

# COM6905

## Research Methods and Professional Issues

### Lecture 3: Ethics & Risk



# Logistics: Lectures

Lectures: 1hr per week (*Wed 12:00-12:50*)

- **Lecture 1 (12<sup>th</sup> Feb): *Project Management (PW)***
- Lecture 2 (**19<sup>th</sup> Feb**): *Finding & Referencing Information (EH)*
- Lecture 3 (**26<sup>th</sup> Feb**): *Risk & Ethics (PW)*  
*[4<sup>th</sup>, 11<sup>th</sup> March – No COM6905 lectures (moved to 18<sup>th</sup>/25<sup>th</sup>)]*
- Lecture 4 (**18<sup>th</sup> March**): *Academic Writing (ML)* –
- Lecture 5 (**25<sup>th</sup> March**): *Intellectual Property & Contracts (RM)*
- Lecture 6 (**Mid/end August**): *Preparing & Presenting a Poster (PW)*



**Emily Herron**



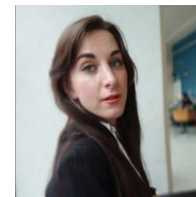
*University Library*

**Mark Lawrence**



*ELTC*

**Ruth Mallalieu**



*Scholarly Communications  
Licensing Manager*

**GUEST  
LECTURES**



The  
University  
Of  
Sheffield.

# Recap: COM6905

<https://www.sheffield.ac.uk/dcs/postgraduate-taught>

**COM 6905 is 15 Credit CORE MODULE for:**

MSc Advanced Computer Science

MSc Advanced Software Engineering

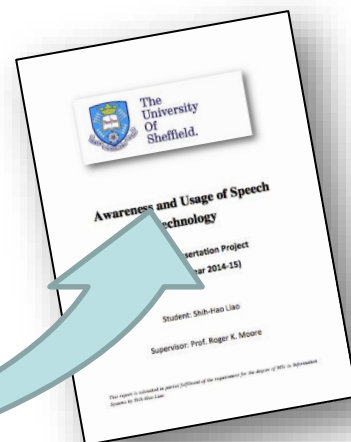
MSc Computer Science with Speech and Language Processing

**Now**



*MSc  
Dissertation  
project title*

# How?



**16<sup>th</sup> Sept 2020**

- Help you prepare well for MSc dissertation (good technical work & **professional report**; tips & techniques to succeed).
- More generally: background and professional issues that arise in industry/academia.

# Logistics: COM9605 Assessment

- **Assessment 1**

- peer review exercise (*worth 20%*)

(looking at previous dissertations and commenting on quality using skills developed during course)

Release: **Wed 18<sup>th</sup> March 2020** (*after Lecture 4*)

hand-in: **Wed 1 April 2020** (*via MOLE*)

## **Assessment 2:**

project background report (*worth 80% of COM6905*)

Release: **Wed 12 Feb 2020**

hand-in **Wed 20 May 2020**, 3pm (*via MOLE*)



# Latex

**COM6905 - Project Background Report Instructions**

Enabled: Statistics Tracking

Attached Files:

- COM6905\_Background\_Report\_Instructions.pdf (80.541 KB)
- COM6905\_Background\_Report\_Template.pdf (299.833 KB)
- overleaf\_latex\_template\_background\_report.zip (153.31 KB)

Instructions for project background report for COM6905 (worth 80% of marks for this module).

**Please read carefully.**

A latex template for the report is attached. Use of this LaTeX template to produce your background report for COM6905 (and final dissertation for COM6906) is strongly encouraged.

[LaTeX](https://www.latex-project.org/) (<https://www.latex-project.org/>) is a profession document-processing system. Using LaTeX's companion program BibTeX also makes citations much easier to use and format correctly - it does the formatting for you.

To use the latex template, you can:

- use an online Latex editor, e.g. [Overleaf](https://www.overleaf.com/for/authors) (<https://www.overleaf.com/for/authors>). Once registered for overleaf, create a 'New Project' and upload the attached zipfile.

Alternatively, if you want to install latex on your PC/laptop:

- Windows users can download everything they need in a single package from the [proTeXt](http://www.tug.org/protext/) web site (<http://www.tug.org/protext/>)
- Mac users from [Tex Live](http://www.tug.org/texlive/) <http://www.tug.org/texlive/>. It should take around an afternoon to teach yourself the basics.

Who has read the COM6905 report instructions?

Who has used latex (Overleaf)?

Who has complied the template to produce a template report ?

Who has edited the template ?





Who has obtained a copy of the recommended textbook ?

Ebook or softcopy: <https://www.springer.com/gb/book/9781447166382>

Google search: 'Writing for computer science Zobel pdf'



# Risks & Ethics: Relevance for MSc Project

Assessment 2:  
project background report  
(worth 80% of COM6905)

## Project Background Report (worth 80% of module assessment)

Dr. Paul Watton  
Department of Computer Science, University of Sheffield

### Introduction and Aims

The aim of this project background report is to help you prepare for the summer MSc project. The main component of the report is an extensive literature survey (or similar technology/mathematical survey for certain types of project). In addition, the report should contain a clear presentation of what the project is aiming to achieve, and a description of the work done so far. It should also include a detailed plan, including consideration of how risk will be managed during the project.

You will receive feedback on this report from your supervisor and second marker, which will help you to prepare your final MSc dissertation. Much of what is written for this report will probably be reused in a modified form in the final dissertation.

You are strongly advised to submit a draft of your report to your supervisor two weeks before the hand-in date for comment; experience shows that this is the best way of avoiding common pitfalls.

### Report Structure

The report should be no more than 20 pages long, not including references and appendices. The font size should be 11pt or 12pt. Use of the ~~LaTeX~~ template provided on MOLE is **strongly encouraged**.

There is some flexibility regarding the structure of the report, depending on the requirements of your particular project. The following structure will suit most projects; please discuss with your supervisor if you want to deviate from it. Please note that sections on risk analysis and ethical/legal issues are necessary to satisfy BCS accreditation requirements, and **must** be included.



|                           |  |
|---------------------------|--|
| <b>Title page</b>         | Title, name, supervisor, module code, date, and the following statement: <i>This report is submitted in partial fulfilment of the requirement for the degree of [Degree Title] by [Full Name].</i>   |
| <b>Signed declaration</b> | The second page should be the following signed declaration:<br><i>All sentences or passages quoted in this report from other people's work have been specifically acknowledged by clear cross-referencing to author, work and page(s). Any illustrations that are not the work of the author of this report have been used with the explicit permission of the originator and are specifically acknowledged.</i> |

### Max 20 pages

Abstract; Contents

Chapter 1: Introduction

Chapter 2: Literature Survey

Chapter 3: Analysis

Chapter 4: Planning

Chapter 5: Conclusions

References & Appendices

**COM6905 Research Methods and Professional Issues**  
Spring Semester 2017–2018

**Project Background Report**  
(worth 80% of module assessment)

Dr. Paul Watton  
Department of Computer Science, University of Sheffield

**Introduction and Aims**

The aim of this project. The n technology/mat contain a clear j work done so fi will be managed

You will receive help you to prei probably be neu

You are strong before the hanc common pitfalls

**Report Structure**

The report sho The font size s strongly encou

There is some requirements c please discuss v on risk analys requirements, a



Title page

Signed declaration

## Chapter 3: Analysis

Detail the aims and objectives of your project and analyse individual parts in detail.

