

Final Year Project

Approved Policy: **2023-24** **onwards**

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| Date of Issue: | 01-01-2024 | | | |

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Final Year Project

Approved Policy – 2023-24 onwards



Department of Computing
Faculty of Engineering Sciences & Technology
HAMDARD UNIVERSITY



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1. Introduction

The Department of Computing at Hamdard University is currently offering three programs at Bachelor's level; BS-CS, BS-SE and BS-AI. All these programs are four-years degree programs. Final Year Project (FYP) course spanning over two semesters (6 cr. hrs. in total) is offered. Passing this course is a mandatory requirement for the award of the degree. The FYP course is divided into two parts: FYP-I and FYP-II. To get enrolled in FYP-II, the student must clear FYP-I. This document will brief you about the SOPs related to the FYP course. Table A presents the plan for FYP:

Table A: FYP Plan

| SEMESTER | COURSE TITLE | CREDITS |
|---------------|--------------|---------|
| Semester VII | CS Project 1 | 03 |
| Semester VIII | CS Project 2 | 03 |

From Fall 2024 batches, the distribution is as under:

Table B: FYP Plan for batches Fall 2024 onwards

| SEMESTER | COURSE TITLE | CREDITS |
|---------------|--------------|---------|
| Semester VII | CS Project 1 | 02 |
| Semester VIII | CS Project 2 | 04 |

Course Learning Outcomes of FYP-1:

| CLO | Description | PLO | Bloom's Taxonomy Level |
|-----|---|---|-------------------------------|
| 1 | Define and identify problem statement, explain project idea, discuss aim, scope and objectives of the project along with short literature review. | PLO_3 Problem Analysis | C2 (Understanding) |
| 2 | Analyze project development progress, identifying areas of improvement and addressing supervisor concerns and feedback, while demonstrating an understanding of project requirements. | PLO_2 Knowledge for Solving Computing Problems | C4 (Analysis) |
| 3 | Synthesize and justify FYP progress and outcomes through a clear and concise presentation, critically evaluating project outcomes and defending design decisions, while showcasing effective teamwork, written reporting, and innovative solutions. | PLO_4 Design/Development of Solutions | C5 (Evaluate) & C6 (Creating) |
| 4 | Demonstrate professionalism and responsibility through regular progress updates & timely submissions. | PLO_7 Communication | C3 (Applying) |

Course Learning Outcomes of FYP-2:

| CLO | Description | PLO | Bloom's Taxonomy Level |
|-----|---|---|----------------------------------|
| 1 | Analyze project development progress, identifying areas of improvement and addressing supervisor concerns and feedback, while demonstrating an understanding of project requirements. | PLO_2 Knowledge for Solving Computing Problems | C4 (Analysis) |
| 2 | Synthesize and justify FYP progress and outcomes through a clear and concise presentation, critically evaluating project outcomes and defending design decisions, while showcasing effective teamwork, written reporting, and innovative solutions. | PLO_4 Design/Development of Solutions | C5 (Evaluate) & C6 (Creating) |
| 3 | Demonstrate professionalism and responsibility through regular progress updates & timely submissions. | PLO_7 Communication | C3 (Applying) |

2. Eligibility

1. Any student who has passed 5th semester can appear in FYP proposal defense in his/her 6th semester before the start of 7th semester.
2. However, he/she can be enrolled only if he/she fulfils the following criteria after the result of 6th semester:
 - o He/she has completed at least 65% of his total credit hours required for degree.
 - o The student's CGPA should be equal to or greater than 2.0.
 - o All the students of each group must have passed the following prerequisite courses:
 - i. For BSCS and BSSE
 1. Data Structures & Algorithms
 2. Introduction to Software Engineering
 3. Database Systems
 - ii. For BSAI
 1. Data Structures & Algorithms
 2. Artificial Intelligence
 3. Database Systems
3. The supervisor or FYP Committee can impose any other course as a prerequisite which will be project-domain specific.
4. The supervisor or FYP Committee can impose students to enroll in any other project domain specific course as an elective during the final year.
5. Students of BS AI can select FYP from the domain of AI only; similarly, students of BS SE can select FYP from the domain of SE only. However, students of BS CS have more choices as CS has a much larger umbrella.
6. Interdisciplinary FYPs are encouraged too; however, in this case the students have to select co-supervisor from the domain specific department.

3. Learning Outcomes

The Department of Computing (DoC) offers Final Year Project (FYP) only to its graduating students of 7th and 8th semester to fulfill the partial requirements of degree. It also provides them a suitable representation of challenges of real-life projects, products and research which the student may face in the upcoming professional career.

In this perspective, the DoC has devised three Learning Outcomes (LO) tracks of FYP as mentioned below. Each track covers a different perspective and tries to envision students accordingly to meet the post-graduation challenges. Another key LO for the mentioned approach is to enable the DoC to align the resources, faculty, labs and infrastructures and management accordingly.

Each track would be driven by specific type of requirements, documentations, FYP outcome and evaluation.

