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**REPORT ON CURRICULUM NEEDS ASSESSMENT AMONG THE PARTNERS OF THE
ARMENIAN NETWORK OF EXCELLENCE IN BIO-PRODUCTS SCIENCE AND
TECHNOLOGY (ABIONET) PROJECT**

586136-EPP-1-2017-1-EL-EPPKA2-CBHE-JP

WORK PACKAGE 1



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PROJECT PARTNERS

Project Coordinator	Alexander Technological Educational Institute of Thessaloniki – Greece
EU partners	Technische Universitaet Dresden – Germany Universidade Catolica Portuguesa – Portugal Universita Degli Studi Di Teramo – Italy
Partner countries	Armenia Armenian National Agrarian University (ANAU) Yerevan State University (YSU) Gavar State University (GSU) Shirak State University after M. Nalbandyan Ministry of Education and Science of RA (MoES)

Armenian partners presented the modules and curricula, which is ongoing as well as gaps in the resources of (including human and lab, as well as priority areas for cooperation with EU partners on joint modules development). The priority modules and field of cooperation are also presented.



TABLE 1 EXISTING CURRICULA RELATED TO THE BIOPRODUCTS TECHNOLOGY
AND SCIENCES

Armenian partners				
Current Situation	Yerevan State University (YSU)	Armenian National Agrarian University (ANAU)	Gavar State University	Shirak State University
Existing Curricula	Master Programme in Applied Biosciences Food and Agricultural Biotechnology	- Agricultural Raw Materials and Food Stuff - Expertise, Standardization and Certification - Animal and Plant Origin Food Safety and Expertise – which is a new programme and data is attached	Biology- General biology ready to collaborate and any selected field	Master Programme in Food Technology, particularly in three different directions Plant, Milk and Dairy and Meat products technologies
ECTS	120	70	120	120



Existing technical resources	Modern Equipment mainly needed for teaching scientific components with some missing ones (easy to fill the gaps)	Old equipment and reagents	Infrastructural information no details about existing resources	Modern Equipment mainly needed for teaching scientific components with some missing ones
Staff members	For the above mentioned program there is no lack of qualified staff	For the above mentioned program there is no lack of qualified staff	For the above mentioned program there is no lack of qualified staff	For the above mentioned program there is no lack of qualified staff
Library Resources	Need update	Need update	Need update	Need update



TABLE 2 PRIORITIES AND NEEDS OF ARMENIAN PARTNER UNIVERSITIES

Armenian Partner Universities				
Priorities and Needs	Yerevan State University (YSU)	Armenian National Agrarian University (ANAU)	Gavar State University	Shirak State University
New Curricula	-	Developing New Master Degree Programme in Animal And Plant Origin Food Safety And Expertise	-	Developing New Master Programme In Biotechnology
Modules blocks /Joint Modules	Interested in development of Joint Modules between Arm-Arm, And Arm-EU , as a first step on the way to Joint degree programme		Upgrading the existing Mscprogramme in Biology and adding new modules related to food technology	
New Modules	Not specified in the names yet, but related to Production of Fermented products	Biochemistry & Nutrition Applied to Foods Food Toxicology (Optional) Food and	Nothing special mentioned	Modules related to the Food technology and Safety, particularly meet technology ,Diary



	<p>technology– especially beer and wine, as well as products derived from biodiversity and bioactive compounds</p> <p>This includes also section on Entrepreneurship development of startup projects and business plans, management</p>	<p>Industrial Microbiology</p>		<p>and Milk Products technology and Safety</p>
<p>Staff /professional competences</p>	<p>For the above mentioned programmes there is no lack of qualified staff</p>	<p>Staff training needs (details are in the template)</p>	<p>Staff training needs (details are in the template)</p>	<p>Staff training needs (details are in the template)</p>
<p>Laboratory resources</p>	<p>Mostly related to mini experimentation on product research and development</p>	<p>Milk Analyzer Food Scan Meat Analyzer Thermostat Nitro meter Equipment for</p>	<p>Mostly related to cbiological analytical equipment</p>	<p>Thermostat Autoclave Bioreactor Biosafety L II box Centrifuge (withrefrigeration</p>



