



Xi'an Jiaotong-Liverpool University

西交利物浦大學

School of Advanced Technology

MODULE HANDBOOK

SAT 301
Final Year Project

Pengfei Song

Semester 1&2

2021-2022

SECTION A: Basic Information

□ Brief Introduction to the Module

The final year project (FYP) is a two-semester long project delivered through the module SAT301 Final Year Project. It accounts for ten credits, which is the largest single module currently and worth 25% of the total credits available for Year 4. Therefore, it is a major contributing component to the BEng final degree classification.

The FYP acts as a summative assessment of a student's attainment in the Program Learning Objectives, i.e. how good you are as a XJTLU SAT graduate. It is an opportunity for a student to integrate all the knowledge accumulated through the four years of study. At the same time, the student must demonstrate his or her competencies in joining the engineering professionals around the world; or demonstrate satisfactory research potentials to further their careers in research.

There are three assessment items for FYP including: 1) Interim Progress Report (25%) 2) Project Demonstration (15%) and 3) Final Thesis (60%). To achieve the most rewarding FYP experience, the students are advised to follow strictly the assessment/submission schedule detailed in the Module Handbook, and check important organisational messages posted on LEARNING MALL with email notices. Regular meeting and effective communication with the supervisor are particularly essential to a successful FYP project.

□ Key Module Information

Module name: Final Year Project

Module code: SAT301

Credit value: 10

Semester in which the module is taught: S1 and S2

Pre-requisites needed for the module: n/a

Programmes on which the module is shared:

BEng Computer Science and Technology

BEng Digital Media Technology

BEng Electrical Engineering

BEng Electronic Science and Technology

BSc Information and Computing Science

BSc Information Management and Information Systems

BEng Mechatronics and Robotic Systems
BEng Telecommunications Engineering

❑ **Delivery Schedule**

No specific schedule.

❑ **Module Leader and Contact Details**

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Brief Biography:

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Office telephone number: +86 (0)512 8818 9039

Room number and office hours: EE 318

Preferred means of contact: pengfei.song@xjtlu.edu.cn

❑ **Additional Teaching Staff and Contact Details**

All SAT Academic Staff.

SECTION B: What you can expect from the module

❑ **Educational Aims of the Module**

To give students the opportunity to work in a guided but independent fashion to explore a substantial problem in depth, making practical use of principles, techniques and methodologies acquired elsewhere in the course. Page 4 of 7 To give experience of carrying out a large piece of individual work and in producing a dissertation. To enhance communication skills, both oral and written.

❑ **Learning Outcomes**

- A. Identify and formulate a substantial research problem, and produce a plan to address the problem;
- B. Produce and follow an appropriate project plan;
- C. Locate and perform a review of project related literature;
- D. Design, implement and test solution(s) to the identified research problem;

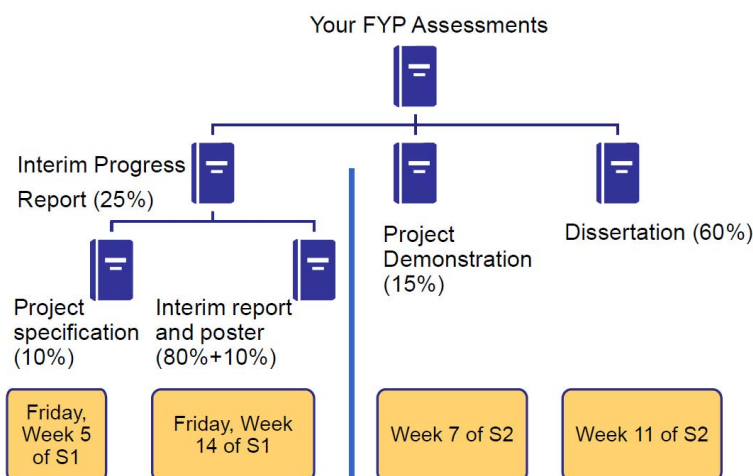
- E. Evaluate in a critical fashion the work done and place it in the context of related work;
- F. Prepare and deliver a formal presentation with a demonstration of the project using a suitable means;
- G. Structure and write a dissertation.