1. Research & Development Track
2. Product Track
3. Service Track

3.1. Research & Development Track:

The objective or the expected outcome of this final year project track is to ensure that a student after going through the research & development track may be able to:

- Pursue MS & MS leading to PhD in future either abroad or in Pakistan.
- Get substantial knowledge of research work, problem identification, solution generation, producing quality research papers for leading conferences and journals.
- Acquainted to global scholarships, general requirements related to scholarships and funding opportunities.
- Pursue jobs in research related organizations local or abroad.
- Pursue a research grant from IGNITE, Paradigm, Careem, Data Collective etc.
- Develop a market-ready end-product on basis of his/her research.

3.2. Product Track:

The product track is a representation of current trends in the industry and allows students to learn and understand the entire ecosystem of startup, entrepreneurship and product generation. Below are some general characteristics that might be associated with Product-Track Final-Year Projects:

- Software Development: Product-oriented projects often involve the development of software products. This could be a new application, system, or tool designed to address a specific need or problem.
- Innovation and Creativity: Students working on product-oriented projects are encouraged to showcase innovation and creativity. They may need to demonstrate their ability to design, implement, and potentially commercialize a novel software solution.
- User-Centric Design: Emphasis is often placed on user-centric design principles. Students may need to conduct user research, create prototypes, and ensure that their product meets the needs of the intended users.
- Market Considerations: There might be a focus on understanding market needs and potential for the developed product. This could include aspects of feasibility analysis, business models, and market research.

3.3. Service Track:

The specific outcome of service track in the final year project setup is to provide concise, definitive and clear understanding of services and systems running either in the industry or in academia and prepare students to find relevant places and adjust them accordingly for that type of services. Its general features are:

- Problem-Solving and Consulting: Service-oriented projects may involve addressing real-world problems or challenges through the application of computing solutions. Students might engage in consulting-like projects where they work with external stakeholders to provide solutions.
- Feasibility Studies: In service-oriented projects, students may conduct feasibility studies to determine the viability and effectiveness of a proposed solution. This could involve analyzing requirements, assessing resources, and proposing a service-oriented solution.
- Collaboration with Stakeholders: Service-track projects often require collaboration with external stakeholders, such as businesses, organizations, or community groups. The goal is to provide a service that meets the specific needs of the stakeholders.
- Optimization of Existing Services: Instead of creating a new product, students might work on optimizing and improving existing services. This could involve enhancing the efficiency, security, or user experience of an existing system or service.

3.4. Product Track vs. Service Track:

The distinction between service-track and product-track projects may seem subtle, and the terminology can vary between institutions.

Product-Track Final-Year Project Example:

Project Title: Virtual Classroom Platform

In a product-track scenario, students might develop a virtual classroom platform—a software product designed to facilitate online learning. This could involve creating a user-friendly interface, implementing features such as video conferencing, chat, and file sharing, and ensuring the scalability and reliability of the platform. The emphasis is on building a standalone product that could potentially be marketed to educational institutions.

Service-Track Final-Year Project Example:

Project Title: Educational Technology Consulting

In a service-track scenario, students might engage in educational technology consulting. Instead of creating a new product, they could work with a local school to assess its technological needs. The project might involve recommending and implementing existing educational technology solutions, optimizing the school's IT infrastructure, and providing training to teachers. The emphasis here is on delivering a service tailored to the specific needs of the educational institution.

Key Differences:

1. Product-Track Emphasis:

- **Creation of a Tangible Product:** The primary goal is to develop a standalone product that could be used or sold independently.
- **Innovation and Design:** Focus on creating something new, innovative, and potentially marketable.
- **User-Centric Design:** Consideration of user needs and designing a product that meets those needs.

2. Service-Track Emphasis:

- **Problem-Solving and Consulting:** The primary goal is to address a specific problem or need through the application of computing solutions.
- **Optimization of Existing Services:** Focus on improving or optimizing existing systems or services.
- **Collaboration with Stakeholders:** Engagement with external stakeholders to understand and fulfill their specific requirements.

In summary, while both product-track and service-track projects involve applying computer science skills to real-world scenarios, the key distinction lies in the outcome. Product-track projects typically result in the creation of a tangible, standalone product, whereas service-track projects involve providing a service or solving a problem through the application of computing solutions without necessarily creating a new product.

3.5. Summary:

The FYP offers the challenge to the student to learn and demonstrate their ability in setting up and carrying out a scientific and problem-solving project in a self-responsible and independent manner.

The expected learning outcomes that should be achieved during the final year project are the following:

- *Encourage students to incorporate entrepreneurial and leadership qualities, and to apply where appropriate the knowledge, skills, and techniques taught throughout the degree program to further oral and written communication skills.*
- *Convert theoretical knowledge into industrial skills and integrate various aspects of the taught material.*

- *Demonstrate (academic) research skills and (professional) analysis, design, and implementation skills.*
- *Conduct in-depth work on a substantial problem to show individual creativity and originality.*
- *Learn the qualities of research orientation for accumulating knowledge on a specific problem domain and develop synergetic collaboration between people and procedures.*
- *Develop analytic and technical skills to ensure that the project can be commercialized wholly or partly.*
- *Practice investigative, problem-solving, management, and other transferable skills.*

4. FYP Approaches

Students are required to discuss their ideas with the prospective supervisors during 6th semester and are expected to bring at least 3x ideas addressing the category of FYP learning outcomes:

