

**Bachelor of Mathematical Sciences**

**Bachelor of Science**

**Undergraduate Research Project Paper MATH 705**

**2019**

**Notes for students and supervisors.**

**Part A**

**Project MATH 705 Policy on submission dates and extensions for 2019**

**Two hard copies** of the project must be either submitted to the School of Engineering, Computer and Mathematical Sciences reception, Level 3 WZ Building or handed directly to your supervisor. If handed in at reception, students should ask for a time and dated receipt. The proposal and mid-project report can be submitted electronically instead.

Note that these copies will **not** be returned. It is recommended that you produce a suitable good copy for your own use (e.g. at a job interview).

**DEADLINE DATES for 2019**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Enrolment** | **Proposal** | **\*Mid-Project** | **\*Poster** | **Written Report** |
|  |  | **Report** |  | **by 4pm** |
| **Semester 1** | **Fri 15th March** | **Fri 12th April** | **Thur 13th June** | **Fri 14th June** |
| **Semester 2** | **Fri 2nd August** | **Fri 30st Aug** | **Thur 31st Oct** | **Fri 1st Nov** |
| **Full Year** | **Fri 29th March** | **Fri 19th July** | **Thur 31st Oct** | **Fri 1st Nov** |

\*Exact time/rooms of the mid-project report and common poster display day to be advised.

**Extensions:**

**EXTENSIONS ARE NOT AUTOMATIC AND MAY COME WITH GRADE PENALTIES.**

**All requests for extensions must be submitted on the Special Consideration Application Form and sent to the School Registrar.** You should apply early if you see circumstances will mean you are not able to complete in time. Depending on the circumstances, various conditions may be applied to the extension.

**Aegrotats:**

All requests for aegrotats must follow the procedures given in the general Academic Regulations. For details on applications consult the university calendar**.**

**Student and Supervisor responsibilities.**

The supervisor is usually a full time AUT staff member. In some cases a part time staff member may be approved by the school. For a few instances, when the project is jointly with an industry partner, an external supervisor may be involved together with a co-supervisor who is an AUT staff member.

The project is essentially a self-directed learning paper. The student is therefore expected to be responsible for the paper.

**The student is responsible for:**

* Nominating a **major of interest** for their project and notifying the project coordinator.
* Negotiating on a specific project topic in consultation with their supervisor.
* Having regular meetings with their supervisor(s).
* Constructing a proposal.
* Presenting a mid-project report on progress.
* Designing and writing of the project.
* The originality and authenticity of the work.
* Ensuring that the notebook, poster and project are submitted on time.
* Following all safety requirements, when appropriate for lab or field work.
* All costs incurred unless specifically authorised by SECMS at the supervisors request.

**The supervisor is responsible for:**

* Ensuring that the student has chosen **a suitable project topic within a major**.
* Helping the student in the planning and designing of the project.
* Providing approximately 30 minutes a week of formal contact time.
* Making sure that the "paper work" is kept in order.

**The school's responsibilities are:**

* To provide guidance for the project topics.
* To provide the time for supervisors to work with students.
* To provide necessary equipment.
* To organise the examination of the poster displays.
* To provide library resources and computer resources.
* To arbitrate any problems or disputes.

**Part B**

**THE PAPER DESCRIPTOR MATH 705**

This is the **official** description however it only addresses projects in general terms. This is intentional to allow the considerable flexibility we want to have in the project. Almost anything can constitute a project so long as it has a suitable scientific basis and so long as the basic level 7 **scholarship** is met.

The issue of scholarship is sometimes hard to define but at level 7 you are not just writing a description of what you did, you must also include:

* Some detailed discussions of why you did the project, this is usually the introduction.
* How your project compares to what other people have done. This also occurs in the introduction but is commonly scattered throughout the rest of the text as you explain why you chose certain methods etc.
* You should be able to suggest further work that needs to be done
* Finally you must have a clear **personal** opinion of what it all means. You must include a critical opinion of what you did and the way you did it. This is usually the conclusion.
* Plagiarism is becoming more of an issue. It is likely that your project will be electronically checked for this.

