



Course Specification

— (Bachelor)

Course Title: **Research Methods**

Course Code: **CS1752**

Program: **Computer Science**

Department: **Computer Science**

College: **Computing and information**

Institution: **Albaha University**

Version: **1.0**

Last Revision Date: **October 14, 2023**



Table of Contents

A. General information about the course:	3
B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods	5
C. Course Content	6
D. Students Assessment Activities	6
E. Learning Resources and Facilities	7
F. Assessment of Course Quality	8
G. Specification Approval	9



A. General information about the course:

This course will introduce students to the analysis of literature in selected area of research in computer science. Students will learn how to read and evaluate technical papers, select research topics, devise research questions, plan research, and analyze experimental results. At the end of the course, students will learn and practice how to conduct an independent research topic and write a research proposal.

1. Course Identification

1. Credit hours: 3

2. Course type

A. University College Department Track Others

B. Required Elective

3. Level/year at which this course is offered: 10 / 4th year

4. Course general Description:

This course will introduce students to the analysis of literature in selected area of research in computer science. Students will learn how to read and evaluate technical papers, select research topics, devise research questions, plan research, and analyze experimental results. At the end of the course, students will learn and practice how to conduct an independent research topic and write a research proposal.

5. Pre-requirements for this course (if any): none

6. Pre-requirements for this course (if any): none

7. Course Main Objective(s):

1. Recognize basics requirements for conducting scientific research
2. Learn how to read research papers
3. Learn how to write literature review
4. Find and formulate research questions/problems
5. Learn about research methodologies



6. **Discuss critical thinking writings**

7. **Understand research and ethical issues**

8. **Identify research presentations skills**

9. Increase understanding of current research in various areas of computer science

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	33	100%
2	E-learning		
3	Hybrid <ul style="list-style-type: none"> • Traditional classroom • E-learning 		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	33
2.	Laboratory/Studio	
3.	Field	
4.	Tutorial	
5.	Others (specify)	
Total		



B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Define research and its fundamental concepts. Explain components of a research proposal.	K1	-Lectures -Presentations	- Paper Critiques - Research Proposal - Final Exam
1.2	Select a research design that is appropriate to a research topic.	K1	-Lectures -Presentations	- Literature Review - Research Proposal - Final Exam
1.3	Distinguish between a variety of research methods and designs: Quantitative, Qualitative Mixed.	K1	-Lectures -Presentations	- Literature Review - Research Proposal - Final Exam
2.0	Skills			
2.1	Read and critically review the literature of a particular research topic.	S1	-Lectures -Presentations	- Research Proposal - Final Exam
2.2	Discuss primary characteristics of data analysis.	S2	-Lectures -Presentations	- Research Proposal - Final Exam
2.3	Discuss the findings with reference to the research objectives, questions/hypotheses and the relevant literature.	S3	-Lectures -Presentations	- Research Proposal - Final Exam
3.0	Values, autonomy, and responsibility			
3.1	Observe research ethics (such as avoiding plagiarism, acknowledging and giving	V1	-Lectures -Presentations	- Research Proposal - Final Exam





Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
	credit where credit is due, using data for research purposes only, etc.).			

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction	2
2.	Reading and understanding research paper	3
3.	Formulating research questions	3
4.	Writing literature review section	3
5.	Students presentations	3
6.	Research methodology	3
7.	Critical Thinking	3
8.	Students presentations	3
9.	Discussion and feedback	3
10.	Proposal Structure and Writing	
11.	Thesis Structure and Writing	2
12.	Ethical issues	3
13.	Final exam and project submission/presentation	2
Total		33

C. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Paper Critiques + Presentation	Week 3	10 %
2.	Literature Review + Presentation	Week 6	20 %
3.	Research Proposal + Presentation	Week 11	30 %
4.	Final Exam	Week 13	40 %

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).



E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	<ol style="list-style-type: none"> Marczyk, G., DeMatteo, D&Festinger, D., Essentials of Research Design and Methodology. USA, John Wiley and Sons, Inc., 2005. Neville, C., The Complete Guide to Referencing and Avoiding Plagiarism, New York, Open University Press, 2007
Supportive References	<ul style="list-style-type: none"> Computer Science Curriculum 2013 – http://cs2013.org ACM (Association for Computer Machinery) Curricula Recommendations - http://www.acm.org/education/curricula-recommendations
Electronic Materials	<ul style="list-style-type: none"> ACM (Association for Computer Machinery) web site - http://www.acm.org/ IEEE Computer Society web site - http://www.computer.org/portal/web/guest/home Access to the Saudi Digital Library (SDL). Using the learning management system of the university – Rafid System (https://lms.bu.edu.sa/).
Other Learning Materials	None

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	<ul style="list-style-type: none"> A classroom or lecture hall with whiteboard for 25 students. A digital circuit's laboratory.
Technology equipment (projector, smart board, software)	<ul style="list-style-type: none"> A digital image projection system with connection to desktop computer and laptop computer. High speed Internet connection. An instructor computer station.



Items	Resources
Other equipment (depending on the nature of the specialty)	None

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	<ul style="list-style-type: none"> ● Students ● Faculty ● Peer Reviewers ● Program Leader ● Course Coordinator 	<ul style="list-style-type: none"> ● Surveys (indirect). ● Direct feedback from students (interview between Program leader and students). ● Course evaluation by Peer Reviewers (indirect). ● Class visit by Program Leader ● Comprehensive Course report (where we can find information about teaching difficulties and action plan, ...)
Effectiveness of students assessment	<ul style="list-style-type: none"> ● Students ● Faculty ● Peer Reviewers ● Course Coordinator ● Exam Evaluation Committee ● Course Coordinator 	<ul style="list-style-type: none"> ● Surveys (indirect). ● Direct feedback from students (interview between Program leader and students). ● Assessment results (direct) ● Course evaluation by Peer Reviewers (indirect). ● Comprehensive Course report (where we can find information about assessment difficulties and action plan, ...) ● Exam evaluation by the Exam Evaluation Committee (indirect)
Quality of learning resources	<ul style="list-style-type: none"> ● Students ● Faculty ● Peer Reviewers 	<ul style="list-style-type: none"> ● Surveys (indirect)





Assessment Areas/Issues	Assessor	Assessment Methods
	<ul style="list-style-type: none"> ● Course Coordinator 	<ul style="list-style-type: none"> ● Course evaluation by Peer Reviewers (indirect). ● Comprehensive Course report (where we can find information about difficulties and challenges about learning resources as well as consequences and action plan, ...)
The extent to which CLOs have been achieved	<ul style="list-style-type: none"> ● Faculty ● Program Leader ● Course Coordinator 	<ul style="list-style-type: none"> ● Student Results (direct) ● Comprehensive Course report (where we can find the CLO assessment results)
Other	None	None

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	Curriculum Committee Meeting
REFERENCE NO.	
DATE	OCTOBER 14, 2023