- a. Research & Development,
- b. Products,
- c. Services projects

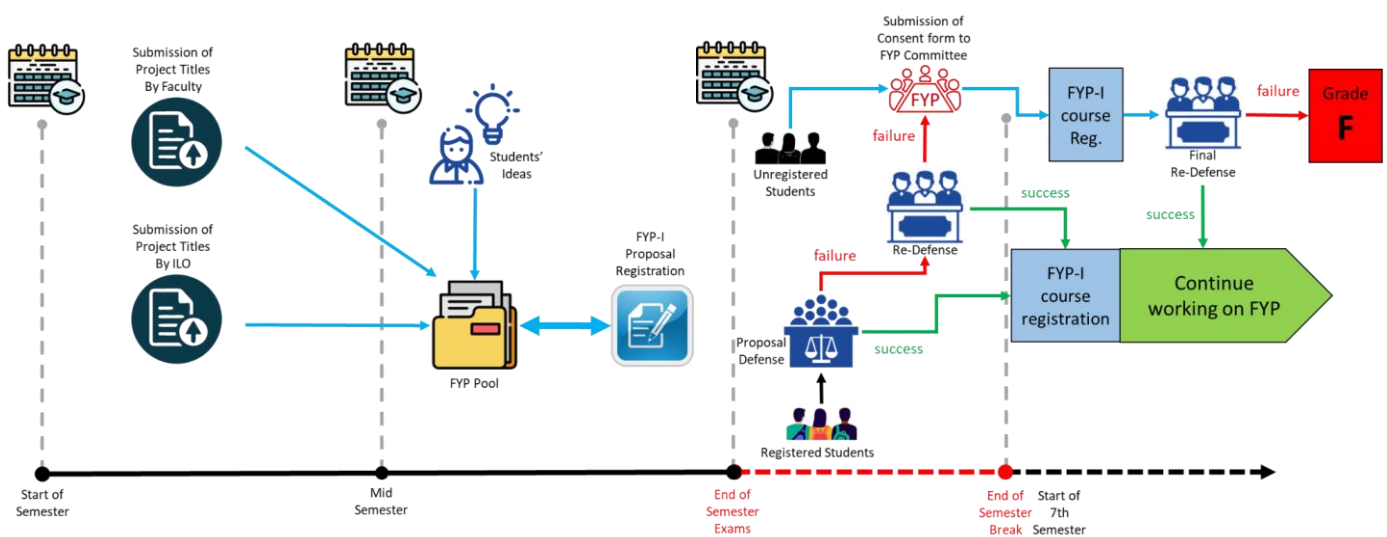
A pool of FYP related ideas will also be made available for students, covering Research, Products and Services, proposed by Faculty Members and/or Industry professionals. Students shall choose FYPs according to their skillset and interest.

5. FYP Selection Method

- 1) In the 7th semester, a one-year Final Year Project (FYP) course spanning over two semesters (6 cr. hrs. in total) is offered. The eligibility criterion for registering for the FYP is clearing the FYP proposal defense before the start of 7th semester and fulfilling the criteria mentioned in section "Criteria" of the same document.
- 2) Before the mid-term of the 6th semester, faculty will submit the project titles along with the objectives, description, and expected outcomes to the FYP Team. Students are also supposed to come up with at least three ideas.
- 3) Industry Liaison Officer will submit the project titles along with the above details from the industry to the FYP Team.
- 4) After the mid-term of the 6th semester, the list of potential FYPs will be shared by the FYP Team with the students and faculty.
- 5) The students and faculty will then select the FYP from the approved list.
- 6) External supervisor (in addition to Internal Supervisor) is necessary for Industry based projects. In this case, a formal letter or memorandum of understanding (MoU) from the company, outlining their commitment to guide the students and provide necessary resources, must be submitted. A clear understanding should be established between the student, university, and external company about the ownership of intellectual property including source code generated during the project. If the external project involves sensitive information, students should sign NDAs, if required by the external company. However, these NDAs should not conflict with the university's requirement to access the project's source code and documentation for academic evaluation. [MOU, NDA]
- 7) Upon selection of the FYP topic, a Project Proposal Form must be filled by the group registering for FYP-I after discussing with their intended supervisors and afterwards submitted to the FYP committee through the supervisor. [FINAL YEAR PROJECT - PROPOSAL SUBMISSION FORM]

