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BIO-Save

Competence Catalogue

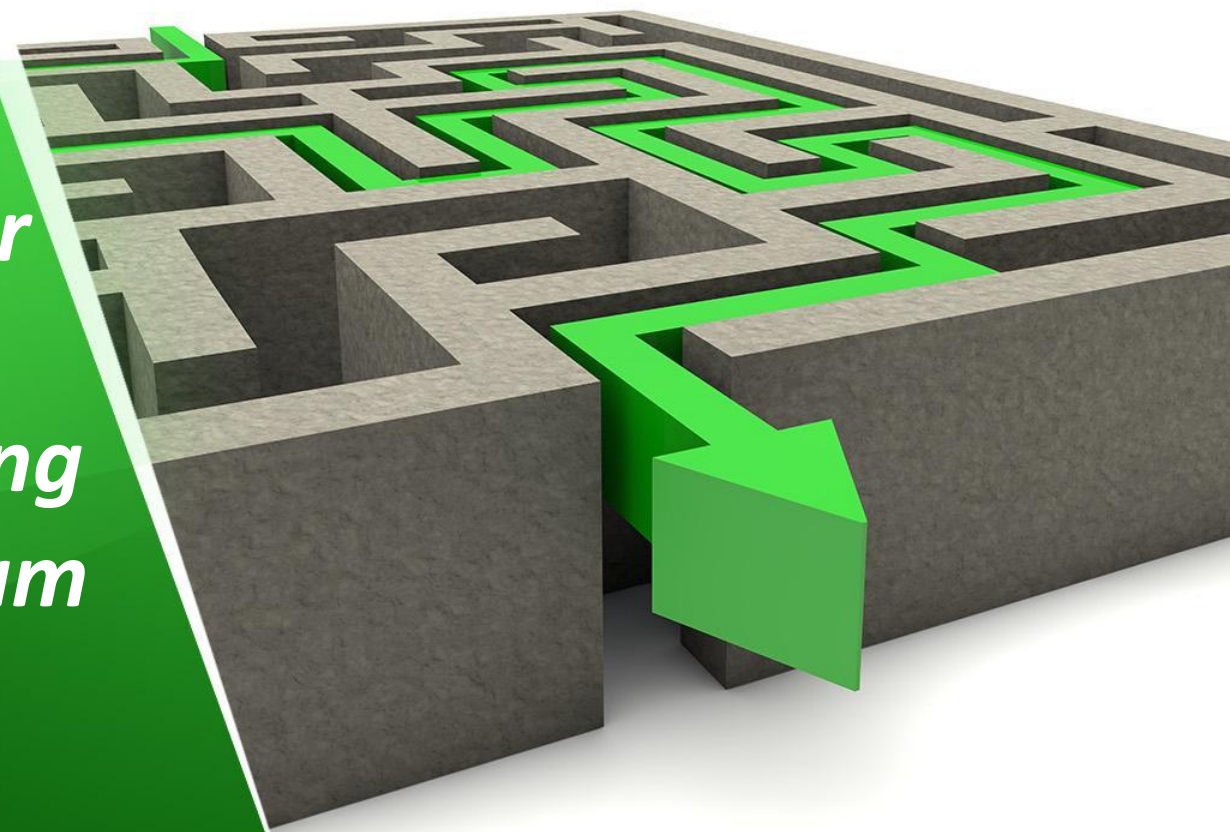
Part II

career profiles

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BIO-Save career profiles in Bio manufacturing up-& down-stream processes





Qualification Dossier of

-
 - Owner's Name



General information about the owner of the dossier

- Full name:

.....

- Area of specialization:

-

.....

- **(Selected from BIO-Save project qualification list)**



Contact information

mail address

telephone

email address.....



