



Senior Project Guidelines

BSc IT

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Senior Project Procedures

The senior project procedure is shown in Figure 1 and described below. This procedure should be used for both IT483 Systems Development Project I and IT 484 Systems Development Project II. There are four (4) roles involved in this procedure: The student; the senior project adviser (hence adviser); the senior project proposal approval committee (hence approval committee); and, the senior project evaluation committee (hence evaluation committee). The approval committee is composed by all the faculty members (FIT teachers). The evaluation committee is composed by at least two faculty members (FIT teachers) and at least one stakeholder of the senior project's final product, if required.

1. The student must submit a proposal draft to the approval committee, according to the structure of a senior project proposal draft shown in page 4.
 1. The approval committee evaluates the proposal draft.
 1. If the approval committee rejects the proposal, then it provides observations to the student.
 2. If the approval committee accepts the proposal, then it selects an adviser to guide the project.
2. The student executes the project¹.
 1. The student has to report continuously to their adviser, who provides feedback.
 2. If the adviser accepts the deliverables, then the student is referred to the next step.
3. **[Step valid for IT 484 only]** The student has to execute an acceptance test with the evaluation committee and the stakeholders (stated in the senior project report).
 1. The evaluation committee and stakeholders execute the acceptance test.
 1. If either the evaluation committee or the stakeholders return the final product with comments, then the student has to improve it and repeat the acceptance test with the part that reported.
 2. If both the evaluation committee and the stakeholders accept the final product, then the student is referred to the next step.
4. The student prepares the senior project defence and report, according to the structure shown in page 5 for IT483 and page 8 for IT484.
 1. As the student prepares the report and defence, the adviser provides feedback, until the report and defence are accepted by the adviser.
 2. Then the adviser submits the report to the evaluation committee for grading, who provides the report grades and observations, if any.
 3. The student presents the defence to the evaluation committee for grading. Audience can be invited if the student accepts it so. The evaluation committee reports the defence grades.
5. The adviser calculates the final grade based on both the report and defence grades along with a penalty factor for late submission detailed in page 15, and report it to the Registrar's Office.

The senior project online interaction (communication and work, documents updates and backups) among the student, the adviser and the committees will take place through a dedicated space for the student in the **FIT Senior Projects** Microsoft Teams. The reason of using this platform is to streamline communication among the stakeholders, simplifying the process of following up on progress, discussions and project documentation. If absolutely necessary, members of the committee (including the adviser) could call/schedule an online or in-person meeting.

Additionally, the source code generated during the execution of IT484 senior project will be managed by using an institutional GitHub repository provided to the student for this purpose.

