

AGRIENT Learning content

ERASMUS + 2018-3-HR01-KA205-060151



Agrient

**Enhancing Youth Entrepreneurship Skills, Careers Guidance and
Competences in Agriculture through a Game Based Virtual Reality
Platform**

“Agrotourism” Course Outline

Course description

The aim of this course is to expose today's knowledge of agrotourism's ecological complexity, which gives principles for agritourism's behavior and activities, with the aim of long-term sustainable rural development. For decades, the developed countries of the world have been paying particular attention to the development of rural space, with agritourism being strongly promoted as an indispensable factor that has a positive effect in economic, environmental, demographic and sociological terms.

An area with high rates of biodiversity and landscape diversity is ideal for the development of agritourism. It is also a desirable area with a large number of domesticated native taxa of cultivated plants and domesticated animals, as well as depopulated areas suitable for the development of integrated and organic agriculture as a paradigm for the development of agritourism. There is also the phrase "Agroecology as a paradigm for the development of agritourism", since agritourism is environmentally conscious, socially responsible / sensitive, culturally original, ethically valuable, market competitive and economically profitable.

Students will also be shown the best examples in the world, which can be used to project agritourism in their own example.

Learning outcomes

Explain the lexical elements of agroecological data, natural heritage including specific native plant and animal life, basic agro-systems and habitats.

Develop an awareness of the sustainability of natural agro-heritage as a prerequisite for its holistic agro-tourism value, study and extraordinary experience.

Demonstrate the skill of identifying basic agro-ecological and agro-tourism issues in the field that affect the sustainability of natural agro-sights.

Critically evaluate and make your own judgments in accordance with the highest environmental standards regarding an integrative approach to this issue.

Establishing and expanding knowledge about the relationship between agroecology and agritourism, as well as its implementation in future work, i.e. the ability of future employees to successfully interpret contemporary ecological trends / achievements, as well as biological, cultural and ecological wealth.

Acquiring the ability, knowledge and skills to meet the needs of modern selective / sustainable agritourism, and to protect and preserve cultural, material and biological treasures.

Learning topic: Integrated / sustainable agricultural production as a first step in agritourism

Organisation:

Course:

Teaching hours: 10+

Mode of delivery: Agrotourism Virtual World

EQF level: level 4

Assessment methods:

- online Learning Modules
- class deliverables
- papers, projects, presentations,
- portfolio.

Projects comparing conventional and alternative crop production practices will be conducted by the students at the University Farm. These will include experiments on soil preparation; use of composts, mulches, and manures; plant spacing and combinations; agroforestry; and germplasm evaluation. In addition, there will be a number of activities at the sustainable agriculture demonstration site.

Field trips to various production operations and research facilities.

Learning outcomes of the course unit:

The student will be able to explain the major aspects of agricultural practices and traditions through time and throughout the world and selected countries

The student will be able to explain in general the relationships among culture, economics, politics, science, and agricultural development. A solid understanding of the cross-cultural interactions and exchange that linked the world's people and facilitated agricultural development is also expected.

The student will have studied and analyzed refereed-journal articles, texts, and practices that represent the perspectives of different societies and agricultural traditions.

Learning activity content:

The units forming the learning activity syllabus:

- Transforming the Rural Areas: Property, Markets, Cooperatives, and Technological Change
- Social Organization and Sustainability of Small Farm Agriculture
- Agroecological Education and Training
- Ecological Pest Management
- Advances in Integrated and Organic Soil Management
- Integration of Crops and Livestock
- Medicinal Crops

Recommended or required reading:

Recommended:

1. Gliessman, S.R. 2001. Agroecosystem sustainability: Developing practical strategies. CRC Press, Boca Raton, FL.
2. Powers, L.E., and R. McSorley. 2000. Ecological principles of agriculture. Delmar. Albany, NY.
3. Rigby, D., and D. Cáceres. 2001. Organic farming and the sustainability of agricultural systems. Agricultural Systems 68:21-40.
4. Scheewe, W. Nurturing the soil - feeding the people. Rex Publishing, Philippines

Language of the course:

English, Slovak, Greek, Romanian, Croatian

Name of the teacher:

Supervisor:

Feedback for evaluation

- questionnaires
- feedback from students through focus-group meetings

Learning topic: Agritourism on a family farm

Organisation:

Course:

Teaching hours: 10+

Mode of delivery: Agroturism Virtual World

EQF level: level 4

Assessment methods:

- online Learning Modules
- class deliverables
- papers, projects, presentations,
- portfolio.