**Subsection: Ethical, Professional and Legal Issues associated with project.**

A clearly-labelled subsection in this chapter should address ethical, professional and legal issues associated with the project:

(Max 20 pages)

Abstract; Contents

Chapter 1: Introduction

Chapter 2: Literature Survey

**Chapter 3: Analysis**

Chapter 4: Planning

Chapter 5: Conclusions

References & Appendices



## Project Background Report (worth 80% of module assessment)

Dr. Paul Watton

Department of Computer Science, University of Sheffield

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### Report Structure

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## Chapter 4: Planning (Risk Analysis and Work Plan)

This chapter should:

- **begin with an analysis of risk in the project**; include a risk assessment and indicate how risks will be managed (e.g., prototyping, contingency planning).
- give a detailed plan of work, including a Gantt chart and a brief description of each activity in the work breakdown structure.

(Max 20 pages)  
Abstract; Contents  
Chapter 1: Introduction  
Chapter 2: Literature Survey  
Chapter 3: Analysis  
**Chapter 4: Planning**  
Chapter 5: Conclusions  
References & Appendices

# Risk



## What do we mean by Risk?

# Risks & Hazards

- A **hazard** is something that might go wrong

Piece of equipment  
bursts into flames

- A **risk** is any threat to the achievement of a project goal
- A risk involves ...
  - A hazard
  - the likelihood that a hazard will occur
  - the (negative) consequences and impact that the hazard will have if it occurs

# Types of Hazards in MSc Projects

## Startup

- failure to understand the requirements
- failure to understand the constraints

## Planning

- incomplete or unworkable plan
- omission of a key task
- overlooked dependencies between tasks
- under/overestimation of the time to complete tasks

## Implementation

- insufficient contact with supervisor
- failure to monitor progress
- failure to update plans
- ineffectual methodology



# Analysing & Managing Risk



## Risk analysis:

- identification
  - *list all the hazards that can affect the project*
- estimation
  - *assess the likelihood and impact of each hazard*
- evaluation
  - *rank and prioritise the risks to manage*

## Risk management:

- contingency plans (a provision for a possible event)
- prototyping early sample/model/release of a product built to test a concept or process or to act as a thing to be replicated or learned from.
- monitoring
- control

# Identifying Risks

## Generic Risks

- common to all projects

## Specific Risks

- specific to your project
- obtain suggestions from your supervisor
- consider risks for completion of each task in your plan





# Risk Register

A **risk register** for a project is a numbered list of risks, which identifies for each ...

- what the hazard is
- likelihood and impact of hazard
- what can be done to manage it

Risks are commonly stated using **condition-transition-consequence** (CTC) format

Given that *<condition>* then there is a concern that (possibly) *<consequence>*

*<condition>* is a description of the current conditions (or hazard) prompting concern

*<consequence>* is a description of the potential outcome

Gluch, D. P. (1994) *A construct for describing software development risks*. Software Engineering Institute, Pittsburgh, PA CMU/SEI-94-TR-14.



# Example Risks: (*CTC format*)

<condition/hazard>

<consequence>

Given that *the graphical user interface (GUI) must be coded using Tcl/Tk and I do not have experience of using Tcl/Tk* then there is a concern that (possibly) *the GUI will not be completed on time and will be inefficient*

Given that *the required equipment has not yet been purchased* then there is a concern that (possibly) *it will not be delivered in time and I will not meet the deadline*

Given that *no-one has run this experiment before* then there is a concern that (possibly) *the results may not be as expected*

Gluch, D. P. (1994) *A construct for describing software development risks*.  
Software Engineering Institute, Pittsburgh, PA CMU/SEI-94-TR-14.

# Example Risks: (short-hand CTC format)

Given that *the graphical user interface (GUI) must be coded using Tcl/Tk and I do not have experience of using Tcl/Tk* then there is a concern that (possibly) *the GUI will not be completed on time and will be inefficient*

*The graphical user interface (GUI) must be coded using Tcl/Tk and I do not have experience of using Tcl/Tk; the GUI may not be completed on time and may be inefficient*

Given that *the required equipment has not yet been purchased* then there is a concern that (possibly) *it will not be delivered in time and I will not meet the deadline*

*The required equipment has not yet been purchased; it may not be delivered in time and I might not meet the deadline*

Given that *no-one has run this experiment before* then there is a concern that (possibly) *the results may not be as expected*

*No-one has run this experiment before; the results may not be as expected*

# Quantifying Risk:

## Exposure, Likelihood, impact

### Likelihood

|   |   |
|---|---|
| 1 | Very unlikely: probably safe to ignore the hazard     |
| 2 | Unlikely: the hazard will probably not arise          |
| 3 | Likely: the hazard probably will arise, but may not   |
| 4 | Very likely: the hazard is almost guaranteed to arise |

### Impact

|   |   |
|---|---|
| 1 | Negligible effects on cost or time        |
| 2 | Some cost or time penalty for the project |
| 3 | Expensive in cost or time                 |
| 4 | Threatens the whole project               |

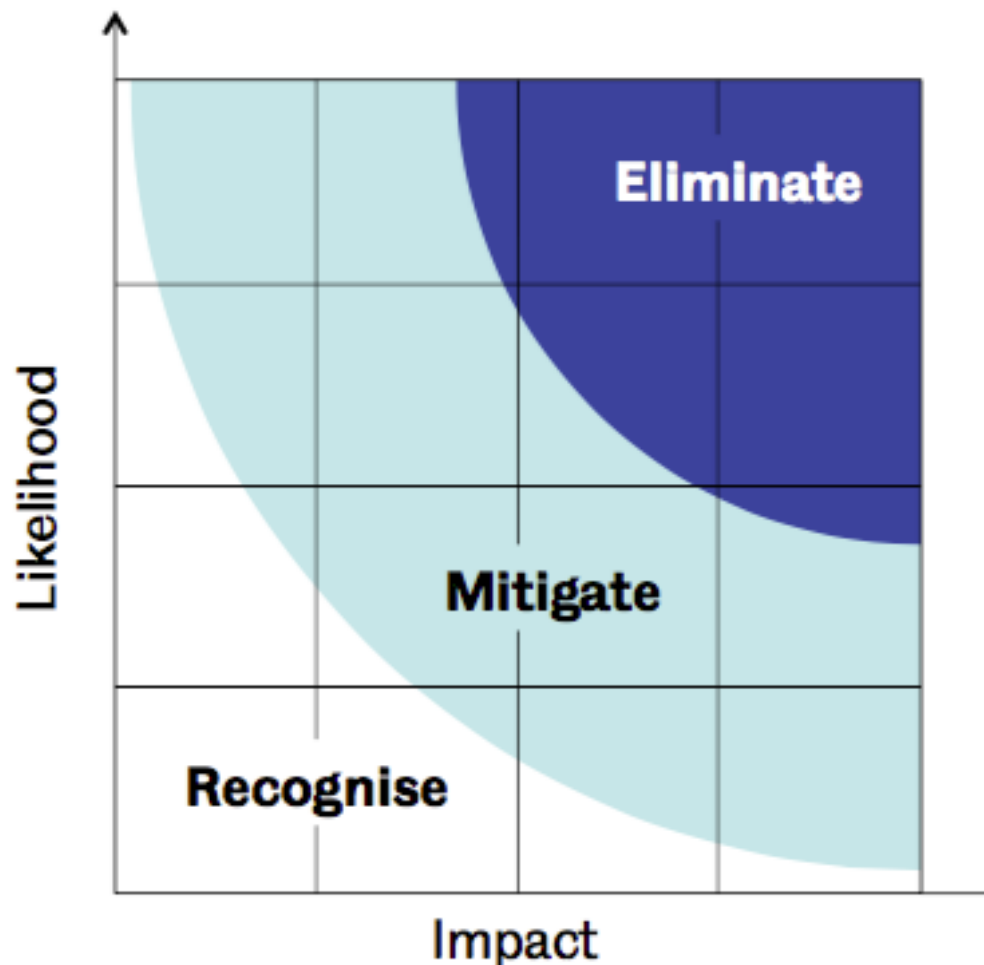
**Risk Exposure** takes into account risk likelihood and risk impact