1 From step 2 up to 6 is valid for both IT 483 and IT 484 with the exception of step 3 which is valid for IT 484 only.

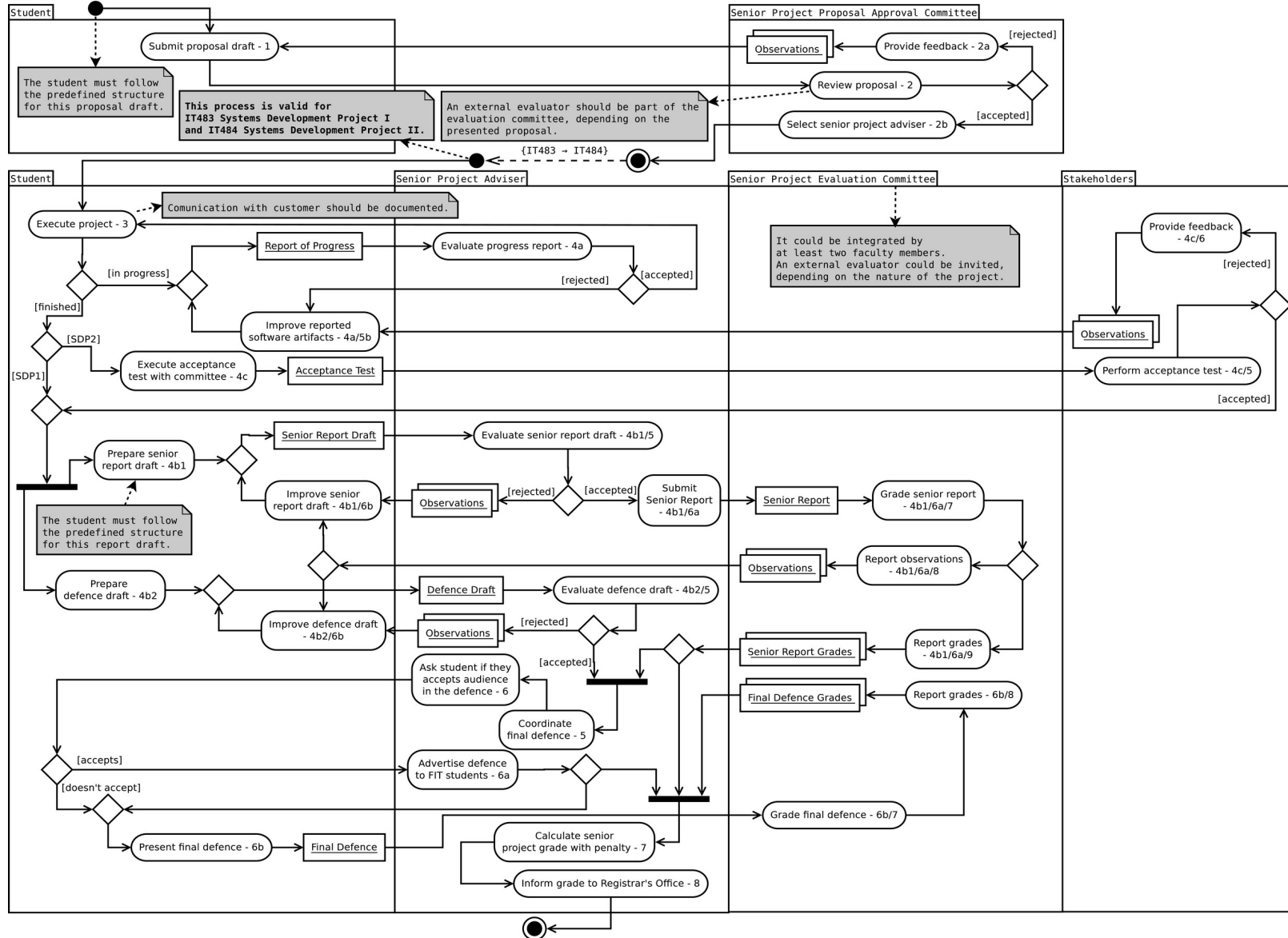


Figure 1: Senior project procedure.

Senior Project Proposal Draft

The structure for *Senior Project Proposal Draft* is presented below:

- 1 **Introduction** (brief description of the problem and a proposed solution, and why this project is important for the potential stakeholders; must include a document structure description)
 - 1.1 **Project's Objectives**
 - 1.1.1 General Objective
 - 1.1.2 **Specific Objectives** (clear and measurable objectives for the proposed system; must support the mission/goal of the organization)
- 2 **Related Works** (list and succinct description of similar solutions)
- 3 **Preliminary Investigation**
 - 3.1 **Company Profile** (name of client, company or organization; address; line of business; company contact – phone number e-mail address; list of stakeholders and their contact information – phone numbers and e-mail addresses)
 - 3.2 **Organizational Chart** (an organization chart for the part of the organization you are studying)
 - 3.3 **Statement of the Mission/Goal of the Organization** (if any)
 - 3.4 **Project Request** (a description of how the project was initiated)
 - 3.5 **Description of the Problem** (a brief description of the problem/opportunity to be investigated)
 - 3.6 **Project Scopes and Constraints**
 - 3.7 **Expected Business Benefits**
 - 3.8 **Expected System Capabilities**
 - 3.9 **Planning** (a Gantt chart is expected; it must be synchronized with the senior project schedule described in page 14)

IT483 Systems Development Project I

The execution of the course IT483 Systems Development Project I is divided into two parts: the senior project report and the senior project defence.

The structure for *Senior Project Report* during the execution of IT483 includes the senior project draft along with what is described below.

