

Course Specification of Research Methodology

Course Code (FR 501)

• General Information About the Course:					
1.	Course Title:	Research Methodology			
2.	Course Code and Number:	FR 501			
3.	Credit Hours:	Credit Hours			Total
		Lecture	Practical	Seminar/Tutorial	
		3	-	-	3
4.	Study Level and Semester:	First Semester.			
5.	Pre-requisites (if any):	None.			
6.	Co-requisites (if any):	None.			
7.	Program (s) in which the course is offered:	MSc. in Mechatronics Engineering Program.			
8.	Language of teaching the course:	English Language.			
9.	Study System:	Courses & Thesis.			
10.	Prepared By:	Assoc. Prof. Dr. Abdul-Malik Ebrahim Momin.			
11.	Reviewed by:				
12.	Date of Approval:				

• Course Description:

This course introduces and discusses approaches, strategies, and data collection methods relating to research in social sciences. Students will consider how to select the appropriate methodology for use in a study to be performed. Additionally, these students will learn how to collect data based on different data collection methods, construct these tools, and pilot them before they become ready for use. Finally, this course targets the requirements for an academic work, considering aspects related to language, writing style, and lay-out. To complete this final stage, students will learn to write a comprehensive research proposal that may be conducted in the future.

• Course Intended Learning Outcomes (CILOs):

Upon successful completion of **Research Methodology Course**, the graduates will be able to:

- a1 . Describe the basic knowledge in the main subjects related to the Research Methodology.
- a2 . Establish the main issues in the technology used in the field of the course.
- a3 . Express the basic principles in the development of the course.
- a4 . Identify research principles and different methods in the related field of the Mechatronics.
- b1 - Explore suitable methodologies and technologies in the analysis of Research Methodology

pattern,

- b2-** Propose the analysis in the area of the Research Methodology Course.
- b3-** Analyze different systems to meet the required course.
- c1-** Perform detailed research in the area of the related course.
- c2-** Implement advanced methodologies and skills in the related course.
- c3 -** Conduct the acquired knowledge in the analysis of the new approaches related to the course.
- d1-** Examine a complete work and different tasks related to the course.
- d2-** Evaluate the awareness of the ethical principles and utilized knowledge in the related course.
- d3-** Review the advanced knowledge in the related course.
- d4-** Estimate the learning ability and skills in the related course.

• Alignment of Course Intended Learning Outcomes (CILOs) to Program Intended Learning Outcomes (PILOs)

CILOs		PILOs
y. Knowledge and Understanding: Upon successful completion of the Research Methodology Course , the graduates will be able to:		Y. Knowledge and Understanding: Upon successful completion of the MSc. In Mechatronics Engineering Program , the graduates will be able to:
a1.	Describe the basic knowledge in the main subjects related to the Research Methodology.	A1. Demonstrate in-depth understanding of Applied Mathematics in Mechatronics Engineering, Control System, Computer Engineering and Science, and Electronics to design more functional, adaptable and cost-effective products.
a2.	Establish the main issues in the technology used in the field of the related course.	A2. Recognize and explain the contemporary engineering technologies and issues in the field of Mechatronics Engineering.
a3.	Express the basic principles in the development of the course.	A3. Explain in-depth the principles of sustainable design and development of Mechatronics engineering.
a4.	Identify research principles and different methods in the related field of the Mechatronics.	A4. Demonstrate research principles and methods applicable to the field of work or academic in Mechatronics engineering and related fields.
z. Cognitive/ Intellectual Skills: Upon successful completion of the Research Methodology Course , the graduates will be able to:		Z. Cognitive/ Intellectual Skills: Upon successful completion of the MSc. In Mechatronics Engineering Program , the graduates will be able to:

b1.	Explore suitable methodologies and technologies in the analysis of Research Methodology pattern,	B1.	Apply appropriate principles, methodologies, techniques, tools and packages in the analysis, development and evaluation of mechatronics engineering systems.
b2.	Propose the analysis in the area of the Research Methodology Course.	B2.	Identify, formulate and analyze research and solve complex Mechatronics engineering problems.
b3.	Analyze different systems to meet the required course.	B3.	Design Mechatronics system, component, or process to meet desired needs within realistic constraints.
aa. Professional and Practical Skills: Upon successful completion of the Research Methodology Course , the graduates will be able to:		AA. Professional and Practical Skills: Upon successful completion of the MSc. In Mechatronics Engineering Program , the graduates will be able to:	
c1.	Perform detailed research in the area of the related course.	C1.	Conduct research to solve Mechatronics Engineering problems.
c2.	Implement advanced methodologies and skills in the related course.	C2.	Use advanced methodologies and skills to solve Mechatronics Engineering problems.
c3.	Conduct the acquired knowledge in the analysis of the new approaches related to the course.	C3.	Apply acquired knowledge of analysis and design for mechatronics engineering systems and implementation process.
bb. Transferable Skills: Upon successful completion of the Research Methodology Course , the graduates will be able to:		BB. Transferable Skills: Upon successful completion of the MSc. In Mechatronics Engineering Program , the graduates will be able to:	
d1.	Examine a complete work and different tasks related to the course.	D1.	Prepare a complete thesis and term-courses works/ tasks, write their documents and defend on them.
d2.	Evaluate the awareness of the ethical principles and utilized knowledge int the related course.	D2.	Demonstrate ethical principles, awareness of professional and ethical responsibility as well as knowledge of the standards utilized in related fields.
d3.	Review the advance knowledge in the related course.	D3.	Conduct independently and communicate research that advances and extends knowledge and scholarship in related fields.
d4.	Estimate the learning ability and skills in the related course.	D4.	Independent learning ability, self-direction and independence leading to the ability to continue to develop their knowledge understanding

		and skills through further professional development.
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• Alignment of CILOs to Teaching and Assessment Strategies

y. Alignment of Knowledge and Understanding CILOs:

	Knowledge and Understanding CILOs	Teaching Strategies	Assessment Strategies
a1.	Describe the basic knowledge in the main subjects related to the Research Methodology.	<ul style="list-style-type: none"> ▪ Lectures, ▪ Seminars, ▪ Self-Learning Problems/Studies, ▪ Case study, ▪ Group/Individual Projects and Studies, ▪ Field Work, ▪ Active learning, ▪ Computer hands-on sessions. 	<ul style="list-style-type: none"> ▪ Oral & Writing Exams, ▪ Reports, ▪ Survey, ▪ Assignments.
a2.	Establish the main issues in the technology used in the field of the related course.	<ul style="list-style-type: none"> ▪ Lectures, ▪ Seminars, ▪ Self-Learning, Problems/Studies, ▪ Case study, ▪ Group/Individual Projects and Studies, ▪ Field Work, ▪ Active learning, ▪ Computer hands-on sessions. 	<ul style="list-style-type: none"> ▪ Oral & Writing Exams, ▪ Reports, ▪ Survey, ▪ Assignments.
a3.	Express the basic principles in the development of the course.	<ul style="list-style-type: none"> ▪ Lectures, ▪ Seminars, ▪ Self-Learning Problems/Studies, ▪ Case study, ▪ Group/Individual Projects and Studies, ▪ Field Work, ▪ Active learning, ▪ Computer hands- 	<ul style="list-style-type: none"> ▪ Oral & Writing Exams ▪ Reports, ▪ Survey, ▪ Assignments

		on sessions.	
a4.	Identify research principles and different methods in the related field of the Mechatronics.	<ul style="list-style-type: none"> ▪ Lectures, ▪ Seminars, ▪ Self-Learning, ▪ Problems/Studies, ▪ Case study, ▪ Group/Individual Projects and Studies, ▪ Field Work, ▪ Active learning, ▪ Computer hands-on sessions. 	<ul style="list-style-type: none"> ▪ Oral & Writing Exams ▪ Reports, ▪ Survey, ▪ Assignments.

z. Alignment of Intellectual Skills CILOs:

Intellectual Skills CILOs		Teaching Strategies	Assessment Strategies
b1.	Explore suitable methodologies and technologies in the analysis of Research Methodology pattern.	<ul style="list-style-type: none"> ▪ Lectures, ▪ Project Supervision, ▪ Self-Learning, ▪ Case Study, ▪ Simulation Exercises, ▪ Independent Study, ▪ Analysis and Problem Solving, ▪ Brainstorming, ▪ Presentations. 	<ul style="list-style-type: none"> ▪ Oral & Writing Exams, ▪ Reports, ▪ Survey, ▪ Assignments.
b2.	Propose the analysis in the area of the Research Methodology Course.	<ul style="list-style-type: none"> ▪ Lectures, ▪ Project Supervision, ▪ Self-Learning, ▪ Case Study, ▪ Simulation Exercises, ▪ Independent Study, ▪ Analysis and Problem Solving, ▪ Brainstorming, ▪ Presentations. 	<ul style="list-style-type: none"> ▪ Oral & Writing Exams, ▪ Reports, ▪ Survey, ▪ Assignments.
b3.	Analyze different systems to meet the required course.	<ul style="list-style-type: none"> ▪ Lectures, ▪ Project Supervision, ▪ Self-Learning, ▪ Case Study, ▪ Simulation Exercises, ▪ Independent Study, 	<ul style="list-style-type: none"> ▪ Oral & Writing Exams, ▪ Reports, ▪ Survey, ▪ Assignments.

		<ul style="list-style-type: none"> ▪ Analysis and Problem Solving, ▪ Brainstorming, ▪ Presentations. 	

aa. Alignment of Professional and Practical Skills CILOs:

Professional and Practical Skills CILOs		Teaching Strategies	Assessment Strategies
c1.	Perform detailed research in the area of the related course.	<ul style="list-style-type: none"> ▪ Lectures, ▪ Project Supervision, ▪ Self-Learning, ▪ Case Study, ▪ Simulation Exercises, ▪ Independent Study, ▪ Analysis and Problem Solving, ▪ Brainstorming, ▪ Presentations. 	<ul style="list-style-type: none"> ▪ Seminar Report, ▪ Written Research Proposal, ▪ Thesis and Publication.
c2.	Implement advanced methodologies and skills in the related course.	<ul style="list-style-type: none"> ▪ Lectures, ▪ Project Supervision, ▪ Laboratory Works, ▪ Self-Learning, ▪ Case Study, ▪ Simulation Exercises, ▪ Independent Study, ▪ Analysis and Problem Solving, ▪ Brainstorming, ▪ Presentations. 	<ul style="list-style-type: none"> ▪ Seminar Report, ▪ Written Research Proposal, ▪ Thesis and Publication.
c3.	Conduct the acquired knowledge in the analysis of the new approaches related to the course.	<ul style="list-style-type: none"> ▪ Lectures, ▪ Project Supervision, ▪ Laboratory Works, ▪ Self-Learning, ▪ Case Study, ▪ Simulation Exercises, ▪ Independent Study, ▪ Analysis and Problem Solving, ▪ Brainstorming, ▪ Presentations. 	<ul style="list-style-type: none"> ▪ Seminar Report, ▪ Written Research Proposal, ▪ Thesis and Publication.

bb. Alignment of Transferable (General) Skills CILOs:

Transferable (General) Skills CILOs		Teaching Strategies	Assessment Strategies
d1.	Examine a complete work and different tasks related to the course.	<ul style="list-style-type: none"> ▪ Dissertation Defenses and Presentation, ▪ Independent Study, ▪ Presentation, ▪ Brainstorming, ▪ Presenting Researches, ▪ Publish Research Papers. 	<ul style="list-style-type: none"> ▪ Written Research Proposal, ▪ Thesis and Publication, ▪ Written Exam, ▪ Assignments, ▪ Field Work, ▪ Survey, ▪ Presentation, ▪ Written Report.
d2.	Evaluate the awareness of the ethical principles and utilized knowledge in the related course.	<ul style="list-style-type: none"> ▪ Dissertation Defenses and Presentation, ▪ Independent Study, ▪ Presentation, ▪ Brainstorming, ▪ Presenting Researches, ▪ Publish Research Papers. 	<ul style="list-style-type: none"> ▪ Written Research Proposal, Thesis and Publication, ▪ Written Exam, ▪ Assignments, ▪ Field Work, ▪ Survey, ▪ Presentation, ▪ Written Report.
d3.	Review the advance knowledge in the related course.	<ul style="list-style-type: none"> ▪ Dissertation Defenses and Presentation, ▪ Independent Study, ▪ Presentation, ▪ Brainstorming, ▪ Presenting Researches, ▪ Publish Research Papers. 	<ul style="list-style-type: none"> ▪ Written Research Proposal, ▪ Thesis and Publication, ▪ Written Exam, ▪ Assignments, ▪ Field Work, ▪ Survey, ▪ Presentation, ▪ Written Report.
d4.	Estimate the learning ability and skills in the related course	<ul style="list-style-type: none"> ▪ Dissertation Defenses and Presentation, ▪ Independent Study, ▪ Presentation, ▪ Brainstorming, ▪ Presenting Researches, ▪ Publish Research Papers. 	<ul style="list-style-type: none"> ▪ Written Research Proposal, ▪ Thesis and Publication, ▪ Written Exam, ▪ Assignments, ▪ Field Work, ▪ Survey, ▪ Presentation, ▪ Written Report.