$$\text{Exposure} = \text{Likelihood} \times \text{Impact}$$



# Prioritising Risks:

Eliminate, Mitigate, Recognise



Risks with high  
Exposure:  
**Eliminate**

Risks with  
moderate  
exposure:  
**Mitigate**  
(make plans to  
reduce impact)

Risks with low  
exposure:  
**Recognise.**

# Managing Risk

## Hazard prevention

- e.g. risk of your supervisor being unavailable can be prevented by scheduling meetings early

## Likelihood reduction

- e.g. likelihood of late changes to requirements can be reduced by prototyping

## Risk avoidance

- e.g. avoid project overrun by reducing functionality or increasing duration estimates

## Risk transfer

- e.g. impact of risks can be transferred away from the project by contracting out or insurance

## Contingency planning

- some risks are not preventable, so draw up plans to reduce impact should hazard occur, e.g. taking backups, using version control





CTC  
format

# Example Risk Register

Ranked by  
exposure

| Rank | Hazard/Impact  | Likelihood | Impact | Exposure | Action |
|------|--|------------|--------|----------|--------|
| 1    | Client changes requirements; may lead to delay in completing project |            |        |          |        |
| 2    | High performance requirements; they may not be achievable            |            |        |          |        |
| 3    | Uncertainty about the GUI required; may require redesign             |            |        |          |        |
| 4    | Novel hardware may not work; project cannot be completed             |            |        |          |        |



***(NB: Include a table like this in your MSc Dissertation background report)!!!***

# Exercise: Making a Cup of Tea



| Rank | Hazard/Impact | Likelihood | Impact | Exposure | Action |
|------|---------------|------------|--------|----------|--------|
|      |               |            |        |          |        |
|      |               |            |        |          |        |
|      |               |            |        |          |        |
|      |               |            |        |          |        |



# Exercise: Making a Cup of Tea

## Likelihood

|   |   |
|---|---|
| 1 | Very unlikely: probably safe to ignore the hazard     |
| 2 | Unlikely: the hazard will probably not arise          |
| 3 | Likely: the hazard probably will arise, but may not   |
| 4 | Very likely: the hazard is almost guaranteed to arise |

## Impact

|   |   |
|---|---|
| 1 | Negligible effects on cost or time        |
| 2 | Some cost or time penalty for the project |
| 3 | Expensive in cost or time                 |
| 4 | Threatens the whole project               |



# Exercise: Making a Cup of Tea

| Rank | Hazard | Likelihood | Impact | Exposure | Action |
|------|--------|------------|--------|----------|--------|
| 1    |        |            |        |          |        |
| 2    |        |            |        |          |        |
| 3    |        |            |        |          |        |
| 4    |        |            |        |          |        |
| 5    |        |            |        |          |        |

# Exercise: Making a Cup of Tea



| Rank | Risk  | Likelihood | Impact | Exposure | Action  |
|------|---|------------|--------|----------|---|
| 1    | Hot water could be spilled from kettle; leading to burns          | 2          | 2      | 4        | Take care when lifting and pouring from the hot kettle        |
| 2    | Hot tea could spill on clothes; causing burns or staining clothes | 2          | 2      | 4        | Sit down when drinking tea; don't overfill the cup            |
| 3    | Incorrectly plugging and turning on kettle; causing shock         | 1          | 3      | 3        | Make sure that hands are dry, and plug in before switching on |
| 4    | Kettle could boil over; causing burns                             | 1          | 2      | 2        | Ensure that kettle is filled no higher than maximum level     |



# Top 10 Risks in Student Projects



| Risk item  | Risk management technique   |
|--|---|
| Overriding other people's work, not having the latest versions of code | Use a version control system effectively  |
| Lack of exposure to and/or experience with technologies                | Take time to learn tools and technologies, seek help from teaching staff                    |
| Being overwhelmed by work in other classes                             | Have a project management plan with deadlines and ownership, update it frequently           |
| Common meeting times   | Determine all possible common times to meet based on class schedules and other commitments  |
| Requirements understanding   | Meet with, e-mail, or phone customer  |
| Lack of communication  | Set up a group web page, group e-mail accounts, trade instant messaging IDs, meet regularly |
| Project organization   | Assign each team member a role, break down work in project management plan                  |
| Loss of a team member  | Effective use of version control, pair programming  |
| Difficulty integrating work  | Increase communication, integrate often   |
| Planning taking up too much time                                       | Don't get more detailed than necessary with the planning                                    |





# Top 10 Risks in the Software Industry



| Risk item  | Risk management technique  |
|--|--|
| Personnel shortfall  | Staffing with top talent, job matching, team building, key personnel agreements, cross training                |
| Unrealistic schedules and budgets  | Detailed milestone cost and schedule estimation, design to cost, incremental development, software reuse       |
| Developing the wrong functions and properties                                    | Organizational analysis, mission analysis, user surveys, user participation, prototyping, early users' manuals |
| Developing the wrong user interface  | Prototyping, scenarios, task analysis, user participation  |
| Gold-plating (e.g. implementing "neat features" not asked for by customer)       | Requirements scrubbing, prototyping, cost-benefit analysis, designing to cost                                  |
| Continuing stream of requirements changes  | High change threshold information hiding, incremental development (deferring changes to later increments)      |
| Shortfalls in externally-furnished components (e.g. component reuse)             | Benchmarking, inspections, reference checking, compatibility analysis  |
| Shortfalls in externally performed tasks (e.g. worked performed by a contractor) | Reference checking, pre-award audits, award-fee contracts, competitive design or prototyping, team building    |
| Real-time performance shortfalls   | Simulation, benchmarking, modeling, prototyping, instrumentation, tuning                                       |
| Straining computer science capabilities  | Technical analysis, cost-benefit analysis, prototyping, reference checking                                     |



# Ethics



# Ethics



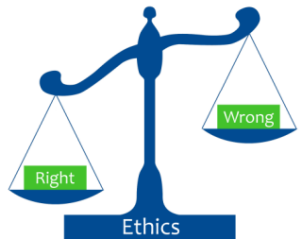
What do we mean by Ethics ?

