Final Evaluation Form - Mechanical Engineering

Note: Throughout this document, the masculine gender is used generically to refer to any person, regardless of their gender.

Student: Last Name: ..... First Name: ..... Year - Spec: **5th year Mechanical Engineering**

Host Organization: ..... **Internship Dates**: from..... to .....

Professional Supervisor: ..... Email: .....

Dept. / Position: ..... Phone: .....

Academic Advisor: ..... Email: ..... Phone: .....

Internship Subject: .....

.....

.....

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This evaluation form is based on the **Competency-Based Approach**, a framework designed to assess the future engineer's ability to act effectively in professional situations. You will be asked to evaluate the student's proficiency level in ***Competencies***, defined as "a complex ability to act, drawing upon and combining various forms of knowledge, practical skills, and personal qualities to propose and implement a relevant and efficient solution to encountered situations within a given context". These competencies are structured within a framework known as the ***Competency Framework***. For the Mechanical Engineering degree programme at Polytech Lyon, this framework comprises **4 Competencies** representative of a Mechanical Engineer's activities. This internship provides the student with the opportunity to develop and apply **one (or more) of these competencies**. The evaluation of each Competency hinges on two main axes: on one hand, its ***Key Components***, which are the specific criteria describing the quality of the expected action; and on the other hand, the ***Key Learnings***, which are necessary for the exercise of the Competency and involve mobilizing multidisciplinary resources of various kinds.

Evaluation Levels for **Competencies** and their Key Components	
Highly Capable	The student demonstrates exceptional mastery of the competency. They act proactively and autonomously in all situations, including the most complex or unforeseen ones, by adapting their approaches. They optimally and justifiably mobilize and combine all adequate knowledge, skills, and attitudes, adhere to all rules and constraints, apply the expected methodological approaches, communicate in an exemplary manner, and produce excellent quality results.
Capable	The student demonstrates full mastery of the competency. They are capable of acting autonomously in given situations by mobilizing and combining adequate resources (knowledge, practical skills, and attitudes). They adapt their actions, adhere to rules and constraints, utilize relevant methodological approaches, justify their choices, communicate effectively, and produce results that meet expectations.
Partially Capable	The student is in the process of acquiring the competency. They act in given situations but encounter difficulties in fully and/or adequately mobilizing and combining the necessary knowledge, skills, and attitudes. Significant guidance is still required to adapt their actions to specific situations, adhere to all constraints, or to fully and effectively justify their choices.
Not Capable	The student does not master the competency. They are unable to act in given situations or to mobilize and combine the necessary knowledge, skills, and attitudes. Actions taken do not adhere to constraints, methodological approaches are inappropriate, communication is ineffective, and/or full assistance is required for any accomplishment.

Evaluation Levels for **Key Learnings**	
Acquired	The key learning is fully mastered. The student effectively and autonomously mobilizes all necessary knowledge, skills, and attitudes required to demonstrate the associated competency, including in diverse situations.
In Progress	The key learning is under development. The student is beginning to mobilize the necessary knowledge, skills, and attitudes but still requires significant guidance for full and effective application within the associated competency.
Not Acquired	The key learning has not been demonstrated. The student is unable to mobilize the necessary knowledge, skills, and attitudes to demonstrate the associated competency, or the related action requires full assistance.

↓ *Check this box if the competency has been mobilized during the internship*		Supervisor Evaluation				Student Self-Evaluation			
	Competency **C1**: **Develop advanced programming tools in mechanical engineering**	Highly Capable	Capable	Partially Capable	Not Capable	Highly Capable	Capable	Partially Capable	Not Capable
↓ *Check the boxes corresponding to the key components mobilized during the internship*									
	... by relying on the consistent laws of physics,								
	... in accordance with the client's requirements and/or technical specifications,								
	... by selecting appropriate programming tools,								
	... by implementing a relevant, efficient, and suitable numerical strategy,								
	... by providing critical, scientific, and technical justifications,								
	... by communicating in a clear and concise manner, adapted to the target audience, including in a foreign language,								
	... by working effectively both independently and as part of a team.								