The best source of help on this is your AUT project supervisor

|  |  |  |  |
| --- | --- | --- | --- |
| **PAPER TITLE:** | **RESEARCH PROJECT** | | |
| **PAPER CODE:** | **MATH705** | | |
| **POINTS:** | 30 | | |
| **LEVEL:** | 7 | | |
| **PREREQUISITE/S:** | Enrolment subject to approval from the Programme Leader | | |
| **COREQUISITE/S:** | None | | |
| **STUDENT LEARNING HOURS:** | | | |
| The learning hours are a guide to the total time needed for a student to complete the paper: | | | |
| Student directed learning  **Total learning hours** | | 300  **300** |  |
| **PRESCRIPTOR:** | |  | |
| An investigation into a problem within the Mathematical Sciences in one of the areas of astronomy, applied mathematics, analytics or computer science. | | | |

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| --- | --- | --- | --- | --- | --- | --- |
| **LEARNING OUTCOMES:** | |  | | | | |
| On successful completion of this paper students will be able to:   1. Develop a proposal outlining their objective(s) and research plan to completion. 2. Report on their progress at the mid-semester review. 3. Present their poster at a display and answer questions. 4. Present their written results in a short thesis format. 5. Record the activity and time spent on all aspects of their project. | | | | | | |
| **CONTENT:** | |  | | | | |
| * This will depend on the topic of the project investigation | | | | | | |
| **LEARNING & TEACHING STRATEGIES:** | | | |  | | |
| 1. Students will be asked to nominate a major of interest for their project. 2. Students will be matched up with a potential supervisor and a topic agreed. 3. Students will develop a proposal and plan regular meetings with their supervisor. 4. There will be timetabled classes held on specified weeks for all students covering a variety of topics such as practical soft skills, proposal development, statistical planning, poster design, write-up and other relevant topics and issues. 5. There will be a mid-semester review where the student will present their progress to date and the supervisor will complete a report. 6. At the end of the semester, the student will present their poster in a display. 7. At the end of the semester, the student will hand in their written up project in a short thesis format. 8. Students will document all activities with the time spent on each. | | | | | | |
| **ASSESSMENT PLAN:** | |  | | | | |
| **Assessment Event** | | | | **Weighting %** | **Learning Outcomes** | |
| Proposal | | | | 10% | 1 | |
| Mid-Project Review | | | | 25% | 2 | |
| Poster | | | | 10% | 3 | |
| Report | | | | 50% | 4 | |
| Notebook/Diary | | | | 5% | 5 | |
| **Grade Map** | | **Grade Map 1:**  **A+ A A- Pass with Distinction**  **B+ B B- Pass with Merit**  **C+ C C- Pass**  **D Fail** | | | | |
| **Grade Boundaries** | | **A+ ≥ 90%, A ≥ 85%, A- ≥ 80%**  **B+ ≥ 75%, B ≥ 70%, B- ≥ 65%**  **C+ ≥ 60%, C ≥ 55%, C- ≥ 50%**  **D < 50%** | | | | |
| **Overall requirement/s to pass the paper:**  **The student:**   * needs at least 50% overall, * must complete all the assessment events, and * must gain a minimum mark of 40% on the mid project review and report. | | | | | | |
| **READINGS and RESOURCES:** | |  | | | | |
| **Prescribed Text** | | Readings will be recommended by the supervisor. | | | | |

**Learning and Teaching Resources**

The paper is flexible and the modes of learning will depend on the individual projects.

The student is expected to make extensive use of the available library research services.

**Recommended Textbook:**

Heather Silyn-Roberts, (2002) ***Writing for Science,*** Prentice Hall. ISBN 1-877258-34-2

**Part C**

Project format

**NOTES:**

It is important to emphasise that all questions about the details of your project must be addressed in the first instance to your **AUT supervisor** who is your principal guide for the paper

All students must make themselves aware of the recommended style and sizes for the project. While it is accepted that some projects cannot be fitted easily into these limits, in the interests of fairness we would ask all students to talk these details through with their **supervisors.**

The Project Paper MATH 705 is composed of 5 parts:

1. A project proposal based on a topic agreed to by the student and proposed by their supervisor(s) and submitted on or before the required date.
2. A mid-project review
3. A poster (to be displayed at the examination)
4. The Written Project: Two hard copies plus an electronic copy.
5. Either a notebook or a diary.

