Final Year Project Guidelines

Department of Computer Science

FACULTY OF ENGINEERING & CS

**NATIONAL UNIVERSITY OF MODERN LANGUAGES
RAWALPINDI**

Final Year Project (FYP)

1. Introduction

The Final Year Project (FYP) is a 6 credit hour mandatory part of the Bachelors of Science in Computer Science (BSCS) programs. The aim of the project is to enable the students to practically implement all the theoretical knowledge learnt during the course. The FYP involves proposing technology based solutions, designing, coding, development and deployment of a real and substantial project related to computer software. It provides an opportunity for the students to crystallize their acquired professional competence in the form of a demonstrable simulation or hardware product. Student may work in any of the following streams.

1) Artificial Intelligence / Machine Learning / Deep learning
2) Networks / Distributed Networks / Block Chain
3) IoT / Cloud Computing / Information Security
4) Digital Image Processing / Computer Graphics
5) IOS / Android Applications
6) Game Development / AI or Augmented Reality / Virtual Reality
7) ERP/ Database Management System (for only live project details with real clients)
8) Web Development / Semantics
9) Human Computer Interaction / Hardware Based Projects

2. FYP Proposal and Approval Procedure

A student is eligible to take up a project if he/she has secured a minimum CGPA of 2.0 and his/her pending failed courses in all semesters are up to three. Following are the criteria to be followed for the approval of FYP proposal;

a. FYP proposal will be presented and approved in 6th semester of BSCS, according to FYP calendar.
b. Students will work in a group of two to three members (subject to the scope of project and approval of FYP panel). Students of different calibre and CGPA may form a group to share their learning skills. Once approved, groups will not be changed.
c. Students of BSCS program must possess at least 2.0 CGPA to get registered for FYP.
    i. BSCS students must have at least 2.0 CGPA after their 5th semester.
d. If student has CGPA less than 2.0 and manages to improve CGPA in the next semester (BSCS 6th Semester) or in Summer semester, then the student will be eligible to register for FYP in upcoming semester and will appear for proposal defence according to the FYP schedule of that semester.

      i.   Students are not allowed to join any on-going project.

      ii.   BSCS Students can make a group with current BSCS 6th semester students.

e. Maximum number of failed courses (including technical and non-technical) should not exceed more than 3.

      i.   Maximum number of failed technical courses should not exceed 2. List of technical courses include Programming Fundamentals, Object Oriented Programming and Data Structures & Algorithms.

      ii.   Web programming must also be cleared if the FYP is based on web technologies.

f. Each group will select a project domain and will search for the FYP idea in that domain. Students will also consult faculty members for the selection of project idea.

g. Supervisor, Project Coordinator and FYP panel, will approve the project idea. Project Coordinator will allocate a supervisor as per his skills/domain strength. Projects will be assigned evenly among all the faculty members. In general, a faculty member will supervise maximum of 5 projects at a time.

h. A formal proposal of 4-5 pages, prepared with the help of supervisor and countersigned by him/her, will be submitted to the Project Coordinator according to the time given in FYP calendar.

i. If the panel rejects FYP proposal at the time of proposal defence, Student may re-appear with refinements or a new idea. In case of two failed attempts to defend the proposal student will appear in next semester for proposal defence according to FYP calendar.

3.   FYP Progress Presentation

a. Students will meet their project supervisor after every 2 weeks. Supervisor will maintain record of each member of group on "**Student Supervisor Meeting Records"** (BSCS-F0).

b. Students will submit first four chapters of the FYP report, countersigned by the supervisor, as per FYP calendar.

c. A formal presentation on FYP progress will be held in 7th Semester of BSCS (as per FYP calendar).

d. 50% of total project is expected to be completed for the progress evaluation in 7th semester for BSCS.

e. BSCS progress will be evaluated on **FYP Progress Evaluation Forms (**BSCS-F1)

4.   FYP Final Presentations and Code Demo:

a. At the time of final presentation, a student can have only one pending/failed course from previous semesters. In that case, his/her result will not be declared until he/she clears failed course(s).