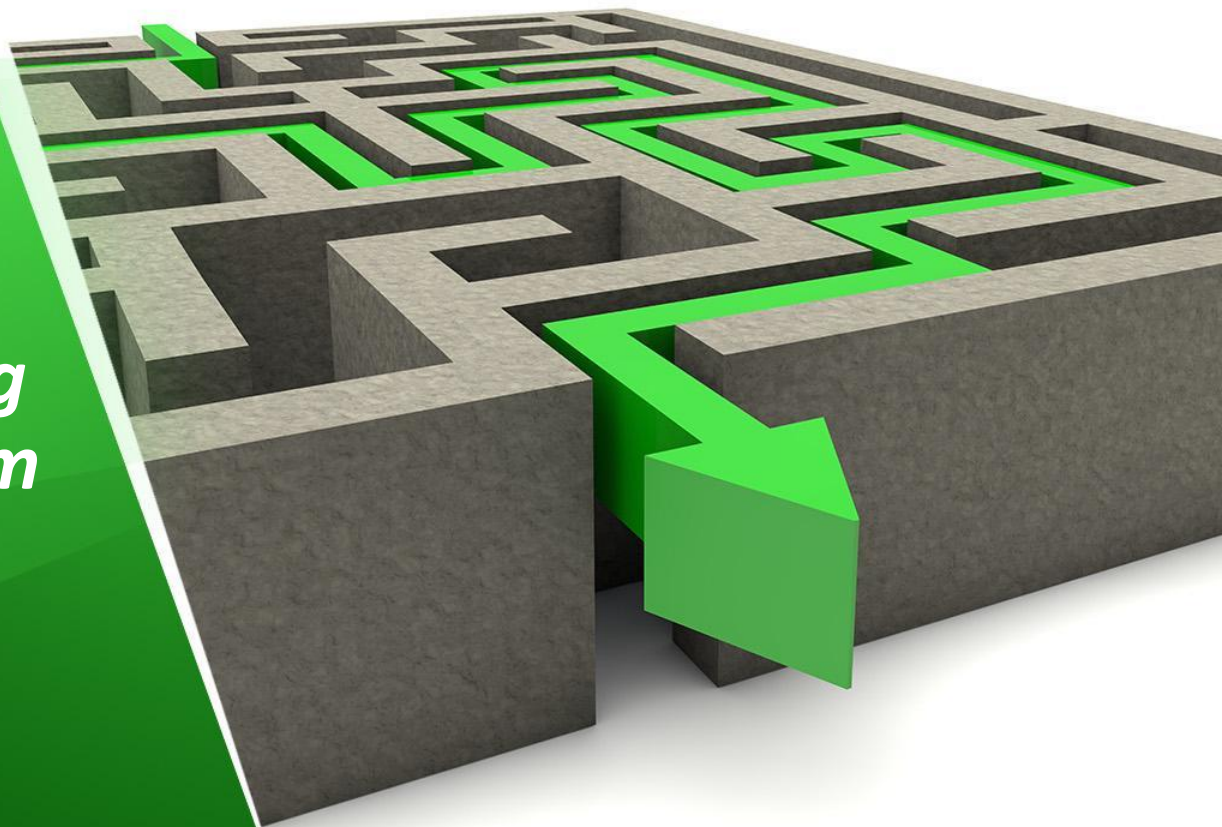
Professional CV EUROPASS

http://europass.cedefop.europa.eu/sites/default/files/cvtemplate_6.doc

Follow the instructions provided in the form above to provide information about your education completed, and work experience

BIO-Save
career profiles
In
Bio manufacturing
up- & down-stream
processes

For level EQF 6



BIO-Save Professional profiles

Bio manufacturing / up- & down-stream processes EQF 6

Knowledge

Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles

Skills

Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study

Responsibility and autonomy

Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups



EQF 6

B.Sc. Degree Professional

Professional Profile for:	Food biotechnologist - ESCO 2131.5
General abilities (knowledge & skills)	<ul style="list-style-type: none"><input type="checkbox"/> Demonstrate a coherent understanding of biological sciences.<input type="checkbox"/> Explain the technologies and methodologies underpinning systems and synthetic biology.<input type="checkbox"/> Understand the principles and role of bioprocessing and biochemical engineering in industrial biotechnology.<input type="checkbox"/> Give examples of industrial biotechnology products and processes and their application in healthcare, agriculture, fine chemicals, energy, and the environment.<input type="checkbox"/> Grow wild type and genetically engineered cells (bacterial, yeast, or animal cells) in large scale.<input type="checkbox"/> Critically analyze and solve problems in bio manufacturing by gathering, synthesizing, and critically evaluating information from a range of sources.
Green abilities (knowledge & skills)	<ul style="list-style-type: none"><input type="checkbox"/> Understand basic principles for developing environmentally friendly technologies.<input type="checkbox"/> Formulate current or potential challenges as a sustainability problem.<input type="checkbox"/> Apply sustainable bio manufacturing waste management policy.<input type="checkbox"/> Respect the needs and rights of other species and of nature itself
Digital abilities (knowledge & skills)	<ul style="list-style-type: none"><input type="checkbox"/> Apply information technologies used in general, educational, and scientific practice – Word, Excel, PowerPoint, etc.<input type="checkbox"/> Use tools for statistical models and their associated estimation procedures.<input type="checkbox"/> Browse scientific databases, retrieving, and analyzing relevant information.

