



# Field Experience Specification

Course Title: **Research Project**

Course Code: **BCH 493**

Program: **Bachelor's degree (BSc) in Biochemistry**

Department: **Biochemistry**

College: **College of Science**

Institution: **King Saud University**

Field Experience Version Number: **V1**

Last Revision Date: **2 November 2023**



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## A. Field Experience Details:

1. Credit hours: (0+2).

2. Level/year at which Field Experience is offered: (8<sup>th</sup>).

3. Time allocated for Field Experience activities

(14) Weeks

( ..... ) Days

( ..... ) Hours

4. Corequisite (or prerequisites if any) to join Field Experience

5. Mode of delivery

In-person/onsite

hybrid (onsite/online)

Online

## B. Field Experience Course Learning Outcomes (CLOs), Training Activities and Assessment Methods

Code	Learning Outcomes	Aligned PLO Code	Training Activities	Assessment Methods	Assessment Responsibility
1.0	<b>Knowledge and understanding</b>				
1.1	Conduct research and a critical analysis: Showcasing the ability to apply critical thinking skills to evaluate scientific literature, research findings, and experimental results and the ability to draw logical conclusions based on evidence.	K3	Designing and execution of a research study	Evaluation of lab reports, designing and executing experiments Evaluation of student activities and data collection <b>(60% of total marks)</b>	Instructor
1.2					
...					
2.0	<b>Skills</b>				
2.1	Analyze the results of the	S1	Demonstrating the ability to identify and	Estimation of the final	Instructor and exam committee





Code	Learning Outcomes	Aligned PLO Code	Training Activities	Assessment Methods	Assessment Responsibility
	biochemical experimental data for deep analysis.		analyze problems related to biochemistry, propose hypotheses, design experiments, and draw conclusions based on results.	report Writing (20%)	
2.2	Develop scientifically oriented methods for real-life problem-solving situations.	S2	Data analysis, interpretation and presentation	Evaluating the presentation of the final results. Oral exam(10%)	Exam committee
...					
<b>3.0</b>	<b>Values, autonomy, and responsibility</b>				
3.1	Achieve leadership with responsibility and cooperativity in the biochemical scientific community.	V2	Student cooperation in lab sessions.  Presenting findings effectively and professionally through scientific posters	Poster (10%)	Exam committee
3.2					
...					

\*Assessment methods(i.e., practical test, field report, oral test, presentation, group project, essay, etc.).

### **Evaluation of student performance (daily) in the project throughout the semester (by the supervisor)**

Evaluation Criterion	Unsatisfactory (0-4)	Marginally Satisfactory (5-6)	Good (7-8)	Excellent (9-10)	Team Score
Attendance <b>20%</b>	Can never be found	Occasionally in assigned area (s)	Usually in assigned area (s)	Always in assigned area (s)	
Appearance <b>5%</b>	Appearance unclean and unprofessional	Somewhat meets dress code	Meets dress code	Look professional and neat	
Ability to follow instruction <b>10%</b>	Cannot follow the simplest of Instructions	Rarely able to follow instructions, no much help in department	Can usually follow basic instructions with guidance	Always able to follow instructions	





Quality of the work <b>15%</b>	Quality of work often failed to meet our expectations	Quality of work sometimes failed to meet our expectations	Quality of work meet our expectations	Quality of work frequently exceeded our expectations	
Motivation <b>10%</b>	Poor motivation will not perform tasks without direct order	Fair motivation sometimes requires assigned tasks	Well-motivated perform tasks with little encouragement	Highly motivated, wants to perform every task possible	
Reaction to criticism <b>10%</b>	Very defensive with criticism makes no effort correct mistakes	Sometimes defensive with criticism correct mistakes occasionally	Usually accepts criticism well and tries to correct mistakes	Consistently accepts criticism well tries to correct mistakes	
Group/Partner Team work <b>10%</b>	Completely unwilling or unable to work with other people	Some difficulty adjusting personality to work with others	Usually helps, works well with most people	Always willing to help anyone in need easy to work with	
Leadership <b>5%</b>	Passive in respect to goal setting, initiating tasks and resolving problems	Was supportive but displayed little initiative in moving the team towards its goals	Showed initiative in helping the team solve problems and achieve its goals	Was a positive force in looking ahead and supporting other team members to achieve its goals	
Safety <b>15%</b>	Proper safety precautions are consistently used	Proper safety precautions are generally used	Proper safety precautions are often missed	Proper safety precautions are consistently missed	

