

## SPIM-GM-901 Adequacy between Model & Reality

**Master Degree : Mechanical Engineering and Materials sciences**

**Reference number : SPIM-GM-901**

Title of the subject : **Adequacy between Model and Reality**

University component : **UFR MIM**

Coordinating lecturer : **JM Philippe** : [jean-marc.philippe@univ-lorraine.fr](mailto:jean-marc.philippe@univ-lorraine.fr)

Semester : **Autumn**

Total hours of classes : **30h**                      ECTS credits : **2**

Teaching language : French

Course proposed in English for exchange students : No

Course composition	Coef.	Number of hours		
		lectures	Tutorials	Practical works
Adequacy Model / Reality		2		28

**During their professional activity, students will propose well reasoned design solutions validated by the experiment**

**Prerequisites** : having followed a program like a Master1 I2M

**Skills to acquire**

Bring students to analyze the adequacy between a model and reality, to define a strategy and the conduct of a study, and to define the limits and the uncertainties related to its use.

**Knowledge associates with skills**

Analyze the dimensions and the shapes of a part by finite elements  
 Realize a product or a mechanism  
 Comparison of a model and a real system  
 Validate the conception of a system by experimenting

**Course syllabus**

Study of the model, its limits, and modelling of the system  
 Determination parameters necessary for experimentation  
 Simulation and validation resulting from studies

**Evaluation :**

Study of a mechanical system leading to its realization, then write a technical report allowing to justify the choices of conception, and to an oral presentation of the work done.