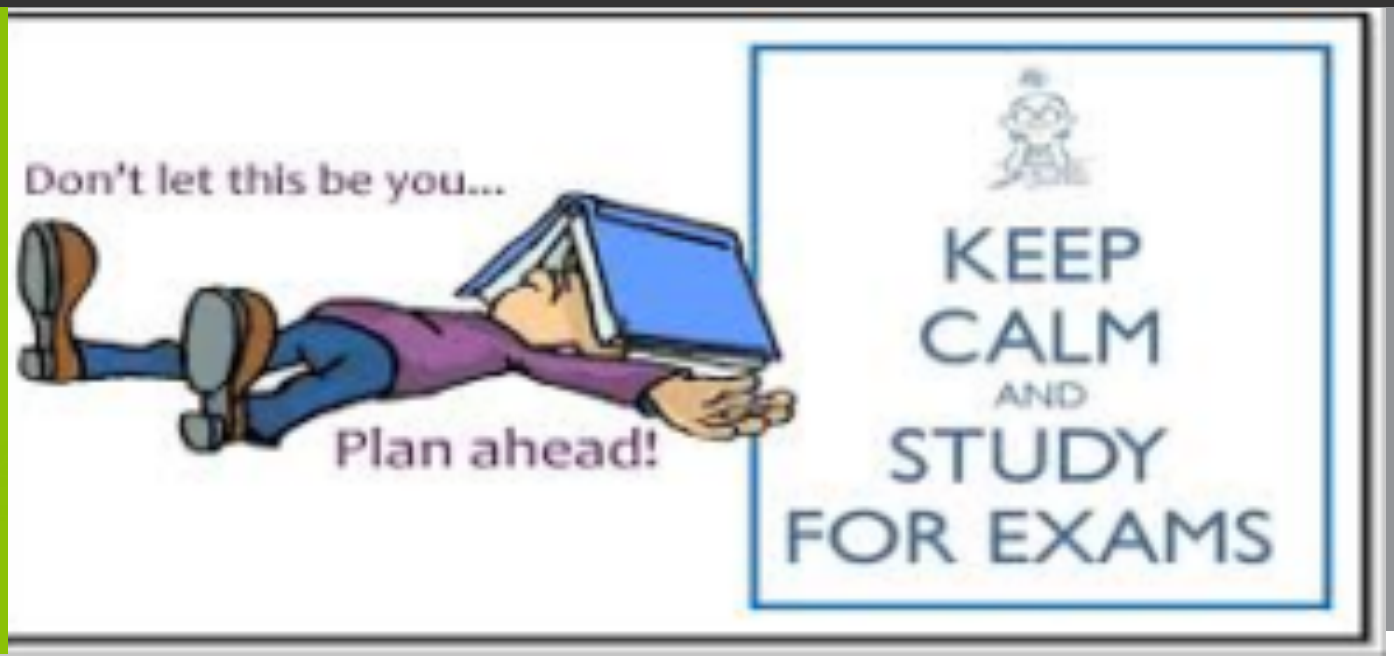
MONASH University

Information Technology

FIT2001 – Systems Development

Exam Revision – Seminar Roadmap



At the end of this topic you will:

- Know what is required for your exam study in FIT2001 – key areas to focus on in each Seminar

1. Nature of Systems Development

- **Information systems**
  - *What they are?*
  - *Example of an information system?*
    Why is it an information system

- **Systems Development Life Cycle (SDLC)**
  - *Describe each phase in the SDLC – Key activities*
  - *Why is each phase conducted?*

- **Systems Developers**
  - *An understanding of the critical skills required*

2. System Development Approaches
Agile Software Development
Stakeholder management

- **Systems Development Approaches**
  - *Description of approaches*
  - *Traditional waterfall vs. Agile How do you make a choice about which to use? What do you need to consider*
  - *For a given scenario – What choice would you make? Why? … must relate to the scenario*
- **Agile Manifesto and 12 Agile Principles**
  - *generally know them … NOT word for word recall*
- **SCRUM Framework artifacts** – *be able to explain them, apply them to a practical example*
  - *How was Agile used in managing your Assignments*
- **Stakeholder Management** – *be able to identify and prioritise stakeholders*