### **Evaluation of the written research report *(by the supervisor + examination committee)***

Evaluation Criterion	Unsatisfactory (0-4)	Marginally Satisfactory (5-6)	Good (7-8)	Excellent (9-10)	Team Score
Summary and Content <b>5%</b>	The summary is missing or exists but lacks a lot of relevant information about the work.	The summary is like an introduction to the report. It lacks some of the important information about the work. The content is will presented.	The summary is just reflect the report parts and include the necessary information such as motivation problem statement, deliverables. The content is complete	The summary is professional and creates curiosity in the reader to go further in the report. The content is well organized	
Introduction and scientific background	The introduction provides incorrect statement of the problem	The introduction contains scientific background about the work	The introduction contains enough scientific background about	The introduction contains complete scientific background about	





d 10%			the work, the scope of the project; organization of the report	the work, the scope of the project, organization of the report. It also includes concluding remarks about the content presented in the report	
Problem Statement and Objectives 10%	The problem is roughly stated. The proposed solution and objectives are not identified	The problem is stated. The proposed solution is identified. The objectives are presented but not measurable	The problem is clearly stated. The proposed solution is clearly identified. Objectives are identified with some of them are not measurable	The problem is clearly stated. The proposed solution and measurable objectives are clearly identified	
Experimental Procedure 25%	Important parts of the description of the experimental/theoretical systems and procedures are missing. Diagrams and figures are missing	Overall description of most parts of the experimental/theoretical systems and procedures are indicated with some diagrams and figures are missing	Adequate description of all parts of the experimental/theoretical systems and procedures are indicated with diagrams and figures	experimental/theoretical systems and procedures are clearly indicated with all related diagrams and figures	
Results Conclusion and Suggested work 30%	Lack of presenting results. No conclusion neither suggested work are provided	Obtained results are partially presented and discussed with missing analysis and suggested future work	Obtained results are clearly presented, discussed and analyzed. Brief conclusion and suggested work are included	Obtained results are clearly presented, evaluated, discussed and analyzed. Agreement between the obtained results and other's results are discussed and justified. A conclusion and suggested work based on the analysis are included	
Language 10%	The language is bad in order to understand the report idea. Text is full of errors and typing mistakes.	Problematic language, sometimes making it difficult to understand the whole report clearly. Frequent errors and typing mistakes are observed	Good language is used in the report with rare difficulties. Some errors or typing mistakes observed.	Strong language is adopted in writing the report errors or typing mistakes observed in the report	
Organization and Appearance of the Report 10%	The report has many major mistakes related to the format. Many sections, tables and figures are missing. A list of references is not provided.	The report has some deficiencies with the format. Some of the standards sections and figures are missing. A list of references is present with incomplete citations and incorrect reference numbers	The report is bound and has an acceptable format. Most of the standards sections of a report are included. Captioned figures and tables are present. A list of references exist with adequate citations in the text.	The report has a professional KSU format with a consistent style and appropriate page numbers. All standards sections of a report exist. The needed supplementary details are included as appendices.	





				Captioned clear figures and tables are present. A suitable list of references is provided with correct citations in the text and figures	
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## Evaluation of the presentation report *(by the examination committee)*

Evaluation Criterion	Unsatisfactory (0-4)	Marginally Satisfactory (5-6)	Good (7-8)	Excellent (9-10)	Team Score
<b>Presentation of the Project</b>					
Significance/Purpose: Student clearly and concisely explained the significance or purpose of the project to a generalist audience. <b>15%</b>	Even with follow-up, significance/purpose is unclear	Moderate further explanation/follow-up needed	Minimal further explanation/follow-up needed	Significance/Purpose is clearly presented for a generalist audience	
Methodology/Process: Student explained what methods or processes he used, as well as why he used them, to conduct the project. <b>15%</b>	Even with follow-up, method/process is unclear	Moderate use of jargon necessitates questions to clarify	Minimal jargon and clear response to few follow-up questions	Jargon-free; few follow-up questions needed	
Results/Findings: Student clearly presented his results and findings and connect them to the stated Problem Statement and Objectives <b>20%</b>	Student(s) is unable to articulate connections even with follow-up questions	Connections articulated only with follow-up	Appropriately articulated with minimal follow-up required	Connections are clearly articulated	
<b>Quality of the Project</b>					
Nonverbal Skills: Student demonstrated strong nonverbal communication skills, such as professional demeanor, eye-contact, gestures and movement <b>15%</b>	Nonverbal behaviors (Avoids eye contact, arms crossed, chewing gum, etc.) disengage rather than engage audience	could improve on eye contact gestures/movement, and/or attention to nonverbal cues	only minimal discomfort or nervousness exhibited	No need for improvement with nonverbal presentation skills.	
Verbal/Oral Presentation: Student demonstrated strong verbal skills: he articulate clearly and slowly with little to no stumbling, mumbling, rambling, or unnecessary articulations such as "um" or "so" <b>15%</b>	Issues with articulations, ramblings, etc. detract from the verbal/oral presentation	good basic verbal skills but some habits/practices distract from understanding	strong verbal skills with only minor issues such as habitual "um" or "so. articulations	No need for improvement with verbal/oral presentation skills	