• Course Content

19. Theoretical Aspect

Order	Topic List / Units	Sub -Topics List	Number of Weeks	Contact Hours	Course CIOs
1.	The Literature Review.	<ul style="list-style-type: none"> ▪ Needs of the Literature Review. ▪ Objectives and Sources of Literature Review. ▪ How to conduct the Literature Review? 	2	6	a1, a2, d3, d4
		<ul style="list-style-type: none"> ▪ Reporting the Literature Review. 			
2.	Introduction to the Research Methodology.	<ul style="list-style-type: none"> ▪ Definitions and Meaning of Research. ▪ Objectives of Research. 	2	6	a3, b1, c1, d3, d4
		<ul style="list-style-type: none"> ▪ General Introduction to the Course. ▪ General Characteristics of the Research. ▪ Criteria of the Good Research. ▪ Scientific Thinking. 			
3.	The Research Approach.	<ul style="list-style-type: none"> ▪ The Philosophical Background. 	2	6	a1, a3, b2, c1, c2, c3
		<ul style="list-style-type: none"> ▪ The Qualitative Approach. 			
		<ul style="list-style-type: none"> ▪ The Quantitative Approach. ▪ Criteria for selecting a Research Approach. 			
4.	The Research Strategy.	<ul style="list-style-type: none"> ▪ What are the Research Strategies? ▪ Case Studies. ▪ Ground Theory. ▪ Action Research. 	1	3	a2, a4, b1, b3, c2
5.	Data Collection Methods.	<ul style="list-style-type: none"> ▪ Questionnaire. ▪ Design a template for the Questionnaire. 	1	3	a1, a3, b1, b2, c1, d1, d4
		<ul style="list-style-type: none"> ▪ Interviews. ▪ Focus Groups. ▪ Observations. 			
		<ul style="list-style-type: none"> ▪ Case Study. 			
6.	Mid-Term Exam.	<ul style="list-style-type: none"> ▪ All the Previous Chapters. 	1	3	a1, a2, a3, a4, b1, b2, b3, c2, c3, d2, d4
7.	Sampling.	<ul style="list-style-type: none"> ▪ Definition of the Sampling. 	2	6	a1, a2, b1, b2,
		<ul style="list-style-type: none"> ▪ Functions of Populations and 			

		Sampling. <ul style="list-style-type: none"> ▪ Methods of Sampling. ▪ Characteristics of a Good Sample. ▪ The Sample Cycle. 			c3, d1, d3, d4
8.	The Research Hypothesis.	<ul style="list-style-type: none"> ▪ Meaning of the Hypothesis. ▪ Importance of the Hypothesis. ▪ Kinds of the Hypothesis. ▪ Characteristics of the Good Hypothesis. ▪ Variables in the Hypothesis. ▪ Formulating the Hypothesis. ▪ Testing the hypothesis. ▪ 	2	6	a2, a4, b1, b3, c3, d2
9.	Developing Research Proposal.	<ul style="list-style-type: none"> ▪ What is a Research Proposal? ▪ Components of the Research Proposal. ▪ Google Search. ▪ Types of Journals. ▪ Journal Impact Factor. ▪ Journal Paper and Evaluation. 	2	6	a1, a2, a3, a4, b1, b2, b3, c1, c2, c3, d1, d2, d3, d4
10.	Final Exam.	<ul style="list-style-type: none"> ▪ All the Chapters. 	1	3	a1, a2, a3, a4, b1, b2, b3, c2, c3, d2, d4
Number of Weeks /and Contact Hours Per Semester			16	48	

