

Advising Students Interested in Computers and Programming

Both courses described below assume no prior knowledge of programming, they do not have pre-reqs, and any student may take them.

CSCI 1101 Introduction to Computer Science	DCS 1100 Introduction to Digital & Computational Studies
Introduction to problem solving and algorithmic thinking using computer programming. Provides tools and skills that can be used in any discipline. (Note: class is required for CSCI majors and minors, unless they place out.)	Survey course for an emerging field that uses the analytical tools of the liberal arts to study the influence of computational and digital artifacts on cultural expression, behaviors, and the physical environment and the reverse: how the liberal arts can influence the design of those artifacts.
<p>Topics</p> <ul style="list-style-type: none"> • Problem solving • Algorithm design • Fundamentals of programming 	<p>Topics</p> <ul style="list-style-type: none"> • The 4As analytical framework • Hyper-personalization of network spaces • Text analysis with large data sets
<p>High-level Questions</p> <ul style="list-style-type: none"> • How do we analyze problems as computational thinkers? • How do we design, implement, and effectively communicate algorithms to solve problems? • How do we evaluate the results of the algorithms we design? 	<p>High-level Questions</p> <ul style="list-style-type: none"> • What are personal or societal consequences of algorithm design? • How can we imagine alternatives to existing algorithms?
<p>Example Activities</p> <ul style="list-style-type: none"> • Draw pictures with code • Build a simple language translator • Create a program that grades exams for you 	<p>Example Activities</p> <ul style="list-style-type: none"> • Map Wikipedia to evaluate networked knowledge structures • Explore polarization in political texts • Revise a resume sorting algorithm • Explore bias in Google's auto-complete feature
<p>Technology Used</p> <ul style="list-style-type: none"> • Programming in Python 	<p>Technology Used</p> <ul style="list-style-type: none"> • Conversational Python • Copy-and-paste text analysis platform Voyant Tools • Network analysis software Gephi