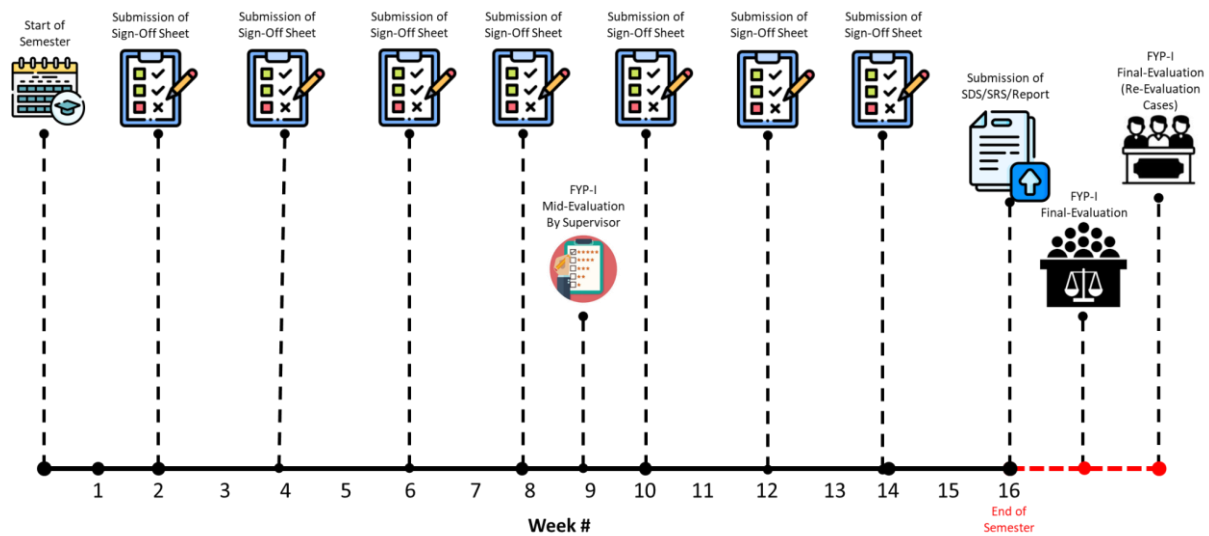
- 8) FYP proposal and registration deadlines announced by the FYP team must be followed strictly. If the FYP proposal or registration form is not submitted in the time specified, the individuals and each member (in the case of a group) have to follow the procedure mentioned in point 14.
- 9) Within semester break (after 6th semester), students are required to defend the proposal through a presentation in front of an evaluation panel.
- 10) The results will be shared with students and supervisors within a week by the FYP committee.
- 11) In case of failure to defend the proposal, only one chance of re-evaluation will be provided to the students before the start of 7th semester.
- 12) On successful defense, students will be registered in FYP-1 course of 7th semester (if they meet the eligibility criteria) and they may start working on the FYP under the supervision of the assigned supervisor.
- 13) Students failing to defend the proposal before the start of 7th semester will not be eligible to enroll/register in FYP-1 course.
- 14) However, if they still want to register, they will submit a consent form declaring that if, after registration, they are not able to defend their proposal for the last time within 2 weeks of the start of 7th semester, they cannot withdraw or drop the course and no fee will be returned. Moreover, students will be graded 'F' in FYP-I.

6.1 Timeline of 6th Semester

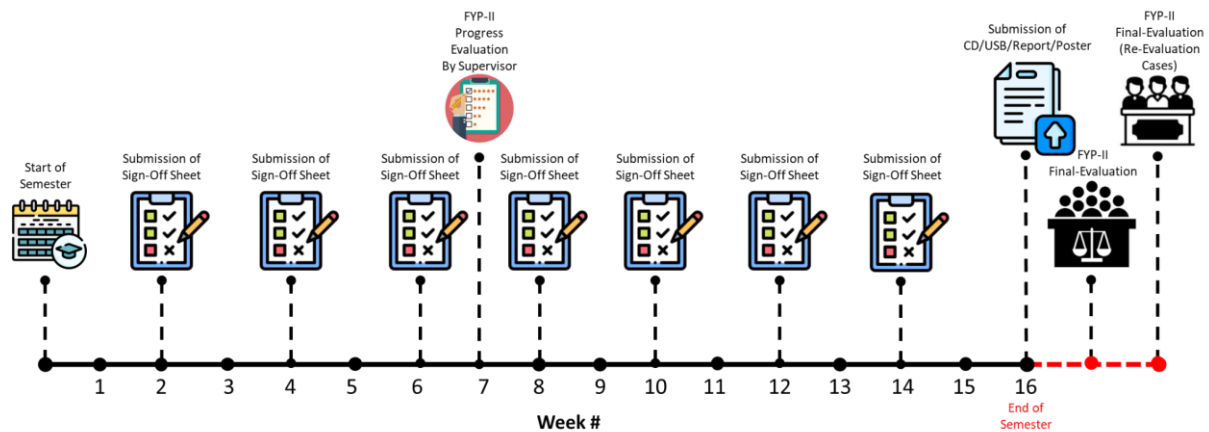


Note that there will be only two phases for Spring semester.

