Appendix 5

Philosophical basis and conceptual model for defining required competences generally

In order to define the objectives of a degree programme, the activities of a university have been modelled according to the impact of its results. Thus the goals are defined along scientific, pedagogical and social interactions. These are influenced via theory-technology, human-scientist, and discipline-community interactions, accordingly. All these interactions have been considered when creating the curriculum. The learning process of progressive inquiry follows the consecutive phases of problem solving, which correspond to respective phases of the theory-technology interaction, a concept, describing the idea of a potential innovation, the algorithm being part of its analytical description, simulation providing necessary trust on its validation, and finally, the procedure describing the practical tooling and technology for its realization.