

CIF302 Advanced Database Concepts

Assignment – Portfolio

2009-10

Your assignment for this module is to produce a portfolio which will be submitted at the end of the module, as indicated in the module schedule.

All work must be done individually.

Your final portfolio will include **5 elements**:

1. Critique of portfolio
2. Research abstract
3. Presentation
4. Practical exercises
5. Review documents (submitted and assessed at specific points in the module)

Detail about the requirements of each element is given below.

1. Critique

This element requires you to write a statement supported by evidence to show how your portfolio fulfils the learning outcomes of the module. The knowledge (K1, K2) and ability (A1, A2) learning outcomes for this module are:

K1: Critical analysis of current and new data models and database systems

K2: Assessment of current and emerging trends in database developments

A1: Compare and contrast the features of different database development technologies

A2: Critically evaluate the major developments and issues within the database arena

This element must be two pages maximum, with an attached summary matrix which lists the learning outcomes of the module and cross references as to which elements of the portfolio match each learning outcome. Your two page discussion will then provide commentary on how you believe that each learning outcome is met by your portfolio elements.

2. Extended Abstract

You are required to provide an **extended abstract** which provides a critical investigation of **one** of the following topics:

- a. Integrating databases on the web
- b. Data models for multimedia databases
- c. Data mining for large and disparate data sets

Your **extended abstract** should include a summary of the main points that you would discuss if you were to produce a research paper (however **you are not required** to write a full research paper). Your extended abstract must be spell checked, contain a bibliography (using the Harvard referencing format) at the end of the abstract, and a word count. Your extended abstract must be approximately 500 words (excluding bibliography).

Staying within the bounds of University of Sunderland regulations, you should make full use of any source material available to you (particularly journals or technical reports). Plagiarism, collusion and paraphrasing will not be tolerated, and will be dealt with under University Infringement regulations. If you are unclear about how to reference correctly please ask.

3. Presentation

You will be expected, as a group to which you will be allocated, to produce a **Powerpoint presentation** looking at a number of the database benchmarks that are in existence for database systems. You will present the slides as a group in a session during the module, and will also be expected to submit a copy of your group's presentation as part of the final portfolio submission.

In addition to the presentation, your group will be expected to prepare and submit:

- a) the Powerpoint slides that you have produced
- b) accompanying detailed notes for each slide which outline what you will discuss during the presentation.

Note that each member of the group will be expected to contribute towards the production of individual slides and present their own work at the presentation.

Your presentation must include an introduction, a number of detailed slides which introduce your findings from your research, a summary of your findings, and a final reference list - cited references must be used throughout the presentation as necessary to back up your main points and arguments.

Further guidelines regarding this presentation, including a list of benchmarks to investigate, will be given to you later on in the module.

4. Practical Exercises

There will be a number of practical exercises given out during the taught part of the module. The areas that these exercises will cover are:

1. Relational algebra and SQL
2. Normalisation
3. Data modelling using UML
4. Database development using Oracle's Object-Relational Features
5. Temporal databases and data warehousing

You must submit **two** of your solutions to these practical exercises as part of your portfolio.

5. Review Sessions

During the module there will be two review sessions. These review sessions are essential in ensuring the monitoring of your progress and ensuring that your portfolio will sufficiently match the learning outcomes of the module.

Review session 1:

- You will be required to produce:
 - o a matrix demonstrating how your portfolio meets the learning outcomes of the module (this matrix will then form the table that you will submit in the final critique element).
 - o a 200-300 word draft research abstract. This will then form part of the final research abstract submission.

Review session 2:

- You will be required to produce:
 - o a draft critique for your portfolio.
 - o a draft research abstract.
 - o a draft table of contents page.

The review documents are marked during the review sessions.

Marking scheme

Review documents	10 marks
Critique	15 marks
Research Abstract	20 marks
Practical Exercises	40 marks (i.e. 20 marks per each practical exercise)
Presentation (group mark)	15 marks

Your final portfolio must be submitted both in paper form, as well as an electronic submission through Sunspace. Your electronic submission must be provided as a ZIP file containing all of your documents, and any word processed documents must be provided as Rich Text Format (i.e. RTF).

Marking Scheme for Research Abstract

The marks breakdown for your extended abstract is:

Introduction of research area	20%
Extent to which the research area goes beyond taught material in the module	20%
Evidence of critical understanding of the area of research	20%
Summary of research findings	20%
Appropriateness and current-ness of bibliography	20%

Marking Scheme for Presentation

The marks breakdown for your presentation is:

Content of presentation matches title	20%
Level of critical discussion and understanding of the research area	25%
Introduction adequately introduces the research area	10%
Summary suitably summarises the research findings	10%
Detailed notes are provided for each slide	10%
Reference list produced and complete	10%
Appropriate responses to questions	15%

Marking Scheme for Critique

The marks breakdown for your critique is:

Learning outcome 1:	
- Demonstrated understanding of learning outcome	10%
- Justification that chosen elements match learning outcome	10%
Learning outcome 2:	
- Demonstrated understanding of learning outcome	10%
- Justification that chosen elements match learning outcome	10%
Learning outcome 3:	
- Demonstrated understanding of learning outcome	10%
- Justification that chosen elements match learning outcome	10%
Learning outcome 4:	
- Demonstrated understanding of learning outcome	10%
- Justification that chosen elements match learning outcome	10%
Matrix matches discussion of learning outcomes	20%

The marking scheme for other exercises will be provided separately with the specific exercises.