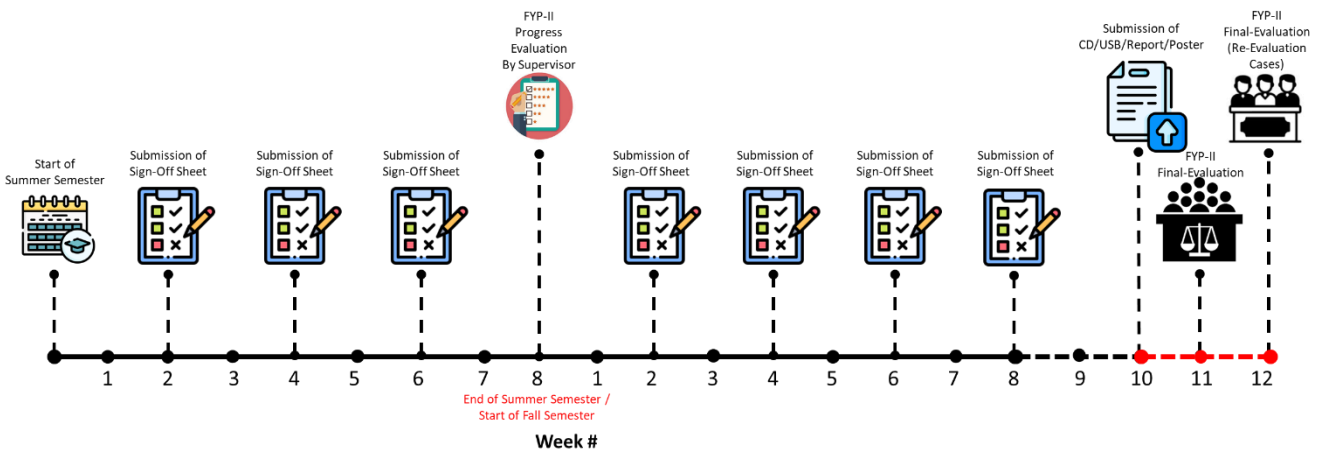
6.2 Timeline of FYP-1



6.3 Timeline of FYP-2 (For Spring semesters)



6.4 Timeline of FYP-2 (For Fall semesters)



Open house external evaluation will be conducted after internal defense.

6. FYP Committee

Five faculty members will be assigned additional responsibility of looking after the FYP process. The details are as under:

1. Convener
2. Advisor
3. Incharge
4. Secretary
5. Member

The responsibilities of each officer are as under:

1. The convener will be responsible for overall activities and processes of FYP.
2. The secretary will be responsible for FYP announcements, organizing evaluations, and any other coordination required between FYP supervisors and the students.
3. For FYP evaluations throughout the FYP duration, FYP evaluation committees will be suggested by the Advisor and these committees need to be approved by the convener.
 - The FYP evaluation committees must adhere to the expertise and domain of the FYP.
4. *The advisor will also be responsible for suggesting the external evaluators that also will be approved by the convener.*
 - Suggestions for External evaluators may also come from the supervisor as well as they better understand the domain, expertise and outcome of projects and can better allocate a profession either from industry or from university (other universities).
5. The incharge has to ensure timely submission of all the required deliverables. He/She can penalize the group for late/incomplete submissions.
6. Supervisor has to ensure that the **proper format** of reports is being followed by the FYP groups. The committee has the right to reject the submission if they fail to comply with the given formats and standards. If during re-iteration the deadline lapses, late submissions will not be allowed for the FYP group. To ensure that format is applied in true sense the entire documents related to FYP are available at:
https://drive.google.com/drive/folders/1EE3l_DhkjomeULLrpOm6f0PXa46Jd0WD?usp=sharing.

This will enable students to get formats when and where they want to have, and would also reflect the mindset of the Computing department in terms of proactive approach and handling things in modern ways.

7. Awareness Presentation

After the mid-term of sixth semester, the FYP committee will introduce final year project policies to new students. This presentation will detail all FYP policies at DoC, HU to students.

Similarly, if the FYP awareness program is already available online; then the presentation would be a polishing job over the nail and would impart more informative and adaptive behavior towards FYP awareness program. Again, this proactive approach is what is being used in modern world universities and a couple of high-standard universities in Pakistan.

8. Evaluation

From the start of the project till its completion there are various documents (please see FYP deliverables) that must reach the FYP Committee on time. For monitoring the progress of the students, the distribution of marks is based on the progress report. For this purpose, a continuous evaluation of the FYP will be done by the concerned supervisor and the FYP Committee. For each FYP, at least 3 evaluators will be assigned who will evaluate the project through the end. FYP Committee **will try its level best** that area experts are selected for each project as evaluators.

| FYP Phases | Evaluation Parameters | |
|--------------------------------------|--|--|
| FYP Proposal | Product/Service Track | Research & Development Track |
| | FYP Concepts/Idea Business Solution Project Scope Project duration and cost estimation | FYP Concepts/Idea Literature Survey Gap Analysis, Product Scope Proposed Contribution in Research & Development |
| FYP-I FYP Documentation | SRS / SDS/ LR/PR Methodology Project Plan Preliminary Results | Detailed Literature Survey Necessary Documentation for Product Methodology Project Plan Preliminary Results |
| FYP-I Mid-Year Evaluation | Requirement Validation Methodology Tangible & Tractable Outcome is aligned Changes approval (if any) | |
| FYP-II Progress Evaluation | Progress Monitoring (Minutes of meetings and Requirement signoff sheet) Evaluations of suggestion by supervisor Documentation Finalization Project Plan versus actual achievement | |
| FYP-II Final Evaluation | FYP Demo & Display Poster & Final Report Evaluation of Objectives & Business Solution | FYP Demo (simulation study or similar + Product) Poster & Final Report Conference article (preferable) |

9. Nomenclature

Each FYP will be assigned a unique code. The nomenclature for the code would be **FYP-iii/SMYR**, where **iii** represents the FYP number assigned in sequence, **SM** will be replaced with **FA** or **SP** representing the **Fall/Spring** semesters, respectively. **YR** will be replaced with the current Year. For example, **FYP-001/SP24** means FYP project with code 001 started in Spring 2024.

