 12:00-1:50p

Christian Hoy

ICS 32 Lab A3 TuTh 2:00-3:50p

Ashwini Athreya

ICS 32 Lab A4 TuTh 8:00-9:50

Final Notes

- Canvas: Syllabus, zoom, lecture videos, and assignment submission
- Course Website: <https://ics32-fa20.markbaldw.in/>
 - Weekly notes
 - Links to slides, quiz results, lecture videos
 - Assignment overviews
- Socrative.com
 - Weekly quizzes
 - Live on zoom on Monday's
 - Graded on participation, not scores