□ Assessment Details

Initial Assessment

Sequence	Method	Assessment Type (EXAM or CW) ²	Learning outcomes assessed (use codes under Learning Outcomes)	Duration	Week	% of Final Mark	Resit (Y/N/S) ³
001	Interim Progress Assessment	CW	ABCDG			25	N
002	Project Demonstration	CW	ABCDEF			15	N
003	Dissertation	CW	ABCDEG			60	N

Semester 1 - marking guideline attached as appendix



Please be noted that the three sub-items of the assessment 'interim progress report': a. project specification, b. progress presentation and c. interim progress report will be marked together. The three sub-items combined accounts for total 25% weight.

Interim Progress Assessment is a summative assessment for the first semester. **The assessment is based on the three student submissions in the first semester: Project Specification, Progress Demonstration and Interim Progress Report.**

FYP students are expected to submit a project specification report by S1 - Week 5. It is a document specifying the problem statement, expected outcomes, project Gantt chart or project schedule and the budget. Supervisors and Assessor will provide

written feedback to the students so that they could adjust their plan and understanding after initiate literature review.

The Interim Progress Report should normally not be more than 20 pages. It is a formal report that concludes the achievement during the first semester. This excludes Appendices and usually organized with following sections: Background, Main body and conclusion. Based on the nature of projects, the detailed contents in the background and main body can be decided by FYP students and their supervisors. The background section should include the project aims/objectives, a short literature review and the industrial relevance and project motivation. A main body should include the methodology and preliminary results, with the critical thinking for the remained problems. The FYP progress analysis and grant chart for S2's work should be included in the conclusion part.

Semester 2 - marking guideline attached as appendix

The project demonstration is usually organized at S2-Week 7. It is an oral presentation as well as hardware/software demonstration if hardware or software outcomes are involved. It will be assessed by a panel of **at least two academic staffs.** It consists of 10-minute presentation plus 5-minute Q&A session (or total of 15 minutes) for each student.

FYP Dissertation is the final summative assessment. **It should be normally not more than 40 pages excluding appendices.**

Students are referred to the separate document named “SAT Final Year Project Report Writing” for detailed guidance on the presentation of FYP reports.

❑ **Methods of Learning and Teaching**

In the project we wish to foster independent learning, under the guidance of a supervisor. There is a review, which provides an opportunity for monitoring progress and giving formative feedback. Supervisors maintain regular contact with students throughout the project to provide direction and advice as needed. Lectures/seminars addressing particular skills are also offered to students.

❑ **Syllabus & Teaching Plan**

Please consult with FYP supervisor.

❑ **Reading Materials**

Mandatory textbook is a required book in either print or electronic format for a module that students are obligated to purchase.

Optional textbook is a book in print that students can choose to purchase or not.

Reference textbook is a book in print that is considered additional or recommended reading by academic staff and is only purchased for Library's collection where it can be offered for loan.

SECTION C: Additional Information

❑ **Student Feedback**

The University is keen to elicit student feedback to make improvements for each module in every session. It is the University policy that the preferred way of achieving this is by means of an Online Module Evaluation Questionnaire Survey. Students will be invited to complete the questionnaire survey for this module at the end of the semester.

You are strongly advised to read the policies mentioned below very carefully, which will help you better perform in your academic studies. All the policies and regulations related to your academic study can be found in

‘Student Academic Services’ section under the heading “Policies and Regulations” on [E-bridge](#).

❑ **Plagiarism, Cheating, and Fabrication of Data.**

Offences of this type can result in attendance at a University-level committee and penalties being imposed. You need to be familiar with the rules. Please see the “Academic Integrity Policy” available on e-Bridge in the ‘Student Academic Services’ section under the heading ‘Policies and Regulations’.

❑ **Rules of submission for assessed coursework**

The University has detailed rules and procedures governing the submission of assessed coursework. You need to be familiar with them. Details can be found in the “Code of Practice for Assessment” available on e-Bridge in the ‘Student Academic Services’ section under the heading ‘Policies and Regulations’.

❑ **Late Submission of Assessed Coursework**

The University attaches penalties to the late submission of assessed coursework. You need to be familiar with the University’s rules. Details can be found in the “Code of Practice for Assessment” available on e-Bridge in the ‘Student Academic Services’ section under the heading ‘Policies and Regulations’.