IT483 Report (weeks 1 - 19, according to schedule)

- 1 **Introduction** (brief description of the problem and a proposed solution, and why this project is important for the potential stakeholders; must include a document structure description)
 - 1.1 **Project's Objectives**
 - 1.1.1 **General Objective**
 - 1.1.2 **Specific Objectives** (clear and measurable objectives for the proposed system; must support the mission/goal of the organization)
- 2 **Related Works** (description of similar solutions)
- 3 **Preliminary Investigation**
 - 3.1 **Company Profile** (name of client, company or organization; address; line of business; company contact – phone number e-mail address; list of stakeholders and their contact information – phone numbers and e-mail addresses)
 - 3.2 **Organizational Chart** (an organization chart for the part of the organization you are studying)
 - 3.3 **Statement of the Mission/Goal of the Organization** (if any)
 - 3.4 **Project Request** (a description of how the project was initiated)
 - 3.5 **Description of the Problem** (a brief description of the problem/opportunity to be investigated)
 - 3.6 **Project Scopes and Constraints**
 - 3.7 **Expected Business Benefits**
 - 3.8 **Expected System Capabilities**
 - 3.9 **Development Environment** (details of the methodology, modelling and implementation languages)
 - 3.10 **Feasibility Study**
 - 3.10.1 **Technical Feasibility**
 - 3.10.2 **Legal Feasibility**
 - 3.10.3 **Operational Feasibility**
 - 3.10.4 **Schedule Feasibility** (ref. to Appendix - Software Cost Estimation)
 - 3.10.5 **Financial Feasibility** (ref. to Appendix - Software Cost Estimation)
 - 3.11 **Planning** (a Gantt chart is expected; it must be synchronized with the senior project schedule described in page 14)
- 4 **Analysis and Design**
 - 4.1 **Introduction**
 - 4.2 **Risk Analysis** (in case of a spiral process model is used) (ref. to Appendix - Software Cost Estimation)
 - 4.3 **Business Analysis and Design**
 - 4.3.1 **Conduct of Analysis** (analysis methods used, end-users contacted, records, forms and reports analysed (provide evidence), processes observed (provide data flowcharts), synopsis of interviews (provide questions asked), used prototypes (if any))
 - 4.3.2 **User Requirements** (output requirements – specify type, layout, and frequency –, input requirements – specify data capture procedures, methods, and devices, as well as data input details –, process requirements – specify if data transformation or process is required to produce the

output –, performance requirements – specify time, speed, volume or schedule constraints that the system must fulfil –, control requirements – specify access, users, roles, or audit needs –, user training requirements – specify if which specific training is required and target audience –, description of time, funds, skills, technology, and external factor constraints)

4.3.3 **Infrastructure Analysis** (hardware available vs required, software available vs required, networking available vs required, standards available vs required)

For the IT483 Systems Development Project I report, each member of the evaluation committee must grade the report as shown in the table 1, generating a average grade.

	Excellent	Good	Average	Fair	Poor	Points Earned
	5	4	3	2	1	
Introduction (document structure, brief description of the problem and a proposed solution, and why this project is important for the stakeholders)						
Related Works						
Company Profile (name of client, company or organization, address, line of business, company contact, contact's phone number, and contact's e-mail address)						
Identification of studied area of the organization						
Project Scopes and Constraints						
Expected Business Benefits						
Expected System Capabilities						
Feasibility Study						
Project Planning						
Development Environment (details of the methodology, modelling and implementation languages)						
Requirement Engineering						
Iteration Execution (risk analysis – if needed; business analysis (conduct of analysis, user requirements; infrastructure analysis); and design (physical design, database design; storyboards))						
				Total Points		
				Maximum		60

Table 1: Rubric to grade the IT483 Systems Development Project I report.

IT483 Defence

For the senior project defence of IT483, the student should fulfil the following requirements:

- Official and complete uniform.
- Time of presentation: 30 minutes.
- Time of questions: 10 minutes.
- Deliverables:
 - Upload into the student's channel at the FIT Senior Projects Teams the following items:
 - Report (**PDF** and **DOCX/ODT**).
 - Presentation (**PDF** and **PPTX/ODP**).
- Structure of presentation:
 - Self and project's introduction.
 - Company profile, organizational chart, and statement of the mission/goal of the organization related to the proposed solution.
 - Description of the problem.
 - Brief description of the proposed solution and its importance for the client.
 - Objectives of the project.
 - Related works (if any) and what are the advantages of the proposal compared to them.
 - Benefits of the proposed solution for the company.
 - Summary of the feasibility studies.
 - The environment of development.
 - Risks.
 - Planning.
 - Summary of user requirements.
 - Summary of infrastructure analysis.
 - Physical design and database design.

IT484 Systems Development Project II

The execution of the course IT484 Systems Development Project II is divided into two parts: the continuation of the senior project report from IT483 and the senior project defence.