What is the relevance for Computer Science ?

# Ethics



‘**Ethics**’ concerns the discussion of assumptions about *right vs. wrong*, *good vs. evil*, *virtue vs vice*, *justice and crime* considered as general ideas and applied in society and the private life of individuals



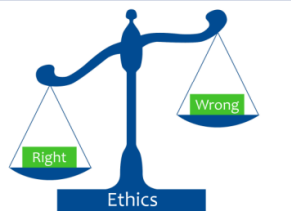
‘**Professional Ethics**’ means issues of right and wrong and good and bad as applied to the behaviour of individuals within a particular profession (*e.g. computer science*)

Your MSc project is a piece of science, and science is based on trust:

- scientists are expected to be honest
- research is assumed to be undertaken ethically

e.g. Don't make up results, steal/copy other work

# Ethical Issues in Computer Science



- Privacy

Mobile phone: GPS tracking – do you want people to know where you are all of the time? Potential for ethical misuse of this data.

- Data confidentiality

Banks/Companies hold personal data - we expect it to be held securely put potential for misuse.

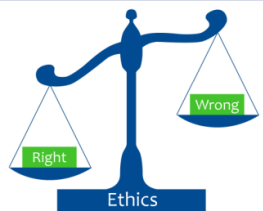
- Computer misuse

Hacking – opportunity for people who are not ethical to take advantage.

- Intellectual property

- Information owned by someone. Everything on internet is owned by somebody. So if you grab something off the internet you are taking it from someone (stealing).

# Ethical Issues in Computer Science



- AI/decision making

Autonomous cars: what happens if there is an accident ? Who is Responsible - the car manufacturer or the person who wrote the software ?

- Software theft

Software has an owner, it can be stolen. Just like property theft is considered unethical so is computer software.

- Military applications

ethical issues if techniques find way into military

- Computer Crime

Hacking/Virus/Ransom

- Responsibility for computer errors

Who is responsible ?



# Ethics in Computer Science

## How do ethical problems arise?

- computers alter relationships between people



Vs Email (e.g. email – is it secure ?  
Receiver gets it; who else ?)

- power that can be abused

(e.g. people have access to data: financial, personal. We expect them to be ethical)

- the nature of electronic information

(rapid copying, plagiarism, eavesdropping, invasion of privacy)

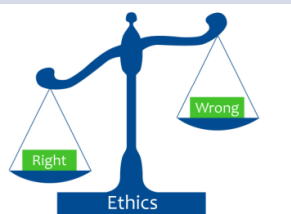
- society is vulnerable

(general public & clients often don't understand  
how computer systems work & risks)



- conflict between obligations to society, employers, clients and other professionals

(GOOD/BAD - not clear cut – grey areas.  
conflicting viewpoints on ethics. Debate/discussion)



# Professional Codes of Conduct

Professional associations have codes of conduct. By signing up to an association you are agreeing to their codes of conduct.

Older professions, such as medicine and law, have had centuries to establish their codes of ethical conduct

Computing is a new field, so the profession has not had the time or organisational capability to establish a binding ethical code on all its members

A number of professional computing organisations have ethical codes:

- British Computer Society (BCS)
- Association for Computing Machinery (ACM)
- Institute of Electrical & Electronics Engineers (IEEE)

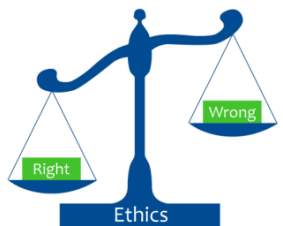


# MSc Project: Ethical Issues

- Research integrity

May require  
ethical approval

- safeguard human participants
- protect confidential personal data



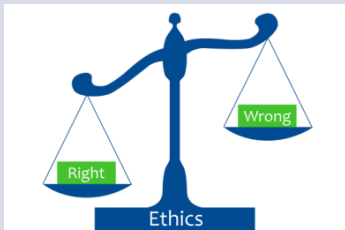
- Unfair means

Can lead to  
disciplinary action  
and expulsion

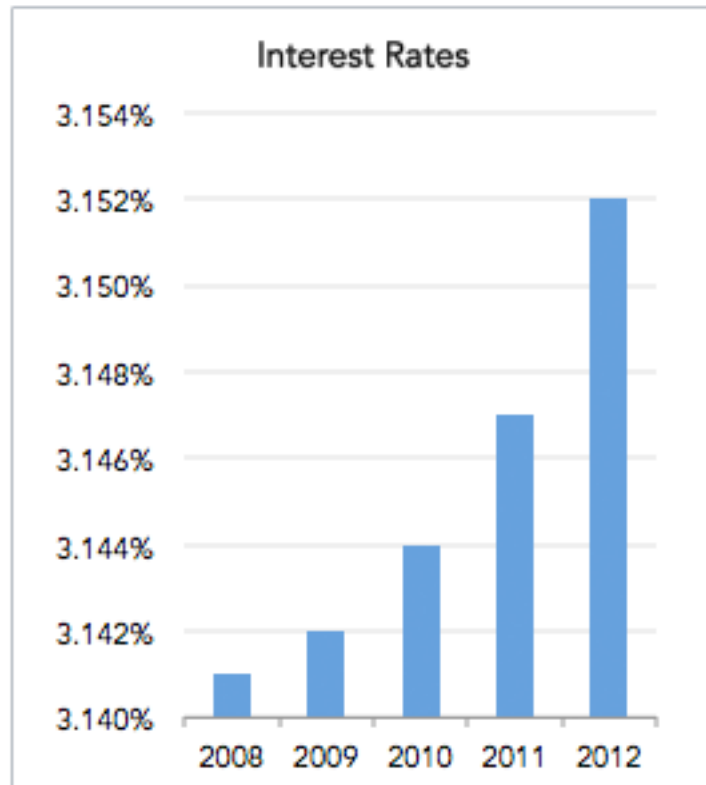
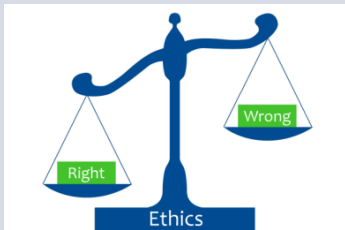
- plagiarism
- collusion/sharing
- misrepresentation

