

Final Year Project (FYP) Student Guide

1. AIMS OF THE FYP MODULE

The Final Year Project (FYP) module will give students the practical experience of carrying out an independent project from project requirements, implementation, testing to delivery and presentation of software. Students will go through a software process with deliverables at different stages of the process. The module requires students to learn new technologies and software tools that are not covered in the course. This will inculcate independent and lifelong learning.

2. MODULE DETAILS

Duration	12 weeks
Credits	12
Size of the Project Team	1 and up to 4 students (depending on the project scope & complexity)

3. PROJECT ENVIRONMENT

Students will be attached to the School's Centre for IT Innovation (CITI) which comprises 8 technology domain areas set up in collaboration with industry partners. The 8 various domain areas are Immersive technology, Internet-of-Things (IoT), Data Analytics, Software Development, Infrastructure & System Administration, Artificial Intelligence (AI), Biz & FinTech and Cyber Security. A project can cut across several domain areas. For instance, a Cyber Security project may require software development in python as well as picking up specialized security tools.

4. ROLES & RESPONSIBILITIES

FYP Manager

The FYP Manager manages the initiatives and operations of FYP. This includes and not limited to strategic planning, improvement to work processes to ensure the quality conduct of FYP.

FYP Coordinator

The FYP Coordinator works with the FYP manager and is responsible for establishing, implementing and maintain effective procedure for the conduct of final year project module throughout academic year. They are responsible for all FYP related operational matters.

FYP Module Leader

The FYP Module leader is responsible for working closely with the FYP Supervisor to ensure the student's academic adherence for FYP module. This encompasses but not limited to discipline, work professionalism and assessment. The module leader for respective diplomas is highly encouraged to tabulate mid-term results of their respective students so that they can get an early indication of potential failure students and intervene if required. They are also responsible for exporting and tabulating the final FYP scores for capturing into the SIMs system.

FYP Supervisor

On the first day of reporting, supervisor will brief students on the project details, expected deliverables and reiterate FYP protocols to the project team. He/she will provide constant communications and guidance to the project team. The project milestone deliveries should be scoped within the capabilities of the students and adjusted if necessary.

In line with the fast-moving world and industrial best practices, FYP teams will be adopting the Agile project management framework - Scrum methodology. The entire FYP will be conducted in 4 iterations, essentially 3 sprints and 1 final project assessment. Each sprint cycle is 3 weeks. The supervisor and independent marker will assess the students during

Week 3, 6, 9, 12 respectively. Please refer to 5. Assessment Criteria for more details. Throughout the project period, supervisor will be the main contact for the project team.

Independent Marker

Each project will be assigned an independent marker. The independent marker will assess the student's interim progress at Sprint 2(week 6) and final achievement (week 12). His/her role is to be impartial and deter any biased assessment/judgement made towards the student's results.

