Beyond the Bachelor’s

Dr. Mitch Parry
Today’s presentation

● Why a Master’s degree in Computer Science?
● Requirements for the Master’s degree
● Accelerated admission
  ○ You can complete the Master’s degree in only one extra year!
● Project vs. Thesis
Why a Master’s Degree in Computer Science?

● Money
  ○ In 2021, Bureau of Labor and Statistics reported the median salary for Computer and Information Technology occupations to be $136,600 for those with a Master’s degree in Computer Science
    ■ This is $30,000 higher than the median salary for those with only a Bachelor’s in CS

● Opportunity
  ○ You’ll be more marketable and that Master’s Degree might help you get that dream job
  ○ 95% of our graduates are employed in the discipline within 6 months of graduation

● Experience
  ○ You’ll be better prepared for the workforce, and
  ○ Have better opportunity for advancement

● Funding
  ○ Almost all of our graduate students are funded
  ○ Assistantships cover in-state tuition plus $5000 living expenses
Requirements for the Master’s degree

- **Three Core Area Courses**
  - Design and Analysis of Algorithms
  - Operating Systems
  - Software Engineering

- **Nine hours in an approved concentration**
  - Data Science and Visual Computing
  - Systems
  - Theoretics
  - Web & Mobile

- **Thesis (9 hours) or Project (3 hours)**

- **Total of 36 hours of approved course work**

- **Time to degree: about 1.75 years**
Accelerated Master’s Program

● Up to twelve hours of graduate courses taken during senior year count toward undergraduate and graduate degrees
  ○ 36 - 12 = 24 hours remain to complete graduate degree
    ■ typically two semesters and a summer
● Application requirements are easier
  ○ GRE not required
● GPA must be a minimum 3.2 when in the undergraduate degree for the graduate courses to dual count
● Time to degree: about 1 year
Decelerated Master’s Program (those without CS degree)

- Tailored program of study depending on prior experience
- Programming proficiency: 11 hours in two semesters (or previous degree)
- About 15 hours of undergraduate CS prerequisites
- 36 hours graduate coursework (standard program)
- Time to degree: about 2.5-3.0 years depending on programming experience
- Students are eligible for assistantships once they succeed in undergraduate coursework
Project versus Thesis

- **Student chooses the project or thesis topic**
  - Faculty will often help guide this process

- **Typically both the project and the thesis will require the design and implementation of software**
  - However, sometimes the thesis topic requires the use of others’ software for experimentation and study

- **Thesis requires research and writing**
  - What is the related work?
  - What questions is the research trying to answer?
  - How does the research answer these questions?

- **Thesis often leads to a publication**

If your ultimate goal is a PhD in any area, the thesis will provide valuable insight into that process.
Recent Master’s Thesis

Derrick Wilson (May 2023) - Appal LOCATE: A Lost and Found Solution
Recent Master’s Thesis

Willow Sapphire (May 2022) - The Design and Implementation of a Teaching Wiki
Recent Master’s Project

Curt Bridgers (August 2023) - Towards Accurate Bee Arrival and Departure Counts Using Mixture of Gaussian Based Background Subtraction
Recent Master’s Project

Joe Graber (August 2022) - Jenkins for AppMAIS (Honey Bee Monitoring System)
Recent Master’s Project

Andrew Pobrica (May 2023) - Parallelization of inserting and extracting messages hidden in images
Department Fast Facts

- **Academic Programs**
  - Bachelor’s of Science, ABET accredited, 600 students, 110 graduates/yr
  - Master’s of Science, 25 students, 10 graduates/yr
  - Data Science Certificate, 30 students

- **Engaged Faculty**
  - 19 funded grants, > $5 million over last 7 years
  - 20 faculty members

- **Program began in mid 1970s, became department in 1998**
Questions?

- Also don’t forget to visit these rooms:
  - Undergraduate Program in room 310
    - Learn why you should get your Bachelor’s degree in CS here at App State
  - Reaching Higher in room 325
    - Earn an extra, highly marketable, credential in Data Science
    - Take graduate courses that can count toward the Master’s degree and graduating with honors
  - Student Success in room 327
    - Extra curricular activities help our students succeed!
    - Get the student perspective of our program!
  - Student Research Lab in room 312-W
    - See what research some of our students are working on!