# Unfair Means

- **Plagiarism:** “*The act of presenting another’s work or idea as one’s own*”
  - copying a paragraph because you don’t think it can be improved upon
  - using an illustration from the internet without permission from (*or giving credit to*) the author
  - contract cheating
- **Misrepresentation**
  - fraudulent or exaggerated claims
  - inaccurate or cherry picked data
  - misleading presentation of data
  - inadequate detail to allow results to be reproduced
  - failing to report unsuccessful experiments



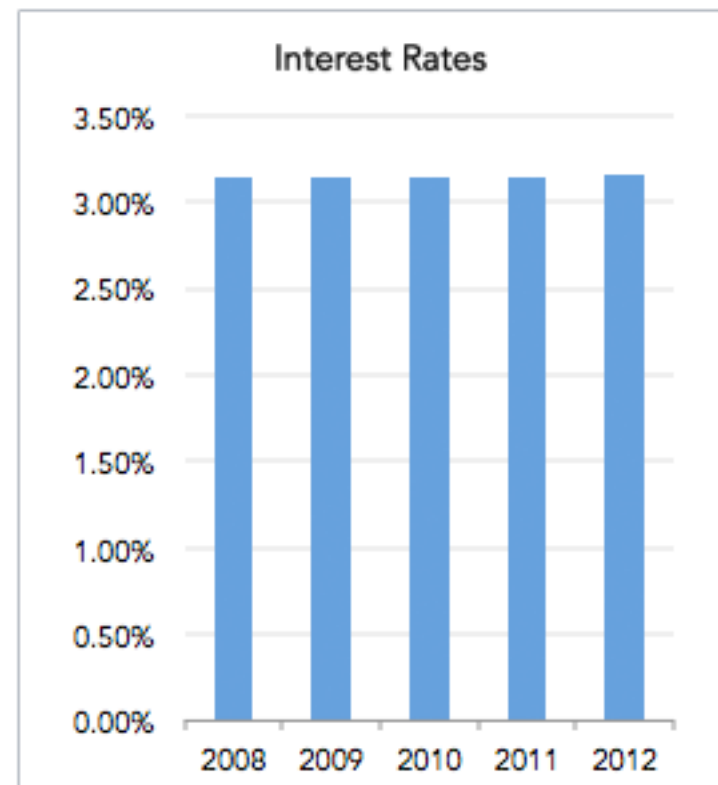
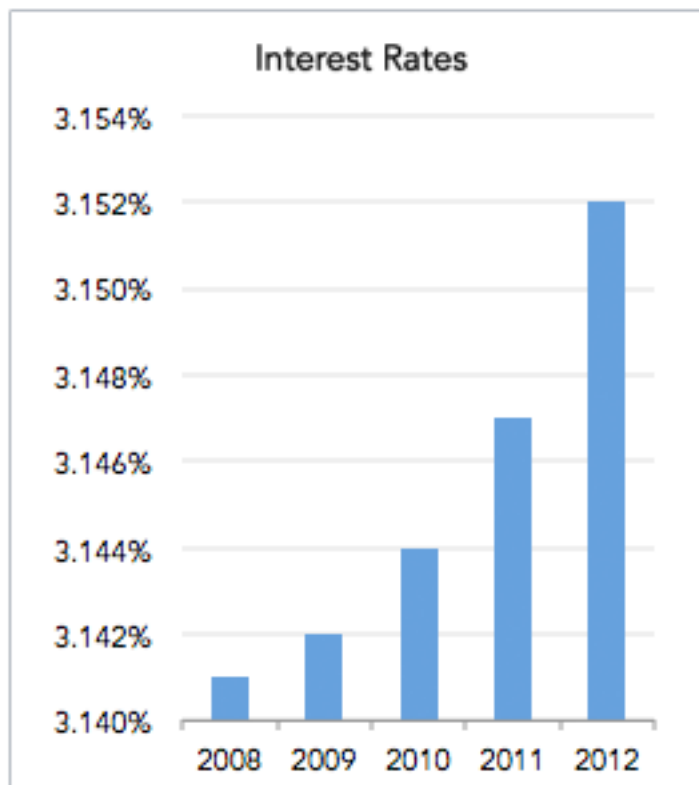
# Misrepresentation of Data



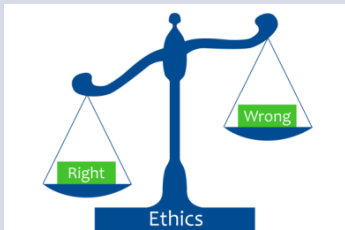
<https://blog.heapanalytics.com/how-to-lie-with-data-visualization/>

