

FEASIBILITY STUDY

A feasibility study is undertaken for a new or existing undergraduate or postgraduate study program that is to be submitted to the Higher Education Quality Assurance and Certification Body for evaluation-certification.

In accordance with the existing approval procedure for undergraduate and graduate programs of the University a feasibility study is submitted together with the Application for Evaluation - Certification of the New Program of Studies of the Higher Education Quality Assurance and Certification Body and submitted to the Strategic Planning and Development Committee, the Undergraduate and Postgraduate Studies Committee and the Internal Quality Assurance Committee, and subsequently to the Senate and the University Council.

GENERAL INFO	
PROGRAM TITLE: MSc in Agricultural Biotechnology	
Program Coordinator: Dr. Dimitris Tsaltas	
Department: Agricultural Sciences, Biotechnology and Food Science	Faculty: Geotechnical Sciences and Environmental Management
Date: 30-11-2019	
<input type="checkbox"/> Undergraduate	<input checked="" type="checkbox"/> Post graduate
<input type="checkbox"/> PhD	

A. STUDENT INTEREST

Record potential student interest based on data driven "market" research, which provides an estimation of current and projected demand by students for this program of study. Indicate the projected enrollments over the next 1-5 years.

Based on the current needs and requirements of the single European market and with the aim of contributing to the technological upgrading and modernization of the Agri-food sector of the island, the Cyprus University of Technology established the first Department of Agricultural Sciences, Biotechnology and Food Science (ABF) in Cyprus. ABF department started the undergraduate program in 2007, and since September 2011, the Department also offers a postgraduate program of study (Master of Science - MSc) in "Agricultural Biotechnology". The program of study focuses on modern sciences and technologies such as Molecular Biology and Biotechnology and their application to plants, animals, microorganisms and foods, while addressing molecular ecology, bioethics and biosecurity aspects. Students take courses in the broader field of Molecular Biology and Biotechnology and choose the subject of their master's thesis in one of the following areas: (a) Plant Biotechnology, (b) Animal Biotechnology or (c) Food Biotechnology. The approach of covering all fields of Agricultural Biotechnology in its broad sense attracts students from many different disciplines such as Agricultural Sciences, Biology, Ecology, Animal Production, Chemistry, Veterinary Medicine, Food Technology, Biotechnology, Microbiology, Pharmaceuticals etc. In addition, the fact that classes are offered in the afternoon on a full or part-time basis (up to 3 years) makes it accessible to people who work in parallel with their studies.

The postgraduate program of study accepts about 15-20 students per year. From 2015-2017 the number of students entering the postgraduate program ranged from 15 to 18, while in 2018 the number of students increased to 20. The number of applicants for postgraduate studies is 1.5 to 3 times higher than the number of students admitted to the postgraduate program. The number of students attending the postgraduate program of study is expected to remain at the same levels for the next five years, as the program is selected from a wide range of students from a variety of disciplines.

Academic Year	Postgraduate (MSc)
2015-16	37*
2016-17	38*
2017-18	38*
2018-19	62*

* Total number of active students in the program during the years mentioned

B. EMPLOYMENT PROSPECTS FOR STUDENTS/GRADUATES

Describe employment prospects and placement opportunities for graduates in positions appropriate to their education and training, taking into account existing and projected demand for areas where graduates can work. Prospective / employment opportunities documentation may include a list of companies and organizations for internships and possible employment. Also, reference should be made to the opportunities for graduates in research or in pursuing other postgraduate or doctoral degree programs at high quality universities.

Department graduates acquire scientific knowledge in the broader field of “Agricultural Biotechnology” and during their master's thesis, they acquire specific skills and specialized knowledge in the field (Plant Biotechnology or Animal Biotechnology or Food Biotechnology) of their thesis. The program combines academic courses with laboratory exercises, so that students can be trained in both the theoretical level and the practical application of a significant number of Molecular Biology and Biotechnology techniques. The background offered to graduates by attending compulsory courses gives them the opportunity to be trained in Biotechnology applications in the broader agri-food sector. This offers a significant benefit to graduates for employment in the countries' small and medium-size enterprises (SMEs) that constitute the majority of companies in the agricultural and food industry. It is also very important that the Council of Agriculturalists, which is the official body examining applicants' professional training, has recognized the postgraduate program of the Department. As a result, graduates can be registered in the Agricultural Registry Council, thereby securing their professional rights related to their master's degree.

The Department aims to prepare its graduates for professional careers in both public and private sectors. Additionally, graduates receive all necessary background and specific knowledge and skills to continue their studies at the doctoral level in Cyprus or abroad. The list of Universities that have accepted graduates of the Department for PhD studies includes Wageningen University in Netherlands, University of Nottingham in UK, Max Planck Institute in Germany, and McGill University in Canada.

Employment prospects and placement opportunities for graduates:

A. Public sector:

The master graduates of the Department can work in different Departments and Services of the Ministry of Agriculture, Natural Resources and Environment (e.g. Department of Agriculture, Agricultural Research Institute, Department of Environment, the Agricultural Payments Organization, the State Chemical Laboratory, the Public Health Services and Food

Safety Council of the Ministry of Health).
https://www.moh.gov.cy/MOH/fsc/fsc.nsf/index_en/index_en?OpenDocument. In addition, graduates of the Department can work at the Ministry of Energy, Commerce and Industry. Opportunities abroad include European Union Directorates and Agencies (e.g. Agriculture / Rural Development, Research, European Food Safety Authority)

B. Private sector:

Graduates of the Department can be employed in both industries and SMEs as well as in services. Table 2 presents companies that could employ graduates also depending of course on the relevance of their undergraduate degree. These companies include food and beverage industries, industries that produce/process dairy products, wineries, plant and animal production companies, companies producing or/and trading phytochemicals, and other companies active in the primary or secondary production of animal and plant origin products and services (Table 2 A-C, D and G).