Case study: To analyze the state of agritourism on the example of a selected tourist destination, i.e. Cluster – Model of Istrian Agrotourism Destination

Learning outcomes of the course unit:

The student will be able to define agritourism and articulate the latest trends and changing demographics, discuss interdisciplinary academic approaches, theories and critical lenses on agritourism.

The student will be able to explain the regulations, impediments, key organizations and partnerships required for small scale farmers to get involved with tourism opportunities, and understand the role of value added products to both tourism and food security.

The student will be able to identify multiple career opportunities in these fields.

Learning activity content:

The units forming the learning activity syllabus:

- Definitions and Types of Agritourism. How is agritourism similar to and different from other modes of tourism?
- Agritouristic Destinations - Examples and case studies
- Agritouristic Products & Services (Food, Wine, and Tourism)

- Examples of Common Agritourism Activities (On-farm direct-to-consumer sales of agricultural products (e.g., pick-your own produce, U-cut Christmas trees, on-farm markets), educational tourism (e.g., school tours, winery tours, farm work experiences), entertainment (e.g., hay rides, corn mazes, petting zoos, haunted barns), accommodations (e.g., birthday parties, picnicking, bed & breakfasts), outdoor recreation (e.g., horseback riding, hunting, fishing, hiking, bird watching).

Recommended or required reading:

Recommended:

1. Agritourism (2009). E-book. Sznajder, Przezbórska and Scrimgeour. Eds.
2. Food, Agri-Culture and Tourism (2011). E-book. Sidali, Spiller, & Schulze. Eds.

Language of the course:

English, Slovak, Greek, Romanian, Croatian

Name of the teacher:

Supervisor:

Feedback for evaluation

- questionnaires
- feedback from students through focus-group meetings

Learning topic: Economics and business analysis of agro-tourism economy

Organisation:

Course:

Teaching hours: 10+

Mode of delivery: Agroturism Virtual World

EQF level: level 4

Assessment methods:

- online Learning Modules
- class deliverables
- papers, projects, presentations,
- portfolio.

Learning outcomes of the course unit:

The student will be able to explain the preconditions and goals of the agro-tourism business,

The student will be able to explain the sources of financing and management of the assets and costs of the agro-tourism economy,

The student will be able to recognize the importance of business accounting and monitoring, and analyze performance, business,

The student will be able to interpret the features and effects of investments in the agritourism economy,

The student will be able to define the acceptability of investment investments in the agro-tourism economy.

Learning activity content:

The units forming the learning activity syllabus:

- Developing and Planning
- Factors determining price
- Site Management
- Assessing potential
- Potential versus value
- Consumers
- Contexts in time and place

Recommended or required reading:

Recommended:

1. Examining the economic benefits of agritourism: The case of New Jersey.
(<https://foodsystemsjournal.org › index.php › fsj › article › download>)
2. Unlocking Value Creation Using an Agritourism Business Model
(<https://www.mdpi.com/2071-1050/9/9/1618/pdf>)

Language of the course:

English, Slovak, Greek, RomanianCroatian

Name of the teacher:

Supervisor:

Feedback for evaluation

- questionnaires
- feedback from students through focus-group meetings

Learning topic: Agritourism marketing

Organisation:

Course:

Teaching hours: 10+

Mode of delivery: Agroturism Virtual World

EQF level: level 4

Assessment methods:

- online Learning Modules
- class deliverables
- papers, projects, presentations,
- portfolio.

