**EM. Outcomes for Second Cycle Degree (SCD) Programmes**

**EM1. Underlying Conceptual Basis for Informatics**

Graduates of a Second Cycle degree should be able to:

*EM11*: demonstrate either deepened knowledge of a chosen specialisation or broadened knowledge of informatics in general

*EM12*: explain in depth relevant concepts and scientific principles appropriate to their programme of study, some of which may be from outside informatics

*EM13*: demonstrate awareness of topics at the forefront of their specialisation and evaluate their significance

**EM2. Analysis**

Graduates of a Second Cycle degree should be able to:

*EM21*: apply appropriate analysis methods to the solution of complex problems in informatics and to assess their limitations

*EM22*: use fundamental knowledge to investigate new and emerging technologies and methodologies

*EM23*: collect and analyse research data and use appropriate analysis tools in tackling unfamiliar problems, such as those with uncertain or incomplete data or specifications, by the appropriate innovation, use or adaptation of analytical methods.

**EM3. Design and Implementation**

Graduates of a Second Cycle degree should be able to:

*EM31*: describe and explain design processes and methodologies relevant to their subject area and be able to apply and adapt them in unfamiliar situations

*EM32*: specify and complete informatics tasks that are complex, incompletely defined or unfamiliar

*EM33*: apply state-of-the-art or innovative methods in problem solving, possibly involving the use of other disciplines

*EM34*: demonstrate that they can think creatively to develop new and original designs, approaches, methods, *etc*

**EM4. Economic, legal, social, ethical and environmental context**

Graduates of a Second Cycle degree should be able to:

*EM41*: demonstrate awareness of the need for a high level of professional and ethical conduct in informatics

*EM42*: identify relevant legal, commercial, industrial, economic and/or social contexts appropriate to their area of study and explain their relevance

*EM43*: evaluate risk and information security issues relevant to their area of study

**EM5. Informatics practice**

Graduates of a Second Cycle degree should be able to:

*EM51*: describe and explain applicable techniques and methods for their particular area of study and identify their limitations

*EM52*: apply informatics techniques to new application areas, taking account of relevant commercial, industrial, social and environmental constraints

*EM53*: contribute to the further development of informatics

**EM6. Other Professional Competences**

Graduates of a Second Cycle degree should be able to

*EM61*: organise their own work independently, demonstrating initiative and exercising personal responsibility

*EM62*: appreciate the skills required to work with and lead a team that may be composed of people from different disciplines and different levels of qualification

*EM63*: undertake literature searches and reviews using databases and other sources of information

*EM64*: communicate effectively both verbally and using a variety of communications media to a variety of different audiences and preferably also in a second language

*EM65*: plan self-learning and improve personal performance as a foundation for lifelong learning and ongoing professional development