❑ **Mitigating Circumstances**

The University is able to take into account mitigating circumstances, such as illness or personal circumstances which may have adversely affected student performance on a module. It is the student’s responsibility to keep their Academic Advisor, Programme Director, or Head of Department informed of illness and other factors affecting their progress during the year and especially during the examination period. Students who believe that their performance on an examination or assessed coursework may have been impaired by illness, or other exceptional circumstances should follow the procedures set out in the “Mitigating Circumstances Policy”, which can be found on e-Bridge in the ‘Student Academic Services’ section under the heading ‘Policies and Regulations’.

❑ **ICE**

Copies of lecture notes and other materials are available electronically through ICE, the University’s virtual learning environment at: [ICE @ XJTLU](#).

□ **Appendix A: Marking guidelines**

Marking guidelines for Interim Progress Report

Components	Max Marks	Marking Guidelines
Background • Specification • Background research	35	<p><i>(Introduction, Aims, and Objective & Literature Review)</i></p> <ul style="list-style-type: none"> • Is the problem stated both in a general and in a specific way? • Are the purpose and rationale of the project stated clearly? • Are the advantages of the proposed work justified? • Are the project aims and objectives clearly stated? • Is the beginning fairly broad and does the section narrow to a focus at the end? • Does it show knowledge of the research, theory, concepts, ideology, and opinion related to the topic? • Has the literature review been selective and are the criteria for selection and relevance explained? • Is there any critical assessment of the reviewed literature? • Is the relationship between what others have done and what is proposed in this project explained? • Are the project-related risks being assessed and evaluated? • Is the material properly referenced? <p><i>(Project Rationale and Industrial Relevance)</i></p> <ul style="list-style-type: none"> • Does the project address an up-to-date issue pertaining to professionalism, ethics, health and safety, and environmental sustainability with clear consideration in design and proposed solution, i.e., an explanation on how and why the project was devised?

		<ul style="list-style-type: none"> • Is the project applicable to a real life situation? • Does the project comply with good practices and standards?
Main Body • Design • Evaluation	30	<p><i>(Methodology and Preliminary Results)</i></p> <ul style="list-style-type: none"> • Does it explain what was done to gather the information essential to the investigation? • What was investigated on in this study (repeatability)? • Are the variables / parameters in the study / experiment identified and described? • If controls are used, are they explained in sufficient detail? • If materials/apparatus are involved, are they described and illustrated? • Is the setting of the study specified? • Is the proposed design / lab procedure the most suitable after having performed the literature review? • Are modern tools/equipment/software used in the design / lab methodology indicated? • Are the design / lab experiments suitable to address economic, environmental, social, ethical, health & safety, manufacturing and sustainability constraints? • Are the proposed testing and evaluation methods for the design appropriate? • Do tables contain all essential information so they can be read without reference to the text? • Does each table/figure/chart stand on its own, clear and self-explanatory? <p><i>(Critical Thinking)</i></p> <ul style="list-style-type: none"> • How was the raw data summarised? Descriptive statistics? Content analysis? Other?

		<ul style="list-style-type: none"> Are there any analyses or explanation behind any unforeseen results?
<p>Quality of Report and Presentation</p> <ul style="list-style-type: none"> Progress Analysis (Project Specification VS Current Work) Gantt Chart Report Poster 	35	<p><i>(Conclusions/Future Work)</i></p> <ul style="list-style-type: none"> Are conclusions drawn about each question or hypothesis? Are the limitations on conclusions specified (leading to further work in Semester 2)? Does the student understand clearly the area of study? Is the suggested work for Semester 2 specified with considerations on cost and time constraint? <p><i>(Progress Analysis and Gantt Chart)</i></p> <ul style="list-style-type: none"> Is the current progress consistent with the Project Specification? What adjustment has been made to the time schedule as indicated in the Gantt Chart of critical milestones designed at the beginning of semester? What is the reason for the adjustment? A budget detailing the financial requirement or a statement to justify why no budget is required. <p><i>(Presentation/Layout/Language) (Report)</i></p> <ul style="list-style-type: none"> Good layout, logical sequence Use of headers Are the diagrams clearly labelled and referred to in the text? Use of good English including grammar, vocabulary, sentence structure, tenses <p><i>(Poster)</i></p> <ul style="list-style-type: none"> Arrangement, Layout, Visual Effect, Clarity.