EQF 6

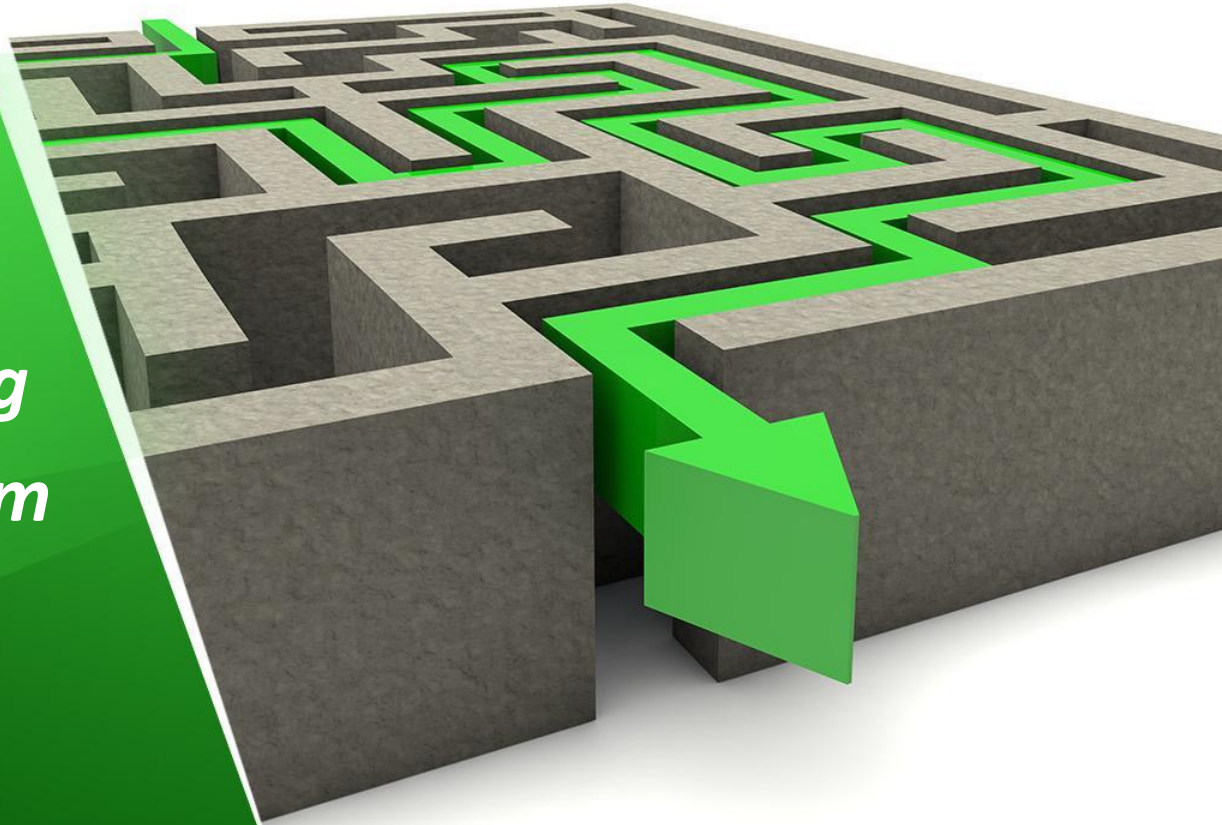
Project manager

<i>Professional Profile for:</i>	Research and development managers ESCO 1223.2
General abilities (knowledge & skills)	<ul style="list-style-type: none"> <input type="checkbox"/> Determine and define project scope and objectives. <input type="checkbox"/> Predict resources needed to reach objectives and manage resources in an effective and efficient manner <input type="checkbox"/> Direct communication with appropriate stakeholders to ensure project team and leadership is fully informed and knowledgeable of project activities, current status and potential risks. <input type="checkbox"/> Select and implement product management tools and processes including data sources and business intelligence, data analytics and visualization, and product development tracking tools
Green abilities (knowledge & skills)	<ul style="list-style-type: none"> <input type="checkbox"/> Organize forums for popularizing environmental sustainability of implemented projects. <input type="checkbox"/> Assess information and arguments, and identifying suitable approaches to anticipating and preventing problems, and to mitigating and adapting project to the legislative environmental requirements. <input type="checkbox"/> Respect the needs and rights of other species and of nature itself.
Digital abilities (knowledge & skills)	<ul style="list-style-type: none"> <input type="checkbox"/> Understand HTML, CSS, and JavaScript for managing project online. <input type="checkbox"/> Develop an online strategy, produce effective content, analyze usage data, facilitate customer service and manage projects and campaigns. <input type="checkbox"/> Use social media applications to effectively communicate project strategy to the team and company management. <input type="checkbox"/> Use digital tools and technologies for collaborative processes.

