

Course title	<b><i>STEM: Innovative Approaches in Education for a European Citizenship</i></b>
Credits	6
University	UCM
Language of the course	English
Learning outcomes	<p><b>LO1.</b> Understand the different disciplinary approaches to European Studies, including the way in which the different disciplines interact and enrich each other, so that they can grasp the richness of disciplinary perspectives on Europe and reflect on the added-value of multidisciplinary knowledge to understand Europe.</p> <p><b>LO3.</b> Be able to reflect on the role of Europe in the world, not the least by being equipped to grasp the complex multi-dimensional historical and contemporary relations between Europe and other countries, societies and regions and/or continents.</p> <p><b>LO8.</b> Have insight in European Studies as a multi-disciplinary field of scholarship and education, so that students are aware:</p> <ul style="list-style-type: none"> <li>• of the importance of the academic knowledge development of various disciplines that feed into the understanding and explanation of Europe;</li> <li>• of utilizing the knowledge provided by these various disciplines, including their diverse conceptual, theoretical and methodological perspectives, in their own academic careers and/or professional work environments.</li> </ul>
Course objectives	<p>At the end of this course students will be able to:</p> <ol style="list-style-type: none"> <li>1. Demonstrate extended knowledge of the scientific, technological, and educational contribution from Europe to the world along history.</li> <li>2. Demonstrate extended awareness of the role of STEM approach for scientific literacy and teacher training in the 21<sup>st</sup> century.</li> <li>3. Identify the main characteristics of democratic and citizenship education in Europe.</li> <li>4. Gain awareness of European educational systems, school curriculum, and innovative practices.</li> </ol>
Content	<ol style="list-style-type: none"> <li>1. Academia, Science and Technology from Classical Antiquity to the Modern Times: the roots of Europe and the construction of European identity.</li> <li>2. The creation and developments of European educational systems.</li> <li>3. Fundamental concepts in STEM: Europe's contribution to the World.</li> <li>4. STEM in the construction of modern European citizenship.</li> <li>5. Theories and challenges of intercultural and citizenship education for a European identity.</li> <li>6. Design and development of a European Curriculum. Educational innovation, civic engagement, and interculturality for the 21<sup>st</sup> century.</li> <li>7. Educational practices for STEM literacy, media literacy and citizenship education.</li> </ol>
Work format(s)	Teaching will consist of a combination of formats: lectures, hands-on workshops, case reports, etc. Students are expected to be present, demonstrate active participation during contact hours and prepare courses in case of responsive teaching sessions.
Manner of assessment	Oral and written examination: 20% of the oral examination, 80% in written format.

Literature (required/ recommended)	<p>Alonso, M., &amp; Finn, E. J. (1967). <i>Fundamental university physics</i> (Vol. 1 and 2). Addison-Wesley.</p> <p>Banks, J. (2015). <i>Cultural Diversity and Education: Foundations, Curriculum and Teaching</i>. Routledge.</p> <p>Bosch, M., Chevallard, Y., García, F.J., &amp; Monaghan, J. (Eds.). (2019). <i>Working with the Anthropological Theory of the Didactic in Mathematics Education: A comprehensive casebook</i> (1st ed.). Routledge.</p> <p>Buckingham, D. (2013). <i>Media Education. Literacy, Learning and Contemporary Culture</i>. Wiley.</p> <p>Carr. D. (2002). <i>Making Sense Of Education</i>. RoutledgeFalmer.</p> <p>European Commission (2021). <i>The Structure of European Education Systems</i>. Eurydice.</p> <p>Fitzgerald, T. (Ed.). (2020): <i>Handbook of Historical Studies in Education: Debates, Tensions, and Directions</i>. Springer.</p> <p>Forest, J. F. and Altbach, P. G. (2007). (Eds.), <i>International Handbook of Higher Education</i>. Springer.</p> <p>Kristjánsson, K. (2015). <i>Aristotelian Character Education</i>. Routledge.</p> <p>Kymlicka, W. (1995). <i>Multicultural citizenship: a liberal theory of minority rights</i>. Clarendon.</p> <p>Maynes, M. J. (1985). <i>Schooling in Western Europe: a social history</i>. SUNY Press.</p> <p>Quigley, C. F. and Herro, D. (2019). <i>An educator's guide to STEAM. Engaging students using real-world problems</i>. Teachers College Press.</p> <p>Ringer, F. K. (1979). <i>Education and Society in Modern Europe</i>. Indiana University Press.</p> <p>Taton, R. (1988). (Dir.), <i>Historia General de las Ciencias</i>. Orbis.</p>
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