10. Responsibilities of the Student

The management and execution of the FYP is student responsibility, but the student may take advice from their supervisor. When a student chooses a FYP, the student should do so carefully, to reflect the focus of the concerned degree program, personal interests (the project needs to keep the student interested in the whole academic year), and the ability of the academic staff to support the student throughout FYP.

Students must have a record of their meetings with the supervisor for at least every 15 days. A monthly progress report from external supervisor is also necessary for an industry-based project.

The project must be the student's original work or the work can be an extension of previous work of the department or old group of students under their supervisor. The supervisor is there to guide students and ensure students should meet the quality standards as determined by the FYP panel and complying with the University regulations but, it must be recognized that, in all instances, the student is solely responsible for authorship and management of his or her FYP.

If the student does not defend FYP within the dates specified by the department, the student will be required to register again in the following semester. These rules are among the most rigidly enforced in the University. Faculty are not expected to be put in a position to "bend the rules" on a student's behalf, nor is it considered appropriate for a student to seek special dispensation from carrying out their responsibilities in a professional and timely manner.

If the supervisor is not giving agreed time, talk to the FYP Committee. Do not hesitate in doing this, as it will take FYP Committee time to notice this, time is the most difficult thing to replace. Remember FYP proposal, half-year evaluation, or final-evaluation all are examinations against marks. Any student failing to follow guidelines provided by the committee will compromise marks and even can be dropped from FYP. All examination policies are comprehensively applied on FYP as well.

When called by the supervisor, PMO or FYP committee, the group has to respond immediately and promptly via email or on WhatsApp group. If a group fails to respond for three times, it will be considered "absconder" and may deserve a grade "F".

11. Responsibilities of Internal Supervisor, External Supervisor & Co-supervisor

The supervisor should be part of the Hamdard University; however, co-supervisor may be faculty of any other HEC recognized University or a professional from industry having relevant expertise and interest. Co-supervisor is an optional role in FYP; however, it is advised to have a co-supervisor for extra support. External Supervisor is mandatory when a student's FYP is industry-based and a monthly meeting with him/her is compulsory for students.

A supervisor may supervise a maximum of **03 groups per year** including FYP-I and FYP-II. For supervising a 4th project, he/she will have to take special permission from the Chairman, DoC. Lab-instructors/Engineers and Junior Lecturers cannot supervise any project. However, they may be co-supervisors for any group.

Supervisor will provide suggestions that will permit the student to be more effective. The faculty member who acts as FYP supervisor evaluates the work internally. At the end of mid-semester, the FYP-Committee will ask the supervisor to submit the progress report of the students.

It is mandatory for the students and supervisor to meet at least after every 15-days regularly so that their communication may be continuous and effective. Students will record the minutes of every meeting using the provided format in the aforementioned online repository. And will have to submit the minutes to their respective PMO. PMO will sign the fortnightly sign-off sheet accordingly. Three monthly final reports must be submitted by external supervisor – if any – via his/her official email.

Supervisor should ensure that they are going in the right direction; in the second case supervisor can help to get students back on track, moreover, the supervisor pulls students out of the bottlenecks that they might have during the project work.

The supervisor may require supplementary reports and may modify the nature of the required reports at his/her discretion. Although the supervisor is proficient in the project area, the supervisor is not expected to write code or develop the hardware of the FYP for students in any circumstances.

The supervisor may provide additional help to students in areas where they find difficulty in the conduct of their FYPs. This additional help can be in the form of Seminars, Workshops, Tutorials, Study Material, and/or Class Sessions.

Supervisor has to ensure that the **proper format** of reports is being followed by the FYP groups. The committee has the right to reject the submission if they fail to comply with the given formats and standards. If during re-iteration the deadline lapses, late submissions will not be allowed for the FYP group. To ensure that format is applied in true sense the entire documents related to FYP are available online. This will enable students to get formats when and where they want to have, and would also reflect the mindset of the computing department in terms of proactive approach and handling things in modern ways.

Supervisors shall also be responsible for advising students to maintain a standard referencing format. Preferably, APA or IEEE should be used, based on the area of the project. However, the referencing style must be consistent throughout the document.

It is the responsibility of the supervisor to verify that students have uploaded correct and complete documents in the online folders and/or GitHub repository. It is also the responsibility of the supervisor to check the plagiarism of every report before submission to the FYP Committee.

12. Group size

FYP is a group project, no single student is allowed. The group size should be a maximum of three students. A student is NOT allowed to join a running group. Preferably a student of one batch may not make a group with the student of another batch unless they have registered FYP in the same semester. The FYP milestones and job responsibilities will be clearly and evenly divided among the students.

13. Change of FYP Title

A student may change the FYP title at any time before the final submission provided that the title does not change the overall scope of the FYP. It is important that the title should be carefully selected and should be small and relevant to the end outcome or main problem area of the FYP.

14. Change of FYP

Students need to be extremely careful in selecting FYP. A FYP once selected and approved can **NOT** be changed in the running semester. Change of FYP means a fresh proposal to be entertained in the next semester.