Projects must have the **absolute minimum** size as follows.

*Font size 12, 1.5 spaced, standard fonts (Arial or Times New Roman).*

Cover page (**must have** the project title, student name, and ID No., date and paper number).

Abstract ½ page

Acknowledgments ½ page

Table of contents 1 page

Introduction 2 - 5 pages

Methods at least 5 pages\*

Results at least 5 pages \*

Discussion of results 5 or more pages\*

Conclusion 2 – 3 pages

References Not less than 15 references

Appendix No limit on size or content

This only a very rough guideline. You will need to discuss this with your supervisor, in most cases this is 25 - 35 pages Supporting evidence or data that is thought will be valuable to further work should be included in an appendix.

Note: Certain types of projects such as annotated bibliographies or reviews will have different sizes and formats.

Note: a project that only meets these minimums is likely to receive a poor grade. Although size does not equate directly with quality, experience shows that good projects are typically 40 - 50 pages long.

Diaries or Notebooks

All students must keep a diary or a notebook. This will be a part of the assessment. **This will contribute 5% to the final grade**.

The Proposal

All students will construct a proposal as per page 11. The proposal will be assessed according to the elements on page 18. **This will contribute 10% to the final grade.**

The Mid-Project Review

All students will present a mid-project review. This review will be assessed according to criteria A, B, C and D on page 19. These criteria will form the first part of the written submission. **This will contribute 25% to the final grade.**

The Poster Examination

All students are required to make an **A2** sized poster of their project. The poster will be presented as a part of their examination. As part of the examination process students will be asked questions about their project. Staff, students and invited guests from industry will be in attendance. After the presentation, posters will collected. Posters may be coloured and have suitable pictures and diagrams. Normally only the most significant results are included on the poster. Fonts should be large and clear. As a guide, word counts should not exceed 500 and fonts not less than 14 points. **This examination will count as 10% of the final grade.**

Submission of Projects

These must be submitted on or before 4pm on the last date given in Part A to the School office. This is so the time and date of submission can be properly recorded. **This written submission will count 50% of the final grade**.

Examples of Projects and Posters.

Copies of previous year’s projects and posters are available for inspection from the project coordinator. The nature of each project is unique and you must not place too much emphasis on looking at other examples. While this can be helpful, the format and content is so variable that it would be unwise to assume that another students' projects and posters are "models" that should be followed. Your supervisor should always be the source of such advice.

**Part D**

**STUDENT PROJECT CONTRACT and PROPOSAL 2019**

*The purpose of this contract is to define the scope of work required to fulfil the requirements for the* ***project, paper MATH 705 (30 points).*** *This contract* ***must*** *be completed* ***before*** *any work is started. When completed and signed by the student and supervisor(s) a copy must be made. One is to be retained by the student and the original copy is to be submitted to the AUT supervisor.*

**ONLY SUBMIT PAGES 9, 10 and 11 (with the borders)**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Please type or print the names of all persons. When completed, the form must be signed on page 2 by the student and supervisor(s).**

**Student Name:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ID **Number:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Supervisor's Name:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*see note 7:*

**External Supervisor(s)**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**\_***see note 7:*

**Starting Date (February or July) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

*This contract is an agreement between the student and The School of Engineering, Computing and Mathematical Sciences at AUT. The purpose of this agreement is to define a piece of research that will be given academic credit from the School of Engineering, Computing and Mathematical Sciences at AUT.*

**Title of the project and expected outcomes:** *see note 8*

Please indicate whether the project will involve the following:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field Sampling |  |  | A group project |  |
| Ethics Approval |  |  |  |  |

**Group Projects** (see note 9)

If this is a group project, give the names of the other students in the group:

**Ethics Approval** (if needed)**,** *see note 10:* A copy of the AUT ethics committee's (AUTEC) approval letter must be attached to this contract.