	↓ *Check the boxes corresponding to the key learnings mobilized during the internship*	Acquired	In Progress	Not Acquired	Acquired	In Progress	Not Acquired
Level 1	Choose appropriate programming tools and scientific computing methods to solve a simple mechanical problem						
	Develop a basic scientific computing program						
	Use basic features of industrial simulation software						
	Validate the implemented digital tools on benchmark problems						
	Analyze computational results						
Level 2	Model a simple thermo-mechanical problem using appropriate equations						
	Implement a model in an efficient programming tool						
	Design a programming strategy suited to solving mechanical problems						
	Develop scientific computing programs using an object-oriented programming paradigm						
Level 3	Develop a dedicated programming strategy to solve complex mechanical problems						
	Develop parallelized simulation codes						
	Use advanced features of industrial simulation software to solve realistic problems						
	Report on a project, including the numerical methods used/developed, the results obtained, and their analysis						

Comments

↓ *Check this box if the competency has been mobilized during the internship*		Supervisor Evaluation				Student Self-Evaluation			
	Competency **C2**: **Model physical phenomena for a mechanical system**	Highly Capable	Capable	Partially Capable	Not Capable	Highly Capable	Capable	Partially Capable	Not Capable
↓ *Check the boxes corresponding to the key components mobilized during the internship*									
	... in accordance with the client's requirements and/or technical specifications,								
	... by taking into account the physical laws relevant to the problem to be solved,								
	... by selecting appropriate computational tools to solve the resulting equations,								
	... by using the results of a model to define a control and/or optimization strategy for the system's physical phenomena,								
	... by ensuring the model’s optimality and reproducibility,								
	... by working effectively both independently and as part of a team,								
	... by communicating in a clear and concise manner, adapted to the target audience, including in a foreign language,								
	... by providing critical, scientific, and technical justifications.								

	↓ *Check the boxes corresponding to the key learnings mobilized during the internship*	Acquired	In Progress	Not Acquired	Acquired	In Progress	Not Acquired
Level 1	Conduct a scientific and technical state-of-the-art review						
	Apply a scientific approach to problem-solving						
	Implement an experimental approach to acquire relevant data						
	Write a report on numerical and experimental data to validate developed numerical models						
	Process and analyze experimental data						
	Draw scientific conclusions						
Level 2	Select appropriate equations to model the mechanical problem to be solved						
	Analyze partial differential equations and the underlying assumptions modeling problems in materials, fluid, and structural mechanics						
	Develop one or more scenarios in response to specifications						
	Solve simple partial differential equations analytically						
	Analyze results from scientific models						
	Report on scientific results						
Level 3	Formulate simplifying hypotheses to enable solving a mechanics problem						
	Integrate physical models and their results within a broader industrial or socio-economic context						
	Communicate model results, their interpretation, and validity ranges with various stakeholders						
	Analyze the bibliography in an R&D context						

Comments

↓ *Check this box if the competency has been mobilized during the internship*		Supervisor Evaluation				Student Self-Evaluation			
	Competency **C3**: **Design a mechanical system**	Highly Capable	Capable	Partially Capable	Not Capable	Highly Capable	Capable	Partially Capable	Not Capable
↓ *Check the boxes corresponding to the key components mobilized during the internship*									
	... in accordance with the client's requirements and/or technical specifications,								
	... by using appropriate tools, mathematical assumptions, and numerical models,								
	... by communicating clearly and concisely with stakeholders, including in a foreign language,								
	... by considering aspects related to eco-design,								
	... by working effectively both independently and as part of a team,								
	... by providing critical, scientific, and technical reasoning.								

