“Career Day”
at
Mishawaka High School

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Mishawaka, Indiana 46544
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Careers in Computer Science

By

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www.cs.iusb.edu
What do Computer Scientists do?

- Write Programs (solve problems!)
- Design Systems
- Design Databases
- Design Computer Networks
- Consult (Help others solve their problems)
- Teach and Research

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Typical Work Day

For a Programmer:

- Learn about specific programming languages, computers and operating systems

- Communicate with System Analysts and other programmers (work in a team)

- Write, Test and Document programs

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Typical Work Day

For a System Analyst:

- Read trade magazines and **keep up with new information**

- Interview users and **collect facts**
  - Identify and understand their problems
  - Develop solutions for their problems

- **Communicate** with customers and programmers
Typical Work Day

For a Professor:

- Preparation for class:
  - Read books, papers, journals
  - Prepare lecture
  - Develop good examples to explain the concepts
  - Grade assignments
  - Develop new assignments and tests
- Meet with students (office hours, class and laboratory)
- Meet with other professors and administrators
- Do research

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Computer Scientist’s Tools…

- **Computers** (Workstations or powerful PC’s)
- **Programming Languages** (Basic, C++, Java, etc.)
- **A Toolbox Full of Stuff**
  - Set of pre-fabricated algorithms & data structures
  - Building Blocks for developing systems
- **4GL’s** (Powerful and easy to use tools for designing new applications)
- **CASE Tools** (Computer Aided Software Engineering)
How Long Do I Have to Study?

**Formal Education:**
- Bachelor of Science (4 years)
- Associate of Science (2 Years)
- Certificate Programs (4 to 6 courses in CS, about 2 years)

**Informal Education:**
- Attend Seminars and Conferences
- Studying on your own

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The Good Life…

- Excellent opportunities for travel
- Excellent opportunities for promotion
- Phenomenal job growth (According to BLS, Information Technology jobs will double in the next 10 years)
How can I prepare myself?

• Take as many Computer Science, Mathematics and English courses as you can before starting college.

• Play as many video games as your parents allow you to play, however think about the following:
  • How do objects move on the screen?
  • How do the scenes change so fast?
  • How does the joystick or the game console work?
  • How does the video game keep track of your score?
  • How would you improve the game?

• Improve your language and communication skills

• Learn to work in teams (Learn to lead and to follow)
Where do I find more information?

- [www.cs.iusb.edu](http://www.cs.iusb.edu)  (Computer Science Department’s home page)
- [info@cs.iusb.edu](mailto:info@cs.iusb.edu)  (Send us an e-mail)
- Your high school Guidance Counselor
- Your high school and local libraries
- IUSB library
Computer Science at IUSB…

- IUSB has been offering degrees in computer science since 1983.
- IUSB is the only public institution in the region (60 miles radius) equipped to offer quality undergraduate and graduate programs in computer science, information systems and informatics.
- We have over 240 other students majoring in computer science.
- Our class sizes average around 20 students, and almost never exceeding 30.
- We have 8 full time faculty with Ph.D. degrees in computer science or closely related areas.
- We offer courses in South Bend, Elkhart and Plymouth campuses.
- Our programs are based on the recommendations of the ACM and IEEE.
- Our faculty conduct research in a number of areas in computer science, including artificial intelligence, computer graphics, computer networks, algorithms, software engineering and database systems.
- Our alumni have nearly 100% placement.
- Typical salary for our new graduates in the region is approximately $40,000 to $45,000.
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