b. A formal final presentation will be scheduled in 8th Semester for BSCS as per dates specified in FYP Calendar.

c. Students will submit FYP Report two week prior to the final presentation to their supervisor (please follow FYP Calendar).

d. Panel members will grade each student, independently, according to the FYP report, final presentation and code demo on "FYP Final Evaluation Forms" (BSCS-F2, BSCS-F3, BSCS-F4,).

e. If any student/group fails to defend final presentation / code demo;

    i. **Incomplete:** Students will be given one more chance to defend the project after 15 days from the day of presentation.

    ii. **Unable to defend:** Students will be given one more chance to defend the project after 15 days from the day of presentation. In case of 2nd failed attempt, student will register for a new FYP with new idea after 15 days from the day of presentation.

f. A student will be responsible for paying FYP fee of 3 credit hours for extra semesters in case of delay in completion of his/her project, in light of exam rules.

g. The supervisor will encourage and help students to write a research paper, if possible, on their project.

5. FYP Marks Distribution:

FYP project will be evaluated out of 200. Table 1 and Table 2 show the overall marks distribution for BSCS. Rubrics for the evaluation of each of listed component are attached as Appendices at the end of this document.

Table 1: FYP marks distribution for BSCS

Sr. No.	Final Year Project Milestones	Evaluation in Semester	Marks
1	FYP progress report & presentation	7th semester	100
2	FYP Final Presentation	8th semester	30
3	FYP Report Final Evaluation	8th semester	30
4	FYP Code defence	8th semester	40
	Total		**200**

6. Report Submission Guidelines

Plagiarism Check

a. Students will submit the soft and printed copy of project report along with duly signed plagiarism forms, to the supervisor, as per dates mentioned in FYP calendar.

b. The FYP supervisor, after evaluating the report according to SOP in terms of writing, formatting and technical content, will forward the hard and soft copies of report along with the plagiarism forms to QEC department/QEC focal person.

c. After clearance from QEC, the plagiarism report will be counter signed by the supervisor.

d. Supervisor will forward the FYP report and signed plagiarism report to the project coordinator.

e. Project coordinator will counter check the report and will forward the final version (after binding) to the HoD Computer Science and Dean FE & CS for signatures on "Final Approval Certificate".

Hard Binding

a. The finally approved report will be hard bound in BLACK color for BSCS. SILVER text will be embossed for BSCS.

b. Degree title along with batch number, Project title and year of completion will be written on spine of the hard binding.

BSCS-21	**Title of Your Project**	**2021**

c. There should be two blank pages; one in the beginning of hard bind and one at the end of hard bind.

d. For printing only one side of the page should be used.

e. Three hard bound copies will be submitted to the project coordinator. These copies will be distributed to the department, library and supervisor after being signed by the HoD CS and Dean FE & CS.

f. Certificate with original signatures will be attached in first hard bound copy and its photocopies will be attached in other two hard bound copies.

g. A CD will be attached at the end of hard bind copy that containing certificate with original signatures. The CD should contain project proposal, final documentations, PowerPoint slides, project source code, project setup (if applicable), user manual (if applicable) and supporting tutorials (if applicable).

7. Results and Final Submission

a. Students will have to submit hard binding copies within one month of final presentation. In case of a delay 5% marks will be deducted. After two months group will have to present and defend the project again.

b. Submission date of hard bound copies will be considered the completion date of the project report.

c. Final result/grade will only be declared after receiving three hard copies of report and one CD.

d. A student has to complete the degree within the specified duration as per university rules.

e. A student not completing his/her project in 8th semester (BSCS) and 4th semester (MCS) will have to pay fee as per university rules for extended duration.

8. Report Writing Instructions

Please refer to FYP report guideline and sample for detail instructions on writing Final Year Project Documentation.

9. Projects Ownership

The software and hardware used in the FYP are under the ownership of university. All groups must have to submit their software and hardware to Computer Science Department at the completion of degree.

10. Project Coordinator

Respective HoDs will assign a Project Coordinator for each batch of students of BSCS program to manage FYP proposal, progress and final presentations. Project Coordinator will maintain a record of project approval, supervisor allocation, progress reports and warning letters etc.