20. Practical Aspect (None)

Order	Practical / Tutorials Topics	Number of Weeks	Contact Hours	Course ILOs
1	▪			
2	▪			
3	▪			
4	•			
5	▪			
6	•			

Number of Weeks /and Contact Hours Per Semester				

21. Tutorial Aspect:

No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CLOs)
1.	Assignment of the Chapter One (The Literature Review).	2	6	a1, a2, d3, d4
2.	Assignment of the Chapter Two (Introduction to the Research Methodology).	2	6	a3, b1, c1, d3, d4
3.	Assignment of the Chapter Three (The Research Approach).	2	6	a1, a3, b2, c1, c2, c3
4.	Assignment of the Chapter Four (The Research Strategy).	1	3	a2, a4, b1, b3, c2
5.	Assignment of the Chapter Five (Data Collection Methods).	1	3	a1, a3, b1, b2, c1, d1, d4
6.	Assignment of the Chapter Six (Sampling).	2	6	a1, a2, b1, b2, c3, d1, d3, d4
7.	Assignment of the Chapter Seven (The Research Hypothesis).	2	6	a2, a4, b1, b3, c3, d2
8.	Assignment of the Chapter Eight (Developing Research Proposal).	2	6	a1, a2, a3, a4, b1, b2, b3, c1, c2, c3, d1, d2, d3, d4
		14	42	

• Teaching Strategies:

1. Active Lectures.
2. Seminar.
3. Self-learning Problems.
4. Computer hands-on Sessions.
5. Analysis and Problem Solving.
6. Brain Storming.
7. Presentation.
8. Simulation Exercises.
9. Publish Research Papers.

• Assessment Methods of the Course:

1. Reports.
2. Assignments.
3. Survey.
4. Written Research Proposal.
5. Thesis and Publications.
6. Presentation.

• Tasks and Assignments:

No	Assignments/ Tasks	Individual/ Group	Mark	Week Due	CILOs (symbols)
1.	Homework (every week).	Groups	10	Every Week	a1, a2, a3, a4, b1, b2, b3, c1, c2, c3, d1, d2, d3, d4
2.	Mini/Major Project.	Groups	20	After the Eight Week	a1, a2, a3, a4, b1, b2, b3, c1, c2, c3, d1, d2, d3, d4
3.	Case studies.	Groups	20	Last Week	a1, a2, a3, a4, b1, b2, b3, c1, c2, c3, d1, d2, d3, d4

	Total Score	50	=	==	

• Learning Assessment:

No.	Assessment Tasks	Week due	Mark	Proportion of Final Assessment	CILOs
1.	Tasks and Assignments	Every Week	15	15	a1, a2, a3, a4, b1, b2, b3, b4, b5
2.	Quizzes	Two Times	15	15	a1, a2, a3, a4, b1, b2,
3.	Mid-term Exam	9 th	20	20	a1, a2, a3, a4, b1, b2,
4.	Final Exam (Practical)	16 th	50	50	a1, a2, a3, a4, b1, b2,
Total				100%	

• Learning Resources :

18.Required Textbook(s) :

9. Deb. D., Dey, R. & Balas, V. E. (2019), Engineering Research Methodology, (Vol. 15) Springer,
10. Denscombes, M. (2010), The Good Research Guide. Open University Press.
11. Hayhoe, G.F. & Brewer, P. E. (2021). A research primer for technical communications methods. Routledge, Taylor & Francis Group.

19.Essential References:

10. Dawson, C. (2007), A practical guide to research methods: a user friendly manual for mastering research techniques and projects.

20.Electronic Materials and Web Sites etc.

