Course Introduction

Professor Larry Heimann
Application Design & Development
Information Systems Program

Who am I? Who are you?

https://67272.cmuis.net

Course objectives

While *learning to build web-based applications*, you will:

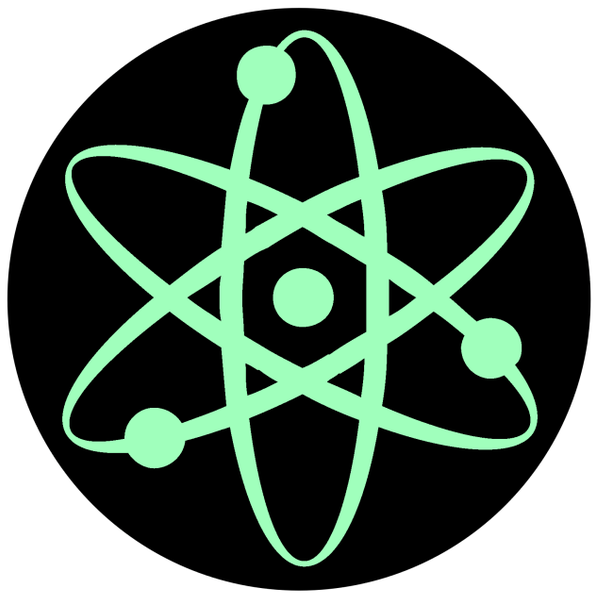
- Understand how to model data and translate those data models into working databases
- Become familiar with Model-View-Controller pattern in software architecture
- Understand why and how to do software testing
- Learn how to use source code control to manage project development
- Know and apply principles of user-centered design to the development of software

Project to study

Pittsburgh Animal Treatment Services

- [x] Can record visits, treatments
- [x] Can search and scan pet records
- [x] Can see pet's medical history
- [x] Can adjust prices on medicines

Project to build



Science Quizzing

- [x] Add students & teams to the system
- [x] Assign students to teams
- [x] Create matchups and record scores
- [x] Calculate the top teams & students

A lot of work ... worth the effort

I also wanted to say a big thank you for everything you taught me and everything you continue to do for the Information Systems department. The concepts you taught me have opened up some awesome opportunities for me already. I got to spend most of the summer working in Rails and working on some tough problems in the home lending industry. It was an intimidating project and every step of the way I was grateful for something I learned in 272 or in the project courses. Thank you for your guidance throughout the years!

Hope all is well!

Best,
Ryan

A lot of work ... worth the effort

"272 teaches foundational principles which I have been able to build a career off of as a professional web developer. The time spent engaged in a full-stack experience not only gave a thorough overview of the broadness of application development that prepared me for day-to-day work requirements, but also provided exposure to professional programming practices (such as good source-control and testing habits) that have helped elevate me above peers."

-- Jordan Stapinski, UI Engineer at MongoDB

A lot of work ... worth the effort

"Being able to grasp every detail of the SDLC from 272 has offered me a huge advantage in both technical and functional roles I've take on professionally – whether that was building an end-to-end HR solution for a summer internship, or bridging the gaps between designers, developers, and testers as a Deloitte contractor. It's been a clear strength I can flex in those client meetings and really helps me stand out among my peers."

-- Jake Bittner, Consultant at Deloitte

A lot of work ... worth the effort

"As a project manager at Apple, 67-272 gave me a great competitive edge to be able to bridge the gap between technical and non-technical audiences. 272 does not only teach technical implementation, but more importantly teaches the strategy behind problem solving in software development."

-- Patrick Dustman, project manager at Apple

A lot of work ... worth the effort

"The key differentiator for the Information Systems program at CMU is it truly intersects people, process and technology. 67-272 is a cornerstone to the IS curriculum and the technical foundation and proficiency I developed through the course has enabled me to stand out among my colleagues in the professional workplace. Without 67-272, the value of my IS degree would have deteriorated."

-- *Siddarth Sivakumar, Product Manager at McKinsey*

A lot of work ... worth the effort

"As an IS alum, I look back at 67-272 as one of the cornerstones of my time at CMU. In the course, Prof. H doesn't just teach a programming language or design tool, but rather a framework for approaching problems that can be applied to a variety of different situations. I can honestly say that the many hours (and late nights) spent working on this course were by far some of the most valuable ones of my academic career."

-- Sarah Reyes Franco, project manager at Apple

A lot of work ... worth the effort

"67-272 showcases a unique combination of time management, planning, design, and development that helped me to practice a wide variety of skills. 272 was the IS undergraduate class I found most valuable, most timely, and most akin to the work I do every day as a professional software engineer."

-- *Jonathan Hersh, Senior Software Engineer at Apple*

A lot of work ... worth the effort

"67-272 was a huge milestone in my college career. I believe the course provided me a very solid foundation that allows me to succeed at my current role (software engineer at Two Sigma). The course is quite rigorous, but teaches students all the right topics and how to approach solving technical problems."

-- Richard Huang, software engineer at Two Sigma

A lot of work ... worth the effort

"If 67-272 married the implementations of the age, she would be a widow in the next. By design, the course teaches students the principles, strategies, and problem solving techniques they will need to withstand the test of time in the tech industry. In my own career, while I've had to change tech stacks multiple times, I've seldom been questioned on the general approaches to application design and development - all things I learned way back in 272."

-- Conner Hanley, Front-end Engineer at Apple

A lot of work ... worth the effort

"The CS courses in our curriculum were important because they taught us how to code, but in 272 I learned how to apply my coding knowledge to build useful products. The information I learned in 272 prepared me for a career in software engineering. During job interviews, and even at work now, I refer back to knowledge I learned in 272 - it laid a strong technical foundation for me. I really can't stress enough how useful all of the information I learned in this class was to me and I think it's one of the reasons our IS program prepares us so well for industry and continues to rank highly."

-- Becca Kern, Software Engineer Capital One, Speaker at Grace Hopper

Learning to use Git