Skills Responses to Judges: Student welcomed comments or questions and appropriate and thoughtful provide responses, even if the response is to share that a comment/question beyond the scope of the project. <b>20%</b>	Issues with articulations, ramblings, etc. detract from the verbal/oral presentation	good basic verbal skills but some habits/practices distract from understanding	strong verbal skills with only minor issues such as habitual "um" or "so. articulations	No need for improvement with verbal/oral presentation skills	
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### **Paper Poster Evaluation (by the examination committee)**

Evaluation Criterion	Unsatisfactory (0-4)	Marginally Satisfactory (5-6)	Good (7-8)	Excellent (9-10)	Team Score
Significance/Purpose: Student clearly and concisely explains the significance or purpose of the project to a generalist audience. <b>15%</b>	Even with follow-up significance/purpose is unclear	Moderate further explanation/follow-up needed	Minimal further explanation/follow-up needed	Significance/Purpose clearly presented for a generalist audience	
Methodology/Process: Student explains what methods or processes they used, as well as why they used them, to conduct the project. <b>15%</b>	Even with follow-up, method/process is unclear	Moderate use of jargon necessitates questions to clarify	Minimal jargon and clear response to few follow-up questions	Jargon-free; few follow-up questions needed	
Results/Findings: Student clearly presents their results and findings and connects them to the stated significance or purpose of the project <b>20%</b>	Student(s) is unable to articulate connections even with follow-up questions	Connections articulated only with follow-up	Appropriately articulated with minimal follow-up required	Connections are clearly articulated	
Coherence/Organization: the poster is well-organized, easy to read, free of mistakes, and makes good use of font, color and visuals. <b>15%</b>	Not clearly organized contains visible mistakes, and is difficult to read	Organization, proofreading use of font, color, or visuals need enhancement	Organized with only minimal mistakes. Font, color, and visuals contribute to readability	The poster is of near-professional quality in its organization and coherence	
Content: Poster content is	Content detracts from rather than	Needs considerable	Needs limited additional	Content is purposeful and	





purposeful and understandable to an informed generalist. <b>15%</b>	enhancing understanding of the project	le explanation	explanation	easily understood by an informed generalist	
Contribution: The poster contributes meaningfully to the student report or presentation of the project <b>20%</b>	The poster does not add value, or seems unrelated to the report or presentation	The poster's contribution to the report or presentation is minimal, or somewhat confusing	Overall, the poster adds value to the report or presentation and helps in understanding the project	The poster is a meaningful and well-integrated part of the report or presentation	

## C. Field Experience Administration

### 1. Field Experience Flowchart for Responsibility

Including units, departments, and committees responsible for field experience identifying by the interrelations.

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### 2. Distribution of Responsibilities for Field Experience Activities

Activities	Department or College	Teaching Staff	Student	Training Organization	Field Supervisor
Selection of a field experience site		√			
Selection of supervisory staff	√				
Provision of the required equipment		√			
Provision of learning resources	√				
Ensuring the safety of the site		√	√		
Commuting to and from the field experience site			√		
Provision of support and guidance		√			
Implementation of training activities (duties, reports, projects ...)			√		
Follow up on student training activities		√			
Monitoring attendance and leave		√			
Assessment of learning outcomes		√			
Evaluating the quality of field		√			



Activities	Department or College	Teaching Staff	Student	Training Organization	Field Supervisor
experience					
Others (specify)					

### 3. Field Experience Location Requirements

Suggested Field Experience Locations	General Requirements*	Special Requirements**
King Saud University		

\*E.g. provides information technology, equipment, laboratories, halls, housing, learning sources, clinics ... etc.

\*\*E.g. Criteria of the institution offering the training or those related to the specialization, such as safety standards, dealing with patients in medical specialties... etc.

### 4. Decision-Making Procedures for Identifying Appropriate Locations for Field Experience

### 5. Safety and Risk Management

Potential Risks	Safety Actions	Risk Management Procedures
Lab work		

### D. Training Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
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Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Training and assessment	Instructor Exam Committee Students	Direct:(see attached rubrics file) Indirect Online questionnaire which is mandatory for each student to be filled at the end of course
Extent of achievement of course learning outcomes	Program leader	Direct Feedback from the students and course reports
Quality of learning resource	Evaluation of the program by the department.	Direct Discussion with group of lecturers who teaches the same courses in the department

**Evaluation areas**(e.g., Effectiveness of Training and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators**(Students, Supervisory Staff, Program Leaders, Peer Reviewer, Others (specify))

**Assessment Methods**(Direct, Indirect)

## E. Specification Approval Data

Council /Committee	
Reference No.	
Date	

