YUFERING
TRANSFORMING R&I THROUGH EUROPE-WIDE KNOWLEDGE TRANSFER
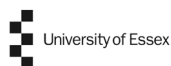
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YUFE Competence Framework for Researchers

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1. Introduction

The Young Universities for the Future of Europe (YUFE) share the objective to identify, develop and reward talents, in order to increase societal impact across Europe, and to reach high-quality research and teaching.

The current debate on the European (and global) level on the recognition of the research profession stresses the importance of tools that enable the widespread recognition of the variety of competences and behaviours needed in research and academia. There is a clear tendency towards a holistic competence framework that enables the assessment of the quality and impact of research, researchers and academic activities[1]. In 2022, the European Strategy for Universities emphasized the need to establish "flexible and attractive academic careers, valuing teaching, research, entrepreneurship, management and leadership activities"[2]. This YUFE Framework should help to avoid the pitfalls of prevalent assessment methods that are based mainly on quantitative criteria, such as the number of publications or the Journal Impact Factor. The YUFE universities aim to develop a common approach to develop and support researchers. However, the YUFE Framework is not intended to replace locally agreed frameworks or job requirements.

Rather, the YUFE Competence Framework supports academic staff development, staff selection and promotion as well as individual career planning:

- **Staff development:**
  - The Framework can underpin the development of staff development offers and qualification programmes (such as the YUFE Staff Development Offers).
  - It can act as a basis for advisory services on career and skills development.

- **Staff selection and promotion:**
  The Framework raises awareness of the variety of competences and behaviours needed in academia. Staff selection, evaluation or (peer) review committees can draw on the Framework to widen their evaluation criteria and to assess the competences of a researcher holistically, regardless of the different national settings where these competences have been acquired. Thus, it promotes the mobility and circulation of researchers.

- **Individual career planning:**
  The Framework helps researchers to define their career goals and aspirations. Career goals are not limited to academia, as a high number of doctoral graduates proceed with an alternative career outside of academia. Hence, there is the demand for broader skills and for transferable skills.

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[1] See for example: European Commission, Directorate-General for Research and Innovation, Towards a reform of the research assessment system: scoping report, Publications Office, 2021, (link); or the Declaration on Research Assessment (DORA), (link)
[2] European Commission, Communication on a European Strategy for Universities, 2022 (link).

We differentiate between core academic competences (research and teaching) and transversal competences. The competences are, however, interlinked and connected to each other. Researchers need to develop transferable competences that are to this point often underestimated in the requirements for successful scientific career. Transferable competences play an important role in academia as well as outside of academia.

However, we acknowledge that researchers do not have to achieve the same level of proficiency for all transferable competences.

The Competence Framework rather makes the variety and diversity of academic careers visible and highlights opportunities for individual development. In order to develop their full potential, researches need to have access to the relevant research infrastructure and research support systems. To ensure this, YUFE offers a variety of Staff Development Offers that are continuously updated.

In 2020, the YUFE partner universities adopted the YUFE Staff Development Policy. They acknowledge that: (1) the academic and professional service staff in the universities of the YUFE Alliance are the key enablers of the YUFE European University; (2) all staff groups are talented and diverse and, therefore, require and deserve support in their career; and (3) staff development and life-long learning are crucial to every institution's human resource policy.

The YUFE Competence Framework for Researchers supports and accompanies the Staff Development Policy. The Framework constitutes another building block towards an inclusive, innovative and responsible Alliance.

2. Competence Framework

The YUFE Competence Framework for Researchers is inspired by existing frameworks at some YUFE universities, and the European Competence Framework for Researchers (ResearchComp) that is currently under development.[3]

The YUFE Framework consists of 17 competences in four competence areas. Each competence is supported by a set of descriptors outlining its primary aspects. The competence areas are:
- Research
- Learning and Teaching
- Networking and Team Working
- Profile and Career Development

Competence area: Research

Competence	Descriptor
Research skills and techniques	• Ability to recognise, validate and solve problems creatively, relating them to a wider context in nature or society. • Ability to apply original, independent and critical thinking and to formulate new theoretical concepts. • Knowledge of most important and recent advances within one's field and in an interdisciplinary setting. • Understanding of relevant research methodologies and techniques and their appropriate application within one's research field and in an interdisciplinary setting. • Ability to critically analyse and evaluate one's findings and those of others, and engage in peer reviewing. • Ability to summarise, document, report, disseminate and reflect on research progress. • Awareness and knowledge of sex and gender as a research topic, and, where relevant, integration of the sex and gender dimension into research & innovation content.
Research Management	• Ability to acquire and manage research projects, including team leadership, reporting and the use of funds. • Knowledge of how to acquire resources (national & EU funding). • Use of appropriate research infrastructure and resources.
Research Impact	• Contribute to addressing and solving complex problems in environment, society and science. • Contribute to advance the knowledge in one's research field and have an impact on the scientific community. • Science Outreach and Communication: Ability to communicate scientific findings both to professional and non-scientific audience.