# Misrepresentation of Data

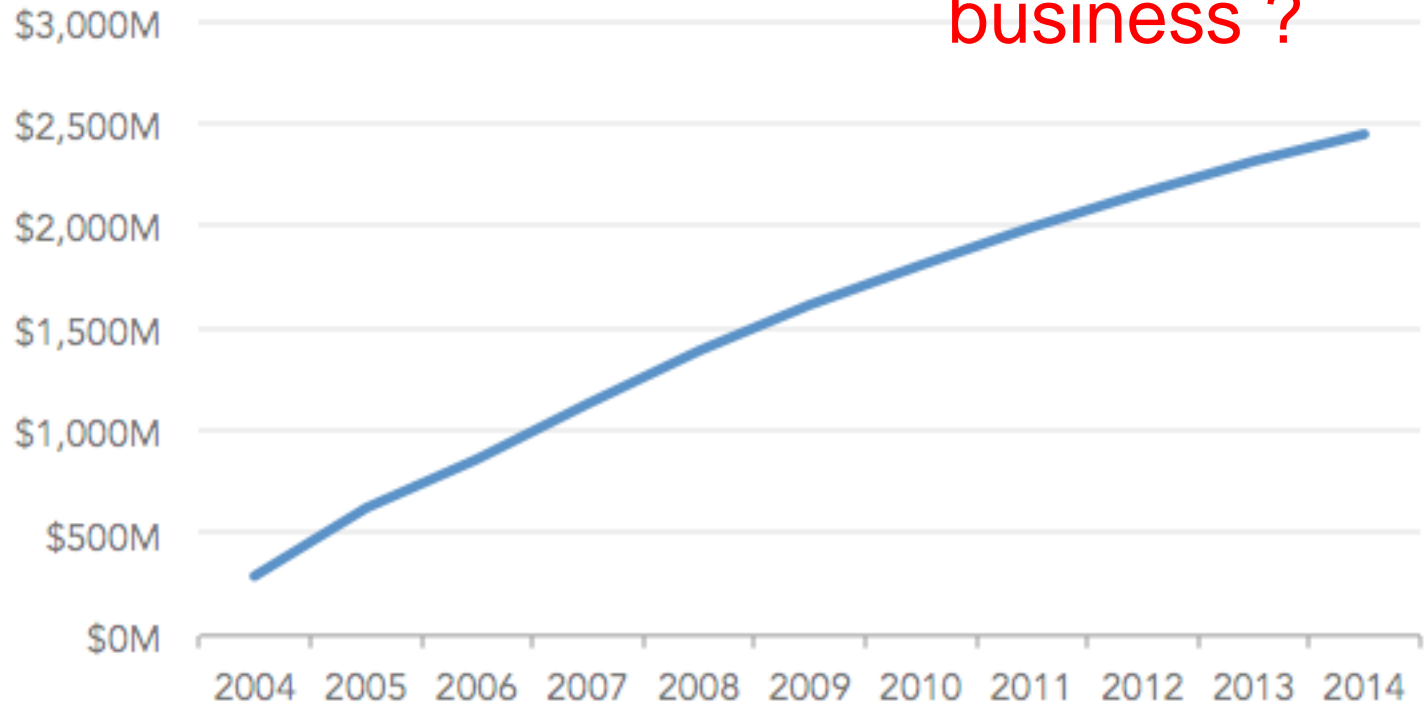
Same data, different Y axis



# Misrepresentation of Data



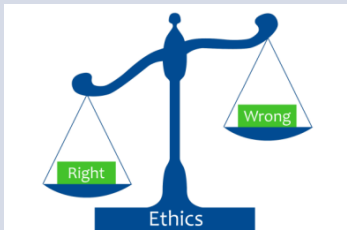
**Cumulative Annual Revenue**



Successful  
business ?



