BASIC & GENERAL SKILLS

BASIC

CB6 - Possess and understand knowledge that provides a basis or opportunity to be original in the development and / or application of ideas, often in a research context.

CB7 - Students should know how to apply the acquired knowledge and their ability to solve problems in new or little known environments within broader (or multidisciplinary) contexts related to their area of study.

CB8 – Students should be able to integrate knowledge and face the complexity of making judgments from information that, incomplete or limited, includes reflections on social and ethical responsibilities linked to the application of their knowledge and judgments.

CB9 - Students should be able to communicate their conclusions and their knowledge and reasons that support them to specialized and non-specialized audiences in a clear and unambiguous way.

CB10 - Students should possess learning abilities which will allow them to continue studying in a self-directed or autonomous way.

GENERAL

CG1 - Have knowledge that provides a basis or opportunity for originality when developing and/or applying ideas, often within a research context and knowing how to translate industrial needs in terms of R & D in the field of Industrial Mathematics.

CG2 - Be able to apply the acquired knowledge and abilities to solve problems in new or unfamiliar environments within broader contexts, including the ability to integrate multidisciplinary R & D in the business environment.

CG3 - Be able to integrate knowledge in order to state opinions using information that even incomplete or limited, include reflections on social and ethical responsibilities linked to the application of their knowledge.

CG4 - Have the ability to communicate the conclusions reached together with the knowledge and reasons that support them to specialist and non-specialist audiences in a clear and unambiguous way.

CG5 - Have the appropriate learning skills to be able to continue studying in a way that will largely be self-directed or autonomous, and also to be able to successfully undertake doctoral studies.

SPECIFIC SKILLS

CE1 - Acquire a basic knowledge in an area of Engineering / Applied Science, as a starting point for an adequate mathematical modelling by using well-established contexts or in new or unfamiliar environments within broader and multidisciplinary contexts.

CE2 - Model specific ingredients and make the appropriate simplifications in a model to facilitate their numerical treatment, maintaining the degree of accuracy, according to previous requirements.

CE3 - Determine if a model in a process is well formulated from a mathematics and physics perspective.

CE4 - Be able to select a set of numerical techniques, languages and tools, appropriate to solve a mathematical model.

CE5 - Be able to validate and interpret the obtained results, comparing them with visualizations, experimental measurements and or functional requirements of the corresponding physical engineering system.

MODELLING SPECIALIZATION SKILLS

CM1 - Be able to extract, using different analytical techniques, both qualitative and quantitative information on the models.

CM2 - Know how to model elements and complex systems or not very common fields which lead to well-posed formulated problems.

NUMERICAL SIMULATION SPECIALIZATION SKILLS

CS1 - Know, be able to select or use the most suitable professional software tools (both commercial and free) to simulate processes in the industrial and business sector.

CS2 - Adapt, modify and implement software tools for numerical simulation.

Source: Verification Report on the Master in Industrial Mathematics, section 3, page 8/80.