Images of Computing

COURSE REVIEW
"While there are likely many factors that contribute to the low interest in computer science, we believe that misperceptions and negative images play a significant role. Image is important. As long as teenagers believe that computer science is boring, difficult, antisocial, or doesn’t have much impact on solving the world’s problems, they’re unlikely to choose it for their future.”


“There is no doubt that there is a tremendous demand for students with computing skills. Indeed, vast shortfalls in information technology workers in the coming decade have been predicted."

[Computer Science Curricula 2013, p.3]

"(T)here is a pressing need to broaden participation in the study of computer science and attract the full range of talent to the field, regardless of ethnicity, gender, or economic status. Institutions should make efforts to bring a wide range of students into the computer science pipeline and provide support structures to help all students successfully complete their programs."

[Computer Science Curricula 2013, p.47]
Course Description (from web site)

In this research and action based course we will explore computing from a cultural perspective and look in particular at the images of computing. We will examine how the field is represented in the popular culture of the USA and how such representations might affect public attitudes, access to resources and understanding of computer science. We will reflect on some issues often taken for granted e.g. are our attitudes to computing culturally specific? Is computing and its workforce perceived and represented differently in cultures from around the world? Do computer scientists have a role to play in shaping perceptions of computing?

This course is aimed primarily at students who are interested in exploring some of the broad issues of computer science and who would like to direct their interests towards creative outreach activities, thus also gaining experience in teamwork, teaching and presenting. We will use academic papers, web sites, group discussion/debate and popular media. Findings from our investigations will inspire the action component in which student teams develop and implement a public outreach presentation aimed at re-presenting the exciting field of computer science with broad appeal in mind.
Images and Participation

- Participation
- **Mis/Perceptions** of:
  - Who Fits Computer Science
  - Careers in Computing
  - The Field Itself
Images and Participation

- Participation
- **Broaden Images** of:
  - Who Fits Computer Science
  - Careers in Computing
  - The Field Itself
Images of Computer Science/Computing in popular culture are often absent or negative or stereotypical.

Stereotypes predominate and can be misleading even harmful.

In CS, stereotypes do not accurately represent the field or those in it.

Images and the meanings we create work on both conscious and unconscious levels: awareness is first step to change.

The cultural divide between humanities and the sciences affects CS participation and sense of fitting the field or not.

Images play a role in encouraging/discouraging participation.

Data shows few K-12 students are exposed to CS which contributes to and some communities in the USA being underrepresented in the field.

This is a cultural issue: research evidence suggests computer science is perceived differently in some cultures, contributing to different levels of participation.

USA is falling behind in terms of education in CS and in terms of educating students to work in the field, many jobs go unfilled.