Information Technology

FIT5190 Introduction to IT Research Methods

Unit Overview

Southeast University-Monash University
Joint Graduate School

Suzhou, China

2018

Chief Examiner and Lecturer

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Unit objectives

- This unit is offered as **the first introduction** to research for students in the Master of Information Technology Systems course.

- It is designed to help students develop research skills as preparation for PhD study.

- It provides an introduction to the nature of research, major research philosophies and paradigms, the principles of research design and planning, approaches to data collection and analysis appropriate to IT research.

- Students will learn how to effectively communicate research, including writing and publishing journal papers.

- Skills developed and knowledge acquired from this unit will prepare students to conduct and communicate their own research, as well as to be knowledgeable and critical interpreters of others' research.

Learning outcomes

- On completion of this unit, students will have a knowledge and understanding of:

  – major philosophies and principles of research,

  – how to design and develop rigorous and ethical Masters-level research proposals and projects,

  – how to critically review research literature,

  – how to collect and analyse data appropriate to particular research disciplines,

  – how to communicate research findings in written and oral form in academic and industry settings,

  – how to write and publish journal papers.

What to know about this unit

- Skills you learn will help your thesis work
  - Topics and exercises are NOT tailored to your project.
  - Learn how to become world-class researchers.

- Lectures deal with **research in general**.
  - This unit covers the BREADTH of research.
  - There are many kinds of methods in research.
  - You need to be aware of them.
  - For more depth, you need to take specialised units/workshops.

- Top priority is to learn how to think for yourself
  - Critical thinking
  - Creative thinking

Topics

- This unit provides an introduction to research in information technology.
- IT is a very broad field spanning research as diverse as social sciences and theoretical maths.
- Lecture topics to be covered include:

  – The Nature of Research

  – Literature Analysis

  – Communication of Research

  – The Nature of Evidence

  – Writing and Publishing Journal Papers

  – Research methods in Information Technology
    - Experiments
    - Surveys

  – Introduction to Quantitative Data Analysis
    - Probability, Distributions, Hypothesis Testing
    - Correlation and Regression

Lecture topics and timetable (Weeks 1-6)

Week*	Topic
1	Unit Overview 1. The Nature of Research
2	2. Research Project Design and Planning, and Research Proposals
3	3. Literature Review – Setting the Context
4	4. Communication of Research – Publication and Oral Presentations
5	5. Writing Journal Papers
6	6. The Nature of Evidence

* The week number is based on the JGS timetable in Suzhou, while the week number on Moodle is based on the Monash University timetable in Melbourne.

Lecture topics and timetable (Weeks 7-13)

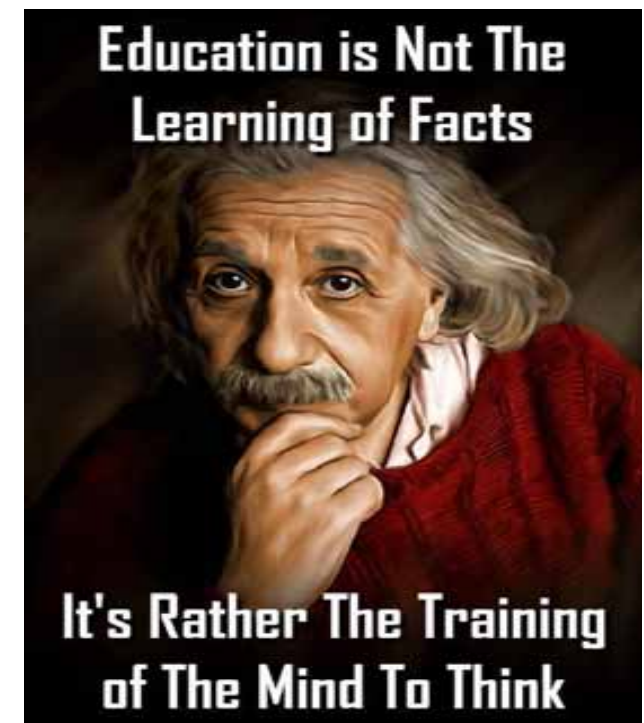| Week	Topic
7	7. Experiments
8	8. Quantitative Data Analysis – Probability and Hypothesis Testing
9	9. Quantitative Data Analysis – Distributions and Hypothesis Testing
10	Semester Break
11	10. Quantitative Data Analysis – Correlation and Regression
12	11. Research Publication Matters
13	12. Qualitative Data Analysis Assignment 3 Presentations

Assessment

- **No examination.**
- **Assignment 1 (30%)**
  - 3 writing tasks about your research (10% each)
  - Due date: Weeks 6, 8 and 12
- **Assignment 2 (30%)**
  - Literature review of published IT research (usually in relation to your own research project).
  - Due date: Friday 11 May 2018 (Week 11)
- **Assignment 3 (40%)**
  - An overview of a research project (usually your own Master's project), including an in-class oral presentation (10%) on
    Thursday 24 May 2018 (Week 13) or
    Friday   25 May 2018 (Week 13)
  - Due date: Monday 28 May 2018 (Week 14)

Recommended reading

- Blaxter, L., Hughes, C., Tight, M. (2010). *How to Research*, 4th Edition. Open University Press, Maidenhead, UK.

- Creswell, J.W. (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches.* Sage, Thousand Oaks, California, USA.

- Dawson, C. (2009). *Introduction to Research Methods: A Practical Guide for Anyone Undertaking a Research Project*, 4th Edition. How To Books, Oxford, UK.

- Leedy, P.D., Ormrod, J.E. (2013). *Practical Research: Planning and Design,* 10th Edition, Pearson, Boston, USA.

- Zikmund, W.G., Babin, B.J., Carr, J.C., Griffin, M. (2010). *Business Research Methods*, 8th Edition. South-Western, Cengage Learning, Mason, OH., USA.

- More reading will be recommended on the unit Moodle site.

Skills needed and to be further developed

- **Listening** – during lectures and tutorials

- **Reading** – lecture notes, recommended reading and published research papers

- **Writing** – assignments

- **Speaking** – class presentation of your research project (part of Assignment 3)

- **Thinking**

  – People do not write well when they do not think clearly.

  – Think before you write.

  Then, write to help you rethink.

Education is Not The Learning of Facts

It's Rather The Training of The Mind To Think

End of unit overview

Questions?