

# MID-TERM 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: **5<sup>th</sup> 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 <b>Competencies</b> and their Key Components	
<b>Highly Capable</b>	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.
<b>Capable</b>	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.
<b>Partially Capable</b>	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.
<b>Not Capable</b>	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 <b>Key Learnings</b>	
<b>Acquired</b>	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.
<b>In Progress</b>	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.
<b>Not Acquired</b>	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 is mobilized during the internship		Supervisor Evaluation				Student Self-Evaluation			
		Highly Capable	Capable	Partially Capable	Not Capable	Highly Capable	Capable	Partially Capable	Not Capable
	Competency C1: Develop advanced programming tools in mechanical engineering								
↓ Check this box if the key component will be developed 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

		Supervisor Evaluation				Student Self-Evaluation			
		Highly Capable	Capable	Partially Capable	Not Capable	Highly Capable	Capable	Partially Capable	Not Capable
↓ Check this box if the competency is mobilized during the internship									
Competency C2: Model physical phenomena for a mechanical system									
↓ Check this box if the key component will be developed 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									

<p>↓ Check this box if the competency is mobilized during the internship</p>		Supervisor Evaluation				Student Self-Evaluation			
		Highly Capable	Capable	Partially Capable	Not Capable	Highly Capable	Capable	Partially Capable	Not Capable
	Competency <b>C3: Design a mechanical system</b>								
<p>↓ Check this box if the key component will be developed during the internship</p>									
	... 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

<div> <div>↓ Check this box if the competency is mobilized during the internship</div> </div>		Supervisor Evaluation				Student Self-Evaluation			
		Highly Capable	Capable	Partially Capable	Not Capable	Highly Capable	Capable	Partially Capable	Not Capable
	Competency <b>C4: Lead the development or improvement of a mechanical system</b>								
<div>↓ Check this box if the key component will be developed during the internship</div>									
	... 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								
<div>↓ Check the boxes corresponding to the key learnings mobilized during the internship</div>		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								
<div>Comments</div>									

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

Mid-Term Overall Evaluation			
	<b>A – Exceptional</b>	Performance significantly exceeding expectations. Near-total autonomy, proactivity, and high-impact initiatives. Excellent potential.	
	<b>B – Very Satisfactory</b>	Solid and fully satisfactory performance. Effectiveness, good autonomy, and relevant initiatives.	
	<b>C – Satisfactory</b>	Performance meeting expectations for this level. Correct work, adequate autonomy, observed progress.	
	<b>D – Acceptable</b>	Globally acceptable performance, but requiring more supervision. Autonomy developing.	
	<b>E – Passable</b>	Barely sufficient performance. Tasks completed with difficulty or requiring close supervision. Low autonomy.	
	<b>F – Insufficient</b>	Clearly insufficient performance. Major difficulties in completing assignments or applying skills, significant deficiencies in know-how or soft skills.	
<b>Comments</b> (Mandatory for <b>A</b> or <b>F</b> rating):   			
<b>What advice would you give the student for the second half of the internship?</b>   			
<b>Additional observations:</b>   			
<b>Date:</b>	<b>Professional Supervisor's Signature:</b>	<b>Stamp of the host organization:</b>	<b>Please return this form by e-mail to the Academic Advisor by the mid-point of the internship</b>