In addition, master graduates could work in companies providing services and consumables in laboratories working in the field of Biological Sciences and Biotechnology (Table 2E). They could also be employed in private laboratories responsible for food quality control and in departments responsible for improving food processing technologies and existing products or for the creation of innovative products, as well as in pharmaceutical industries (Table 4H and I) .

Table 2: A list of some companies/ industries putatively employing master graduates of the Department depending on the relevance of their basic degree:

A	Agriculture - Crop production	G	Wineries
1	Vepro CO Ltd	33	Zambartas Winery
2	S.T.C.CyproFruits Citrus Trading Ltd	34	Vlassides Winery
3	The Cyprus Phassouri Plantations CO. Public Ltd	35	Tsiakkas Winery
4	Lanitis Farm Ltd	36	Ktima Dafermou
5	Roha premium potato Ltd	37	The Kyperounda Winery
6	D.P. Fresca Cyprus Ltd	38	Vasilikon Winery
B	Agrochemicals and fertilisers	H	Food, fresh vegetables, dairy and beverage companies/ manufacturing companies
7	Premier Shukuroglou Cyprus Ltd	39	Grigoriou B.E.
8	Stavrinides Spyros Chemicals Ltd	40	Chrysodalia Food Industry Ltd
9	L. Lambrou Agro	41	Charalambides Christis Ltd
10	Costas Christodoulou LTD (Bayer Ltd)	42	Aphrodite delights Ltd
11	AgroLan Ltd	43	Paradisiotis Ltd
12	T.P. Agrobiotech Ltd	44	KEAN Food Link
13	A&E Stylianou Technochimiki Ltd	45	Assia-Mare Ltd (Mellona)

C	Nurseries	46	KEO Group
14	FLORALINK suppliers Ltd	47	Photos Photiades Group
15	Soteris Shaelos Plants & Flowers Ltd (Q Gardens)	48	Natural Life
16	Solomou garden center and landscaping	49	Corina Snacks Limited
D	Animal production	50	DODONI Cyprus
17	Riverland Dairy Bio Farm	51	FROU FROUgroup of companies
18	Dairy Farmer G.C.G LYTRAS BRO Ltd	52	Lanitis Bro
19	Mintikkis A Farm Ltd	53	Petrou Bros Dairy Products Ltd (Alambra)
20	Ygea Farm	54	Alion Vegetables & Fruit CO Ltd
21	Myrtou Farm Ltd	55	ZITA Dairies Industry Ltd
22	Petrides Ortykotrophio	56	R.A Vouyiouklakis (Dairy products)
23	Giorki Kouzali Farm Ltd	57	N. Th. Kouroushis Ltd (Milk and Dairy products)
24	Andreou Brothers pig farms – Blue Island	58	Paraskevas Food Suppliers
E	Service and marketing supplies companies in Biological Sciences	59	C.P Specialites Homemade Food
25	Energon Ltd	60	Blue Green Wave Frozen Food Ltd
26	C. Georgiou - Lab supplies	61	D. & A. Charalambous (Froozen Food) Ltd
27	Biotronics Ltd	I	Pharmaceuticals / Laboratories
28	Scienronics Ltd	63	Medochemie Ltd
29	A J Vouros Ltd	64	Remedica Ltd
30	Sundial CO Ltd	65	Vitatrace Nutrition Ltd
31	C & V Kriticos Suppliers Ltd	66	cp FoodLab
32	Medisell Co Ltd	67	Pankemi Lab

C. Employment prospects through Funding Programs:

Funding programs are available for graduates that wish to promote an already existing or establish new SMEs in agro-livestock or food processing sector. Those funding programs are available by:

1. The Rural Development Program (RDP) 2014-2020 and
2. The Ministry of Energy, Commerce and Industry, Service of Industry and Technology

The Rural Development Programme 2014-2020 (RDP 2014-2020) is the main mean of agricultural policy for the development of the primary production and Cypriot rural areas. It consists of a series of measures, which aim to boost the competitiveness of agriculture, to ensure the sustainable management of natural resources and achieve a balanced land development, including the creation of employment opportunities (http://www.paa.gov.cy/moa/paa/paa.nsf/index_gr/index_gr?OpenDocument). In the context of the Rural Development Programme 2014-2020 a total amount of €243,3 mil. is expected to be expended. The European Agricultural Fund for Rural Development (EAFRD) will contribute 53% of total public expenditure while the rest of the amount will be provided by the Republic of Cyprus as National contribution. The Programme is addressed to various types of beneficiaries such as farmers, producer groups, businesses, local authorities, partnerships, government departments and other bodies

<https://www.fundingprogrammesportal.gov.cy/easyconsole.cfm/page/programme/flid/440/ctype/pr>o).

Thematic Categories:

- Agriculture - Farming – Forestry
- Environment and Climate Change
- Research, Technological Development and Innovation
- Rural development
- Small-Medium Enterprises and Competitiveness
-

Eligibility for Participation:

- Farmers Unions
- Farmers, Agriculturists
- Local Authorities
- Researchers/Research Centers/Institutions
- Small and Medium Enterprises (SMEs)
- Unemployed

2. Ministry of Energy, Commerce and Industry, Service of Industry and Technology

- Scheme for the Enhancement of Youth Entrepreneurship

The current scheme is based on the Operational Programme 2014-2020 for "Competitiveness and Sustainable Development" which is co-financed by the European Regional Development Fund and the Republic of Cyprus. The aim of the Scheme is to develop, support and encourage entrepreneurship by young people between the ages of 20- 40, who wish to establish an enterprise in tertiary production. (http://www.mcit.gov.cy/mcit/mcit.nsf/mecit24_el/mecit24_el?OpenDocument).