The structure for *Senior Project Report* during the execution of IT484 includes all the sections of the IT483 report along with what is described below.

IT484 Report (weeks 20 - 37, according to schedule)

- 4.4 **Testing**
 - 4.4.1 **Testing Plan** (including scheduling)
 - 4.4.2 **Unit Tests** (including bug tracking details)
 - 4.4.3 **Integration Tests**
 - 4.4.4 **System Test**
 - 4.4.4.1 **Load and Stress Tests**
 - 4.4.4.2 **Security and Performance Tests**
 - 4.4.4.3 **Acceptance Test** (must be carried out with the stakeholders and the evaluation committee as per the diagram of figure 1)
- 4.5 **Implementation Details** (comments about most relevant algorithms or technical highlights; link to the institutional GitHub repository provided for this purpose)
- 5 **Conclusions** (challenging problems found and how they were resolved; discussion about original ideas used to troubleshoot)
 - 5.1 **Future Works** (potential improvements, proposals of new features, *etc.*)
- 6 **Appendix**
 - 6.1 **Software Cost Estimation** (financial cost, human cost, and time)
 - 6.2 **Documentation**
 - 6.2.1 **Program Documentation** (data dictionary, DFD, object models, screen layouts, source documents, system request, depending on the methodology used)
 - 6.2.2 **Operations Documentation** (installation process of the system; identification of users' roles; scheduling information for printed outputs; input and output files, identifying origin and destination; e-mail lists; special forms; special instructions, *e.g.*, security requirements)
 - 6.2.3 **User Documentation** (manuals, help screens, tutorials, FAQs)

The structure and the way how the project is executed could be negotiated depending on which process model is chosen. However, the final document should fulfil minimum requirements previously listed.

For the IT 484 Systems Development Project II report, each member of the evaluation committee must evaluate the report as shown in the table 2, generating a average grade.

	Excellent	Good	Average	Fair	Poor	Points Earned
	5	4	3	2	1	
<i>Improvements from previous report</i> (improvements made in IT 483 Systems Development Project I report)						
<i>Test – Unit test</i>						
<i>Test – Integration test</i>						
<i>Test – System test</i>						
<i>Test – Acceptance test</i>						
<i>Conclusions – challenging problems found and how they were resolved</i>						
<i>Conclusions – discussion about original ideas used to troubleshoot</i>						
<i>Conclusions – future works</i>						
				Total Points		
				Maximum		40

Table 2: Rubric to grade the IT 484 Systems Development Project II report.

Additionally, each member of the evaluation committee must grade the software product as shown in the table 3, generating a average grade.

	Excellent	Good	Average	Fair	Poor	Points Earned
	5	4	3	2	1	
<i>GUI's quality</i>						
<i>GUI's standard components usage</i>						
<i>Accessibility features</i>						
<i>User's help quality</i>						
<i>User's help clarity</i>						
<i>User's manual quality</i>						
<i>User's manual clarity</i>						
<i>Manual of installation quality</i>						
<i>Manual of installation clarity</i>						
<i>Stability</i>						
<i>Fault tolerance features</i>						
<i>Feedback quality</i> (provided to the user by the GUI)						
<i>Code documentation quality</i>						
				Total Points		
				Maximum		65

Table 3: Rubric to grade the IT 484 Systems Development Project II software product.

Acceptance Test

The student must use the rubrics shown in table 4, 5 and 6 to carry out the acceptance test with both the stakeholders and the evaluation committee. Table 4 corresponds to the software assessment criteria that both the stakeholders and the evaluation committee are to use to assess the overall quality of human-computer interaction of the software. The table 5 corresponds to a checklist used to assess the completion of the software from the functional perspective. And, the table 6 corresponds to the assessment of completion of the project's specific objectives. In table 6 assessors are to provide a relative importance (percentage) to each specific objective that must sum 100%. Additionally, they are to provide a subjective appreciation of completion for each specific objective listed.

The table 7 describes the procedure to calculate the acceptance test grand total which is a relative score (percentage). The passing relative score for the acceptance test is a grand total of 80%. In case of lower grand total, the student must improve the software based on lower scored criteria in table 4, missing functionalities in table 5 or not completed specific objectives in table 6, and re-do the acceptance test as per the procedure in figure 1.