Autonomy and responsibility

- ✓ Recognize, classify recall, and put in order
- ✓ Reflecting on the impacts of science and provide examples
- ✓ Determine, implement models
- ✓ Excellent observational skills specific skills
- ✓ Asking questions based on observation
- ✓ Accuracy in following procedures and keeping records
- ✓ Work with data
- ✓ Ability to manage time and prioritize tasks
- ✓ Interpersonal skills with ability to work well with others
- ✓ Ability to continually update knowledge in the specialist area

BIO-Save
career profiles
In
Bio manufacturing
up- & down-stream
processes
For level EQF 7



BIO-Save Professional profiles

Bio manufacturing / up- & down-stream processes EQF 7

Knowledge

Highly specialized knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research Critical awareness of knowledge issues in a field and at the interface between different fields

Skills

Specialized problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields

Responsibility and autonomy

Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams



EQF 7

M.Sc. Degree professional

Professional Profile for:	Manufacturing engineer - ESCO 2141.4.1
General abilities (knowledge & skills)	<ul style="list-style-type: none"><input type="checkbox"/> Demonstrate skills in Biotechnological Processes and Process Engineering with particular reference to up- and down-stream processing<input type="checkbox"/> Show competence in reading and understanding scientific literature<input type="checkbox"/> Present an adequate amount of training in Biotechnological Processes and Process Engineering<input type="checkbox"/> Establish competence in writing a short scientific report<input type="checkbox"/> Possess transferable skills<input type="checkbox"/> Perform quick analyses of the current situation and proactivity
Green abilities (knowledge & skills)	<ul style="list-style-type: none"><input type="checkbox"/> Demonstrate competences in LCA<input type="checkbox"/> Possess competences in Bioeconomy<input type="checkbox"/> Demonstrate competences in the sector of renewable energies and bio-based products<input type="checkbox"/> Exhibit competences in performing SWOT analyses
Digital abilities (knowledge & skills)	<ul style="list-style-type: none"><input type="checkbox"/> Use Excel and R data processing tools<input type="checkbox"/> Demonstrate capability of using available databases for data collection<input type="checkbox"/> Use of statistical tools for multivariate analysis

Environmental Health & Safety Professional

<i>Professional Profile for:</i>	Environmental programme coordinator - ESCO 2133.6
General abilities (knowledge & skills)	<ul style="list-style-type: none"><input type="checkbox"/> Understand concepts and techniques in Biotechnology and Process Engineering with particular reference to up- and down-stream processing<input type="checkbox"/> Know bioremediation and bio-based technologies<input type="checkbox"/> Demonstrate competence on risk assessment of bio-based processes<input type="checkbox"/> Comprehend the regulations existing at national and European level and how to apply them<input type="checkbox"/> Define bio-based technology applications to the environment<input type="checkbox"/> Possess self-motivation and team-building capacity<input type="checkbox"/> Perform quick analyses of the current situation and proactivity
Green abilities (knowledge & skills)	<ul style="list-style-type: none"><input type="checkbox"/> Express awareness of environmental sustainability as the main driver of the professional activity<input type="checkbox"/> Show competences in LCA<input type="checkbox"/> Possess skills in energy savings and in renewable energies
Digital abilities (knowledge & skills)	<ul style="list-style-type: none"><input type="checkbox"/> Utilize efficiently GPS technology<input type="checkbox"/> Use available databases for data collection<input type="checkbox"/> Demonstrate skills in the use of statistical tools for multivariate analysis

Biotech SME Manager

Professional Profile for:	Food production managers - ESCO 1321.2.1.3
General abilities (knowledge & skills)	<ul style="list-style-type: none"><input type="checkbox"/> Manage technological innovations.<input type="checkbox"/> Review biomanufacturing operations performance specifications to ensure compliance with regulatory requirements.<input type="checkbox"/> Review logs, datasheets, or reports to ensure adequate production levels and safe production environments or to identify abnormalities with power production equipment or processes.<input type="checkbox"/> Develop specific goals and plans to prioritize, organize, and accomplish biomanufacturing work.<input type="checkbox"/> Supervise operations or maintenance employees in the production process.
Green abilities (knowledge & skills)	<ul style="list-style-type: none"><input type="checkbox"/> Know and understand basic principles laid down in the European and National environmental legislations.<input type="checkbox"/> Develop and implement environmentally sustainable processes or products.<input type="checkbox"/> Assist in reducing greenhouse gases emissions and reduce pollution.<input type="checkbox"/> Adopt new green system innovations, managerial innovations, and green process innovations.<input type="checkbox"/> Understand and apply eco-efficiency concepts.
Digital abilities (knowledge & skills)	<ul style="list-style-type: none"><input type="checkbox"/> Analyze, interpret, and critically evaluate data, information, and digital content.<input type="checkbox"/> Organize, store, and retrieve data, information, and content in digital environments.<input type="checkbox"/> Use computerized maintenance management system CMMS.<input type="checkbox"/> Use remote work software platforms (Google Drive, Microsoft Teams, Zoom, Dropbox Business, Kudos, etc.)