Learning outcomes of the course unit:

The students will familiarize with the purpose and function of marketing strategy, as well as its relationship to competitive advantage. They will have knowledge on how to build a market strategy through integrating concepts like product life cycle, adoption, segmentation, branding, pricing, distribution, and market communication. At the end of the learning activity they will develop and present a market strategy.

Learning activity content:

The units forming the learning activity syllabus:

- What is Marketing Strategy?
- Create a Marketing Plan
- The Four P's
- Digital and Social Media Marketing
- Assessment "Develop and present marketing strategy for your start-up idea"

Recommended or required reading:

Recommended:

1. Marketing Strategies for Agritourism Operations. University of California, Agriculture & Natural Resources, Pub. 8444. (<https://anrcatalog.ucanr.edu/pdf/8444.pdf>)
2. Agritourism marketing strategy and typology investigation (<https://anrcatalog.ucanr.edu/pdf/8444.pdf>)

Language of the course:

English, Slovak, Greek, Romanian, Croatian

Name of the teacher:**Supervisor:****Feedback for evaluation**

- questionnaires
- feedback from students through focus-group meetings

“Entrepreneurship” Course Outline

Course description

The course is a problem-based learning lab with direct instructional guidance, designed to bring students from any school, college, or major to work on entrepreneurial endeavors. The class builds on a series of hands-on entrepreneurial exercises that expand entrepreneurial skills and knowledge through launching ventures.

Entrepreneurship is an interdisciplinary course designed to teach students how to think and act entrepreneurial. It focuses on different stages related to the entrepreneurial process, including business model innovation, monetization, small business management as well as strategies that improve performance of new business ventures.

The course will build on cross-curricular academic skills, by integrating inquiry-based learning and business tools that will enable students to analyze, create, develop and pilot small businesses in a safe campus environment.

Centered around a mixture of theoretical exploration as well as case studies of real-world examples, students will develop personal creativity and entrepreneurial initiative, adopting the key steps in the elaboration of business ideas, understanding the stages of the entrepreneurial process and the resources needed for the successful development of entrepreneurial ventures.

Concepts and skills are reinforced by a strong emphasis on hands-on experiences. Applications to society, individuals, and the utilization of technology are included.

Learning outcomes

Define basic terms of entrepreneurial and family business and analyse the business environment in order to identify business opportunities.

Create and exploit innovative business ideas and market opportunities by identifying the elements of success of entrepreneurial ventures.

Apply the principles of viability of businesses, new business proposals, and opportunities within existing businesses.

Consider the legal and financial conditions for starting a business venture.

Turn market opportunities into a business plan and build a mindset focusing on developing novel and unique approaches to market opportunities.

Apply the principles of preparing a startup business plan emphasizing financing, marketing, and organizing.

Interpret their own business plan.

Contents of the course

INTRODUCTION: Definition and characteristics of an entrepreneur. Entrepreneurship as a process. Entrepreneurial stimuli. Sources of entrepreneurship. Entrepreneurship models. Conditions of entrepreneurship development. Basic institutions for entrepreneurship development. Innovation and entrepreneurship. Market acceptance of innovation. Small entrepreneurship and small enterprises. Life cycle of a small enterprise. Basic causes of a failure of business ventures.

FORMS OF ENTREPRENEURIAL ORGANIZING: Companies. Crafts – concept and kinds of crafts, conditions for performing crafts, firm and the seat of crafts, procedure of registering a craft, register of crafts, craft operations and responsibility for liabilities, termination of a craft. Cooperatives: conceptual defining, founding, property of cooperatives, operations and responsibility for the liabilities of a cooperative, termination of a cooperative. Entrepreneurial organizing in activities of self-employed professions (attorney's office, health protection, social welfare, free lancers).

ENTREPRENEURIAL ALTERNATIVES: Founding of a new enterprise, craft, cooperative. Purchase of existing forms of organizing and the bases of their validation. Franchising. Concept and basic types of franchise. Family business: concept, advantages and limitations. Life cycle of a family business. Creation of a new family venture. Inheriting of a business.

ENTREPRENEURIAL PROJECT: Entrepreneurial venture and the chain of entrepreneurial development. Defining a business concept. Implementation and presenting of an operative business plan.