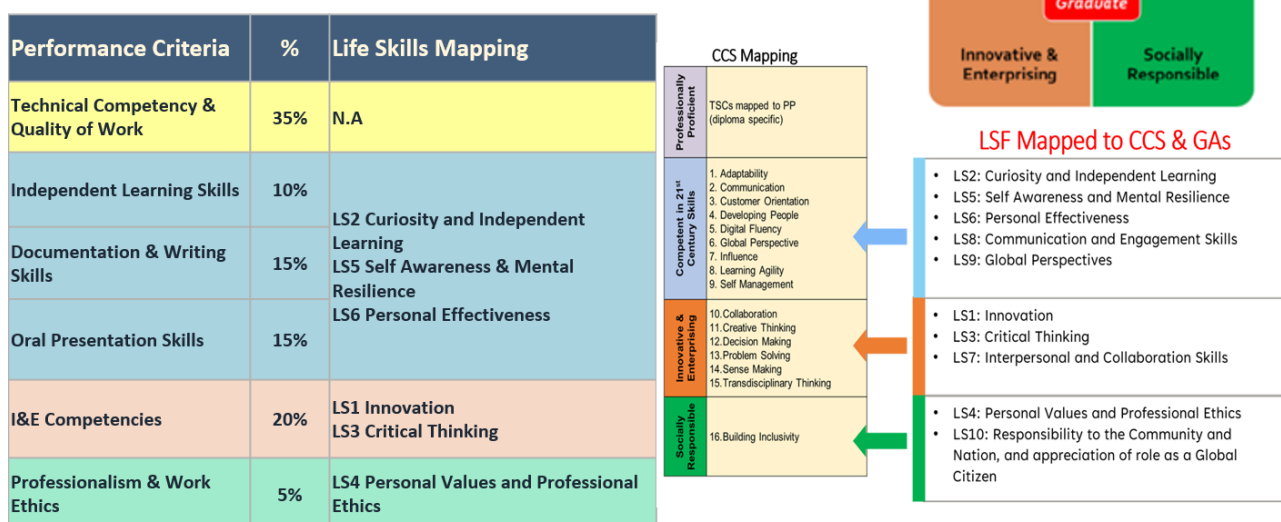
FYP Student

Students will report for the project briefing on the first day of FYP. After briefing, students will go to their allocated project labs to meet their supervisors. They will then be issued with project specifications and expected deliverables throughout the 12-week project period. Students are required to work closely with the supervisor according to the Scrum events to deliver the project milestones. Both staff and students are encouraged to leverage on the DevOps platform to monitor progress and track deliverables. Consistently failing to commit or meet the project deliverables will result in failure of the FYP module. As part of the Agile project management framework - Scrum methodology, students should gather/receive feedback and areas of improvement after each sprint assessment held in week 3, 6, 9 and 12 respectively. Students can prepare themselves by completing the [online Scrum course](#). Students are responsible for checking their interim results and seeking clarification from supervisors or FYP Module leaders if required.

5. ASSESSMENT CRITERIA

The Assessment for FYP is aligned to NYP graduate attributes to ensure that students are relevant and ready for the industry.

FYP Alignment to Graduate Attributes



Students will be graded in 4 stages by Supervisor and at least 1 Independent Marker (IM).

- Sprint 1 assessment by Week 3
- Sprint 2 assessment by Week 6⁺
- Sprint 3 assessment by Week 9
- Final project assessment by Week 12⁺

⁺ The sprint assessment will be graded by both supervisor and independent marker.

Below table shows the various assessment components:

Sprint 1 (Wk 3)			Sprint 2 (Wk 6)		Sprint 3 (Wk 9)		Final Presentation (Wk 12)		Total
	Supervisor	Ind. Marker	Supervisor	Ind. Marker	Supervisor	Ind. Marker	Supervisor	Ind. Marker	
Professionalism & Work Ethics	-	-	5	-	-	-	-	-	5
Independent Learning Skills	-	-	-	-	10				10
Documentation & Writing Skills	-	-	5	-	5	-	5	-	15
Technical Competency & Quality of Work	5	-	5	5	5	-	10	5	35
I&E Competencies	5	-	-	5	-	-	5	5	20
Oral Presentation Skills	-	-	-	-	-	-	5	10	15
Total	10	0	15	10	20	0	25	20	100

S = Supervisor (70%)

IM = Independent Marker (30%)

* Supervisors can facilitate inputs from Product Owner for IM's consideration

* Supervisors are to inform FYP ML if student's assessment warrants a potential failure.

Refer to Annex 1 for the assessment descriptors.

Note:

- *Technical Review to be conducted for Sprint 1,2,3,4.*
- *Formal presentation to be conducted for mid and final project assessment (Week 6 and 12).*
- *Merit and/or Demerit marks (not exceeding 20%) may be given to students.*

6. DEVOPS PLATFORM

The [Azure DevOps Platform](#) supports software development activities. It allows students and staff to collaborate effectively to deliver higher quality software. Students can request for access to the project via their supervisors. Each project has the following services to help the teams work effectively.

- Azure Boards
 - Plan, track and discuss work across your team with the agile tools provided.