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[3] European Commission, Directorate-General for Research and Innovation, Knowledge ecosystem: defining a European competence framework for R&I talents, Publications Office of the European Union, 2022, (link)

	• Promote Flipped Knowledge Transfer[4], meaning:
	  – Ability to translate/ transfer research results, knowledge and expertise to society, and likewise get input from society.
	  – Involve societal & business actors, citizens, NGO's and government in the research process as providers of input and co-creation partners.
	  – Ability to manage Intellectual Property Rights (IPR).
	• Awareness and knowledge of community-engaged research and innovation principles[5]:
	  – Actively involve affected community partners (non-academic communities) in one or more phases of the research and innovation process in a way that is mutually beneficial.
	  – Encourage the implementation of the research outcomes and innovative solutions in partnership with the relevant communities.
	  – Build trust-based relationships between researchers and community partners that take into consideration all partners' perspectives in defining research foci and innovation strategies

Open Science and Data Management	• Ability to recognise and apply open science principles in the related areas (Open Data, Open Publishing, Open Peer Review, Citizen Science, Open Source Software (OSS), Open Educational Recourses (OER)). • Knowledge and use of institutional, national and international repositories while applying FAIR (Findable, Accessible, Interoperable, and Reusable) data principles and appropriate CC licencing. • Ability to manage research data and design Data Management Plans.
Professional Research Practice	• Ethics and research integrity: Adhere to the recognised ethical practices and principles of research. • Understanding and awareness of different research contexts in different countries. • Understanding of relevant health and safety issues and demonstration of responsible working practices.

Competence area: Learning and Teaching

Competence	Descriptor
Academic teaching	• Ability to define teaching/course curricula and respective teaching execution plans. • Ability to teach in the subject area in which one is researching and in neighbouring areas. • Engagement in supervision and mentorship including the subsequent skills development. • Readiness to adapt to different teaching target audiences. • Knowledge of principles of pedagogy in higher education (application of various learning and teaching strategies, design of learning environments and design of assessment structures according to the principles of constructive alignment). • Methodological competences: student-centred learning and teaching (inquiry-based learning, cooperative learning, problem-based learning).

[4] YUFERING Task 3.2: Concept-note on the "Flipped Knowledge Transfer Approach", approved July 7th 2021
[5] YUFERING Task 2.1: Community-engaged R&I (CERI) framework an definition, November 2021

Gender, Diversity and Inclusivity	• Reflecting and taking into account gender, diversity and inclusivity in learning and teaching. • Knowledge of the guidelines and standards for designing an inclusive learning environment (e.g. accessibility for students with disability). • Using teaching methods that reflect gender and diversity aspects. • Including aspects of gender and diversity in the teaching content.
Innovation of teaching	• Willingness and ability to apply new learning and teaching methods • Participating in the further development of study programmes. • Being familiar with current digital/ blended learning and teaching tools (application of appropriate digital tools in L&T), including participation in/ production of MOOCs

Competence area:
Networking and Team Working

Competence	Descriptor
Teamwork	• Ability to work in diverse teams (international, intercultural, and interdisciplinary). • Ability to work in an English-speaking team. If another language than English is the common language in the research field, ability to communicate in that language. • Awareness of unconscious bias as well as gender equality issues and awareness of the need to address its effects. • Ability to listen, give and receive feedback based on critical and argument-based interaction.
Leadership	• Create and lead diverse teams, while considering aspects of gender and diversity. • Mentor individuals. • Recognise diverse talent and support individual development and career progression. • Negotiate and resolve conflicts.
Network	• Develop networks within a discipline, within the institution, and in the wider research community. • Foster exchange and open collaboration. • Develop (inter)national networks and interact professionally and personally with peers.
Service to the institution	• Participation in internal university commissions or committees. • Involved in research and teaching quality processes.

Competence area:
Profile and Career Development

Competence	Descriptor
Awareness, resilience, flexibility and the willingness to learn	• Ability to operate in a globalised world and deal with uncertainty and sudden changes to the working environment via a high degree of awareness, resilience, flexibility and the willingness to take learning opportunities. • International careers: Willingness to learn languages that facilitate working in a specific country, and willingness to adapt to the local context and local working processes.
Career planning	• The ability to identify and reflect on own competences and interests. • Ability to transfer skills to different professional contexts. • Ability to develop diverse career goals and career paths. • Seeking opportunities and being flexible: demonstrate an insight into the transferable nature of research skills, to other working environments, and the range of career opportunities within and outside academia. • Identify one's own (life-long) training needs. • Take ownership for and manage one's career progression, set realistic and achievable career goals, and identify and develop ways to improve employability. • Present one's skills, personal attributes and experiences through effective CV's, applications and interviews.
Self-organisation	• Ability to successful apply time management (identity and prioritize tasks, work according to suitable schedules). • Ability to cope with pressure, changes and challenges.
Entrepreneurial and societal spirit	• Ability to turn ideas into action. This includes creativity, innovation and risk taking, as well as the ability to plan and manage projects in order to achieve objectives.[6] • Develop cooperation with business or societal stakeholders. • Recognizing the potential of commercial exploitation of research. This includes an understanding of market needs, recognizing the potential for new products and novel applications of research, and assessing the feasibility.

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[6] Communication from the Commission to the Council, the European Parliament, the European Economic and Social committee and the Committee of the Regions: Implementing the Community Lisbon Programme: Fostering entrepreneurial mindsets through education and learning; COM/2006/0033 final, 2006 (link)