ENGL 105 Poetry and Magic

Ancient Celtic texts--Irish and Welsh--associate the poet with powerful magic--shape-shifting, access to the other-world, and visions of transcendent authority and truth. Plato, in his famous condemnation of poetry in The Republic, also associates poetry with magic, but with magic as con game or sleight-of-hand trick. This course will use Plato and the Celtic texts to establish a theoretical framework for reading and interpreting the representation of poetry and magic in a variety of literary works from the Middle Ages to the twentieth century. The goal of the course is to develop effective reading and writing strategies for works of different genres and time periods. Reading will include ...

ENGL 154 New American Fiction

The goal of this course is to teach you how to write a clear, well-argued, and interesting analytical paper. We will spend most of our class time actively engaged in a variety of techniques to improve your critical reasoning and analytical skills, both written and oral. Though the skills you learn will be applicable to other disciplines, and a central purpose of the course is to improve all aspects of your writing, this is a literature class, designed partly to prepare you for upper level courses in the English Department, so we will, therefore, spend equal time on the interpretation of literature, in this case, contemporary American fiction, examining the very, very recent (last ten to twenty years) developments in American fiction. We will read short stories and novels by writers such as ...
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CSCI 134

This course introduces fundamental ideas in computer science and builds skills in the design, implementation, and testing of computer programs. Students implement algorithms in the Java programming language with a strong focus on constructing correct, understandable, and efficient programs. Students explore the material through specific application areas. Topics covered include object-oriented programming, control structures, arrays, recursion, and event-driven programming. This course is appropriate for all students who want to create software and have little or no prior computing experience.
A digital revolution has transformed the way we communicate and process information. Digital cameras have replaced film, MP3s have replaced LPs, DVDs have replaced analog VCR tapes, and communications through email, chat systems, and the Web have become part of daily life. This course explores the principles that underly such digital information processing and communication systems.

We will examine digital techniques for representing information. How can a beam of light traveling through an optical fiber represent a sequence of 0s and 1s? How can numeric data capture the tones we hear when we listen to a digital recording? As we explore these questions we will examine the tradeoffs involved in the design of schemes for representing information.

All digital information processing and communication systems are driven by precise rules or algorithms expressed as computer programs. We will develop an appreciation for the nature and limitations of such algorithms by exploring abstract algorithms for complex processes and by learning the basics of computer programming in Java. Topics covered include object-oriented programming, control structures, arrays, recursion, and event-driven programming. Programming projects will include network applications like chat clients, tools to process and compress digital images, and simple network servers. While the programming assignments for the course will focus on the application of programming to communication, the programming skills students develop will be applicable in many other areas.
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Why Computer Science?
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CS For All

Computer Science for All is the President’s bold new initiative to empower all American students from kindergarten through high school to learn computer science and be equipped with the computational thinking skills they need to be creators in the digital economy, not just consumers, and to be active citizens in our technology-driven world. Our economy is rapidly shifting, and both educators and business leaders are increasingly recognizing that computer science (CS) is a “new basic” skill necessary for economic opportunity and social mobility.
Why Digital Communication?
Pope Francis: The internet is a 'gift from God'

The pontiff also said new technology can be used to build bridges between different cultures and religions
AT&T wants to turn your car into a WiFi hotspot

By Brian Fung  September 8 at 3:07 PM  Follow @b fung

Cal State data breach hits nearly 80,000 students

By the Associated Press  September 8 at 2:17 PM

Clinton's evolving stance on her private e-mail server

During an interview with ABC News, Hillary Clinton apologized for using a private e-mail system while she was secretary of state.
Why Programming?
Why Programming?

Everybody in this country should learn to program a computer... because it teaches you how to think

Steve Jobs, co-founder and CEO of Apple Inc. (1955 - 2011)
“I think everybody in this country should learn how to program a computer, should learn a computer language, because it teaches you how to think. It's like going to law school, I don't think anyone should be a lawyer, but I think going to law school would actually be useful because it teaches you how to think in a certain way. So I view computer science as a liberal art, it should be something that everybody learns”
GOALS

- Understand what the discipline of Computer Science is about

- Develop programming skills
  - As beneficial mental exercise
  - For practical use
  - As prerequisite to studying computer science

- Understand complex technology that is economically and socially important
Syllabus = [www.cs.williams.edu/~cs134](http://www.cs.williams.edu/~cs134)

Instructors – Jeannie Albrecht & Tom Murtagh

Hoping to add CS 134?