Market research:

1. Survey of the professional and academic course of ABF graduates :

In the context of the development and operation of the Cyprus University of Technology (CUT) Alumni Employment Observatory in 2016, a survey was carried out in a reservoir comprising mainly undergraduate students and a small percentage of master students (14.3%) in the years 2011-2015. According to this survey, 68.8% of ABF graduates (including master graduates) were employed after their graduation, while 20,9% continued for further studies. (Figure 1; More information about the survey is available in Annex 6B-II). According to a more recent graduate survey of the Alumni Employment Observatory in 2018, in a total of 50 graduates of which 26% postgraduate students, 73% of total (postgraduate and undergraduate) respondents of the ABF Department declared that they were employed after their graduation (Figure 2A) and 78% of these graduates were employed in a field very or to some extent related

to their studies (Figure 2B, Appendix 6BIII). Additionally, 25% of graduates continued their studies at the doctorate level (PhD) (Figure 2C). These data highlight the employment opportunities and the future studies prospects of students who chose ABF Department's programs for their studies.

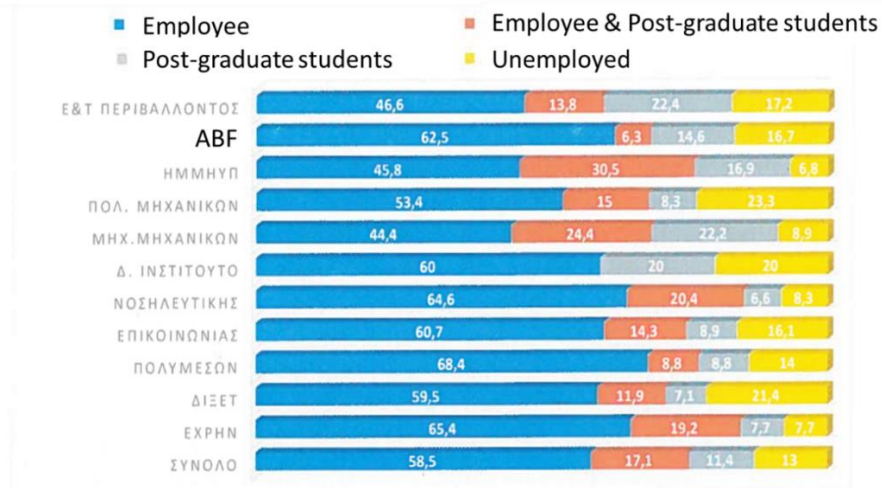


Figure 1. Alumni status per Department in 2015. the number of graduates that are employed is shown in blue, the number of graduates who are employed (part-time or full-time) and at the same time continue with post-graduate studies is in pink, the number of graduates who continue with post-graduate studies is presented in grey and the number of unemployed graduates is shown in yellow (source: Database of the Alumni CUT graduates Network).

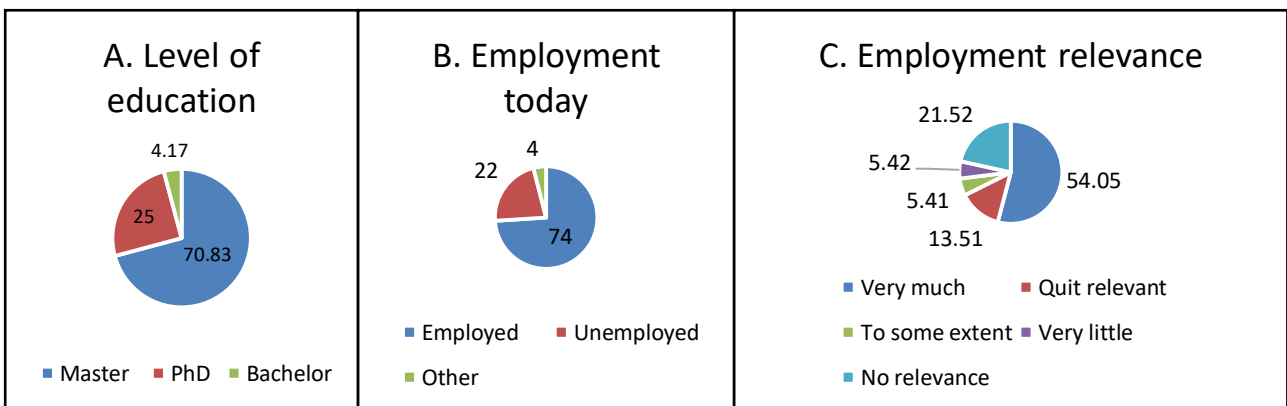


Figure 2. ABF alumni status in 2018, illustrating the percentage of graduates that perform further studies (A), the current employment status of graduates (B) and the relevance of graduates' studies with their current employment (C). The values in the pie chart are percentages (source: Database of the Alumni CUT graduates Network).

2. Authority for Human Resource Development - Employment perspectives:

According to the Authority for Human Resource Development of Cyprus, 2017 (<http://www.hrdauth.org.cy/easyconsole.cfm/type/2>):

A. Forecasting Study of the Needs of Employment by sectors:

- Agriculture, Livestock, Fishery, Food, beverages and tobacco industry sectors are estimated to have a constant increase rate from 2017 to 2027 (Figure 3 & Figure 4).