Criteria		Score 4: <i>Very good</i> 3 : <i>Acceptable</i> 2 : <i>Regular</i> 1 : <i>Unacceptable</i>	Comments
1	Access to management options. (User management, items management, request management, etc.)		
2	Application functionality. (Does the application contain all the expected user functions?)		
3	Clarity of content, information and help.		
4	GUI design quality. (Texts, chars, pictures, component distribution, menus distribution, etc.)		
5	GUI accessibility and usability. (How friendly is the GUI?)		
6	Company brand design. (Is the application design aligned to the company brand rules/policies?).		
7	GUI simplicity. (How easy is using the application for the very first time?)		
8	Application navigability (How simple is navigate through the menus?)		
9	Report design quality. (Users report, payment report, items report, requests report, etc.)		
10	Overall application score.		
Average score		x	
Relative score		$a = 100 \left(\frac{x}{40} \right) \%$	

Table 4: Software assessment criteria.

Functionality		Check
Item (Data Object)		
1	Add item.	
2	List items.	
3	Show item.	
4	Update item.	
5	Delete item.	
User (Data Object)		
1	Add user.	
2	List user.	
3	Show user.	
4	etc.	
...		
Total checked functions		x
Total expected functions		n
Relative Score		$b = 100 \left(\frac{x}{n} \right) \%$

Table 5: Functionality checklist.

Specific Objectives	Importance (%)	Completion (%)	Score
Objective 1	i_1	c_1	$s_1 = i_1 c_1$
Objective 2	i_2	c_2	$s_2 = i_2 c_2$
Objective 3	i_3	c_3	$s_3 = i_3 c_3$
etc.
	<i>Importances should sum 100%</i>		
		Relative Score	$c = \sum_j s_j$

Table 6: Specific Objectives Completion Assessment.

Evaluation	Relative Score
Software Assessment	a
Functionality Checklist	b
Specific Objectives Completion	c
Acceptance Test Grand Total	$c(\frac{1}{2}a + \frac{1}{2}b)$

Table 7: Acceptance Test Grand Total Calculation.

IT 484 Defence

For the senior project defence of IT484, the student should fulfil the following requirements:

- Official and complete uniform.
- Time of presentation: 40 minutes.
- Time of questions: 10 minutes.
- Deliverables:
 - Upload into the student's channel at the FIT Senior Projects Teams the following items:
 - Report (**PDF** and **DOCX/ODT**).
 - Presentation (**PDF** and **PPTX/ODP**).
 - Program documentation.
 - Operations documentation. (for admin; instructions to install and run the system, and operate the system)
 - User documentation.
 - Source code.
- Structure of presentation:
 - **<summary of the IT483 defence>** (no more than 20 minutes)
 - Summary of implementation.
 - Summary of testing. (load and stress tests, security and performance tests, acceptance test)
 - Demonstration of the software system.

Grading of both IT483 and IT484 Defence

For both IT483 Systems Development Project I defence and IT484 Systems Development Project II defence, each member of the evaluation committee must grade the presentations using the rubric shown in the table 8.