In-company Training Professional

Vocational Education Teachers - ESCO 2320

Professional Profile for:

General abilities (knowledge & skills)

- Present information with a variety of instructional techniques or formats, such as role playing, simulations, team exercises, group discussions, videos, or lectures.
- Demonstrate strong communication skills.
- Obtain, organize, or develop training procedure manuals, guides, or course materials, such as handouts or visual materials.
- Assess training needs through surveys, interviews with employees, focus groups, or consultation with managers, instructors, or customer representatives.
- Promote and communicate background technical information about the skills development and lifelong learning processes and system.

Green abilities (knowledge & skills)

- Evaluate modes of training delivery, such as in-person or virtual, to optimize training effectiveness, training costs, or environmental impacts.
- Help to introduce and manage the measurable standards for social and environmental impact of the training process.
- Be able to raise awareness on the need for reskilling and upskilling to realize the employment potential of the transition to environmental sustainability (the “green transition”).

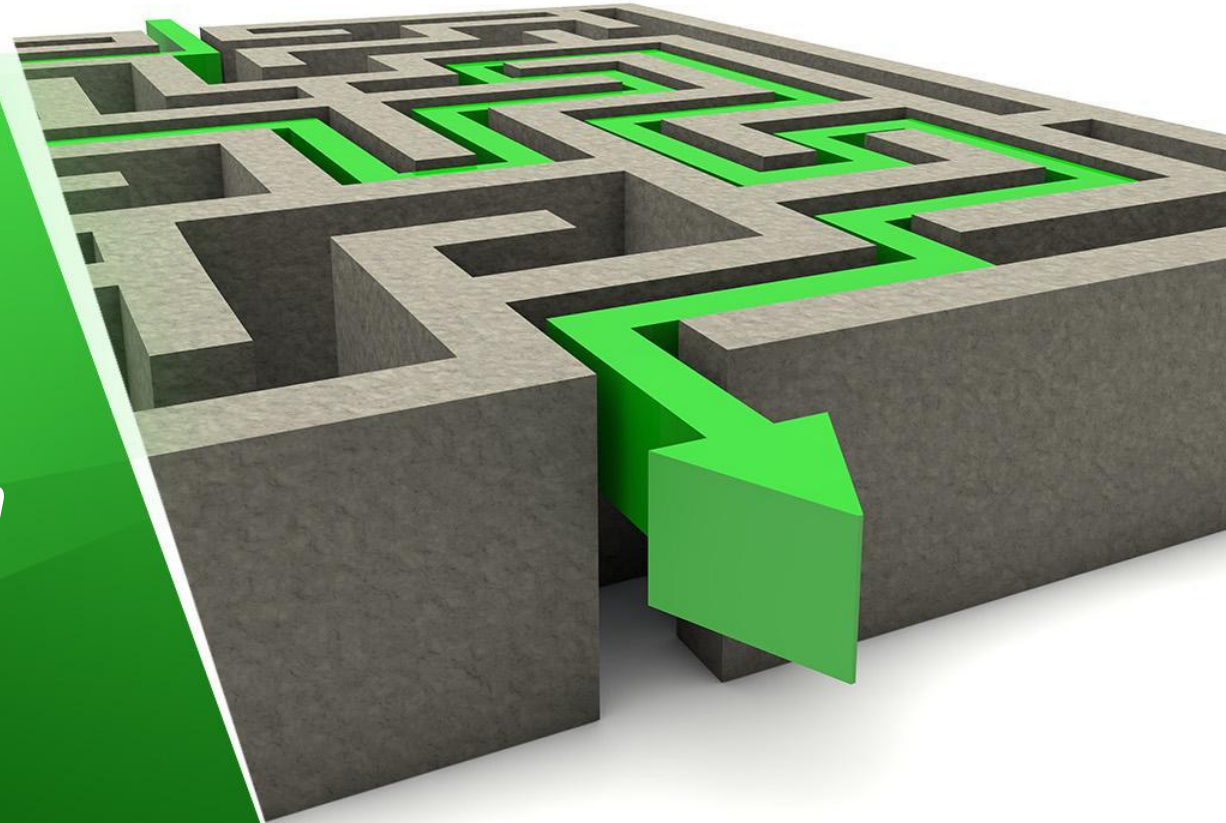
Digital abilities (knowledge & skills)

- Understand and use Learning Management System (LMS), Moodle, ToolBook, etc.
- Apply video conferencing software - Google Meet; Microsoft Teams; Zoom; etc.
- Use video editing and presentation software.
- Use social media applications.