# Misrepresentation of Data



**Annual Revenue**



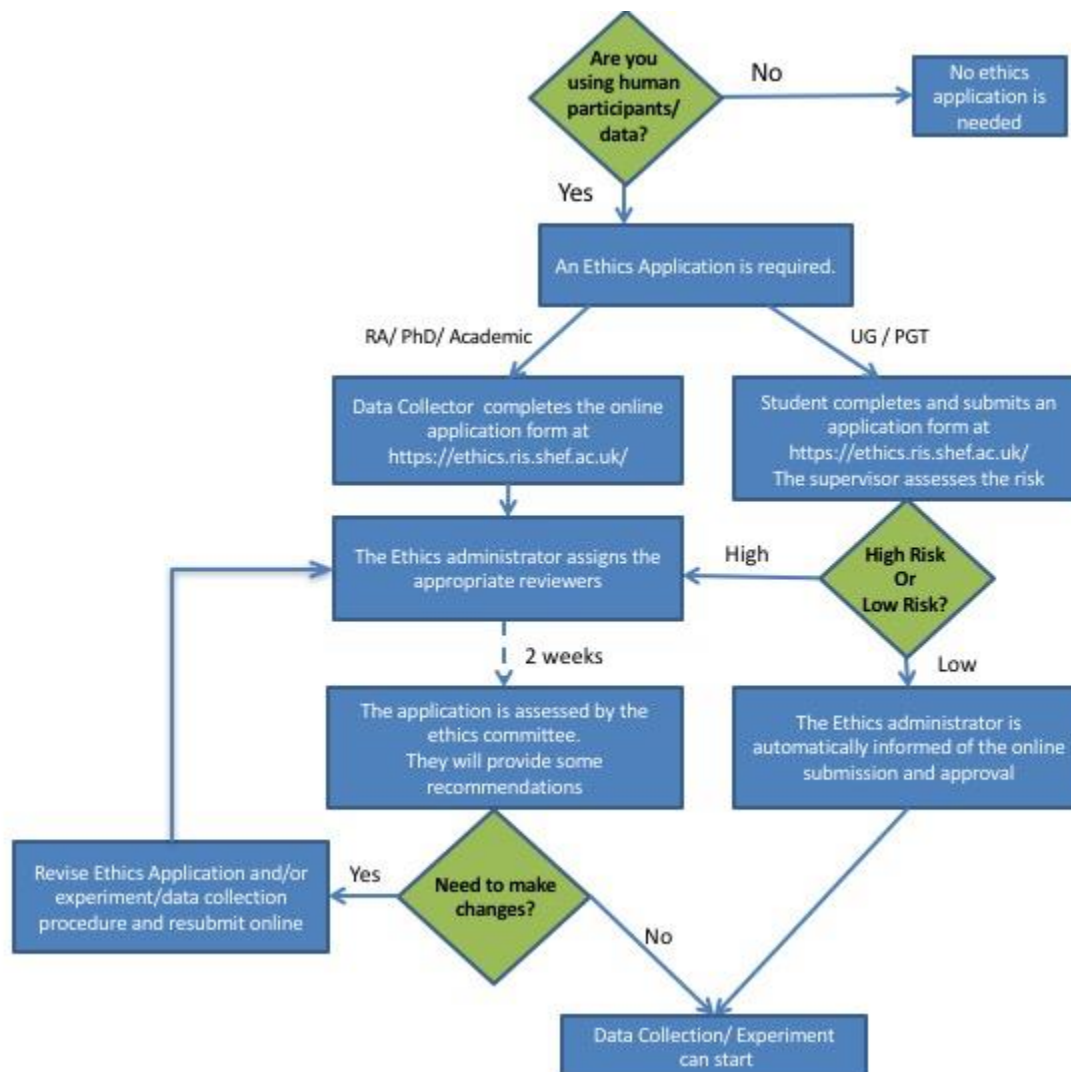
Profits reducing  
year on year

# Ethics

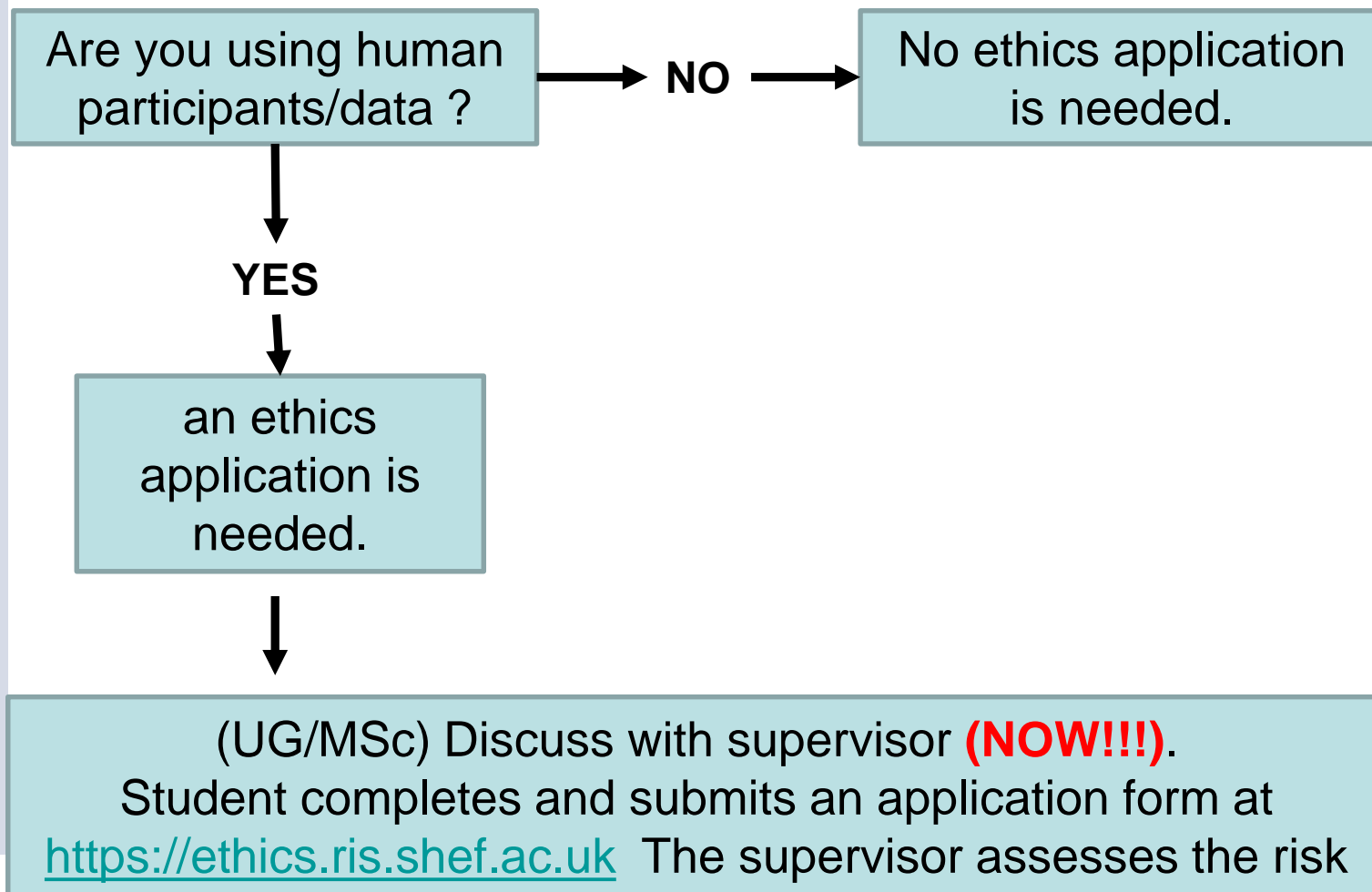


Will I need ethical approval for my MSc project?

# Ethics Review Procedure



# Ethics Review Procedure



## ETHICS POLICY GOVERNING RESEARCH INVOLVING HUMAN PARTICIPANTS PERSONAL DATA AND HUMAN TISSUE:

The paramount principle governing all University of Sheffield research involving human participants, personal data and human tissue is respect for the participants' dignity, rights, safety and well-being.

### 1.1 Participants' rights Participants have a right to:

- **consent** to participate, withdraw from, or refuse to take part in research projects;
- **confidentiality**: personal information or identifiable data should not be disclosed without participants' consent;
- **security of their data**: data and samples collected should be kept secure and anonymised where appropriate;
- **safety**: participants should not be exposed to unnecessary or disproportionate levels of risk.

### 1.2 Researchers' obligations

Researchers have an obligation to ensure that their research is conducted with:

- **honesty**;
- **integrity**;
- **minimal possible risk** to participants and to themselves;
- **respect** for other people, their values and their cultures.

Guidance on the interpretation and application of these principles is detailed in this Policy document.

[https://www.sheffield.ac.uk/polopoly\\_fs/1.755691!/file/Ethics\\_Policy\\_Senate\\_Approved.pdf](https://www.sheffield.ac.uk/polopoly_fs/1.755691!/file/Ethics_Policy_Senate_Approved.pdf)

(UG/MSc) Discuss with supervisor.  
Student completes and submits an application form at  
<https://ethics.ris.shef.ac.uk> The supervisor assesses the risk

**HIGH**

**LOW**

The ethics administrator is  
automatically informed of the  
online submission and approval

(Quick)

Data collection  
Experimentation can start

# Research Ethics: Useful Links

Online Ethics Application system: <https://ethics.ris.shef.ac.uk/>

- Flowchart guiding ethics PGT and UG applications:

[https://www.sheffield.ac.uk/polopoly\\_fs/1.563232!/file/Online\\_Ethics\\_Guide\\_PGt\\_UG\\_Applicant.pdf](https://www.sheffield.ac.uk/polopoly_fs/1.563232!/file/Online_Ethics_Guide_PGt_UG_Applicant.pdf)

- University of Sheffield Research Ethics Policy (full document):

[https://www.sheffield.ac.uk/polopoly\\_fs/1.755691!/file/Ethics\\_Policy\\_Senate\\_Approved.pdf](https://www.sheffield.ac.uk/polopoly_fs/1.755691!/file/Ethics_Policy_Senate_Approved.pdf)

This is basically "**the bible**" where you should be able to find the answers. Particularly useful are the *Research Ethics Policy Notes* (15 in total) that are at the end of the document. They deal with particularly "delicate" topics, e.g. no 14 (pp 63-66) deals with '*Research involving social media data*'.

- Various useful links with practical stuff about applications:

<https://www.sheffield.ac.uk/rs/ethicsandintegrity/ethicspolicy/educationresources/onesystem>

- More links regarding ethics when it involves human participants:

<https://www.sheffield.ac.uk/rs/ethicsandintegrity/ethicspolicy>

- Main website for Research Integrity and Ethics:

<https://www.sheffield.ac.uk/rs/ethicsandintegrity>

At our University, it is the University Research Ethics Committee (UREC) who deals with most ethics issues and are actually able to support researchers in this process:

<https://www.sheffield.ac.uk/rs/other/committees/ethicscommittee>





# BCS Code of Conduct

1. Public Interest
2. Professional Competence and Integrity
3. Duty to Relevant Authority
4. Duty to the Profession

## Relevance for MSc Project

### Chapter 3: Analysis

### Subsection: Ethical, Professional and Legal Issues associated with project.

- You should identify issues in the project that relate to the BCS code of conduct or relevant legislation (e.g., confidentiality, if dealing with an external client).

COM0905 Research Methods and Professional Issues  
Spring Semester 2017-2018

#### Project Background Report (worth 80% of module assessment)

Dr. Paul Watters  
Department of Computer Science, University of Sheffield

Deadline: 3pm Wednesday 10<sup>th</sup> May 2018 (week 12)

#### Introduction and Aims

The aim of this project background report is to help you prepare for the summer MSc project. The main component of the report is an advance literature survey (or similar technology/mathematical survey for certain types of project). In addition, the report should contain a clear presentation of what the project is aiming to achieve, and a description of the work done so far. It should also include a detailed plan, including consideration of how risk will be managed during the project.

You will receive feedback on this report from your supervisor and second marker, which will help you to prepare your final MSc dissertation. Much of what is written for this report will probably be reused in a modified form in the final dissertation.

You are strongly advised to submit a draft of your report to your supervisor two weeks before the hand-in date for comment; experience shows that this is the best way of avoiding common pitfalls.

#### Report Structure

The report should be no more than 20 pages long, not including references and appendices. The first size should be 10pt or 11pt. Use of the LaTeX template provided on Moodle is strongly encouraged.