**Approved by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Budgets** (please give details, attach extra sheets as needed)**:**

**There is no automatic amount allocated to each project. All expenses must be approved by the Head of Department before they are incurred. Unless this approval has been made there will be no reimbursements of any sort. Your supervisor is responsible for approving costs after consultation with the Head of Department.**

**Assessment**

**The paper/project will be assessed in the following way:**

|  |  |
| --- | --- |
|  | **Percentage Contribution** |
| **Proposal** | 10 |
| **Mid-Project Review** | 25 |
| **Poster Examination** | 10 |
| **Written Submission** | 50 |
| **Work book, diary or notebook** | 5 |

**Proposed Examiner(s): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Proposed Moderator(s):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Signatures:**

**a) I understand the AUT laboratory procedures (where appropriate) and agree to take all necessary precautions while carrying out my project.**

**b) I understand that projects involving human subjects must be approved by the relevant ethics committee (see above) and (where appropriate) have attached documentary evidence of this approval. All ethics approvals must be submitted to the Faculty, *via* the AUT supervisor.**

**c) I have read and accept the requirements with respect to submission dates and other conditions.**

Student: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_

**I have discussed details of the above project with the above named student and agree to act as supervisor.**

AUT Supervisor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_

Secondary Supervisor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_

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| --- |
| **PROJECT PROPOSAL 2019** |
| Student Name: Student ID No. | |
| Supervisor’s Name: Date: | |
| Working Title: | |
| Description of the proposed project ( about 300 words): | |

|  |
| --- |
| **For 2018 this contract and a one page description of the proposed study are to be submitted as the proposal worth 10%. The student and the supervisor each will retain a copy for their records.** |

1. Even if no practical work (research or laboratories) is involved in the student’s work, all parts of this contract must be completed.
2. Before any project can commence it is a **minimum** requirement that this Contract be completed in full and that the signatures of the **supervisor**, the **external supervisor** (as appropriate), **the ethics committee letter** (attached as appropriate) and the **student** be on this contract.
3. All projects or other papers will require a suitably scholarly **written** account of the study. Details of the style, size and content are available separately.
4. Unless otherwise agreed to by the School, the assessment will follow the same procedure as other courses taught by the School, namely that the principal examiner will be the supervisor. A moderator from the School will be appointed.
5. If in the opinion of either the student or the supervisor that another person other than the supervisor be nominated as the examiner this is acceptable provided that it meets the approval of the Project Coordinator.
6. The student will have the same rights of appeal with respect to grades as they would have for any other paper taught by the School.
7. All projects **must** be initiated through a **current AUT staff member** even though the work may be done entirely outside of AUT. This staff member will be responsible for all liaison between the industry and the student. If an external supervisor is necessary, this external supervisor will communicate with AUT *via* the supervising staff member.
8. It is recognised that by its very nature, research can take unexpected directions. The title and description of the project need not be considered binding in any way, so long as the project or course of study meets a suitable level of scholarship and so long as the modified project supports, or is reasonably derived from the original proposal.
9. It is important that each student tackles a different aspect of the project and that he/she writes his/her own project. It is expected that because more individuals are involved the submissions will be larger and more detailed because of the common work. Group projects will only be accepted if the supervisor is satisfied of the above conditions.
10. When a project requires ethics approval, the appropriate documentation must be complete before the work commences. **All ethics approvals must be submitted by the AUT supervisor** or in cases where there is an external supervisor, the AUT supervisor has a letter stating that approval has been obtained.
11. All students must prepare a poster describing their project results.

**Part E – To be completed and handed to your supervisor Mathematical Sciences Project MATH 705**

Name ……………………………………………Student ID Number………………

Email……………………………………………………………………

Phone……………………………………………………………………

Degree – BSc or BMathSc

What career are you aiming for?

**Project** **Title** - ………………………………………………....................

……………………………………………………………

Start time for project: Sem1 or Sem2

Supervisor?

Full-time / Part-time

Your Timetable: Semester ……………….. Year ……………..