B. Forecasting Study of the Needs of Employment by professions:

- Job positions, in a range of professions related to Crop and Animal Production, such as Farmers, livestock farmers, poultry breeders and technical assistants in biology, agriculture, livestock and forestry is estimated to increase by 2027 (Annex 6B-IV).
- The number of positions of Environmental and Occupational Health Inspector and Assistant which is a potentially important area of employment for graduates specialising in Food Technology is expected to increase by 2027 (Annex 6B-VI).

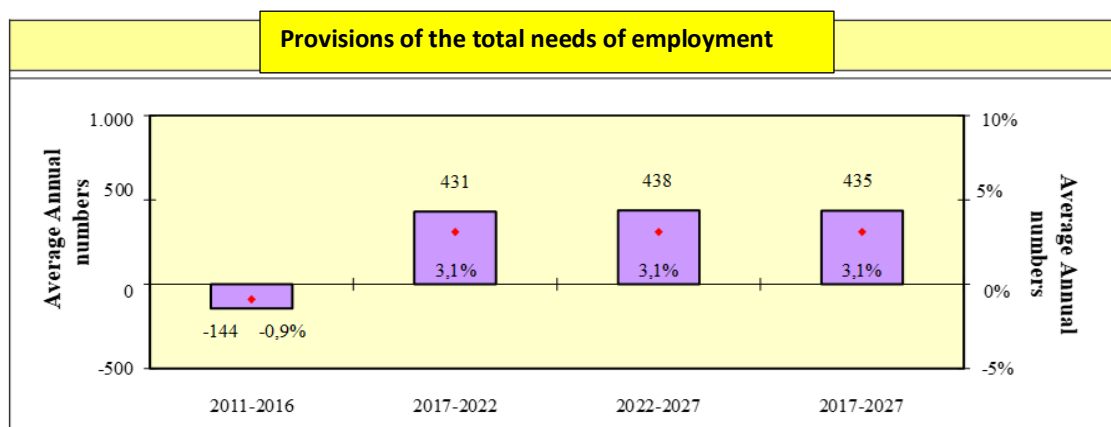
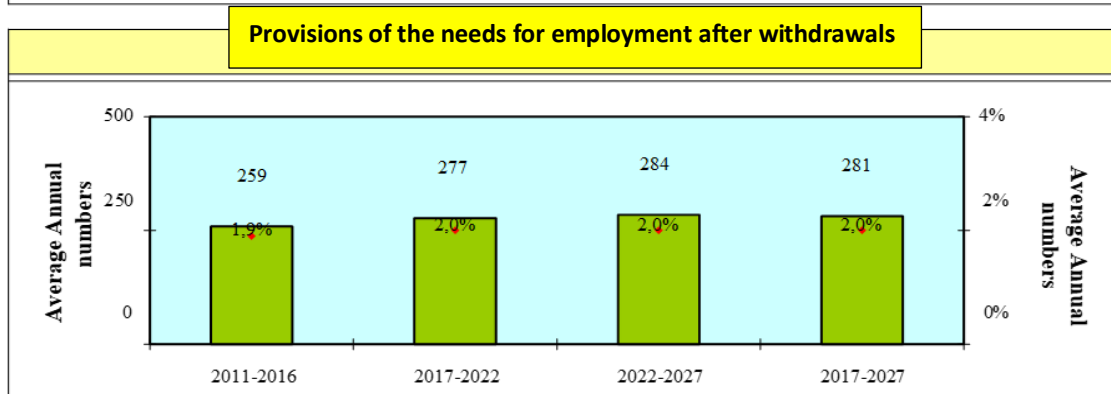
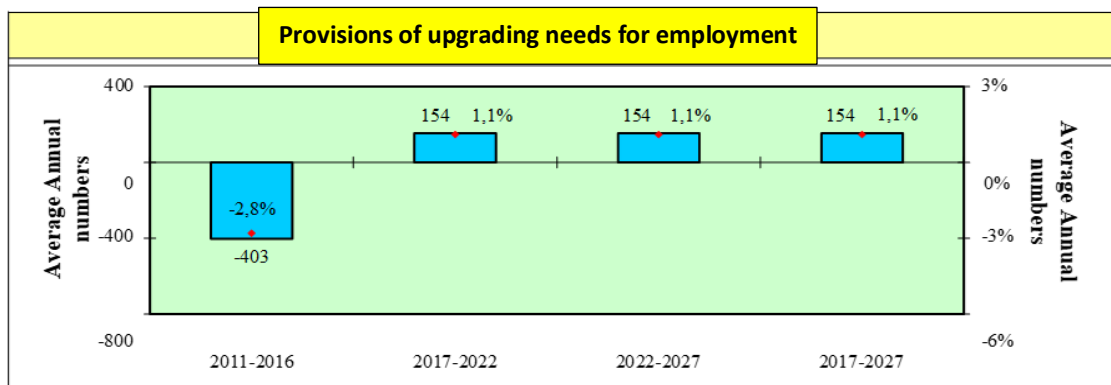
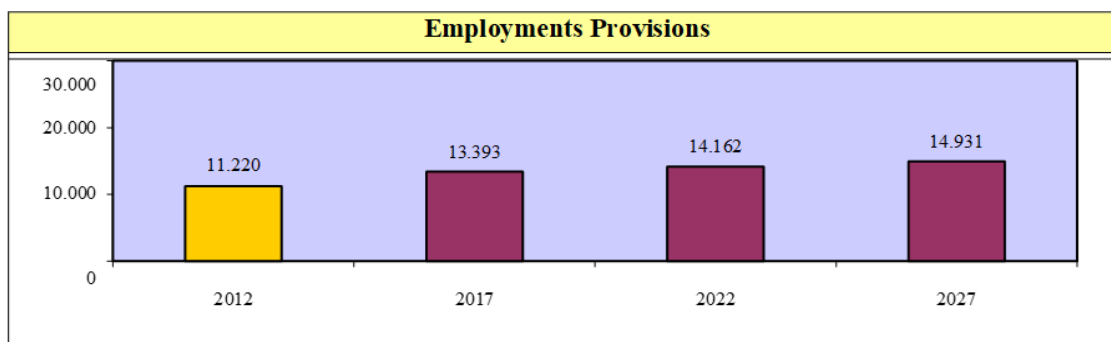


