

What this course is about

F21RP - Research Methods and Project Planning

What is this course about?

> Research Report first Deliverable

Important notes:

- ▶ You need to score **45% or above** on this course to be able to **continue** to the full MSc dissertation
 - ▶ Ethics form
 - ▶ Research Report
- Course **timetable and material will be @ CANVAS**



What is this course about?

Training

- An overview and practical introduction to **research techniques and methods**
- **Preparation** for your **MSc project** in summer semester:
 - Literature review
 - **Requirements** analysis
 - Project management, **Project Planning**
 - Experimental design (if applicable)
 - **Evaluation** (applicable to every project!)
 - Automatic Evaluation, Human Evaluation, Usability Study
 - **Professional, legal, ethical, and social issues** (PLESI)
 - Attribution and collaboration (aka avoid **plagiarism**)

What is this course about?

- Deliverables

- ▶ Ethics Form

- ▶ Research Report

- Literature Review

- Project Plan



Some students...

- ... will think you **know** how to do all of this already!
- **SOME** of you will already have **developed** some **research skills** if you have ever written a dissertation, or a project report.
- **BUT** – the research skills required for **MSc** are **substantially more developed** than for undergraduate work.
- You will **learn** about them in this **course** :)

What makes a good project?

- Be **Creative**:

- ▶ **Identify** a **gap** in the literature ...
- ▶ ... or **solve** a new **problem** ...
- ▶ ... or **propose** a new **method** for solving a problem ...
- ▶ ... or **create** a new **application** ...
- ▶ ... or **compare** different **methods** X and Y
- ▶ ... or **mix and match**

- **Evaluate** your work:

- ▶ **Qualitative** or **Quantitative** evaluation
- ▶ **Statistical analysis** of data collected
- ▶ Based on **Requirement Analysis**



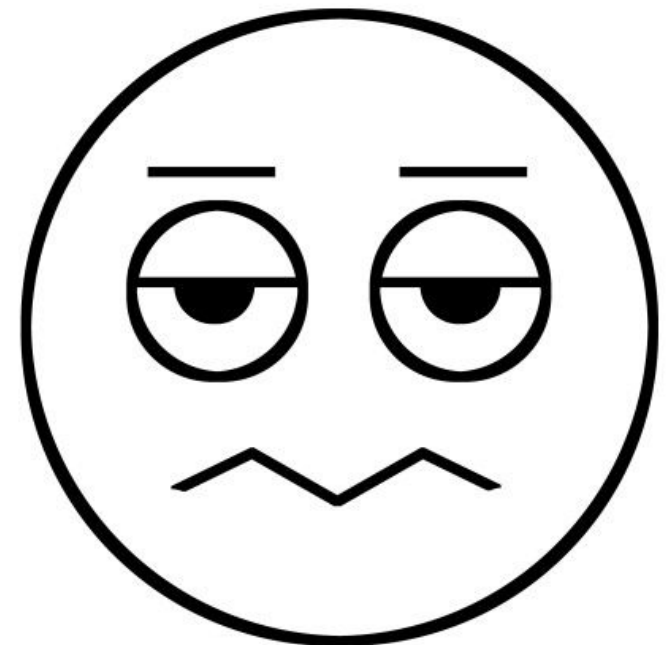
What makes a good project?

- Good projects are **creative, analytical**, and related to the current **state-of-the-art**:
 - ▶ They specify a working **thesis** that shows clearly concrete intentions/objectives/position¹
 - ▶ They **MAY ALSO** (but not always) examine **scientific hypotheses** which can be **proven/demonstrated** by working examples
 - ▶ They are **evaluated** vs. alternative methods
- You may even be able to **publish** your results!
 - ▶ Workshops / conferences / Journals
- Some projects may lead to **employment** (e.g., RA) or PhD



What is *not* CS Research?