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| **Hour** | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** |
| 8.00-9.00 |  |  |  |  |  |
| 9.00-10.00 |  |  |  |  |  |
| 10.00-11.00 |  |  |  |  |  |
| 11.00-12.00 |  |  |  |  |  |
| 12.00-1.00 |  |  |  |  |  |
| 1.00-2.00 |  |  |  |  |  |
| 2.00-3.00 |  |  |  |  |  |
| 3.00-4.00 |  |  |  |  |  |
| 4.00-5.00 |  |  |  |  |  |
| 5.00-6.00 |  |  |  |  |  |
| 6.00-7.00 |  |  |  |  |  |
| 7.00-8.00 |  |  |  |  |  |

**Part F**

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| **APA Citation Style** Publication Manual of the American Psychological Association, 5th edition   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Follow these colour codes: | | | | | | **Author(s)** | **Date** | **Title of Book** | **Title of Article** | **Title of Periodical** | | **Volume** | **Pages** | **Place of Publication** | **Publisher** | **Other Information** | |

|  |
| --- |
| **Journal or Magazine Article**  **Wilcox, R. V. (1991). Shifting roles and synthetic women in Star trek:  The next generation. *Studies in Popular Culture, 13*(2), 53-65. \**  **Newspaper Article**  **Di Rado, A. (1995, March 15). Trekking through college: Classes explore modern society using the world of Star trek. *Los Angeles Times,* p. A3.**  **Article from an Internet Database**  **Mershon, D. H. (1998, November-December). Star trek on the brain: Alien minds, human minds. *American Scientist, 86*, 585. Retrieved July 29, 1999, from Expanded Academic ASAP database.**  **Book**  **Okuda, M., & Okuda, D. (1993). *Star trek chronology: The history*  *of the future.* New York: Pocket Books.**  **Book Article or Chapter**  **James, N. E. (1988). Two sides of paradise: The Eden myth according to Kirk and Spock. In D. Palumbo (Ed.), *Spectrum of the fantastic* (pp. 219-223). Westport, CT: Greenwood.**  **Encyclopaedia Article**  **Sturgeon, T. (1995). Science fiction. In *The encyclopaedia Americana* (Vol. 24, pp. 390-392). Danbury, CT: Grolier.**  **ERIC Document**  **Fuss-Reineck, M. (1993). *Sibling communication in Star trek: The next* *generation: Conflicts between brothers.* Miami, FL: Annual Meeting of the Speech Communication Association. (ERIC Document Reproduction Service No. ED 364932)**  **Website** (for more details, see the [American Psychological Association](http://www.apastyle.org/elecref.html)'s official site)  **Lynch, T. (1996). *DS9 trials and tribble-ations review.* Retrieved  October 8, 1997, from Psi Phi: Bradley's Science Fiction Club Web site: http://www.bradley.edu/campusorg/psiphi/DS9/ep/ 503r.html** |

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| **Notes**   * Arrange the items on your reference list **alphabetically** by **author**, interfiling books, articles, etc. * Indent the second and following lines 5 to 7 spaces or one half inch. * Use only the initials of the authors' first (and middle) names. * If no author is given, start with the title and then the date. * **Article titles** and **book titles**: capitalize only the first word of the title and subtitle. (Capitalize all significant words of **periodical titles**.) * If you are using a typewriter that cannot produce *italics*, then use underlining instead. * **Magazine articles**: include the month (and day) as shown under Newspapers. * **Websites**: if the date the page was created is not given, use **(n.d.)**. |

**For more on APA style see:**

**http://en.wikipedia.org/wiki/APA\_style**

**Part G**

**Note Book/Diary**

A record of the project must be kept in a notebook. This book records what is done each day and how much time was spent. The purpose is so that a complete record of the project is in one place. Records of conversations with supervisors, searching on the internet, procedures of research, output from the computer, file names and description of contents should all be included.

Pages must be numbered, an index located in the back and entries may be cross referenced. The benefit of having such a record is that when it comes to writing up the project, every resource is able to be located from its reference in the diary.

In the event of a product being produced for which a patent is filed, such a record will be the means by which a challenge in court will be upheld.

The detailed record allows for the repeatability of any step in your process.

The following guidelines need to be followed:

**Index (1 mark)**

* Number the pages, do not remove pages
* Index the contents

**Date / Time (1 mark)**

* Date every entry and log the time you have spent on your project.

**Attachments (1 mark)**

* Permanently attach all correspondence, printouts, worksheets, references etc.
* Record names of files and keep backups of electronic data and documents.

**Records (2 marks)**

* Record the useful things and the blind alleys. You do not know at the beginning which may be useful at the end.
* Don’t use emotive words, just write the facts.
* Include enough information for you to be able to follow the thread of your thinking at a later date.
* Record the names of variables and what they measure.