	<p>especially oenology, brewery</p>	<p>Titration</p>		<p>) 4000+RPM Vortex, Shaker, Dry oven, Vacuum filtersystem (0.45um, 0.22um) Broth (TSB, NB) & Agar (Nutrient agar, MacConkey, Sabouraud, TSA, Bacillus Cereus selective agar) pH meter Notebook Refrigerator -80 Water deionizer</p>
<p>Collaboration with EU partners</p>	<p>Technology and Science of Fermentation processes, (as a part of food technology), especially wine making, brewing, as well as bioproducts, nutrition issues linked to</p>	<p>Safety in Food Chain Advanced Food Technology Chemical Analysis of Foods</p>	<p>Food safety analyses</p>	<p>Food Technology, Agriculture, Environment</p>



	biodiversity could be considered			
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European partners				
The priority fields and specialization	Portuguese Catholic University Faculty of Biotechnology	University of Teramo Faculty of Bioscience and Technologies for Food Agriculture and Environment	Technische Universität Dresden — TU Dresden	Alexander Technological Educational Institute Thessaloniki
Existing Curricula and modules	Food Engineering	Food Science and Technology Biotechnologies (Biotechnology) with 2 curricula: Food biotechnologies, Molecular and cellular biotechnologies Viticulture and	Module 1: Project Development and Administration Module 2: International Negotiations Module 3: Public Speaking Skills Module 4: Career	Nutrition and Dietetics (BSc programme) There are number of modules that could be considered Quality



		Oenology	Start (CV/Application/Interview) Module 5: Managerial Writing	Management And Production Organization Systems For The Food Industry There are other MSc programmes but in Greek
ECTS	120	180 /120	3 each	120
Existing technical resources	The faculty offers adequate resources that include standard facilities (library, classrooms, laboratories...), but also specific resources (like a kitchen lab, a	Food technology, food microbiology, colloidal and physical properties, sensory analysis, Animal production, Vegetable production, Engineering	Available staff and other Ressourcen. For more information see the website https://tu-dresden.de/	



	<p>technology pilot plant, a sensorial analysis lab...) and offers the advanced resources of the CQBF research center. In overall more than 60 PhD teachers and researchers support the teaching offer.</p>	<p>Laboratories of: Molecular Biotechnologies, Microscopy Food technology, Chemical analysis, microbiology, wine microbiology Teaching laboratory (multidisciplinary) Library: YES , a large, common one, but most of the resources are available online</p>		
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SUMMARY AND PROPOSED TOPICS TO BE DISCUSSED

Based on the data provided by all partner Universities we can conclude that there is similar interest and priorities for Master Programmes, Modules and Fields among Armenian Universities. According to the templates the main interest is to think and work mostly on Modules rather than programmes. Gavar State University has no special priority- So the most possible way in this case might be development of programme/modules, which based more on theoretical biological disciplines, then



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practical aspects of bioproducts technology. The main interest of all universities is related to Food technology and Science, YSU has also interest to diets and bioproducts research and development, with possibility to move on Entrepreneurship!

Our European partners have deep expertise in the field of Food Science and Technology, Entrepreneurship and Start up programmes development, which will highly support the development of New Modules and Module Blocks.

It is clear now, that Among Armenian universities there are commonalities between Agrarian and Shirak Universities, Gavar will be probably integrated with general biology modules and Yerevan State University with more with fermented products science and production technology site. For all universities it is quite important to consider entrepreneurship and business related components.

European partners will provide expertise in both science and entrepreneurship fields.

It is proposed to finalize and made a decision about separate master programmes or Modules per Armenian university, which should be integrated within the Network policy. The Armenian universities with common interest will be able to develop similar modules within collaboration with European partners.

The following topics are proposed to be discussed during the WP 1 meeting in order to proceed to WP 2 implementation

- Possibilities of development and implementation of Joint Modules and/or Modules Blocks Arm- Arm, Arm- EU, based on the university priority and joint interests
- Discussion of the Idea of the Network and its importance from the point of view of joint modules, joint training courses, joint research and start up projects development!



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- Identify the Modules, Module paths, teaching and learning approaches
- Discuss the credit recognition among the Universities