15. Change of Group

Students are **not allowed** to change the group once selected so it is highly advised that the students should make the FYP group with extreme care.

16. Change of Supervisor

Students are advised not to change their supervisor unless they have valid reasons. Students must be careful in selecting their supervisor based on their domain expertise. In case it is mandatory to change the supervisor, the group will give an application to FYP-Committee. The FYP-Committee will take appropriate decisions. For this purpose, a supervisor change form is uploaded on the aforementioned link.

17. Software and Hardware Requirement

The students and supervisors are highly encouraged to apply to external agencies (HEC, IGNITE, etc. R&D funding) for FYP related software or hardware requirements after FYP proposal defense.

18. Lost/theft FYP data or backups

It is the student's responsibility to keep a back-up of FYP especially in the case of software. If students have lost FYP due to any reason students will NOT be given any relaxation.

To make a backup, students should regularly copy FYP work to storage devices (CD, Flash/pen drive, etc.) or back cloud servers (e.g., Dropbox, google drive, etc.).

From Fall 2024 onwards, maintaining projects on GitHub is mandatory for all FYP groups. Internal supervisor and the project management officers' committee should have access to this repository.

19. FYP Showcase

A student may have been helped in FYP by the use of material from similar FYPs in the past, or by having the opportunity to study one or more reports from previous years. Similarly, the FYP report will be placed in the libraries as reference material for university students who are interested to work in the same area.

20. Plagiarism

The CS department follows a strict zero-tolerance policy on plagiarism. Students are expected to uphold the University standard of conduct relating to academic honesty. Students assume full responsibility for the content and integrity of the academic work they submit. The guiding principle of academic integrity shall be that a student's submitted work, examinations, reports, and projects must be that of the student's work. Students shall be guilty of violating the honor code if they:

- Represent the work of others as their own
- Use or obtain unauthorized assistance in any academic work
- Give unauthorized assistance to other students
- Modify, without instructor approval, an examination, paper, record, or report to obtain additional credit
- Misrepresent the content of submitted work.

It is the responsibility of the supervisor to check the plagiarism of every report before submission to the FYP Committee. If 19% or more plagiarism is found in submitted documents, then the students and supervisor will face plenty according to the University and HEC rules. The summary of this report will be attached at the end of the final report. Moreover, if plagiarism is identified in the FYP proposal, **up to 20 marks** will be deducted along with a **warning**. If plagiarism is found again or in any other FYP document, code, or any other item, then **F Grade** will be assigned.

21. FYP Deliverables

Following is a suggested list of deliverables throughout the FYP duration. Templates will be provided by the PMO.

| | | |
|--------------|---|--|
| FYP Proposal | 1. FYP Proposal with minor Literature Review | |
| FYP-I | Product/Service Track | Research & Development Track |
| | 2. Project Plan 3. Software Requirement Specification (SRS) 4. Software Detailed Design (SDS) 5. Preliminary report including first 3 chapters | 2. Project Plan 3. Identify at least 3 related articles per member. Provide summary of articles and gap analysis. 4. Selection of the publication venue (conference) |

| | | |
|--------|---|--|
| | 6. Software Demo 7. Requirement signoff sheet | 5. Preliminary report including first 3 chapters + draft conference article 6. Prototype Demo 7. Requirement signoff sheet 8. Any other necessary document imposed by supervisor related to Product |
| FYP-II | 8. Software Test Plan / Test Report 9. Software Demo 10. Final FYP Report 11. A CD containing all documents, source code, exe, and other relevant material. For FALL 24 onwards, maintaining projects on GitHub repository is a must. 12. Project Poster (Panaflex mounted on X-banner standee) 13. Fortnightly signoff sheet | 8. Simulation and/or Experimental Results 9. Prototype Demo 10. Final FYP Report + Full formatted & submitted conference article 11. End-Product with Documentation 12. A CD containing all documents, source code, exe, and other relevant material. For FALL 24 onwards, maintaining projects on GitHub repository is a must. 13. Project Poster (Panaflex mounted on X-banner standee) 14. Fortnightly signoff sheet |

All deliverables will be submitted to the FYP supervisors during the semester and to the PMO at the end of each semester, before the Jury Evaluation. Software-Demo is the milestone that will be presented to the FYP evaluation committee in the first semester of FYP. Two versions need to be presented, one at the mid-semester and 2nd at the semester end. In the 2nd semester of the FYP, complete working software (Final testing and evaluation done with a few features left to be implemented) will be presented for evaluation. Finally, the full working version will be presented at the final evaluation and open house.

22. Distribution of Marks

The students will be evaluated for the FYP based on 6 Credit Hours for a total of 100 Marks each semester. These marks will then be converted to an equivalent grade as per the prevailing Grading System of the University.