Note:

1 mark equates to 0 = not done and 1 = achieved

2 marks equates to 0 = nothing done, 1 = partially achieved and 2 = achieved



**Bachelor of Mathematical Sciences**

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**Undergraduate Research Project Paper MATH 705**

**2019**

**Assessment Guide**

**Part H**

**MARKING SCHEDULE for STUDENT PROJECTS**

Note: This schedule is to be used with reference to the accompanying assessment criteria

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Student’s name |  | | | |  | |
| Student ID number |  |  | | | | |
| Title of project |  | | | |  | |
| Date submitted |  | |  | Date | |
| Name and signature of Examiner |  | |  |  | | |
| Name and signature of Moderator |  | |  |  | | |

The principal examiner and the moderator should fill in their own marks and the grade will be determined by the aggregate of the two marks. **Consultation between the examiner and the moderator should take place to ensure that a consensus is reached on the final mark and grade.** Comments are optional**.**

**Proposal**

|  |  |
| --- | --- |
| **Elements** | **Mark** |
| Working Title(1 mark) |  |
| Purpose/Setting the scene (2 marks) |  |
| Literature Sources(2 marks) |  |
| Planned Methodology(3 marks) |  |
| Expected Analysis(1 mark) |  |
| Expected type of conclusion (1 mark) |  |
| **TOTAL** |  |

**Mid-Project Review**

Supervisor Moderator

** **

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (A) Presentation |  | Points | | times 1.0 | Mark |  | Points | times 1.0 | Mark |
| Comments | | |  | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (B) Use of resources |  | Points | | Times 1.5 | Mark |  | Points | Times 1.5 | Mark |
| Comments | | |  | | | | | | |

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| (C) Demonstration of Knowledge of the subject |  | Points | | times 1.5 | Mark |  | Points | times 1.5 | Mark |
| Comments | | |  | | | | | | |

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| (D) Communication of knowledge |  | Points | | times 1.0 | Mark |  | Points | times 1.0 | Mark |
| Comments | | |  | | | | | | |

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| **TOTAL MARKS (25%):** | |  |  |  |  | |  |  |
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**Written Submission**

Supervisor Moderator

** **

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (A) Presentation |  | Points | | times 0.5 | Mark |  | Points | times 0.5 | Mark |
| Comments | | |  | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (B) Use of resources |  | Points | | Times 0.5 | Mark |  | Points | Times 0.5 | Mark |
| Comments | | |  | | | | | | |

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| (C) Demonstration of Knowledge of the subject |  | Points | | times 0.5 | Mark |  | Points | times 0.5 | Mark |
| Comments | | |  | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (D) Communication of knowledge |  | Points | | times 0.5 | Mark |  | Points | times 0.5 | Mark |
| Comments | | |  | | | | | | |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (E) Interpretation of results |  | Points | | times 2.5 | Mark |  | Points | times 2.5 | Mark |
| Comments | | |  | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (F)Summarising of the material |  | Points | | times 2.0 | Mark |  | Points | times 2.0 | Mark |
| Comments | | |  | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (G) Evaluation of results and critical discussion |  | Points | | times 2.5 | Mark |  | Points | times 2.5 | Mark |
| Comments | | |  | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (H) Independence and Originality |  | Points | | times 0.5 | Mark |  | Points | times 0.5 | Mark |
| Comments | | |  | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (I) Size factor |  | Points | | times 0.5 | Mark |  | Points | times 0.5 | Mark |
| Comments | | |  | | | | | | |

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| TOTAL MARKS (50%) |  | Mark |  | Mark |

|  |  |
| --- | --- |
| **Assessment Item** | **Mark** |
| Proposal (10%) |  |
| Mid-Project Review (25%) |  |
| Poster Examination (10%) |  |
| Written Submission (50%) |  |
| Work Book, diary or notebook (5%) |  |

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| Aggregate Mark |  |  |

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| --- | --- |
| **Recommended Grade**  90-100 A+ 75-79.5 B+ 60-64.5 C+  85-89.5 A 70-74.5 B 55-59.5 C  80-84.5 A- 65-69.5 B- 50-54.5 C- 0-49.5 F |  |

**Project assessment criteria**

The following is a guide to examiners and students on the concepts that are used in assessing a student project. Because each project is unique and students come from many disciplines, these criteria will require a professional interpretation and flexibility.