- Azure Repos
 - Private Git repos to collaborate and build better code with pull requests and advanced file management.
- Wiki
 - Share information with your team to understand and contribute to your project.
 - Each project is recommended to have at least the following technical documentation.
 - Project Overview
 - Requirements Specification
 - Hardware and Software Requirements
 - System Architecture
 - Project Structure
 - Solution Overview
 - Deployment Guide
 - User Training and Manuals

Students can also complete the hands on lab from the [online Scrum course](#) to be familiar with the use of the tools.

7. WORK AREA

Each student will be allocated to one workstation in designated project labs. They are encouraged to set a desktop password for security reasons. For accountability, they are not to swap workstation/project labs without consensus from supervisors. Students are NOT allowed to surf unauthorized website (e.g., pornography), play games (including hand-held device, card games, etc.) or to use the project time for their personal use (e.g., Facebook, blogging, watching non-project related video).

Eating and drinking in the project lab (e.g., packet food/snack, hot/sweet beverage) are always NOT allowed in the work area. Students shall consume their food outside the building.

The work area must always be kept clean and tidy. No personal items are to be left behind daily (e.g.: sport bag/equipment) at the work area.

8. CERTIFICATION PROGRAMMES OFFERED

Professional Scrum Developer Certification

Validate student's knowledge of how to deliver quality software using the Scrum framework while working in Scrum Teams including the application of modern Agile and DevOps practices.

Submission to BrightSpace: Assessment > Assignment > PSD Result Submission
Quiz/Quiz Score Access in BrightSpace: Assessment > Quizzes > Quiz (2 attempts)

Google Professional Certification

Gain the job-ready skills taught by Google in Data Analytics, IT Automation, Digital Marketing & E-commerce, IT Support, Project Management or UX Design.

Submission to BrightSpace: Assessment > Assignment > GPC Result Submission
Access to GPC learning materials will be based on the registered subject area in [Google Professional Certificate Training Programs | Coursera](#).

Students will be evaluated based on their independent learning skills (10%) by acquiring at least 1 certification during FYP. Students will have access to a one-day self-directed learning (SDL) every week from Week 2 to Week 12, aimed at preparing them for quizzes and/or certifications. Registration to 1-day SDL in Week 1 is needed from BrightSpace > My Class > Groups, before students can start their SDL in Week 2. Students are not required to be in FYP lab on their SDL day. However, this is subject to work exigencies. Students need to come to FYP if there is a need from the project as project takes priority.

Students must submit the necessary documentation (i.e., screenshot of learning progress (%), professional certificate, official receipt for paid certification exam, etc.) to BrightSpace (NYPLMS) for assessment, 1 week before end of FYP.

9. STUDENT ATTENDANCE

Final Year Project official working hours is 8.30AM to 6.00PM from Monday to Thursday and 8.30AM to 5.30PM for Friday. Students will adopt staggered lunch hours 11AM to 12PM and 12PM to 1PM respectively. Please inform your project supervisor on your preferred lunch time hour.

Students are to clock-in when they arrive and clock-out at the end of the day via FYP Facial Recognition Attendance System. The clock-in/out timing will also be reflected in FYP system. If student faces issues with the FYP Facial Recognition Attendance System, please inform Ms. Jacquelyn Soh (jacquelyn_soh@nyp.edu.sg).

Spot checks on student attendance will also be carried out from any teaching staff during the office hours. Students found not working at the desk for a prolonged period while the attendance is clocked in will be deemed as attempted to cheat on the attendance.

There is NO leave policy for FYP module. Students are NOT allowed to participate in CCA and school/external events or travel overseas during the period unless he/she has sought exceptional approval from School. Students must get the authority's consent before taking their absence.

Reason for absence must be explained to Project Supervisors and entered into FYP System. Where absence is supported by an official document (e.g., MC), students are required to submit the SOA print-out with supporting documents to NYP SIT FYP Support (nyp_sit_fyp_support@nyp.edu.sg).