Autonomy and responsibility

- ✓ Compare/contrast, relate, and use models
- ✓ Compute, retrieve, measure
- ✓ Processing evaluating, interpret information, and explain
- ✓ Reasoning and argument/ Inquiring and Designing
- ✓ Generating evidence
- ✓ Intellectual energy and independent thinking to address questions through research
- ✓ Thorough attention to details
- ✓ Critical-thinking and analytical skills
- ✓ Problem-solving skills
- ✓ Skills and experience to work independently and manage own workload

BIO-Save
career profiles
In
Bio manufacturing
up- & down-stream
processes
For level EQF 8



BIO-Save Professional profiles

Bio manufacturing / up- & down-stream processes EQF 8

Knowledge

Knowledge at the most advanced frontier of a field of work or study and at the interface between

Skills

The most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice

Responsibility and autonomy

Demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research



Ph.D. Degree professional

<i>Professional Profile for:</i>	Microbiologist - ESCO 2131.4.10
General abilities (knowledge & skills)	<ul style="list-style-type: none"><input type="checkbox"/> Know the recent advances in Biotechnological Processes and Process Engineering with particular reference to up- and down-stream processing<input type="checkbox"/> Possess 3 years' experience in research related to Biotechnological Processes and Process Engineering<input type="checkbox"/> Submit scientific papers in indexed journals as the first Author<input type="checkbox"/> Demonstrate competence in writing complex scientific reports<input type="checkbox"/> Exhibit transferable skills<input type="checkbox"/> Possess knowledge of the English language at least at the C1 level<input type="checkbox"/> Show competences in chairing workshops
Green abilities (knowledge & skills)	<ul style="list-style-type: none"><input type="checkbox"/> Possess competences in the sector of renewable energies and bio-based products<input type="checkbox"/> Exhibit autonomy in writing research projects at national/international levels in the green sector<input type="checkbox"/> Demonstrate deep knowledge of the European Green Deal<input type="checkbox"/> Perform SWOT analyses
Digital abilities (knowledge & skills)	<ul style="list-style-type: none"><input type="checkbox"/> Display capability of using available databases for data collection<input type="checkbox"/> Use statistical tools for multivariate analysis<input type="checkbox"/> Show responsibility in finding appropriate tools to analyze complex sets of data and to find correlation.

Academic professional

<i>Professional Profile for:</i>	University and Higher Education Teachers - ESCO 2310
General abilities (knowledge & skills)	<ul style="list-style-type: none"><input type="checkbox"/> Demonstrate advanced knowledge of Biotechnological Processes and Process Engineering with particular reference to up- and down-stream processing<input type="checkbox"/> Practice skills in teaching to students and capability of motivating their career<input type="checkbox"/> Master skills in gaining funds for research and training activities<input type="checkbox"/> Create transversal path between different disciplines (interdisciplinarity)<input type="checkbox"/> Possess team-building capacity<input type="checkbox"/> Perform quick analyses of the current situation and proactivity
Green abilities (knowledge & skills)	<ul style="list-style-type: none"><input type="checkbox"/> Understand environmental sustainability as the main driver of the research and teaching activity<input type="checkbox"/> Possess competences in LCA<input type="checkbox"/> Demonstrate competences in the sector of renewable energies and bio-based products<input type="checkbox"/> Show competences in sustainability of up-& down-stream processes
Digital abilities (knowledge & skills)	<ul style="list-style-type: none"><input type="checkbox"/> Use tools to interact, capture attention and measure the level of understanding of students.<input type="checkbox"/> Exploit e-learning platform<input type="checkbox"/> Perform on-line laboratory activities

Autonomy and responsibility



- ✓ Analyze, synthesize, formulate hypothesis
- ✓ Predict, design investigation, evaluate,
- ✓ Draw conclusions, generalize, justify
- ✓ Making an argument from evidence
- ✓ Answering research questions and investigating patterns
- ✓ Explain phenomena scientifically
- ✓ Evaluate and design scientific enquiry
- ✓ Creativity and initiative to develop new ideas
- ✓ Strong written and verbal communication skills
- ✓ Seeking to foster fruitful collaborations