	Excellent	Good	Average	Fair	Poor	Points Earned
	5	4	3	2	1	
Introduction	Introduction is well prepared, states the purpose of the presentation and offers an interesting attention getter.	Introduction is adequately prepared, states the purpose of the presentation and offers an interesting attention getter.	Introduction implies the purpose of the presentation and attempts to offer an attention getter.	Introduction fails to indicate the purpose of the presentation and has no attention getter.	There is no noted introduction to the presentation.	
Main ideas and points	The main idea and points are supported by extensive accurate and appropriate details.	The main idea and points are mostly supported by accurate and appropriate details.	The main idea and points are supported by some accurate and appropriate details.	The main idea and points are minimally supported by accurate and appropriate details.	The main idea and points are not supported by accurate and appropriate details.	
"I learned" statements	Presentation is filled with self-discovery clues such as "I learned," or "I never knew" statements.	Presentation includes many self-discovery clues such as "I learned," or "I never knew" statements.	Presentation includes some self-discovery clues such as "I learned," or "I never knew" statements.	Presentation includes at least one self-discovery clue such as "I learned," or "I never knew" statement.	Presentation includes no self discovery clues.	
Flow is well organized <i>(What is the evidence that the student can organize a presentation in a way that supports audience understanding?)</i>	Organization is appropriate to the purpose and audience and supports the line of reasoning; effectively hooks and sustains audience engagement, while providing a convincing conclusion.	Organization is appropriate to the purpose, audience, and task and reveals the line of reasoning; transitions guide audience understanding.	Organization is not appropriate enough to the purpose, audience, and task and cannot reveal clearly the line of reasoning; transitions vaguely guide audience understanding.	Inconsistencies in organization and limited use of transitions detract from audience understanding of line of reasoning.	A lack of organization makes it difficult to follow the student's ideas and line of reasoning.	
Relationship between document and project	Report strongly relates to the project.	Report adequately relates to the project.	Report relates in some way to the project.	Report has minimal correlation to the project.	Report does not relate to the project in any way.	
Oral communication skills <i>(What is the evidence that the student can use language appropriately and fluidly to support audience understanding?)</i>	Student enunciates well, makes appropriate word choices, uses transitions, and speaks consistently fluid and easy to follow.	Student enunciates, makes appropriate word choices, uses transitions.	Student uses language and style that is at times unsuited to the purpose, audience, and task. Student is fluid with minor lapses of awkward or incorrect language use that detracts from audience understanding.	Speaking techniques show a definite weakness in appropriate word choice, use of transitions.	Speaking uses language and style that is unsuited to the purpose, audience, and task. Student stumbles over words, interfering with audience understanding.	
Conclusion	Conclusion effectively summarizes the presentation and generates interest.	Conclusion adequately summarizes the presentation but does not promote the desire to know more.	Conclusion summarizes the majority of the presentation.	Conclusion is minimal in summarizing the presentation.	Conclusion is either absent or fails to summarize presentation.	

Presentation techniques (What is the evidence that the student can control and use appropriate body language and speaking skills to support audience engagement?)	Student demonstrates consistent command of presentation skills, including control of body posture and gestures, eye contact, clear and audible voice, and appropriate pacing in a way that keeps the audience engaged. Student maintains a presence and a captivating energy that is appropriate to the audience and purpose of the presentation.	Student demonstrates a command of presentation skills, including control of body posture and gestures, eye contact, clear and audible voice, and appropriate pacing. Student's energy and affect are appropriate for the audience and support engagement.	Student demonstrates a command of some aspects of presentation skills, including control of body posture and gestures, language fluency, eye contact, clear and audible voice, and appropriate pacing. Student's energy, and/or affect are usually appropriate for the audience and purpose of the presentation, with minor lapses.	Student makes minimal use of presentation skills: lacks control of body posture; does not make eye contact; voice is unclear and/or inaudible; and pace of presentation is too slow or too rushed. Student's energy and affect are unsuitable for the audience and purpose of the presentation.	Student does not demonstrate presentation skills (control of body posture, eye contact, clear voice, and pace of presentation).	
Student dress	Student is dressed using the official AIU student uniform.	—	Student is dressed in uncompleted AIU student uniform.	—	Student is not dressed in AIU student uniform.	
Visual aids (What is the evidence that the student can use digital media/visual displays to engage and support audience understanding?)	Student uses digital media or visual displays that are polished, informative, and support audience engagement and understanding.	Students uses digital media or visual displays that are appealing, informative, and support audience engagement and understanding.	Students uses digital media or visual displays aids that are informative.	Students uses digital media or visual displays aids where the information is not clear enough.	Students uses digital media or visual displays aids with poor quality information.	
Committee's questions (What is the evidence that the student can respond to audience questions effectively?)	Student provides a precise and persuasive response to questions fluently and confidently; demonstrates an in-depth understanding of the facts and topic.	Student provides a direct and complete response to questions; demonstrates an adequate command of the facts and understanding of the topic.	Student provides an indirect or partial response to most of the questions; demonstrate a partial command of the facts or understanding of the topic.	Student provides a vague response to questions with lacks fluency and confidence; demonstrates a minimal command of the facts or understanding of the topic.	Student provides an response to a minimum number of questions; demonstrates a vague and unprepared understanding of the topic.	
					Total Points	
					Maximum	55

Table 8: Rubric to grade both IT483 Systems Development Project I defence and IT484 Systems Development Project II defence.

Senior Project Schedule

In the table 9 the schedule for the execution of both IT483 Systems Development Project I and IT484 Systems Development Project II is presented.