10. <https://endnote.com>
11. <https://www.turnitin.com>

XII الضوابط والسياسات المتبعة في المقرر Course Policies

بعد الرجوع للوائح الجامعة يتم كتابة السياسة العامة للمقرر فيما يتعلق بالآتي:

سياسة حضور الفعاليات التعليمية - يلتزم الطالب بحضور 75% من المحاضرات ويحرم في حال عدم الوفاء بذلك. - يقدم أستاذ المقرر تقريراً بحضور وغياب الطلاب للقسم ويحرم الطالب من دخول الامتحان في حال تجاوز الغياب 25% ويتم اقرار الحرمان من مجلس القسم.	1
:Tardy الحضور المتأخر	2

<p>- يسمح للطالب حضور المحاضرة إذا تأخر لمدة ربع ساعة لثلاث مرات في الفصل الدراسي، وإذا تأخر زيادة عن ثلاث مرات يحذر شفويا من أستاذ المقرر، وعند عدم الالتزام يمنع من دخول المحاضرة.</p>	
<p>ضوابط الامتحان :Exam Attendance/Punctuality - لا يسمح للطالب دخول الامتحان النهائي إذا تأخر مقدار (20) دقيقة من بدء الامتحان - إذا تغيب الطالب عن الامتحان النهائي تطبق اللوائح الخاصة بنظام الامتحان في الكلية.</p>	3
<p>التعيينات والمشاريع :Assignments & Projects - يحدد أستاذ المقرر نوع التعيينات في بداية الفصل ويحدد مواعيد تسليمها وضوابط تنفيذ التكاليف وتسليمها. - إذا تأخر الطالب في تسليم التكاليف عن الموعد المحدد يحرم من درجة التكاليف الذي تأخر في تسليمه.</p>	4
<p>الغش :Cheating - في حال ثبوت قيام الطالب بالغش في الامتحان النصفى أو النهائي تطبق عليه لائحة شؤون الطلاب. - في حال ثبوت قيام الطالب بالغش أو النقل في التكاليف والمشاريع يحرم من الدرجة المخصصة للتكاليف.</p>	5
<p>الانتحال :Plagiarism - في حالة وجود شخص ينتحل شخصية طالب لأداء الامتحان نيابة عنه تطبق اللائحة الخاصة بذلك</p>	6
<p>سياسات أخرى :Other policies - أي سياسات أخرى مثل استخدام الموبايل أو مواعيد تسليم التكاليف الخ</p>	7

Course Plan (Research Methodology)

• Information about Faculty Member Responsible for the Course:

Name	Assoc. Prof. Dr. Abdul-Malik Ebrahim Momin	Office Hours					
Location & Telephone No.	777943334	SAT	SUN	MON	TUE	WED	THU
E-mail	dramalikmomin@yahoo.com						

• General information about the course:

55	Course Title	Research Methodology				
56	Course Code and Number	FR 501				
57	Credit Hours	Credit Hours			Total	
		Lecture	Practical	Seminar/Tutorial		
		3	-	-	3	
58	Study Level and Semester	First Semester.				
59	Pre-requisites	None.				
60	Co –requisite	None.				
61	Program (s) in which the course is offered	Mechatronics Engineering Program.				
62	Language of teaching the course	English Language.				
63	Location of teaching the course	Mechatronics Engineering Department.				

• Course Description:

This course introduces and discusses approaches, strategies, and data collection methods relating to research in social sciences. Students will consider how to select the appropriate methodology for use in a study to be performed. Additionally, these students will learn how to collect data based on different data collection methods, construct these tools, and pilot them before they become ready for use. Finally, this course targets the requirements for an academic work, considering aspects related to language, writing style, and lay-out. To complete this final stage, students will learn to write a comprehensive research proposal that may be conducted in the future.

• Course Intended Learning Outcomes (CILOs):

Upon successful completion of **Research Methodology Course**, the graduates will be able to:

- a1 . Describe the basic knowledge in the main subjects related to the Research Methodology.
- a2 . Establish the main issues in the technology used in the field of the course.
- a3 . Express the basic principles in the development of the course.
- a4 . Identify research principles and different methods in the related field of the Mechatronics.

