Course Description

MEDD8919 Science and Higher Education Systems and Policy

Course description
The course discusses the overlaps and relations between the science and technology system and the higher education system using the public policy process as an analytical tool to engage with both systems. The engagement between both systems is done using a mix of perspectives that are anchored on relevant issues and related policy. In doing this, the objectives and characteristics of both systems are considered on how policy is shaped to adapt to an often-negotiated purpose that serves national interests or to face global competitiveness. To better understand this process, specific aspects and activities that overlap the two systems are particularly focused on such as the incentives for the creation, protection and dissemination of knowledge creation, the dynamics of knowledge creation, knowledge impact and assessment, training of the scientific and non-scientific labor force, and sustainability of scientific and higher education structures.
Course objectives
The main idea is to underline that scientific thought has a long history of development, but the current science and higher education systems and policies are fairly recent creations. Two world wars and a cold war in the 20th century changed science and higher education because it brought both increasingly to the center of interest and focus of policymakers. To this, the understanding that science had a key role in social and economic development was essential, and one cannot understand current science without perceiving the input that leading economists brought on the subject. This sets the foundations to talk about the rise of research universities, the government funding of scientific research, the optimisms, expectations and disappointments with some policies, the changing big science projects, and the focus that was put on universities to be more than knowledge producers and become knowledge producers and exchangers. This changed the character of universities and the working behaviors of those in them.

Course learning outcomes	**Aligned programme learning outcomes (PLOs)**
1. Unpack the broad evolution of scientific though	PLOs 1-5
2. Identify, and critique key transformations in science and academic research in the 20th century.	PLOs 1-5
3. Identify themes, trajectories, and tensions in the design of scientific policies.	PLOs 1-5
4. Assess the benefits, pitfalls, and challenges of using scientific indicators to inform a policy.	PLOs 1-5

Course assessment methods
• Moodle Tasks • Group project and presentation • Debate
Course content and topics
• What does one mean by policy, public policy, science policy and higher education policy? • Understanding the importance of S&T and HE data and indicators • The evolution of science and higher education in a nutshell (until the 20th century) • Enter economics – mingling science and higher education • 20th century science and higher education – big science • 20th century science and higher education – public funding and the research university • 20th century science and higher education – The university within science and innovation Systems
Required / recommended readings and online materials

- Horta, H. (2022) Trust and incentives in academic research and the position of universities within innovation systems. *Higher Education* 84 (6), 1343-1363
- Civera, A., Lehmann, E.E., Paleari, S., and Stockinger, S.A.E. (2020) Higher education policy: why hope for quality when rewarding quantity? *Research Policy* 49(8): 104083
- Hazelkorn, E., and Gibson, A. (2018) Public goods and public policy: what is public good, and who and what decides? *Higher Education* 78: 257-271.
- Shot, J. and Steinmuller, W.E. (2018) Three frames for innovation policy: R&D, systems of innovation and transformative change. *Research Policy* 47(9): 1554-1567.
- Benjamin, R. (2015). The Emperor's New Genes: Science, Public Policy, and the Allure of Objectivity. *The ANNALS of the American Academy of Political and Social Science* 661(1): 130–142.

Other additional course information

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