	↓ *Check the boxes corresponding to the key learnings mobilized during the internship*	Acquired	In Progress	Not Acquired	Acquired	In Progress	Not Acquired
Level 1	Synthesize technical and scientific literature in a bibliographic report on the state of the art						
	Use programming tools for Computer-Aided Design (CAD)						
Level 2	Implement calculation assumptions in appropriate equations						
	Select calculation methods suited to the problem to be solved						
	Apply calculation methods to determine forces, stresses, and deformations in the mechanical system for its sizing						
	Validate calculation results						
Level 3	Evaluate optimization possibilities of a mechanical system based on the relevant equations						
	Implement methods and technological choices based on optimization results						
	Work collaboratively in a team for the design, sizing or optimization of complex mechanical systems						
	Present design, sizing or optimization results in an engineering office context						

Comments

↓ *Check this box if the competency has been mobilized during the internship*		Supervisor Evaluation				Student Self-Evaluation			
	Competency **C4**: **Lead the development or improvement of a mechanical system**	Highly Capable	Capable	Partially Capable	Not Capable	Highly Capable	Capable	Partially Capable	Not Capable
↓ *Check the boxes corresponding to the key components mobilized during the internship*									
	... by applying an appropriate project management methodology								
	... by collaborating effectively with teams and various stakeholders								
	... by considering the costs, deadlines, and quality requirements specified in the project brief								
	... by taking into account the available material, human, and financial resources								
	... by complying with standards relevant to a specific industrial context								
	... by following a suitable continuous improvement approach								

	↓ *Check the boxes corresponding to the key learnings mobilized during the internship*	Acquired	In Progress	Not Acquired	Acquired	In Progress	Not Acquired
Level 1	Identify the scientific, technical, economic, social, environmental, and legal stakes and risks of the project						
	Use appropriate project management tools						
	Carry out activities using organizational tools						
	Self-assess one's progress						
	Report on project progress						
Level 2	Evaluate the importance and relevance of information to successfully carry out a project						
	Plan the major phases of a project						
	Write the necessary technical documentation						
	Communicate an analysis and a scientific approach						
Level 3	Define the project scope (stakeholders and expected deliverables) and objectives						
	Implement consultation mechanisms and communicate the necessary information for decision-making						
	Implement an eco-design strategy within a design office context						

Comments

Professional Attitude and Soft Skills	Satisfactory	Needs Improvement	Comments
Integration and Collaboration – Integration into the team, understanding and embracing the culture and practices of the host organization, contribution to collective goals			
Autonomy and Proactivity – Effective work organization, taking appropriate initiatives, independently seeking information or solutions			
Diligence and Reliability – Punctuality, attendance, adherence to instructions and deadlines, quality of work delivered within their scope			
Communication and Interpersonal Skills – Clarity of expression (written and oral), active listening, adapting communication style to different audiences, politeness and courtesy			

Overall Evaluation		
	A – Exceptional	Performance significantly exceeding expectations. Near-total autonomy, proactivity, and high-impact initiatives. Outstanding potential.
	B – Very Satisfactory	Solid and fully satisfactory performance. Effectiveness, good autonomy, and relevant initiatives.
	C – Satisfactory	Performance meeting expectations for this level. Correct work, adequate autonomy, measurable progress.
	D – Acceptable	Acceptable performance overall, but requiring more supervision. Autonomy to be developed.
	E – Passable	Barely sufficient performance. Tasks completed with difficulty or requiring close supervision. Low autonomy.
	F – Insufficient	Clearly insufficient performance. Major difficulties in completing assignments or applying skills, significant deficiencies in know-how or soft skills.

Comment (Mandatory for **A** or **F** rating):

In view of this internship, would you consider recruiting this student once they graduate, should an opportunity arise? O YES O NO

Comments:

What advice would you give to the student?

Any additional observations? Are there any other relevant competencies or key learnings that you cannot find in this learning framework?

Date:	**Professional Supervisor's signature**:	**Stamp of the host organization**:	**Please return this form to entreprise@polytech-lyon.fr at least 1 week before the defense date**