



# Deliverable D4.2 Summary

This deliverable describes 3 online courses in the STEM domain that employ some of the NEWTON innovative technologies and pedagogical approaches that enhance learning: augmented reality, gamification and self-directed learning. After short introduction in Chapter 1, the investigated innovative technologies and pedagogical approaches as self-directed learning, augmented reality-based teaching and learning, Serious Game and Gamification in education are shortly introduced In Chapter 2. After that, the common architecture of the online courses is presented in Chapter 3. The three courses are described in the Chapter 4 (Networking), Chapter 5 (Programming) and Chapter 6 (Earth). For each course the structure, content, methodology, NEWTON innovative technology implementation and knowledge assessment are described.