Description: A first course for students interested in computer programming, which involves solving problems by designing, implementing, and testing algorithms. Implementation will be done in opensource object-oriented languages. Emphasis throughout the course is on problem solving and learning to develop computer programs that are readable, well-documented, efficient, cross-platform and correct. Students will also be introduced to Internet applications. (Three hours lecture and two hours lab per week.)

Prerequisite: None

Texts: None

**Introduction to Programming**

**Object-Oriented Design & Programming**
Top-down design. Class and Method Definitions, Program Design with Methods, Fundamental instructions, Objects, control flow.

**Control Flow & Data Structures**
Loops & repetition. If statements and branching, Lists and Arrays.

**Internet Applications and Graphics**
Introduction to web programming. Integrating web pages and programs.

**Event Programming**
Handling mouse clicks and key presses.

**Testing**

**EVALUATION**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programs (Designs &amp; Implementations)</td>
<td>30 - 40%</td>
</tr>
<tr>
<td>Labs</td>
<td>10 - 20%</td>
</tr>
<tr>
<td>Tests</td>
<td>30 - 45%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20 - 25%</td>
</tr>
</tbody>
</table>

WAC: Program design and documentation of programs require extensive writing that meets the writing across the curriculum goal of the university.