Computer Science New Student Orientation Fall 2018

Mount Vernon Nazarene University

Dr. Robert Kasper

Computer Science Department Chair

People

Prof. Robert Kasper

CS1 Fall semester

Prof. Michael Robbeloth

CS2 Spring semester

Grant Dersom

Department Student Assistant

Sheryl Arden

School of Natural & Social Sciences (Regents 139)

Where could you go with a degree in Computer Science?

- **Todd Manion**
- Received MVNU's 2001 Service Above Self Award
- **Program Manager for Collaboration Technologies, Windows Networking Division at Microsoft** (Redmond, Washington)

Where could you go with a degree in Computer Science?

- **Nathan Figueroa**
- 2010 graduate from MVNU
- M.S. Computer Science, Miami University
- **Technical Sales Consultant with Guidewire Software** (Redwood City, CA)
- lives on campus at MVNU
- Adjunct Computer Science professor at MVNU!

Why learn Computer Science?

- Imagine a world without computers!
  - No laptops, smart phones, tablets
  - No web, online shopping, email, texting
  - No modern cars, airplanes
  - All paper banking, transactions
  - Contemporary life depends on technology developed by computer scientists…

Forbes Best Jobs in 2016

1. **Data Scientist**
2. Statistician
3. **Information Security Analyst**
4. Audiologist
5. Diagnostic Medical Sonographer
6. Mathematician
7. **Software Engineer**
8. **Computer Systems Analyst**
9. Speech Pathologist
10. Actuary

Forbes Best Jobs in 2018

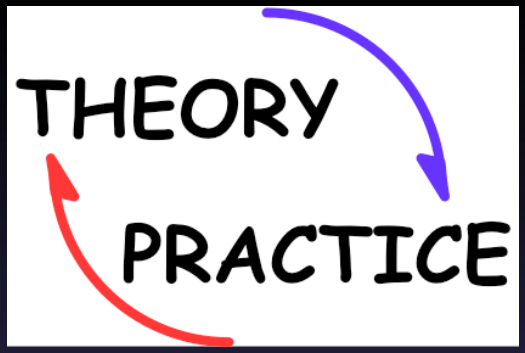
1. **Data Scientist**
2. **DevOps Engineer**
3. **Marketing Manager**
4. **Occupational Therapist**
5. **HR Manager**
6. **Electrical Engineer**
7. **Strategy Manager**
8. **Mobile Developer**
9. **Product Manager**
10. **Manufacturing Engineer**

Computer science is a field with great potential because

- It has applications in a huge variety of activities
- People are needed to turn good ideas into working systems
- It prepares you for a career in an area with high demand

What is Computer Science?

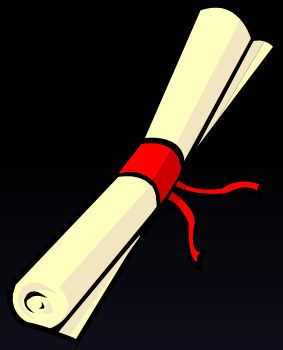
- **The theory of computation, algorithms and problem solving.**
- **How we make computers do the things that we want them to do**



- The design and creation of software systems that solve problems and provide useful services.
- The design and management of IT infrastructure for all kinds of organizations.

Computer Science at MVNU

- Three related majors
  - **B.S. in Computer Science (includes Math minor)**
  - **B.A. in Computer Science (choose any minor)**
  - **B.S. in Computer Systems and Network Engineering (choose any minor)**



What are possible jobs?

- **Computer Science major**
  - Software Developer
  - Software Engineer
  - Systems Analyst
  - Web/Mobile Application developer
  - Software system testing and maintenance
  - Software Project Manager

What are possible jobs?

- **Computer Systems and Network Engineering major**
  - Network Engineer
  - IT system administrator
  - Database server/website administrator
  - IT director/manager

Bachelors Degree Course Requirements

- All 3 majors start with the same courses in the first year
  - Fall: Computer Science 1
  - Spring: Computer Science 2, Elementary Discrete Math

- View/download requirements for each major at http://cs.mvnu.edu/
- Select CS Wiki → Degree Requirements
  → Major Requirements Checklists

Getting off to a good start

College level learning is different from high school

- Less reliance on memorizing facts and more emphasis on understanding principles, problem solving, application, analysis and evaluation of information
- More self-directed learning is expected
  - High School: about 30 hours/week in classes
    - **10-15 hours homework outside class**
  - College: about 15 hours/week in classes
    - **30 hours expected outside class**
- Classes move more quickly to new topics
- Projects may extend over a longer period of time
- Cultivate your intellectual curiosity, desire to figure out "how stuff works"

Develop good habits

- Consistent class attendance and active participation
- Preparation for class
  - assigned readings and questions/problems
  - generally plan on at ***least*** two (2) hours of quality study for each hour in class

- For larger assignments, such as programming projects
  - discover questions that need to be asked before the assignment is due
  - work on it over a few days, instead of one marathon session

Places

- Computer Science Offices: LLRC 037
- Computer Science Labs
  - LLRC 038: 30 Windows desktop systems
    - used for classes that involve programming and software development
    - computers may be used during library hours when there are no classes; save your work on network or USB drive!
    - Personal laptops may also be used for many assignments after you have installed the appropriate software
  - LLRC 036: "advanced lab"; used for computer networking and classes that need special equipment for projects

Working with Professors

- **Don't be afraid to develop relationships with professors**
  - **We are here to help you learn.**
  - **We want you to succeed.**
  - **We are interested in discussing your vocational plans.**
  - **You can find information many places on the internet, but you have an opportunity to grow with people here in more significant ways.**

- Ultimately, **you** are responsible for real learning.
  We are here to guide you, and share our experience,
  but your active participation and practice is required to
  become a proficient Computer Scientist.

Academic Advising

- You have been assigned a faculty advisor, and will schedule a meeting by email in the middle of fall semester to discuss your goals and make adjustments as needed to your course schedule for spring.

- Contact your faculty advisor whenever you need to change your courses or discuss your plans.

- If you change majors, you will be assigned a new advisor in that academic area.

Advising: Course Schedules

- **full time students may take 12-18 credit hours each semester**
- **need to average about 15 credit hours per semester to graduate in 4 years (total 120 credits)**
- **It is possible to change classes by contacting your advisor between the time when you first register and the semester begins**
- After classes begin, a *Class Schedule Change Form* (a.k.a. Drop/Add Form) must be submitted to the registrar's office.
  - Last day to add a class: September 5
  - Last day to drop a class without W on transcript: September 7
  - Last day to withdraw from a class (without failure): October 23
  - Remember that there may be significant financial consequences if you drop courses and are left with less than 12 credit hours.