- b1** - Explore suitable methodologies and technologies in the analysis of Research Methodology pattern,
- b2**- Propose the analysis in the area of the Research Methodology Course.
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- c1**- Perform detailed research in the area of the related course.
- c2**- Implement advanced methodologies and skills in the related course.
- c3** - Conduct the acquired knowledge in the analysis of the new approaches related to the course.
- d1**- Examine a complete work and different tasks related to the course.
- d2**- Evaluate the awareness of the ethical principles and utilized knowledge in the related course.
- d3**- Review the advance knowledge in the related course.
- d4**- Estimate the learning ability and skills in the related course.

• Course Content:

10.Theoretical Aspect:

Order	Topic List / Units	Sub -Topics List	Week Due	Contact Hours
1.	The Literature Review.	<ul style="list-style-type: none"> ▪ Needs of the Literature Review. ▪ Objectives and Sources of Literature Review. ▪ How to conduct the Literature Review? 	2	6
		<ul style="list-style-type: none"> ▪ Reporting the Literature Review. 		
2.	Introduction to the Research Methodology.	<ul style="list-style-type: none"> ▪ Definitions and Meaning of Research. ▪ Objectives of Research. 	2	6
		<ul style="list-style-type: none"> ▪ General Introduction to the Course. ▪ General Characteristics of the Research. ▪ Criteria of the Good Research. ▪ Scientific Thinking. 		
3.	The Research Approach.	<ul style="list-style-type: none"> ▪ The Philosophical Background. 	2	6
		<ul style="list-style-type: none"> ▪ The Qualitative Approach. 		
		<ul style="list-style-type: none"> ▪ The Quantitative Approach. ▪ Criteria for selecting a Research Approach. 		
4.	The Research Strategy.	<ul style="list-style-type: none"> ▪ What are the Research Strategies? ▪ Case Studies. ▪ Ground Theory. ▪ Action Research. 	1	3
5.	Data Collection Methods.	<ul style="list-style-type: none"> ▪ Questionnaire. ▪ Design a template for the Questionnaire. 	1	3
		<ul style="list-style-type: none"> ▪ Interviews. 		
		<ul style="list-style-type: none"> ▪ Focus Groups. ▪ Observations. 		
		<ul style="list-style-type: none"> ▪ Case Study. 		

6.	Mid-Term Exam.	<ul style="list-style-type: none"> ▪ All the Previous Chapters. 	1	3
7.	Sampling.	<ul style="list-style-type: none"> ▪ Definition of the Sampling. ▪ Functions of Populations and Sampling. ▪ Methods of Sampling. ▪ Characteristics of a Good Sample. ▪ The Sample Cycle. 	2	6
8.	The Research Hypothesis.	<ul style="list-style-type: none"> ▪ Meaning of the Hypothesis. ▪ Importance of the Hypothesis. ▪ Kinds of the Hypothesis. ▪ Characteristics of the Good Hypothesis. ▪ Variables in the Hypothesis. ▪ Formulating the Hypothesis. ▪ Testing the hypothesis. ▪ 	2	6
9.	Developing Research Proposal.	<ul style="list-style-type: none"> ▪ What is a Research Proposal? ▪ Components of the Research Proposal. ▪ Google Search. ▪ Types of Journals. ▪ Journal Impact Factor. ▪ Journal Paper and Evaluation. 	2	6
10.	Final Exam.	<ul style="list-style-type: none"> ▪ All the Chapters. 	1	3
Number of Weeks /and Contact Hours Per Semester			16	48

11. Practical Aspect (None)

Order	Practical / Tutorials topics	Number of Weeks	Contact Hours	Course ILOs
1	▪			
2	▪ ▪			
3	▪ ▪			
4	•			
5	▪			
6	• ▪			

Number of Weeks /and Contact Hours Per Semester			
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3. Training/ Tutorials/ Exercises Aspects:

No.	Tutorial	Week Due	Contact Hours
1.	Assignment of the Chapter One (The Literature Review).	2	6
2.	Assignment of the Chapter Two (Introduction to the Research Methodology).	2	6
3.	Assignment of the Chapter Three (The Research Approach).	2	6
4.	Assignment of the Chapter Four (The Research Strategy).	1	3
5.	Assignment of the Chapter Five (Data Collection Methods).	1	3
6.	Assignment of the Chapter Six (Sampling).	2	6
7.	Assignment of the Chapter Seven (The Research Hypothesis).	2	6
8.	Assignment of the Chapter Eight (Developing Research Proposal).	2	6
		14	42

• Teaching Strategies:

1. Active Lectures.
2. Seminar.
3. Self-learning Problems.
4. Computer hands-on Sessions.
5. Analysis and Problem Solving.
6. Brain Storming.
7. Presentation.
8. Simulation Exercises.
9. Publish Research Papers.