**Presentation (A)**

This is the appearance and organisation of the project. Even though the contents may be of a very low standard it can still achieve a good grade for this section if it is **visually** well presented. It may be necessary to evaluate this at the beginning and end of the assessment process because a 5 would only be possible if there was good internal consistency, e.g., the page numbers really do match the table of contents, and diagrams are correctly labelled.

Criteria

Points

* Fulfils all presentation requirements. 5

Has accurate table of contents and follows in a well organised logically. All features are properly and clearly labelled. Has a feel of quality.

* Fulfils all presentation requirements. 4

Has accurate table of contents, most features are clearly labelled and identified.

* Fulfils all presentation requirements. 3

Has a table of contents but lacks some elements of style, neatness, appropriate use of fonts etc. Diagrams, tables or graphs may not be well labelled or presented.

* Meets most of presentation requirements 2

Has a table of contents. Lacks style. Some uncertainties in labelling, spelling and punctuation errors present

* Meets some of the requirements of folder and table of contents 1

May have mis-identified data and contains grammatical, spelling and punctuation errors.

* Is very poorly presented. Does not follow the required format 0

and shows little evidence of any care in presentation.

**Use of Resources (B)**

This section covers a wide range of resources and will be dependent on the type of project. It is important though that **all projects to have a solid foundation on the literature**. If there is no evidence of a good literature search, then high credit is not possible. The other operative word for high credit in this section is **creative**. Did the student try (with justified reasons) to do things differently to those in the literature? Was the same experiment tried in different ways? Were any results cross-checked and confirmed using a parallel technique available to the student?

*Criteria*

Points

* Appropriate selection of a wide range of references correctly 5

listed and used in the text. Sources and assistance acknowledged suitably. Appropriate and **creative** use of instruments, programs, protocols etc.

* A range of reference material understandably listed and most 4

used in text. Sources and assistance acknowledged suitably. Appropriate use of instruments, programs, protocols etc.

* A range of easily obtainable reference material given some 3

used in the text and listed. Assistance acknowledged in end section but sources and help not acknowledged in text. Appropriate use of instruments, programs, protocols etc.

* A small range of easily obtainable references listed. Little attempt 2

to acknowledge assistance or sources. Appropriate but limited use of instruments, programs, protocols etc.

* Little evidence of any reference material sources, help and 1

assistance not acknowledged. Only very limited use of “obvious”. Appropriate use of instruments, programs, protocols etc.

**Knowledge (C)**

Principally this is asking two things:

1. Was a careful literature and/or other survey done? This may also involve interviews with people knowledgeable in the field. It may also involve some direct information gathering such as a questionnaire. If such other information gathering was used, it should be referenced in the style appropriate to the area of study.
2. Was the literature and/or the results of the survey analyzed? Is there evidence that these conclusions have been incorporated in the project? This may be evidenced by internal references in the text and possibly a student claiming to agree or disagree with a point of view.

*Criteria*

Points

* Demonstrates a clear understanding of the topic in terms 5

of a wide range of background information and detailed knowledge of the topic.

* Usually demonstrates a wide understanding of background 4

information and topic.

* Acceptable knowledge of the chosen topic, some 3

background information evident.

* Only a limited knowledge evident of the topic and 2

its background.

* Some incomplete or incorrect statements. Poor comprehension 1

of the background.

**Communication (D)**

Be aware that students from different cultural backgrounds may have different styles of presenting critical arguments. Having a good vocabulary and knowledge of the rules of English grammar may still lead to apparently woolly arguments because of a cultural style. Having said this, the project **is** being presented in English in a solely English language institution and must be assessed principally in these terms. If you suspect that the student is having difficulties in adapting to western styles of critical argument, you may wish to question the student **orally** on the project for clarification.

*Criteria*

Points

* Clearly stated details of the project which cover all 5

aspects thoroughly. Excellent use of language.

* Clearly stated details covering most 4

aspects of the project. Uses language to communicate clearly.