Components	Max Marks	Marking Guidelines
Understanding	15	<ul style="list-style-type: none"> • Achievement of Project Objectives, Demonstrate Problem Solving, Critical Thinking Skills with a Global View to Engineering issues.
Organisation	30	<ul style="list-style-type: none"> • Clear and structured • all aspects of the project covered
Quality of project	35	<ul style="list-style-type: none"> • Design was implemented successfully and demonstrated • Project shows exceptional degree of originality and is novel
Quality of presentation	20	<ul style="list-style-type: none"> • Confidence, Logical Answers, Demonstrates a High Level of Professionalism • Fluency and Succinctness, Good Eye Contact, Clear Voice, Body Language and Gesturing • Good Use of Figures and Computer Aided Tools.

Marking guidelines for Dissertation

Components	Max Marks	Marking Guidelines
Specification and Design • Introduction, Aims, and Objective • Literature Review • Project design	15	<ul style="list-style-type: none"> • Is the problem stated both in a general and in a specific way? • Are the purpose and rationale of the project stated clearly? • Are the advantages of the proposed work justified? • Are the project aims and objectives clearly stated? • Is the beginning fairly broad and does the section narrow to a focus at the end? • Does it show knowledge of the research, theory, concepts, ideology, and opinion related to the topic? • Has the literature review been selective and are the criteria

		<p>for selection and relevance explained?</p> <ul style="list-style-type: none"> • Is there any critical assessment of the reviewed literature? • Is the relationship between what others have done and what is proposed in this project explained? • Are the project-related risks being assessed and evaluated? • Is the work clearly the students' own work or have they plagiarised others' work? • Is the material properly referenced and acknowledged?
<p>Main Body</p> <ul style="list-style-type: none"> • Realisation • Testing • Evaluation 	60	<p>(Design and Results)</p> <ul style="list-style-type: none"> • Availability/ Practicality of design / experiment concept • Does it explain what was done to gather the information essential to the investigation? • Would it be possible for another person to re-produce what was investigated on in this study (repeatability)? • Are the variables / parameters in the study / experiment identified and described? • If controls are used, are they explained in sufficient detail? • If materials/apparatus are involved, are they described and illustrated? • Is the setting of the study specified? • Is the proposed design / lab procedure the most suitable after having performed the literature review? • Designs are implemented and produced novel solutions • Analysis presented clearly / Interpretation of results covered • Are modern tools/equipment/software used in the design / lab methodology indicated? • Are the design / lab experiments suitable to address

		<p>economic, environmental, social, ethical, health & safety, manufacturing and sustainability constraints?</p> <ul style="list-style-type: none"> • Are the testing and evaluation methods implemented appropriately as designed? • Are the meaning and importance of the results indicated? • Are the proposed testing and evaluation methods correctly implemented? • Do tables contain all essential information so they can be read without reference to the text? • Does each table/figure/chart stand on its own, clear and self-explanatory? • Is the analysis presented clearly and interpretation of results covered in sufficient detail? • Does the design perform as expected both individually and as a whole? <p>(Critical Thinking)</p> <ul style="list-style-type: none"> • Are alternative explanations for the findings identified and discussed? • How was the raw data summarised? Descriptive statistics? Content analysis? Other? • Are discussions of the results grouped in relation to questions or hypotheses? • Are incidental findings not immediately related to the questions or hypotheses reported? • Is redundancy eliminated or minimised? • Are there any analyses or explanation behind any unforeseen results? • What were the problems encountered during
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		implementation, what was the impact of the problems and how were they addressed?
<p>Quality of report</p> <ul style="list-style-type: none"> ● Conclusions/ Future Work ● Presentation/ Layout/ Language 	25	<ul style="list-style-type: none"> ● Are conclusions drawn about each question or hypothesis? ● Are the limitations on conclusions specified? ● Does the student understand clearly the area of study and significance of the results? ● Is the suggested future work justified and achievable within reasonable cost and time constraints? ● Good layout, logical sequence ● Use of headers ● Are the diagrams clearly labelled and referred to in the text? ● Use of good English including grammar, vocabulary, sentence structure, tenses ● Is there a logical flow? ● Use of references, citations (based on the recommended bibliographic system).