Week	Description
1 – 4	Deadline to present the senior project proposal. <i>(as per the action BIT 2019-03 of the Curriculum Management Committee of the Faculty of Information Technology)</i>
5 – 14	Execution of IT483 Systems Development Project I.
15	Submission of IT483 Systems Development Project I deliverables to the evaluation committee for revision and grading. <i>(as per the action BIT 2019-04 of the Curriculum Management Committee of the Faculty of Information Technology – see details below)</i>
16 – 19	Preparation for defence and defence meeting of IT483 Systems Development Project I.
20 – 32	Execution of IT484 Systems Development Project II.
33	Submission of IT484 Systems Development Project II deliverables to the evaluation committee for revision and grading. <i>(as per the action BIT 2019-04 of the Curriculum Management Committee of the Faculty of Information Technology – see details below)</i>
34 – 37	Preparation for defence and defence meeting of IT484 Systems Development Project II.

Table 9: Schedule for both IT483 Systems Development Project I and IT484 Systems Development Project II.

The adviser has the responsibility to return their feedback on student's project progress within 5 business days upon submission. Each approval or evaluation committee member has the responsibility to return their feedback on student's project reports within 10 business days upon submission.

Below the action **BIT 2019-04** is quoted:

TO PROPOSE THE STUDENTS TO SUBMIT ALL THE DELIVERABLES OF THEIR SENIOR PROJECT (SENIOR PROJECT REPORT, SOFTWARE – PROGRAMS, DATABASES AND MANUALS –, AND SENIOR PROJECT PRESENTATION) TWO WEEKS BEFORE GRADING

VOTED To approve with observations: One month before the defence.

BIT 2019-04

WARNING: *The student is not allowed by any mean to register IT484 Systems Development Project II if they have not officially received the IT483 Systems Development Project I final grade.*

Minimum Complexity and Minimum Requirements for IT Senior Projects

As per the action BIT 2019-05 of the Curriculum Management Committee of the Faculty of Information Technology, a measure of minimum complexity and minimum requirements for IT Senior Projects is described below:

1. For Management Information System (CRUD system):
 - a) Security: Encryption of communication; user accounts and roles.
 - b) Remote DB Server along with defined backup policies.
 - c) Must utilize web frameworks for back-end and front-end.
 - d) Measures to determine the minimum expected complexity:
 - Number of data-objects (*e.g.*, counted as the number of entities in the DB): 7.
 - Number of minimum use cases (*e.g.*, counted as the number of windows in the GUI): 30.

Senior Project Final Grade

The final grade of a Senior Project in IT483 Systems Development Project I is calculated according to the following formula:

$$G_1 = (R_{avg^1} w_{R^1} + P_{avg^1} w_{P^1}) L_D M_{D^1}$$

where R_{avg^1} is the report average grade and w_{R^1} its given weight; P_{avg^1} is the presentation average grade and w_{P^1} its given weight; M_{D^1} is a constant that describes the maximum possible number of points to be discounted; and, L_D is a penalty factor for late submission calculated as follows:

$$L_D = \begin{cases} 1.00; & -1(D_e - D_c) > M_D \\ -1 \frac{(D_e - D_c)}{D_t}; & (D_e - D_c) < 0 \\ 0.00; & \text{otherwise} \end{cases}$$

where D_e is the expected date of report delivery; D_c is the current date of report delivery; and, D_t is a tolerable span in days until reaching a maximum discount of M_{D^1} points.

The final grade of a Senior Project in IT484 Systems Development Project II will be calculated according to the following formula:

$$G_2 = (R_{avg^2} w_{R^2} + P_{avg^2} w_{P^2} + S_{avg^2} w_{S^2}) L_D M_{D^2}$$

where R_{avg^2} is the report average grade and w_{R^2} its given weight; P_{avg^2} is the presentation average grade and w_{P^2} its given weight; S_{avg^2} is the software average grade and w_{S^2} its given weight; L_D is a components previously explained; and, M_{D^2} is a constant similar to M_{D^1} previously explained.

Values for w_{R^1} and w_{P^1} , w_{R^2} , w_{P^2} and w_{S^2} , and M_{D^1} and M_{D^2} are shown below:

	w_R	w_P	w_S	M_D
1	0.60	0.40	NA	40
2	0.40	0.20	0.40	40

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The student author of the senior project has full authority to distribute or commercially exploit the software and analysis, design, testing and code documentation of the senior project.

History of Approvals

FIT2019-5, FIT2019-10, FITCMC2020-04, FITCMC2020-30, FITCMC2020-47