* Details generally well described but some details 3

either missing or poorly described. Uses language poorly

* Details sketchily described. Uses language poorly. 2
* Poorly expressed and little detail. Use of language to 1 communicate is poor.
* After careful reading, the project is incomprehensible. 0

**Interpretation (E)**

The principal goal here is to determine whether the student has been able to draw clear results from a body of information. This is where students who do not clearly understand their goal tend to be vague and make sweeping statements without specific reference to the results.

*Criteria*

Points

* Clearly stated assessment of the results based 5

on a clear understanding of the references and resources (criterion B) and how they relate to the results obtained.

* Clearly stated assessment of the results based 4

on an understanding of the references and resources (criterion B). Assessment covers most aspects of the results but lacks some detail

* Most aspects of the references are understood (criteria B) 3

and are related well to the interpretation of the results

* The references and resources are not always understood but 3

those that are well related to the results

* Some interpretation of the results but lacks detail 2
* Limited ability to assess or interpret the results. 1
* Results have been presented with no interpretation 0

**Summarizing the material (F)**

Here brevity, clarity and relevance are the most important features.

*Criteria*

Points

* Clearly and accurately portrays the content and intent 5

of the project including relevant conclusions with precision and economy of language.

* Accurately portrays the content and intent of the project but 4

may not be concise.

* A reasonable summary but with some gaps. 3
* Captures some parts of the essence of the project. 2
* Does not capture the essence of the project. 1
* There is no summary. 0

**Evaluation and critical discussion (G)**

This is the interpretation of what the results mean. They should give the reader meaning and value of the project. They should fit the project into the ongoing stream of knowledge and relate the project to what has been done before and what could be done in the future.

*Criteria*

Points

* Evaluates the project and its results and extends comment 5

to a range of suggested further work, alternatives or improvements.

* Evaluates and suggests a limited range of further work, alternatives 4

or improvements.

* Makes some attempt to comment on the project but limited 3

suggestions for further work or improvement.

* Makes some attempt to comment on the project but no 2

suggestions for further work or improvement.

* Little attempt to comment or make suggestions. 1
* No commentary or suggestions. 0

**Independence and Originality (H)**

This may not be evident from the written project but need to be assessed by the supervisor(s).

*Criteria*

Points

* Demonstrated considerable originality. Clearly understood 5

the goals of the project and was the principal initiator of ideas and was able to integrate these into a well-executed project

* Occasionally needed guidance but was the principal initiator of ideas 4
* Needed help for ideas and directions but after some initial guidance 3

was able to develop these to good conclusions and results.

* Needed considerable guidance and input from the supervisor. 2

Once having got such help however the student was able to initiate minor improvements and changes.

* No attempt to initiate ideas. Simply accepted instructions on what to 1

do and how to interpret the results. Made no original contributions.

**Size/difficulty factor (I)**

This is a subjective judgment. This is to give credit to students who have successfully tackled a large, complex or difficult project as opposed to students who have attempted to do the bare minimum. Discretion is necessary but none of the other criteria specifically take this into account.

Size can be difficult to assess. It is intended to give a small amount of extra credit to students who are genuinely interested in doing research and have successfully tackled a difficult project.

*Criteria*

Points

* The project was large and ambitious. There were a large number 5

of results which were well interpreted and presented. (It is expected that this will very rarely occur.)

* The project was large and ambitious. Not all the expected results 4

were obtained but those that were obtained were well interpreted and presented.

* The project was ambitious. Not all the expected results 3

were obtained and some were ignored or poorly handled.

* The project was less ambitious There were an appropriate number 3

of results which were **well** interpreted and presented.

* The project was less ambitious There were an appropriate number 2

of results which were interpreted and presented but there are some weaknesses.

* The project was close to the minimum requirement. There were 2

an appropriate number of results which were well interpreted and presented.

* The project was close to the minimum requirement. There were an 1

appropriate number of results which were acceptably interpreted and presented but some may have been ignored

* The absolute minimum appears to have been done. 0

**Supervisors Checklist**

Name Date

Email Student ID

Description of project

Are you enrolled for the project? Which Semester does this start?

Contract – Retain a copy.

How often will we meet?

What support do you need from me?

What schedule of milestones will we set?

Diary / Note Book

Standard format for Reports – see handout.

Referencing APA – see handout

Funding – are there any equipment needs?

Ethics – Is ethical approval required?

External Supervisor (if applicable)