If the student did not turn up for FYP without any valid reason, the absence will be considered to his/her final grade. Supervisor may ask students to extend /compensate his missing FYP working hours. The attendance rate will NOT be adjusted. All valid SOAs will be considered to the final grade.

Other regulations, as specified in the Student Handbook, still apply.

10. DRESS CODE

As part of career preparation, students are to be in minimally smart casual dress attire to portray a positive image of an IT professional. For male students, shirts/ Polo T-shirts/ T-shirts with long pants/jeans and covered shoes are acceptable. For female students, blouse/skirt/pants/jeans and covered shoes/sandals for female students. Slippers, FBT outfit, Bermudas and spaghetti tops/singlets are NOT allowed. Where instructed, formal attire may be required.

11. RESOURCE ALLOCATION & SUPPORT

For each project, students will work on allocated resources, which include typically a workstation and server resources. A set of standard software is installed in each workstation. If students need other software for project-related use, he/she can request it through the supervisor. The software is available from network drive (campus wide license) or loan from SIT Helpdesk.

Students are accountable for their resources i.e., if there are any missing parts; they are liable to make up for the loss. Hence, it is important that students do their part to report faulty or missing parts to SIT Helpdesk at the earliest opportunity.

Students are required to be able to do basic troubleshooting of their resources before seeking help from the Technical Officers (TO). They are also expected to do their own installation of software according to the project needs. Software loaned from Technical Officers must be returned by the end of the working day. They are NOT to be taken home or brought out of the school.

Students are encouraged to be more proactive where resources are concerned. Students are encouraged to use initiative to resolve problems rather than wait for help. Delays due to resource constraints, can seriously affect project schedules.

12. FYP SYSTEM

Students can access information such as project details, daily attendance records and submit minutes of meetings at FYP system (<https://fypi.sit.nyp.edu.sg/fypi/>).

13. NON-DISCLOSURE AGREEMENT

To facilitate the development of industry projects, Nanyang Polytechnic students may have access to documents, materials, and information specific to the industry clients including NYP. These materials include Source Code, UI Designs, Database Schema, Documentations in AES which have Intellectual Project Rights (IPR) belonging to NYP and industry clients which is protected by the Singapore copyright laws.

Student will undertake that at any time whether before, during or after the completion of the project, he/she shall not reproduce, distribute, transmit, display, publish or broadcast the above-mentioned materials for commercial purposes without the prior written permission of Nanyang Polytechnic and Industry clients.

Annex 1: FYP Assessment Rubrics

The assessment rubrics for FYP are defined as follows:

- * Refer to certification programmes offered
 ^ Refer to Scrum Quiz (NYPLMS)
 + Refer to [Google Career Learning](#) Professional Course