• Assessment Methods of the Course:

1. Reports.
2. Assignments.
3. Survey.
4. Written Research Proposal.

• Assessment Methods of the Course:

5. Thesis and Publications.
6. Presentation

• Tasks and Assignments:

No	Assignments/ Tasks	Individual/ Group	Mark	Week Due
1.	Homework (every week).	Groups	10	Every Week
2.	Mini/Major Project.	Groups	20	After the Eight Week
3.	Case Studies.	Groups	20	Last Week
Total Score			50	==

• Learning Assessment:

No.	Assessment Tasks	Week due	Mark	Proportion of Final Assessment
1.	Tasks and Assignments.	Every Week	15	15
2.	Quizzes.	Two Times	15	15
3.	Mid-term Exam.	9 th	20	20
4.	Final Exam (Practical).	16 th	50	50
Total				100%

• Learning Resources :

1. Required Textbook(s) :

1. Deb. D., Dey, R. & Balas, V. E. (2019), Engineering Research Methodology, (Vol. 15) Springer,
2. Denscombes, M. (2010), The Good Research Guide. Open University Press.
3. Hayhoe, G.F. & Brewer, P. E. (2021). A research primer for technical communications methods. Routledge, Taylor & Francis Group.

11. Essential References:

1. Dawson, C. (2007), A practical guide to research methods: a user friendly manual for mastering research techniques and projects.

12. Electronic Materials and Web Sites etc.

1. <https://endnote.com>
2. <https://www.turnitin.com>

XI الضوابط والسياسات المتبعة في المقرر Course Policies

بعد الرجوع للوائح الجامعة يتم كتابة السياسة العامة للمقرر فيما يتعلق بالآتي:

1	سياسة حضور الفعاليات التعليمية Class Attendance: - يلتزم الطالب بحضور 75% من المحاضرات ويحرم في حال عدم الوفاء بذلك. - يقدم أستاذ المقرر تقريراً بحضور وغياب الطلاب للقسمة ويحرم الطالب من دخول الامتحان في حال تجاوز الغياب 25% ويتم إقرار الحرمان من مجلس القسم.
2	الحضور المتأخر Tardy: - يسمح للطالب حضور المحاضرة إذا تأخر لمدة ربع ساعة لثلاث مرات في الفصل الدراسي، وإذا تأخر زيادة عن ثلاث مرات يحذر شفويًا من أستاذ المقرر، وعند عدم الالتزام يمنع من دخول المحاضرة.
3	ضوابط الامتحان Exam Attendance/Punctuality: - لا يسمح للطالب دخول الامتحان النهائي إذا تأخر مقدار (20) دقيقة من بدء الامتحان - إذا تغيب الطالب عن الامتحان النهائي تطبق اللوائح الخاصة بنظام الامتحان في الكلية.
4	التعيينات والمشاريع Assignments & Projects: - يحدد أستاذ المقرر نوع التعيينات في بداية الفصل ويحدد مواعيد تسليمها وضوابط تنفيذ التكاليف وتسليمها. - إذا تأخر الطالب في تسليم التكاليف عن الموعد المحدد يحرم من درجة التكاليف الذي تأخر في تسليمه.
5	الغش Cheating: - في حال ثبوت قيام الطالب بالغش في الامتحان النصفى أو النهائي تطبق عليه لائحة شؤون الطلاب. - في حال ثبوت قيام الطالب بالغش أو النقل في التكاليف والمشاريع يحرم من الدرجة المخصصة للتكاليف.
6	الانتحال Plagiarism: - في حالة وجود شخص ينتحل شخصية طالب لأداء الامتحان نيابة عنه تطبق اللائحة الخاصة بذلك
7	سياسات أخرى Other policies: - أي سياسات أخرى مثل استخدام الموبايل أو مواعيد تسليم التكاليف الخ