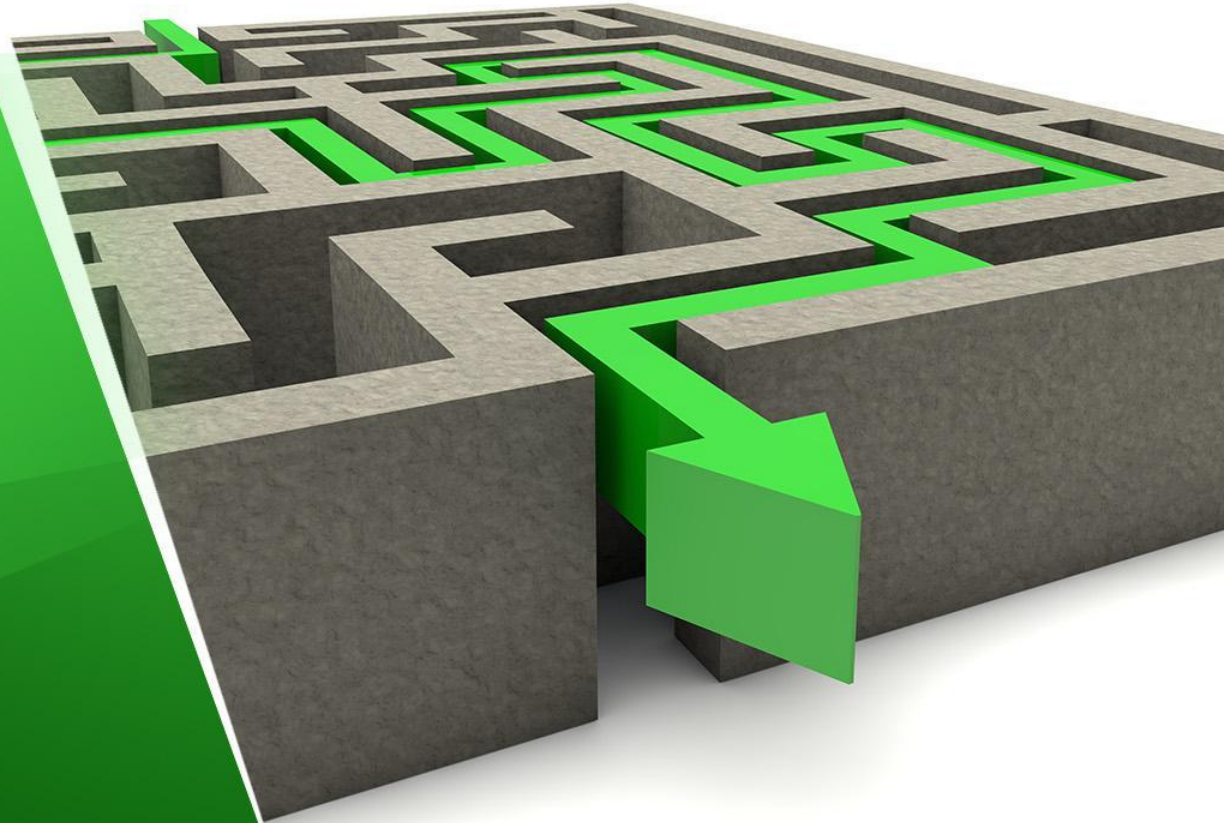
BIO-Save
Competence Catalogue

Part III

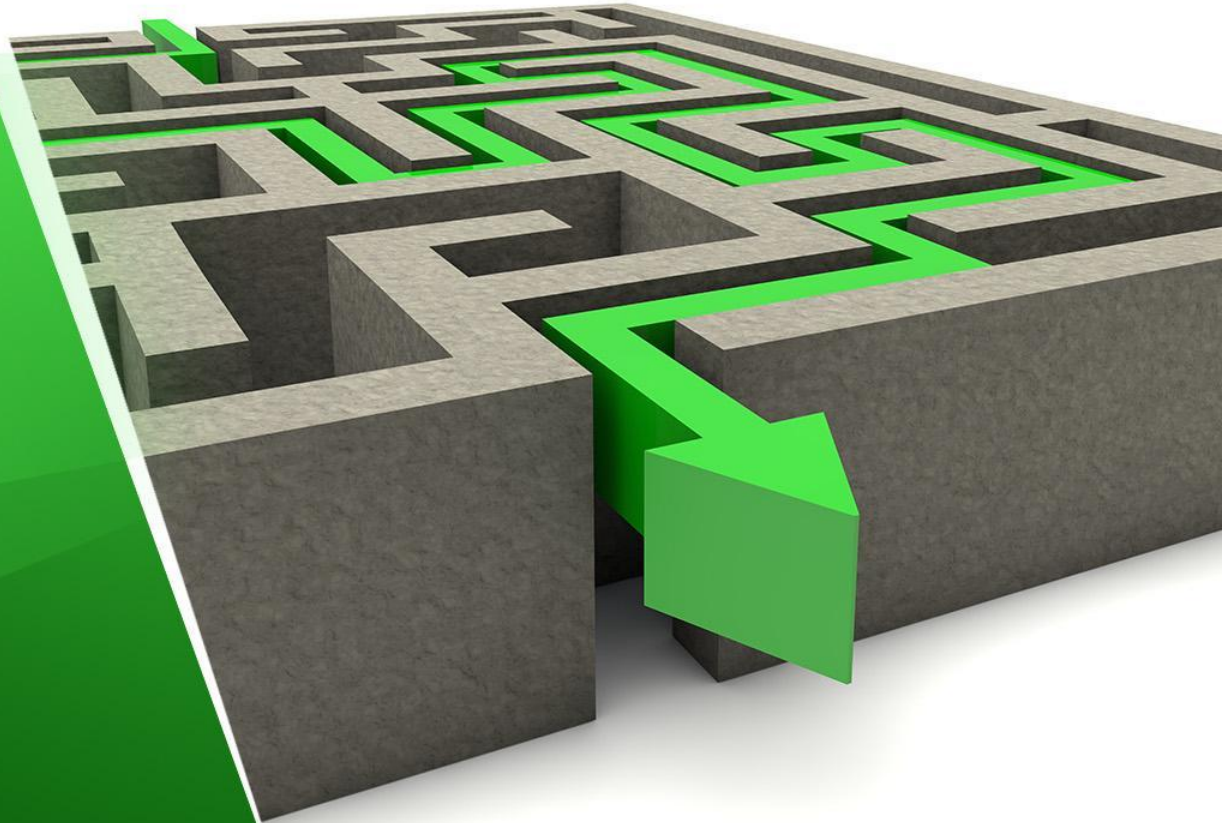
Competence records



*Bio
manufacturing
up- &
down-stream
processes*



**Knowledge & skills
gained through
BIO-Save learning
resources**



Biotechnology approach to solve agricultural and natural resources problems and restore degraded ecosystems

Upon completion of this course the graduate will be able to:

- To provide comprehensive information about the effects of climate change.
- To present the important roles and applications of biotechnology
- To highlight and discuss main issues of climate change (mitigating and adapting)

Addressing climate changes with ISO standards

Upon completion of this course the graduate will be able to

- To introduce the ISO environment-related standards and how they address the climate change adaptation and mitigation;
- To explain how ISO standards are seen as essential to the greenhouse gas (GHG) markets, carbon neutrality, and low-carbon strategies and policies;
- To present the principles, requirements, and guidelines of *ISO14090 Adaptation to climate change* standard;

Green biotech business for young entrepreneurs

Upon completion of this course the graduate will be able to

- Provide comprehensive information about the minimal and integrated food processing and zero waste packaging solutions;
- Discuss climate change mitigation approaches by using carbon dioxide as a raw material;
- Implement the Zero Waste concept and Zero Waste bio-processing technologies for climate change mitigation;
- Support the educational concept and content with ppts, videos, and project work materials.

**BIO-Save
Individual profile**

Create your Future here



Individual profile

✓ Skills in
.....
(BIO-Save Horizon)

✓ Competence in