All FYP group members must participate in all phases of the FYP development. The distribution of work cannot be based on the phases of a project life cycle; it should rather be based on the modules of a system project and should be marked in the Requirement Sign-off sheet. The marks will be distributed according to the following scheme:

| FYP - I | |
|--|--|
| 1- Proposal Evaluation (CLO_1; PLO_3) | |
| <ul style="list-style-type: none"> ● 10 marks for project proposal defense on time [by Jury] <ul style="list-style-type: none"> ○ 10 marks if ACCEPTED in 1st phase ○ 09 marks if CONDITIONALLY ACCEPTED in 1st phase after submitting compliance report. ○ 08 marks if ACCEPTED in 2nd phase ○ 07 marks if CONDITIONALLY ACCEPTED in 2nd phase after submitting compliance report ○ 06 marks if ACCEPTED in 3rd phase ○ 05 marks if CONDITIONALLY ACCEPTED in 3rd phase after submitting compliance report | |
| 2- Progress Evaluation (CLO_2; PLO_2) | |
| <ul style="list-style-type: none"> ● 30 marks for mid-semester evaluation. [by Supervisor(s)] <ul style="list-style-type: none"> 15 marks by Internal and three “monthly progress reports” of 5 marks each by External supervisor, if industry-based project (3 monthly feedback reports must be submitted by external supervisor – if any – via his/her official email) | |
| 3- Mid-Year FYP Evaluation (Internal Jury) (CLO_3; PLO_4) | |
| <ul style="list-style-type: none"> ● 50 marks for the final FYP presentation [by Internal Jury] | |
| 4- Fortnightly signoff sheet + other submissions (CLO_4; PLO_7) | |
| <ul style="list-style-type: none"> ● 10 marks [by In-charge FYP Committee] <ul style="list-style-type: none"> (7 for timely fortnightly submissions; 3 for final submissions) | |
| FYP - II | |
| 1- Progress Evaluation (CLO_2; PLO_2) | |
| <ul style="list-style-type: none"> ● 30 marks for mid-semester evaluation [by Supervisor(s)] <ul style="list-style-type: none"> 15 marks by Internal and three “monthly progress reports” of 5 marks each by External supervisor, if industry-based project (3 monthly feedback reports must be submitted by external supervisor – if any – via his/her official email) | |
| 2- Final Evaluation (Internal Jury) (CLO_3; PLO_4) | |
| <ul style="list-style-type: none"> ● 30 marks for the final FYP presentation [by Internal Jury] | |
| 3- Final Evaluation (Externals) (CLO_3; PLO_4) | |
| <ul style="list-style-type: none"> ● 30 marks for Open-house exhibition/evaluation [by External Examiners] | |
| 4- Requirement signoff sheet + other submissions (CLO_4; PLO_7) | |
| <ul style="list-style-type: none"> ● 10 marks [by In-charge FYP Committee] <ul style="list-style-type: none"> (7 for timely fortnightly submissions; 3 for final submissions) | |

If for some reason, open house external evaluation is not possible, then weightage of Internal Jury Evaluation will be 60 marks for FYP-2. Each of the above stages has its criteria and marks. If the

students/group is **unable to get passing marks** at the end of the 7th Semester (FYP-I), they need to **repeat the FYP-I**. In the final submission of reports after each semester, **up to 10 marks** can be deducted by the in-charge FYP committee only to those projects, which did not follow the guideline of report writing, avoid plagiarism, submit the report and Requirement sign-off sheet on the given timeline.

Clearing the jury evaluations (whether internal or external examiners) is compulsory to pass. If any group is not able to defend their project successfully in front of the jury, then an **extension of maximum 1 month** can be given to the group to re-appear before the jury. The jury may not be the same this time. This extension will be given along with the plenty of up to **up to 10 marks deduction**. If the group is not able to re-defend their project, they will be awarded “F” and their total marks will be considered less than 50 in this case.

Whenever, a project is evaluated as “ACCEPTED with REVISIONS”, the group has to submit the compliance report within allotted deadline otherwise evaluation status will automatically change to “REJECTED”. Similarly, REVISIONS must be incorporated or a satisfactory answer must be given.

Although the students present FYPs in groups, examiners evaluate each student independently for an individual performance marking and the students of the same group might get different grades based on their performance.

If a project is not the original work of students and it has been copied from some source, the project will be canceled with grade “F”.

FYP Template List:

1. Proposal Registration Form
2. MOU Template (for industry-based projects)
3. NDA (for external company)
4. Proposal Report Document
5. Proposal Presentation Template
6. Monthly Progress Report (for External Supervisor)
7. Minutes of Meeting Form
8. Requirement Sign-off Form
9. SRS Template
10. SDS Template
11. FYP Report Template
12. FYP Defense Presentation Template
13. Supervisor Change Form
14. Student Consent Form for Defaulters/Dormant Students

23. Budgeting

For each FYP project, external evaluators (that may be from industry or academia) will be called for evaluation. For this purpose, honorarium may be given to the external, as per HU policy. In case an

FYP project needs financial support, relevant support shall be provided based on consultation with the FYP supervisor. Refreshments will be served to the evaluators on each evaluation. Similarly, lunch will be arranged on the open house day for faculty, management and evaluators. The amount will be decided depending upon the number of evaluators.

24. Forms and Documentation

All the documentation including FYP final report, FYP1 mid report, etc. would be written in Latex or Microsoft Word, but Latex is preferable. For students' convenience, a latex template document will be prepared and shared. In addition, a tutorial session may also be carried out to show beginners how to get up and running with Latex.

25. Changes to the policy

This policy document shall be reviewed at least every year to incorporate best practices.