

**UNIVERSITY OF GUYANA
FACULTY OF NATURAL SCIENCES
DEPARTMENT OF COMPUTER SCIENCE**

Course Number: CSE 4100
Course Name: Undergraduate Computer Science Research Project (Proposal)
Course Credit: 2

Description: This course is a fourth year first semester course intended for students pursuing the four year full time Computer Science program. The course is designed to provide a general introduction to the Research Process, equip students to undertake a literature review and to prepare a research proposal.

Exemption(s): Students must have completed all courses from years 1-3.

Pre-requisites: There are no pre-requisites for this course

Follow-On Courses: CSE 4200 – Undergraduate Computer Science Research Project (Thesis)

Learning Outcomes:

By the end of this course students will be able to:

1. Describe the research process.
2. Critically analyse and review published literature in a chosen subject area
3. Document a detailed literature review in a chosen area of computer science
4. Prepare and present a detailed project proposal

Course Content:

| WEEK | TOPICS | Lecture HOURS | Supervision HOURS |
|-------------|--|--------------------------|------------------------------|
| 1 | Course Overview <ul style="list-style-type: none">- Structure & Assessment of course- Student Experience of the Research Project Student Supervision | 3 | 2 |
| 2 | The Research Process <ul style="list-style-type: none">- Research vs Systems Development Student Supervision | 2 | 2 |
| 3 | Project Proposal <ul style="list-style-type: none">- Components of the Proposal- Developing the Proposal Student Supervision | 3 | 2 |
| 4 | Ethics in Research <ul style="list-style-type: none">- Plagiarism- Avoiding Plagiarism Student Supervision | 3 | 2 |
| 5 | Ethics in Research <ul style="list-style-type: none">- Correct use of Citations- APA Style Student Supervision | 3 | 2 |
| 6 | Literature Review <ul style="list-style-type: none">- Reviewing the Literature Student Supervision | 3 | 2 |
| 7 | Literature Review <ul style="list-style-type: none">- Writing the Literature Review Student Supervision | 3 | 2 |
| 8 | Refining the Research Problem <ul style="list-style-type: none">- Research Questions, Objectives and Goals- Hypothesis, Thesis Statements Student Supervision | 3 | 2 |
| 9 | Technical Writing | 3 | |

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|--------------|---|-----------|-----------|
| | - Using LaTeX | | |
| | Student Supervision | | 2 |
| 10 | Technical Writing - Using LaTeX | 3 | |
| | Student Supervision | | 2 |
| 11 | Methodology | 3 | |
| | Student Supervision | | 2 |
| 12 | Methodology | 3 | |
| | Student Supervision | | 2 |
| 13 | Brief overview of Analysis, Evaluation and Hypothesis Testing | 3 | |
| | Student Supervision | | 2 |
| 14 | Proposal Presentation | | |
| 15 | Project Proposal Submission | | |
| Total | 65 Contact Hours | 39 | 26 |

Method of Teaching:

Research Topic Seminars 3 x 13 = 39 hrs.
Meeting with Supervisors 2 x 13 = 26 hrs.

Method of Assessment:

This courses uses continuous assessment to evaluate students' learning.

Project Proposal Presenation (20%)
Written Project Proposal (70%)
Supervisor Interaction/Engagement (10%)

Required Reading(s)

- <http://www.cs.manchester.ac.uk/study/postgraduate-research/programmes/phd/apply/research-proposal/>
- https://www.scss.tcd.ie/khurshid.ahmad/Teaching/Lectures_on_Research_Methods/Research_Proposal.pdf

Recommended Reading(s)