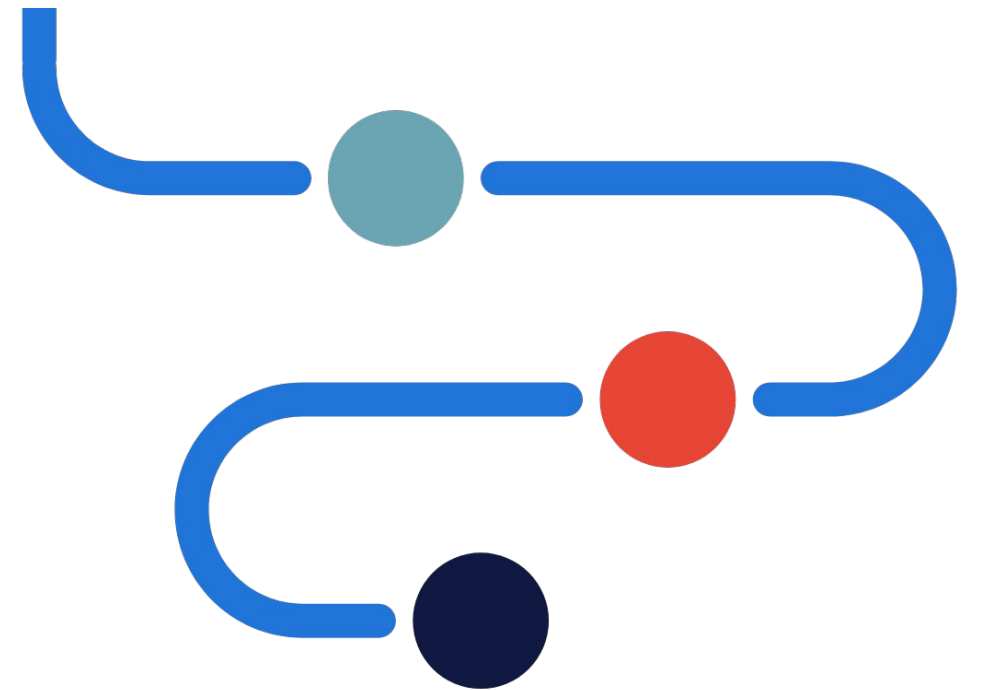
- **Playing** with technology
- Book report
- **Programming** project
- Doing a **user survey**
- Doing what others have **already done**
- **However, each of these can be done as part of a research project**



meh.

Research Process

- Realise that there is a problem
- Find out whether anyone has solved it
- Develop a plan to solve it
- Solve it !
- Evaluate your solution
- Disseminate your solution



Taught Schedule

- Where?

- PGG01 (Lectures and Tutorials)



- When?

- Lectures: Mondays 11:00

- Tutorials: Mondays 17:00

- All material will be available @ CANVAS

What to do now!



- Weeks 1-2

- ▶ Meet with your project supervisor!

Project Work Required

- To **start** your **project**:
 - ▶ **Contact** your **supervisor** immediately
 - ▶ **Read** through the **supplied resources**
 - ▶ **Meet** with **supervisor** to discuss **main areas** for investigation and **Literature Review**
 - ▶ **Meet** two/three more times for **technical help**
 - ▶ You will **receive feedback** on your Report from your **supervisor**
- **Work consistently** through term:
 - ▶ Average 10 hours per week
 - ▶ **Write up** as you **progress**



Rest of the course (1 of 2)

- Week 1 - Document Structure and Literature review
 - **Structure** and layout of dissertation, size, content, style, academic quality, rules on plagiarism
 - Research methods, **Resources**
 - Literature **search** and citing **techniques**
 - **Deliverable: Literature Review** chapter of your Research Report
- Week 2 - Requirements Analysis and Project Management
 - **Project Planning** and **scheduling** of your time
 - **Deliverable: Req. Analysis** and **Project Plan** chapters of your Research Report
- Week 3 - Technical Writing
 - Technical writing, style, referencing, techniques

Rest of the course (2 of 2)

- Week 4 - **Experimental Design and Empirical Evaluation**
 - Experimental Methodology, Datasets, Statistical Methods
 - Automatic Evaluation, Human Evaluation
 - **Deliverable:** **Requirement Analysis** and **Methodology** (optional) chapters of your Research Report
- Week 5 - i) Guest Lecture: “**Graduate recruitment Process and Job Hunting**” by Lindsay Wilson, Careers Consultant/Careers and Graduate Futures Service
- ii) **Statistical Methods Revision** (self-study)
- Week 7 - i) **Working with Users, and Software Design Principles and Ethics**
 - **Deliverable:** **Ethics Form**
 - **Deliverable:** **Requirement Analysis** and **Methodology** (optional) chapters of your Research Report
- ii) **Professional, legal, ethical and social issues** (self-study)
 - **Deliverable:** **PLESI** chapter of your Research Report

Attributions (1/2)

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