Assessment Criteria	Performance Level Definitions (0 mark is to be granted for non-submissions)				
	Very Good	Good	Satisfactory	Below average	Poor
Professionalism & Work Ethics (5%)	<5m-4.5> <ul style="list-style-type: none"> Demonstrates very high level of commitment and dedication in the workplace. Excellent interpersonal skills and leadership. Excellent communication skills and work very well with others in a team 	<4.4m – 3.5m> <ul style="list-style-type: none"> Demonstrates high level of commitment and dedication in the workplace. Good interpersonal skills and leadership. Very good communication skills and work well with others in a team. 	<3.4m – 2.5m> <ul style="list-style-type: none"> Demonstrates average level of commitment and dedication in the workplace. Average interpersonal skills and leadership Good communication skills and able to work with others in a team. 	<2.4m – 1.25m> <ul style="list-style-type: none"> Demonstrates poor level of commitment and dedication in the workplace. Poor interpersonal skills and leadership Poor communication skills and struggle to work with others in a team. 	<1.24m – 0.5m> <ul style="list-style-type: none"> Little or no commitment and dedication in the workplace. No interpersonal skills and leadership Little or no communication and unable to work with others in a team.
Independent Learning Skills (10%)	<10m> <ul style="list-style-type: none"> Student fulfilled requirements of at least 1 certification⁺. 	<7m> <ul style="list-style-type: none"> Complete pre-certification quiz[^] promptly with high score(80-100) or complete at least 75% of learning course⁺. 	<5m> <ul style="list-style-type: none"> Complete pre-certification quiz on time with good score(50-70) or complete at least 50% of learning course⁺. 	<3m> <ul style="list-style-type: none"> Complete pre-certification quiz on time with average score(30-40) or complete at least 25% of learning course⁺. 	<1m> <ul style="list-style-type: none"> Hardly complete pre-certification quiz with low score(10-20) or complete less than 25% of learning course⁺.
Documentation and Writing Skills (15%)	<15m – 13.5m> <ul style="list-style-type: none"> The items below are always promptly submitted to DevOps <ul style="list-style-type: none"> Project source codes are always complete in Git repo. Project documentation is detailed and comprehensive in Wiki. Weekly updates are always concise with details and promptly submitted in FYP system. 	<13.4m – 10.5m> <ul style="list-style-type: none"> The items below are mostly promptly submitted to DevOps <ul style="list-style-type: none"> Project source codes are mostly complete in Git repo. Project documentation is complete and detailed in Wiki. Weekly updates are always complete and mostly promptly submitted to FYP system. 	<10.4m – 7.5m> <ul style="list-style-type: none"> The items below are promptly submitted half of the time to DevOps <ul style="list-style-type: none"> Project source codes are sufficient in Git repo. Project documentation contains sufficient coverage and details in Wiki. Weekly updates are mostly complete and promptly submitted half of the time to FYP system 	<7.4m – 3.8m> <ul style="list-style-type: none"> The items below are not promptly submitted most of the time to DevOps <ul style="list-style-type: none"> Little project source codes are provided in Git repo. Little project documentation with insufficient details in Wiki. Weekly updates are incomplete and not promptly submitted most of the time to FYP system. 	<3.7m - 1m> <ul style="list-style-type: none"> The items below are not submitted all the time <ul style="list-style-type: none"> There is no project source codes provided in Git repo. There is no project documentation or scant information in Wiki. Weekly updates are mostly not available in FYP System, or reader is not able to grasp student's work week.
Technical Competency & Quality of Work (35%)	<35m -31.5m> <ul style="list-style-type: none"> Student demonstrates very high level of technical competency and quality of work. 	<31.4m -24.5m> <ul style="list-style-type: none"> Student demonstrates high level of technical competency and quality of work. 	<24.4m -17.5m> <ul style="list-style-type: none"> Student demonstrates average level of technical competency and quality of work. 	<17.4m – 8.8m> <ul style="list-style-type: none"> Student's technical competency and quality of work is below average. 	<8.7m - 1m> <ul style="list-style-type: none"> Student has little or no technical competency and quality of work.
I&E Competencies (20%)	<20m -18m> <ul style="list-style-type: none"> Very resourceful and demonstrates very high level of creative thinking and problem-solving skills during project implementation. 	<17m -14m> <ul style="list-style-type: none"> Very resourceful and demonstrates high level of creative thinking and problem-solving skills during project implementation. 	<13m -10m> <ul style="list-style-type: none"> Demonstrates some creative thinking and problem-solving skills during project implementation. 	<9m -5m> <ul style="list-style-type: none"> Little creative thinking and problem-solving skills during project implementation. 	<4m -1m> <ul style="list-style-type: none"> Little creative thinking and problem-solving skills during project implementation.
Oral Presentation Skills (15%)	<15m – 13.5m> <ul style="list-style-type: none"> Content and demo are well organized and delivered with great clarity. 	<13.4m – 10.5m> <ul style="list-style-type: none"> Content and demo are very organized and delivered with very good clarity. 	<10.4m – 7.5m> <ul style="list-style-type: none"> Content and demo are organized and delivered with good clarity. 	<7.4m – 3.8m> <ul style="list-style-type: none"> Content delivery is clear and understandable. Product demo is not complete. 	<3.7m - 1m> <ul style="list-style-type: none"> Content delivery is very disorganized with no clarity at all. There is no demo of the product given.