There is some flexibility regarding the structure of the report, depending on the requirements of your particular project. The following structure will suit most projects; please discuss with your supervisor if you want to deviate from it. Please note that sections on risk analysis and ethical/legal issues are necessary to satisfy BCS accreditation requirements, and must be included.

|                           |  |
|---------------------------|--|
| <b>Title page</b>         | This, with supervisor, module code, date, and the following statement: This report is submitted in partial fulfilment of the requirement for the degree of [degree title] by [full name].  |
| <b>Signed declaration</b> | The second page should be the following signed declaration:<br>All sentences or passages quoted in this report from other people's work have been specifically acknowledged by clear cross-referencing to author, work and page(s).<br>Any illustrations that are not the work of the author of this report have been used with the explicit permission of the originator and are specifically acknowledged. |



## Public Interest

- have due regard for public health, privacy, security and **wellbeing of others** and the environment
- have due regard for the **legitimate rights of Third Parties** (other people)
- conduct your professional activities **without discrimination** on the grounds of sex, sexual orientation, marital status, nationality, colour, race, ethnic origin, religion, age or disability, or of any other condition or requirement
- promote **equal access** to the benefits of IT and seek to promote the inclusion of all sectors in society wherever opportunities arise

(Computer science has an impact on society at large, everybody deserves to benefit from this)

## BCS Code of Conduct



## Professional Competence and Integrity

- only undertake to do work or provide a service that is **within your professional competence**
- Do NOT claim any level of competence that you do not possess
- develop your professional knowledge, skills and competence on a continuing basis, maintaining awareness of technological developments, procedures, and standards that are relevant to your field
- ensure that you have the knowledge and understanding of Legislation and that you **comply with such Legislation**, in carrying out your professional responsibilities
- respect and value alternative viewpoints and, seek, accept and offer honest criticisms of work
- avoid injuring others, their property, reputation, or employment by false or malicious or negligent action or inaction
- reject and will not make any offer of bribery or unethical inducement

## BCS Code of Conduct



# BCS Code of Conduct

## Duty to Relevant Authority

- carry out your professional responsibilities with **due care and diligence** in accordance with the Relevant Authority's requirements whilst exercising your professional judgment at all times
- seek to avoid any situation that may give rise to a conflict of interest between you and your Relevant Authority
- **accept professional responsibility for your work** and for the work of colleagues who are defined in a given context as working under your supervision
- **NOT disclose** or authorise to be disclosed, or use for personal gain or to benefit a third party, **confidential information** except with the permission of your Relevant Authority, or as required by Legislation
- **NOT misrepresent** or withhold information on the performance of products, systems or services (unless lawfully bound by a duty of confidentiality not to disclose such information), or take advantage of the lack of relevant knowledge or inexperience of others



## Duty to the Profession

- accept your personal duty to **uphold the reputation of the profession** and not take any action which could bring the profession into disrepute
- seek to improve professional standards through participation in their development, use and enforcement
- uphold the reputation and good standing of BCS, the Chartered Institute for IT
- **act with integrity** and respect in your professional relationships with all members of BCS and with members of other professions with whom you work in a professional capacity
- notify BCS if convicted of a criminal offence or upon becoming bankrupt or disqualified as a Company Director and in each case give details of the relevant jurisdiction
- encourage and support fellow members in their professional development

## BCS Code of Conduct



## BCS Code of Conduct

**Remember:**  
Relevance to your future career.

If you become a member of BCS, you are signing up to their Code of Conduct

## Relevance to Background Report for dissertation...

COM6905 Research Methods and Professional Issues  
Spring Semester 2017-2018

### Project Background Report (worth 80% of module assessment)

Dr David Wootton  
Department of Computer Science, University of Sheffield

Deadline: 3pm Wednesday 10<sup>th</sup> May 2018 (week 12)

#### Introduction and Aims

The aim of this project background report is to help you prepare for the summer MSc project. The main component of the report is an extensive literature survey (or similar technology/mathematical survey for certain types of project). In addition, the report should contain a clear presentation of what the project is aiming to achieve, and a description of the work done so far. It should also include a detailed plan, including consideration of how risk will be managed during the project.

You will receive feedback on this report from your supervisor and second marker, which will help you to prepare your final MSc dissertation. Much of what is written for this report will probably be reused in a modified form in the final dissertation.

You are strongly advised to submit a draft of your report to your supervisor two weeks before the hand-in date for comment; experience shows that this is the best way of avoiding common pitfalls.

#### Report Structure

The report should be no more than 20 pages long, not including references and appendices. The font size should be 11pt or 12pt. Use of the L<sup>A</sup>T<sub>E</sub>X template provided on MOLE is strongly encouraged.

There is some flexibility regarding the structure of the report, depending on the requirements of your particular project. The following structure will suit most projects; please discuss with your supervisor if you want to deviate from it. Please note that sections on risk analysis and ethical/legal issues are necessary to satisfy BCS accreditation requirements, and must be included.

|                           |   |
|---------------------------|---|
| <b>Title page</b>         | Title, name, supervisor, module code, date, and the following statement: This report is submitted in partial fulfillment of the requirement for the degree of [Degree Title] by [Full Name].  |
| <b>Signed declaration</b> | The second page should be the following signed declaration:<br>All sentences or passages quoted in this report from other people's work have been specifically acknowledged by clear cross-referencing to author, work and page(s). Any illustrations that are not the work of the author of this report have been used with the explicit permission of the originator and are specifically acknowledged. I |

### Chapter 3: Analysis

### Subsection: Ethical, Professional and Legal Issues associated with project.

A clearly-labelled subsection in this chapter should address ethical, professional and legal issues associated with the project:

- You should identify issues in the project that relate to the BCS code of conduct or relevant legislation (e.g., confidentiality, if dealing with an external client).

**TO DO:** You should be able to update your background report to include this subsection.

# This lecture has covered ...

- Risks & hazards
- Analysing & managing risk
- Risk register
- Ethics review process
- Unfair means
- Misrepresentation of data
- Professional codes of conduct



# Logistics: Lectures

Lectures: 1hr per week (*Wed 12:00-12:50*)

- **Lecture 1 (12<sup>th</sup> Feb): *Project Management (PW)***
- Lecture 2 (**19<sup>th</sup> Feb**): *Finding & Referencing Information (EH)*
- Lecture 3 (**26<sup>th</sup> Feb**): *Risk & Ethics (PW)*  
*[4<sup>th</sup>, 11<sup>th</sup> March – No COM6905 lectures (moved to 18<sup>th</sup>/25<sup>th</sup>)]*
- Lecture 4 (**18<sup>th</sup> March**): *Academic Writing (ML)* –
- Lecture 5 (**25<sup>th</sup> March**): *Intellectual Property & Contracts (RM)*
- Lecture 6 (**Mid/end August**): *Preparing & Presenting a Poster (PW)*



**Emily Herron**



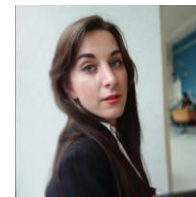
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**Mark Lawrence**



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**Ruth Mallalieu**



*Scholarly Communications  
Licensing Manager*

**GUEST  
LECTURES**



The  
University  
Of  
Sheffield.