.....
(BIO-Save Horizon)

✓ Experience in
.....
(BIO-Save Horizon)

- **Indicate**
the skills and competences
you have reached in the
current training

- **Present**
the Credit Points gained

Individual profile



Individual profile :

✓ *Experience in*

.....

(BIO-Save Horizon)

- *Provide any documents and evidence of experience in BIO-Save Horizon*
- *Provide a chronological list of any paid, volunteer, fieldwork, etc*

Individual profile



Individual profile :

- ✓ *Competence profile certificate (CPC)
(BIO-Save Horizon)*

Present the CPC you have been awarded on the basis of the individual profile(s) you have obtained upon completion of BIO-Save training programme

Digital Competence



- ✓ *Use the grid to assess your digital competence*
- ✓ *Describe your digital knowledge, skills and competence*
- ✓ *Provide Certificates that you have*

DIGCOMP self-assessment grid

<https://www.reactivatejob.eu/multimedia/uploads/documents/DigitalCompetences-en.pdf>

Language Competence



- ✓ *Use the grid to assess your linguistic competence*

Common European Framework of Reference for Languages – Self-assessment grid

[https://www.cedefop.europa.eu/files/europass - european language levels - self assessment grid.pdf](https://www.cedefop.europa.eu/files/europass_-_european_language_levels_-_self_assessment_grid.pdf)

- ✓ *Describe your language knowledge, skills and competence*
- ✓ *Provide Certificates that you have*

Individual profile



Other certificates:

- ✓ *Conferences*
- ✓ *Seminars*
- ✓ *Courses*

Provide: Honors or awards you received

Individual profile



Professional goals statement:

- ✓ *Describe your ideas for the tasks and mission realization and achievement of your goals*

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(max. one page or 500 words)