Student Supervisor Meeting Record Form

Student Name and Roll Number: _____

Project Title: _____

Supervisor Name: _____

Course:_____Session:_____Proposal Defense Date:_____

Sr. #	Date	Tasks Checked	Tasks Assigned	Remarks and Signatures

BSCS-FYP Progress Evaluation Form

Project Title:

Sr. No	Student ID	Student Name

Marks to be awarded out of 20 for each attribute according to following guidelines:

For Dimensions (1) and (2)		For Dimension (3)	
Excellent:	12-15	Excellent:	16-20
Very good:	9-11	Very good:	12-15
Above average:	6-8	Above average:	8-11
Below average:	3-5	Below average:	4-7
Poor:	1-2	Poor:	1-3
Fail:	0	Fail:	0

Sr. No	Description	Student1	Student2	Student3	Student4
1	**Report (30)** (*No. of chapters completed, Formatting and structure of report, Quality of content*)				
2	**Presentation (30)** (*Presentation skills , Slides Organization, Project Introduction, Explanation of Identified Problem, Technical Explanation*)				
3	**Progress Up-to-date (40)** (*No. of modules implemented, Understanding of the work done so far*)				
	Total out of 100				

Name of Evaluator --------------------------- **Signature of Evaluator** --------------------

BSCS-FYP Final Presentation's Evaluation Form

Project Title: _____

Sr. No	Student ID	Student Name

Marks to be awarded out of 8 for each attribute according to following guidelines:

Excellent:	6-8
Very good:	4-5
Average:	2-3
Poor:	1
Fail:	0

Sr. No	Description	Student1	Student2	Student3	Student4
1	**Project Clarity (10)** *(Project Introduction, Problem statement, Technical explanation, relevance of theory, supportive arguments)*				
2	**Presentation skills (5)** *(Oratory skills, relevance of supportive graphs, plots, animations etc.)*				
3	**Slides Organization (5)** *(Sequence of slides, Design of the slides such as background, font type, font size, Quality of graphs, plots, references etc.)*				
4	**Courteousness (5)** *(Manners, Body Language, Dressing/Getup)*				
5	**Questions and Answers (5)**				
	Total out of 30				

Name of Evaluator --------------------------- **Signature of Evaluator** -------------------

BSCS-FYP Report Evaluation Form

Project Title: _____

Sr. No	Student ID	Student Name

Marks to be awarded out of 8 for each attribute according to following guidelines:

Excellent: 8-10
Very good: 6-7
Above average: 4-5
Below average: 2-3
Poor: 1
Fail: 0

Sr. No	Description	Score
1	**Abstract** (Abstract Quality, Organization, Concept delivery) **(5)**	
2	**Background** (Understanding of project and its domain) **Literature Review/Existing Systems** **(5)**	
3	**System Requirement Specification** (How well functional and non-functional requirements are elaborated**) (5)**	
4	**System Design and Modeling** (Use of software engineering techniques**/** UML Diagrams) **(5)**	
5	**System Testing** (How well test cases are formulated **)** **(5)**	
6	**Report Formatting and References** (According to given SOP) **(5)**	
	Total out of 30	

Name of Evaluator ---------------------------- **Signature of Evaluator** -------------------

BSCS-FYP Code Evaluation Form

Project Title: _____

Sr. No	Student ID	Student Name

Marks to be awarded out of 10 for each attribute according to following guidelines:

Excellent: 8-10
Very good: 6-7
Above average: 4-5
Below average: 2-3
Poor: 1
Fail: 0

Sr. No	Description	Student1	Student2	Student3	Student4
1	**Quality of Work (10)** *(Functioning of hardware and/or software, Code Structure, Comments, quality of GUI)*				
2	**Code understanding (10)**				
3	**Code Demonstration (10)**				
4	**Error & Exception Handling (5)**				
5	**Data Validation Checks (5)**				
	Total out of 40				

Name of Evaluator --------------------------- **Signature of Evaluator** --------------------