Figure 3. Employment prospects in the sectors of Agriculture, Forestry and Fishery (NACE 2 A, <http://www.hrdauth.org.cy/images/media/assetfile/A.pdf>).

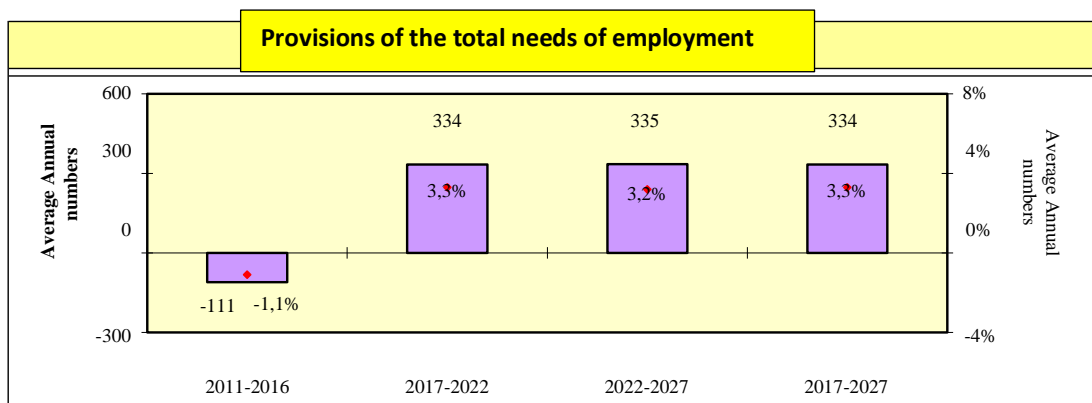
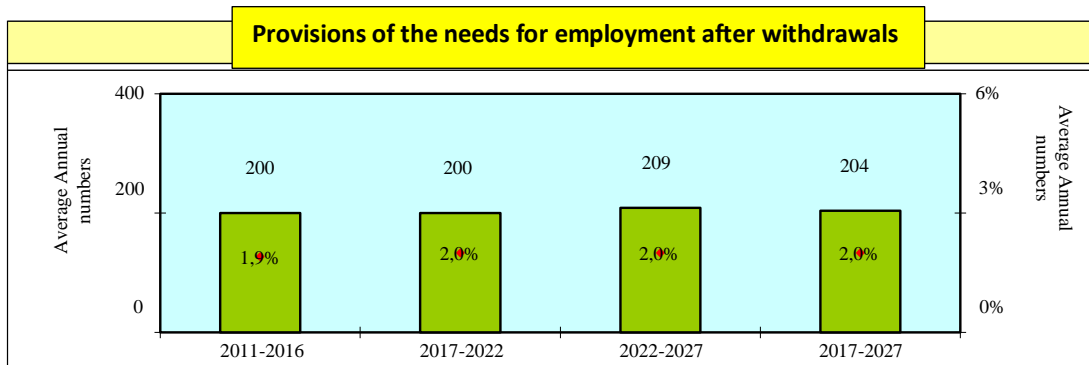
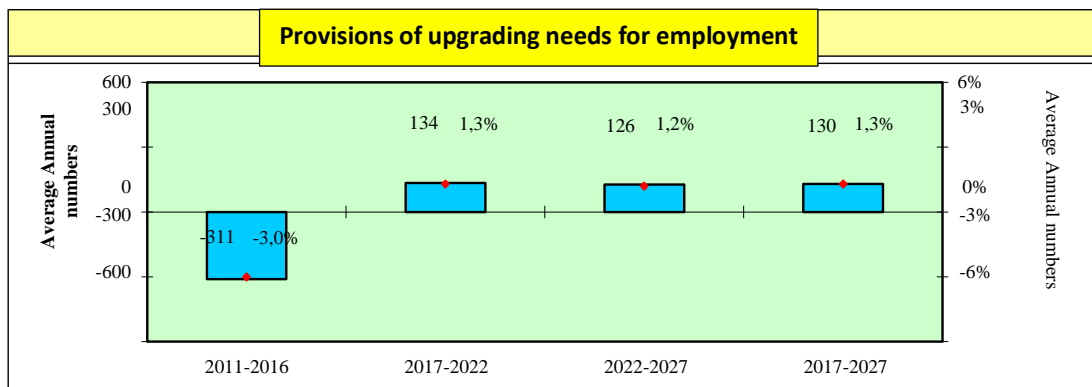
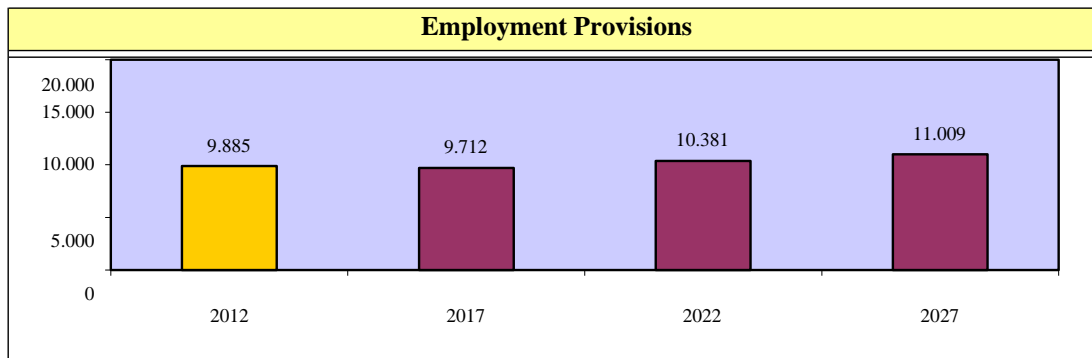


