Table D

CALL FOR APPLICATIONS FOR ADMISSION TO PH.D. COURSE
(Cycle XL - 2024/2027)
Reopening of terms
Position with scholarship of innovative Ph.D. programme with industrial characterization
P.R. Marche FSE+ 2021/2027 - Asse 4 - OS 4a

PhD programme in QUANTITATIVE METHODS IN ECONOMICS

Position available with scholarship	**1**

PRELIMINARY ASSESSMENT CRITERIA	1. Assessment of a degree suitable for access to the program
	2. Assessment of curriculum
	3. Aspects of project, its congruence with the program topics and its innovative potential
	4. Language qualification: English – B2 level or higher
Curriculum / Research topics	**Activities description**
QME1 / *Input-Output analysis* **Aerospace economy: the potential of manufacturing production in the Marche Region (AEMarche)**	The activities envisaged by the innovative PhD programme include: - the standard scientific training planned by the PhD course in Quantitative methods in economics and specific training related to the AEMarche project developed within the QME1 curriculum aimed at acquiring a theoretical and methodological basis in the quantitative economic analysis of local production systems; - the collection of qualitative and quantitative data on the regional and national economy useful for understanding the key technical aspects of the Cluster's enterprises and for analyzing the technological trends of greatest interest in the field of the new space economy (materials, application technologies) with the support of the Marche Cluster Explore Aerospace and the Department of Industrial Engineering and Mathematical Sciences (DIISM) of the Marche Polytechnic University; - the clustering analysis of the manufacturing productions of the Marche region and the modelling of industrial development scenarios, with the support of the IDEGA research department of the University of Santiago de Compostela (USC, Spain) where the PhD student will spend three months as a visiting scholar; - the macroeconomic evaluation of industrial policies for the development of the regional economy from an aerospace perspective through the application of a computational general equilibrium (CGE) model. **Obligations for scholarship holders**: the PhD student must compulsorily carry out study and research activities abroad for a period of not less than (six) months; the PhD student must compulsorily carry out applied research, in one or more companies belonging to the project partner Cluster, from 6 to 18 months.

Table D

SUBJECTS ON WHICH THE INTERVIEW HINGES AND POSSIBLE BIBLIOGRAPHY	Critical presentation and discussion of research project; assessment of knowledge related to the research topic indicated; foreign language proficiency. During the discussion **basic knowledge of economics, economic policy and quantitative methods in economics** will be tested; based on the scientific project presented, specific knowledge of varied curricula may be tested. **Reference bibliography:** Miller, R.E. and Blair, P.B. (2009), *Input-Output Analysis: Foundations and Extensions*, 2nd edition, Cambridge University Press. Chiang, A. C. (1999), *Elements of Dynamic Optimization*, Long Grove, IL: Waveland Press. Easley D. and Kleinberg J. (2010), *Networks, Crowds, and Markets. Reasoning about a Highly Connected World*, Cambridge University Press.
INTERVIEW ASSESSMENT CRITERIA	1. Originality and logical development of the project in relation to the chosen research topic
	2. Assessment of training and work profile even outside the university
	3. Experience of national and international mobilities congruent with the candidate's curriculum and the submitted project.
	4. Assessment of candidate's motivation.
SPECIFIC REQUIREMENTS	Basic knowledge of economics and economic policy. The QME Ph.D., well aware of the notable gender gap present in the STEM, in the technical disciplines and in data science, turns its full attention so that the process of selecting candidates shall guarantee gender equality and take place in the absence of any form of discrimination based on social class, gender, sexual orientation, religion or ethnicity.