

Key Skills for Computer Science

Lecture 1: Introduction

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What are Key Skills?

- The aim of this module is to give you to skills that:
 - you can *benefit* from
 - are not computing-specific.
- So:
 - what skills do you need to succeed?
 - what makes a *successful* employee?

Group Exercise - Part 1

- Divide yourselves into groups of five
- Choose one of the group to be a rapporteur
- For 10 minutes, brainstorm in the group about *what attributes make a successful employee*
 - the rapporteur should keep track

Group Exercise - Part 2

- Once you have a list of attributes, divide them into no more than 4 categories of similar attributes
- For example, if you have “hard working” and “attention to detail” as attributes, then you might put these in the same category

Skill One:

Scientific Thinking

- The *scientific method* is the key to the world's development over the past two hundred years.
- It isn't just about doing science... it's about understanding
 - *why things happen*
 - *how to make things happen*
- We aim to give you an understanding of:
 - *the scientific method* and
 - *how to apply the scientific method.*

Skill Two: Reasoning & Argument

- In your job, you will often have to make *arguments*...
 - *why did this software fail?*
 - *why should you fund my project?*
 - *how should we allocate this year's budget?*
 - *which public services should we cut to save money?*
 - *which product should we buy?*
 - *why should I get a pay rise?*

Skill Two: Reasoning & Argument

- Occasionally, these will be *scientific* arguments, often involving *logical reasoning*
- More often, arguments must be fuzzier, based on:
competing viewpoints; partial information; unclear criteria; ...
- We want you to understand *how to make arguments effectively*, which involves:
logical reasoning; argument; rhetoric

Skill Three: Writing

- These skills are of no value unless you can use them by *communicating effectively*.
- We will therefore study *how to write*:
 - structure; content; style; technicalities; ...
 - with particular emphasis on *technical writing*.

Skill Four: Presenting

- Presentations are a fundamental part of work life nowadays
- And yet many presentations are boring, uninformative, badly put together
- We will look at what makes a good presentation and some basic presentation skills

Applying Key Skills

- We teach you these skills for a reason
- We teach you these skills because they are *valuable*
- If you learn them, you will benefit: in your degree, and afterwards
 - *You are more likely to succeed if you learn & apply these skills*
- Start *now*!