Figure 4. Employment prospects in the sectors of Food, beverages and tobacco industry (NACE 2 C10-12, <http://www.hrdauth.org.cy/images/media/assetfile/C10-12.pdf>).

C. COMPARISON WITH OTHER PROGRAMS AND BENEFITS FOR THE UNIVERSITY

Potential for high quality program that could not reasonable be subsumed under a program already in existence in the University. The description should include data on other similar programs in Cyprus and abroad, substantiating the need to offer the program at CUT. Also refer to the benefits for the Department, the School and the University (e.g. alignment with Strategic Planning of the University).

ABF is the only Academic Department in Cyprus offering a degree in Agricultural Sciences that is fully recognized by the Council of Agriculturalists, the professional body responsible for the registration of Agriculturists.

The program aims to train graduates in subjects relating to Agricultural Biotechnology, in its broad sense, in order to be employed in the private or public sector. The postgraduate program also provides students with the appropriate training to continue their studies in doctoral programs.

The Postgraduate Program of study of the ABF Department is offered in Greek and mainly attracts Cypriot or Greek graduates from different fields of undergraduate studies. The triptych character of the program makes it unique and difficult to compare with other postgraduate programs. Similar postgraduate programs in Plant Biotechnology are available from other Universities in Greece, such as the University of Crete (Molecular & Applied Plant Biology-Green Biotechnology (<https://misuoc5.admin.uoc.gr/metaptyx/>)) and University of Athens (Agro-Biotechnology of Plants and Microorganisms of Agricultural Importance (<https://www2.aua.gr/en>))

The advantages of studying in the postgraduate program of study of ABF Department of CUT, compared to similar programs available at other Universities offering a Master of Science in “Agricultural Biotechnology” are the following:

- The curriculum is designed to attract the interest of a wide range of students and responds to the needs for expertise in either agronomic plants, productive animals or food, achieved by supervision of a postgraduate thesis by academics of the Department specialized in each field.
- The postgraduate program in Agricultural Biotechnology provides very good laboratory training, since 6 of the 8 courses in the program include laboratory exercises conducted in small groups with individual samples in fully equipped laboratories and a big amount of the Department's budget is allocated on the purchase of consumables and equipment for educational purposes.
- As a large proportion of postgraduate students attend the program on a part-time basis, since the program is offered exclusively in the afternoon and evening hours so that they can enroll, the ratio of students to professors is very good. Usually the audience in

theory classes include 7-10 students per teacher while in the laboratories there is a professor and a teaching assistant.

D. RESOURCES REQUIRED

Make realistic estimates for the resources necessary to implement and sustain the program, including human resources needs, laboratory / research infrastructure, laboratory equipment, other building infrastructure (office and meeting rooms), reading materials (articles, books and other publications) or library services and a budget for the next 5 years.

When no new resources are required, there must be confirmation that the existing resources will continue and are deemed adequate for the proposed program without jeopardizing current program needs.

There are certain prerequisites for the smooth and effective operation of the Department and curricula.

Laboratory/ research infrastructure:

Currently, ABF department is housed in very well equipped and maintained laboratory facilities, in Pitsillidis Building (1st and 2nd floor, Plant Biology Teaching Lab, Crop Science Lab, Microscopy Lab, Molecular Biology Lab, Animal and Dairy Science Lab, Analytical Chemistry Lab, Food Science and Technology Lab), Ttoffis Building (Chemistry lab- a class designed for educational purposes) and Stoa Laniti (Laboratory of Sustainable Agriculture and EPR facility). At the same time, the Department has a Greenhouse facility in Kato Polemidia for teaching and research purposes and has signed agreements for the utilization of the Governmental Experimental farms of the Institute of Agricultural Research (Athalassa) and the Department of Agriculture (Achelia).

Through public funding, adequate infrastructure was purchased and created (e.g. plant growth rooms) to support both laboratory exercises and on-going research. To further sustain the smooth operation of the laboratories, part of the Departmental budget every year is allocated for the machinery and equipment maintenance and purchase of additional equipment, especially for the new members of staff joining the Department. The budget allocated to the Department each year is sufficient for the mentioned needs and particularly in combination with the high external funding received by the Department from research programs and consulting companies, resources for laboratory and research infrastructure are sufficient.

Building infrastructure (office and meeting rooms):

The offices of Faculty members are located in two buildings, on the 2nd floor of "Pareas" building, at the corner of Athinon and Anexartisias and in the "Mitropolis" building, on Anexartisias street. Offices and meeting rooms are currently available to meet the needs of the Department; however, more offices and laboratory space are required for additional staff

expected to join the Department within the next few years. In addition, more office spaces will be needed to accommodate PhD students working with the new faculty members of the Department. The Department considers important its relocation to a different building where all academic staff will be located in the same building as the laboratories for better control, work efficiency and safety.