Placement – 134 vs. 135; 134 vs. 136

Text and other readings – in 1st lab + on web page

Exams (Final + Evening Midterm – 3/17)

Homeworks – not quite weekly

Labs (TCL 217), details will be discussed in lab

Honor Code (will be discussed in lab)
Digital Communication and Computation
This game is set up to demonstrate the capabilities of an Analog Computer.

Speed and angle are set by each player and presented to the computer in the form of voltages as the stroke button is depressed.

The computer plots the path of the ball against time and displays its position on the “Scope.”

Limiting conditions of court and net etc. illustrate the technique used in instructing the computer to operate only within specified limits.

The computer is capable of much faster operation, but is programmed to operate at a pace which the eye may follow.
William "Willy" A. Higinbotham (October 25, 1910 – November 10, 1994) was an American physicist. A member of the team that developed the first nuclear bomb, he later became a leader in the nonproliferation movement. He also has a place in the history of video games for his 1958 creation of Tennis for Two, the first interactive analog computer game and one of the first electronic games to use a graphical display.

Early life

Higinbotham was born in Bridgeport, Connecticut, and grew up in Caledonia, New York. His father was a minister in the Presbyterian Church. He earned his undergraduate degree from Williams College in 1932 and continued his studies at Cornell University.[1] He worked on the radar system at MIT from 1941 to 1943.[2]
This game is set up to demonstrate the capabilities of an Analog Computer.

Speed and angle are set by each player and presented to the computer in the form of voltages as the stroke button is depressed.

The computer plots the path of the ball against time and displays its position on the "Scope".

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ALPHABETS?

ABCDEFGHIJKLMNOPQRSTUVWXYZ

0123456789

♩ ♪ ♫ ♬ ♭ ♯ ♩
Say It in Hawaiian:
Pî-ã-pã (Alphabet)
| A ⇔ a a | N ⇔ e a |
| B ⇔ a e | O ⇔ e e |
| C ⇔ a i | P ⇔ e i |
| D ⇔ a o | Q ⇔ e o |
| E ⇔ a u | R ⇔ e u |
| F ⇔ a h | S ⇔ e h |
| G ⇔ a k | T ⇔ e k |
| H ⇔ a l | U ⇔ e l |
| I ⇔ a m | V ⇔ e m |
| J ⇔ a n | W ⇔ e n |
| K ⇔ a p | X ⇔ e p |
| L ⇔ a w | Y ⇔ e w |
| M ⇔ a ` | Z ⇔ e ` |

What is aieeen?

What is a eiaaaaiiaa?
ENCODING ONE ALPHABET USING ANOTHER

A ⇔ 1 0  N ⇔ 2 3
B ⇔ 1 1  O ⇔ 2 4
C ⇔ 1 2  P ⇔ 2 5
D ⇔ 1 3  Q ⇔ 2 6
E ⇔ 1 4  R ⇔ 2 7
F ⇔ 1 5  S ⇔ 2 8
G ⇔ 1 6  T ⇔ 2 9
H ⇔ 1 7  U ⇔ 3 0
I ⇔ 1 8  V ⇔ 3 1
J ⇔ 1 9  W ⇔ 3 2
K ⇔ 2 0  X ⇔ 3 3
L ⇔ 2 1  Y ⇔ 3 4
M ⇔ 2 2  Z ⇔ 3 5

What is 122432?
## Encoding One Alphabet Using Another

<table>
<thead>
<tr>
<th>Letter</th>
<th>Binary Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0 0 0 0 0</td>
</tr>
<tr>
<td>B</td>
<td>0 0 0 0 1</td>
</tr>
<tr>
<td>C</td>
<td>0 0 0 1 0</td>
</tr>
<tr>
<td>D</td>
<td>0 0 0 1 1</td>
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<tr>
<td>E</td>
<td>0 0 1 0 0</td>
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<tr>
<td>F</td>
<td>0 0 1 0 1</td>
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<tr>
<td>G</td>
<td>0 0 1 1 0</td>
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<tr>
<td>H</td>
<td>0 0 1 1 1</td>
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<tr>
<td>I</td>
<td>0 1 0 0 0</td>
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<tr>
<td>Y</td>
<td>1 1 0 0 0</td>
</tr>
<tr>
<td>Z</td>
<td>1 1 0 0 1</td>
</tr>
</tbody>
</table>

What is

```
0 0 0 1 0
0 1 1 1 0
1 0 1 1 0
```
Digital Computers as Translators
Computers as automated switchboards