3. Investigating System Requirements Information Gathering Techniques

- **What is requirements gathering?**
- **What do you need to gather?**
  - *Functional and non-functional requirements*
- **Common requirements gathering/fact-finding techniques?**
  - *Interviews, Questionnaires, Observation, Review existing documentation, Research vendor solutions, Prototyping*
    - Be able to describe each technique
    - How do you ensure that they are successful
    - Advantages, Disadvantages of each technique

4. Investigating/documenting system requirements User Stories, Activity Diagrams

- **Modelling**
  - *Why is modelling used in Systems Analysis?*
- **User Story mapping** – *What is it?*

  NOTE: *You will not be required to draw a complete Story Map*
- **User Stories**
  - *What are they? Why are they valuable in helping understand requirements? How do you write them?*
  - *Characteristics of good stories*
  - *For a given scenario – write User Stories including Conditions of satisfaction (Acceptance criteria)* ***– CORRECT FORMAT***
- **Activity diagrams**
  - *Draw or Interpret an Activity Diagram*

5. Use Case Diagrams
Use Case Descriptions

- **Use Cases**
  - *What are Use Case Diagrams and Use Case Descriptions*
  - *For a given scenario draw a Use Case Diagram or interpret a Use Case Diagram*
  - **NOTE:** You will not be required to complete a Use Case Description

6. Domain Class Modelling

- **Domain Model Class Diagram**
  - *For a given scenario draw a Domain Model Class Diagram which should include all relevant domain classes, and show their attributes, relationships and relationship multiplicities.*
  - *Understand generalisation, specialisation, superclasss, subclass, inheritance, aggregation, composition and be able to draw or interpret*

7.1. Prototyping
Usability of Systems

- **Prototyping**
  - *What is it? Is it a useful way of investigating requirements?*
  - *Advantages, Disadvantages of Prototyping to investigate requirements*

- **Usability**
  - *What is Usability? Why is it important?*
  - *Assess the usability of an interface design*
  - *Know the 5 criteria to assess usability*
  - *Types of usability evaluation*

7.2. Design Overview

- **Not examinable**

8. Interface design guidelines and tips

- **User Interface Design**
  - *Know and be able to discuss guidelines that assist in designing usable interfaces*
    - Ben Shneiderman's 8 Golden rules
    - Jakob Nielsen's 10 heuristics
    - Don Norman's guidelines
  - *Draw/Evaluate/Improve an interface using the guidelines – practical example*
  - *Personas – Why use them? How do you develop them?*

9. Use Case Realisation

- **Quality of design models**
  - *How are coupling and cohesion used to assess the quality of design models*

- **Sequence diagrams**
  - *Be able to draw or interpret a first-cut sequence diagram –* ***NOTE:*** *You will not be required to draw a final-cut sequence diagram*

- **Design Class Diagram**
  - *What is the purpose of Design Class Diagrams?*

10. Security & Testing

- **Security**
  - *Not examinable*

- **Testing**
  - *What is Testing? Discuss the Testing process in different development approaches*
  - *Describe the different types of testing and be able to discuss the differences between the different types of testing*

11. Implementation & Maintenance

- **Implementation**
  - *Discuss key implementation phase activities*
  - *For a given scenario discuss data conversion strategies and training*
  - *For a given scenario select a deployment strategy, discussing the criteria used to make the decision*
- **Maintenance / Closure**
  - *Discuss the different types of maintenance*
  - *What is a Change Management system?*
  - *Why is a Post Implementation Review important?*

12. Systems Development Trends

Assessments

Assignments – 42%

- 1, 2 & 3 (42%) – INDIVIDUAL mark not Group mark

Tutorial Quizzes and Workshop participation – 8%

- Moodle quizzes (best 8) and workshop participation as assessed by tutor

e-Exam – 50%

- Two-hour, CLOSED invigilated book exam, scheduled during the normal exam period.

We will be available for Exam Consultation and will be assisting on Ed Discussion

There are no past exams
We have practice sample exam questions
and video discussion of each question

Best of luck for all your Exams.
We hope you do brilliantly