Experimental Farm:

The Department managed to get an Experimental Station in 2019, (under long-term rental agreement) and it is in the process of designing and installing facilities that will enable the use of the farm for teaching and research purposes. At this stage, resources are required for the proper and efficient development and operation of the farm. Some of the infrastructures and facilities to be developed are: farm fence, office space, toilets and showers, indoor teaching area, storage rooms, shelter to protect agricultural equipment (tractors and other mechanical equipment).

Human resources:

The recruitment plan of the Department has been mainly based on a strategic plan formed by a Committee of experts specializing in the three directions provided by the Department, originating from well-recognized European Universities.

Immediate needs to meet the academic needs of the Department's curriculum involve:

1. One position for a Faculty member in the grade of Lecturer/ Assistant Professor in the subject of "Plant Pathogen Interaction", is currently in the election process of the candidate.
2. One position for a Faculty member in the grade of Lecturer/ Assistant Professor in the subject of "Analysis and Process of Physical compounds", which has been recently approved by the council of the Department has been announced.
3. Two positions for Visiting Professors in the subjects of "Agro-economics" and "Veterinary Medicine - Animal Husbandry".

The University Council, which is responsible for the financial management and allocation of the University's budget, has been committed to a three-year budget that ensures full support for all the University's teaching needs.

Other human resources needs of the Department:

On the establishment of the Department, two administrative members, in particular two laboratory technicians, were transferred to the Department from the Higher Technological Institute. Their contribution was mainly on organization of undergraduate laboratories, teaching and handling administrative issues particularly related to the operation of laboratories and the purchase of consumables and equipment. One of the two technicians retired in 2015, while the other retired recently (late June 2019). Moreover, for the appropriate function of the laboratories and in order to ensure health and safety in labs, a technician was employed in 2012, who was transferred to the Administrative Services of the University in 2015 through internal displacement procedures. To replenish the gap and secure the smooth function of laboratories, the Department decided to temporarily employ (part-time) three PhD students for laboratory assistance until a more permanent solution is found.

The Department requires permanent personnel for technical and administrative support to meet emerging needs.

To meet the above requirements and the need arising for the proper functioning of the Experimental Farm, ABF Department needs:

- One position for an assistant clerical officer who will deal with all issues related to bureaucratic procedures for expenditure, consumables and equipment.
- Two positions for laboratory technicians, responsible for the organization, health and safety as well as proper functioning of the laboratories.
- One position for an Agriculturist responsible for maintaining and operating the Experimental farm.

Finally, every source available by the University, like core infrastructures (e.g. lecture rooms, meeting rooms) and library services related to scientific literature and articles, seems to be adequate and no further needs stand for the next five years. This will ensure the smooth functioning of the Department's curricula.

E. ADEQUATE FINANCIAL RESOURCES

A consideration of the adequacy of financial resources and opportunities that are available to attract and retain high quality undergraduate / postgraduate students. Reference should be made to the possibility of granting scholarships (e.g. from program revenue, sponsored by organizations) as well as opportunities for students to support teaching (e.g. teaching in workshops and tutorials of undergraduate courses by postgraduate students, support for students with learning disabilities). Also, indicate other sources of funding e.g. potential of the program to secure external research funding.

As mentioned before, the main additional resources required for the smooth operation of the Department's curricula are the installation of an Experimental farm and the employment of technical, administrative staff and an agriculturist. The rest of the financial resources allocated to the Department from the state budget through the University, cover most expenses for the smooth operation of the laboratories (e.g. machineries and equipment maintenance, purchase of basic consumables), and for teaching purposes.

The financial resources available to attract high quality students are:

1. Financial student support by the Service for Academic Affairs & Student Welfare

- The University provides various forms of support to students facing socio-economic problems, including financial grants, scholarships for postgraduate studies, and coupons for free meals. Eligible students wishing to apply for the aforementioned schemes of support or benefits, have to submit all necessary documentation (supporting their economic and social status) along with the application to the Academic Affairs and Student Welfare Services.
- In addition, high-performing students in any curriculum (even in the 3rd or 4th year of the undergraduate curriculum) can provide tutorial support to students with learning disabilities and be paid by the University. The provision of tutorial support to students is arranged upon the request of a student with learning disabilities at the Student Development, which decides whether the student needs support.
- **Scholarships**: CUT grants scholarships that cover full or partial tuition fees. Full or partial tuition fees for students who successfully complete the curriculum are covered by CUT's annual gross income from tuition fees paid by postgraduate students.
Social Support Scholarships: They are awarded based on the socio-economic status of the graduate student's family. The number of social support grants awarded is about 12% of the total student positions in all postgraduate programs per academic year.

Excellence Scholarships: They are awarded based on the academic performance of students before and during their postgraduate studies at CUT. The number of Scholarships for Excellence is approximately 12% of the total number of students (postgraduate programs) in the respective Department or Faculty per academic year.

2. Financial student support by ABF Department

- **External research funding.** The Department has already been able to secure significant funds through a number of External Funded projects obtained by the academic members of the Department, as shown in their CVs in Annex 3. External funding comes mainly through the state research promotion body (Research & Innovation Foundation) as well as through European research projects (section I.6 of the Departmental Evaluation - External Research Funding).
- **Advisory Services:** Many members of the Department have contacted private companies to provide consulting services. The significant interest of companies and industries to collaborate with the Department in various scientific areas provides a source of funding to cover postgraduate and /or doctoral studies. The Department is trying to further develop and expand its existing relationships with industry. Parts of master thesis have already been carried out in close cooperation with local companies.
- **Teaching Assistants:** Doctoral and postgraduate students work as teaching assistants in the laboratory courses of the Department's curricula, and occasionally as special scientists. Teaching assistance is an important financial support for postgraduate / doctoral students.

F. IMPACT ON LOCAL ECONOMY AND SOCIETY

Refer to the benefits for local, regional or national market development related to the program, as well as to the impact on the wider society, taking into account current and future needs of local / domestic industry, economy and society.

The agricultural and food sector of Cyprus, like all other sectors of the economy, is in a transitional state due to the socio-economic environment created by the membership of Cyprus to the EU. This environment, together with the liberalization of international trade, is extremely competitive for the raw and processed agricultural products of Cyprus, both in the European and the local market. In order to adjust to the new environment, and thus ensure its survival and further development within the EU, the agricultural sector of Cyprus should improve its competitiveness by reducing production costs and by improving the quality of products. The same challenge exists for the food and beverage (including wine) industry, which is currently one of the most important and dynamic sub-sectors of the processing industry of Cyprus. The increased competitiveness of the Agri-food sector can only be achieved through modernization and technological upgrading of agricultural and livestock enterprises, as well as of food and beverage units. In both the primary and secondary food production sectors, it is essential to introduce modern production methods high quality services. Particular attention should be paid to the development of new products, to the utilization of the competitive advantages offered by traditional Cyprus products and to the need for major improvements in storage, packaging, standardization and transportation of Agro-food products. ABF department is taking into consideration all of the above and supports the local demands by performing research in highly important for the society and economy scientific fields, as shown in sections D.3 (Department's Social Contribution) and D.4 (Liaison with the business World) of the Departmental Evaluation. In many cases, postgraduate students are involved in these studies as part of their master's thesis.

Some examples of applied research contributing to the Agrofood business of Cyprus and/ or Mediterranean area include:

- microbiome characterization of local products (e.g. sausages, trachanas, wine and so on) for authenticity/ differentiation of traditional products)
- study of antioxidants of local products
- authenticity studies of the origin of local products
- production of added value fermented donkey milk products
- supplementing feeding of ruminants with an olive industry byproduct for improvement of milk lipid profile
- functionality (i.e. bioactive peptides, probiotics, antioxidants) of traditional products

- molecular characterization of native breeds of animals
- Organoleptic and Quality Characteristics of traditional dairy and wine products
- Sustainable methods for crop protection
- evaluation of peat/biochar based media
- highlighting the important contribution of traditional crops to the protection of the island's biodiversity
- indication of the properties of aromatic and medicinal plants in Cyprus
- adaptation of the island's agriculture to climate change.

The vision of the Department is to be established as a center of education and research in the Mediterranean in the field of Agricultural Sciences, Biotechnology and Food Science. Based on a knowledge-based bioeconomy, it aims to modernize plant and animal production, and the food industry in a sustainable way. In this respect, the main role of the Department will be to produce (through its research programs) and disseminate (through educational programs) the necessary knowledge and technology needed to develop and promote the modern bioeconomy in Cyprus.

Through the postgraduate program, ABF Department contributes to:

- Preparing students for scientific careers in the public and private sectors of Cyprus or abroad.
- Providing its students with up-to-date scientific training with innovative applied high-level research.
- Creating partnerships with the local agro-industry.
- Promoting rational and sustainable rural development in combination with the conservation of natural resources, biodiversity and the environment.
- Promoting international cooperation and educational mobility, mainly in the European Union.

G. SOCIAL PARTNERS VIEWS

To convey the position of the social partners e.g. stakeholders-non-profit organizations, relevant ministries/departments, professional associations, research centres, institutes, clinics, etc. To attach the minutes of meetings with social partners with a view to exchanging ideas, suggestions and opinions on the potential benefits of the program for CUT.

Stakeholders Opinions:

In the frame of seminars and conferences held by the Department, academics are in constant dialogue with stakeholders about the prospects of the Postgraduate Program at local and international level. The purpose of the discussions is to improve the program of study so that it is in line with the modern needs and requirements of the economy and society. The stakeholders that communicate with the Department are usually companies / industries that work in the primary and secondary sectors, departments and services of the state as well as the Council of Agriculturalists.

Specifically, in the framework of an event organized every year by the Department for the Awarding of Top-ranking Students of the Year, a social dialogue is held with the main industrial partners, who attend and support the Department by providing funding for awards. During the event, the partners have the opportunity to attend master theses presentations by the students of the Department and are informed about their research results. At the end of the event there is a dialogue with the partners about the prospects for graduates' employment.

In the meetings held so far at CUT, the future employment prospects of graduates were discussed. In general, all stakeholders emphasize the Department's contribution through high quality education and innovative research to enhance and improve the agri-food sector in Cyprus. The majority of stakeholders strongly support the need to maintain close co-operation with the agri-food sector including companies (public and private), agricultural cooperatives, food industries and livestock farms at a local level. They also comment that the employment prospects of the Department's graduates in Greece and abroad are very good. In addition, several of the partners emphasize the importance of laboratory exercises offered in postgraduate courses and dissertation, so that theory can be effectively linked to practice.

It is also of great importance the fact that many of the stakeholders have expressed a desire to host postgraduate students at their facilities in order to undertake part of their postgraduate thesis on a research topic related to the specific needs of the company or the public service. To date a significant proportion of postgraduate theses are done in collaboration with

stakeholders and thus the opportunity for feedback is provided. This further enhances the already very good collaboration of academic staff with industries / companies / the public sector and has led to solving problems or creating innovative products and services, which in some cases have already been incorporated into the operation of these bodies.