STIMULATION OF ENTREPRENEURIAL DEVELOPMENT: EU and entrepreneurship. Entrepreneurship in transition countries. Entrepreneurship and local development. Strategic determinants and purposes of development of a small economy on regional scale. Supporting institutions and infrastructure for entrepreneurship development. Women in entrepreneurship. Financial support to the development of entrepreneurship. Programs and stimuli of the development of entrepreneurship on regional scale.

Assessment methods:

- Case study on an entrepreneur
- Group business plan
- Group Pitch
- Exam

Team-based and project-oriented course.

Lectures, seminars/tutorials, powerpoint slides, guest lectures, case studies and videos whenever available.

The business plan should be externally focused. Externally focused plans target goals that are important to external stakeholders, particularly financial stakeholders. They typically have detailed information about the organization, the strategy and the organization's goals.

The business plan is written in order to provide the most important information to external shareholders. It should be a convincing, well-written and well-researched document using feasible assumptions in order to predict future flows.

It needs to contain the following:

- Cover page
- Table of contents
- A description of the business
- The market analysis (SWOT analysis, industry background, competitor analysis, market analysis) based on primary and secondary resources
- The strategic plan
- The financial plan
- Conclusions
- If needed, the necessary attachments.

Business plan – groups of 4-5. Business plan instructions, as follows:

Name of the company, address, phone number, date, and contact information for the team leader.

Executive Summary

- A short overview of the entire business plan; it provides a busy reader with everything that needs to be known about the new venture and why it will be successful.

Industry Analysis

- Describe the industry (the area of the economy in which you are competing) you are entering, not the target market (customers). Sections you could include in this portion of the plan include:
 - Industry size (in euro)
 - Industry structure (number of competitors, technologies used, how intensely firms compete, etc.)
 - Nature of participants (strategies used by each firm, size and market share of each firm, region/nation/global market reach of each firm, etc.)
 - Key success factors (what strengths make each competitor successful and what does each do really, really well)
 - Industry trends (is industry growing fast or slow or declining in sales, are there changes in technology, changes in what customers want or need and so on)
 - Long-term prospects

Company Description

- Begin with a brief introduction of the company which provides an overview of the company and reminds the reader of the reason it is starting. It is very important. It demonstrates to your reader that you know how to translate an idea into a business. The sections to include in this portion of the plan include:
 - Company history (how the firm got started, what has occurred so far, etc.)

- Mission statement (a short inspiring statement of why your organization exists—what it does)
- Products and services
- Current status (e.g., do you have a prototype, have you sold any products/services yet, do you have a physical location or a website, etc.)
- Legal status and ownership (including the legal form of your company such as partnership, LLC, etc.)
- Key partnerships (if any) with other firms or organizations
- Common mistake: Do not write about yourself, describe the attributes of your company.

Market Analysis (understanding your potential segments)

- The market analysis breaks the industry into segments and focuses on the specific segment (or target market) to which the firm will try to appeal. The sections to include in this part of the plan include:
 - Who is your customer? (e.g. age, income, geographic location, specific habits/hobbies/interests, etc.)
 - How many of them are there?
 - Where will you find them?
 - What are they doing/buying currently?

Financial Analysis and Projections

- The reader needs to know how much money you need and where you plan to get it from, how much money you will make and what it will cost to run your business. This section covers the basic logic of how profits are earned in the business and how many units of a business's product or service must be sold for the business to "break even" and then start earning a profit. Try to be realistic and include financial projections for three different scenarios:
 - Worst case
 - Best case
 - Most likely case

Marketing Plan

- The marketing plan focuses on how the business will market and sell its product or service. The sections to include in this portion of the plan include:
 - Overall marketing strategy
 - 4Ps (product, price, promotion place/distribution)
 - The company's sales process or cycle (e.g., does your firm provide after-sale support or engage in other sales-related activities that are part of the sales cycle)
 - Specific sales tactics (do you use a sales force that calls on customers, do you price below competitors or offer sales at certain times, etc.)

Product (or Service) Design and Development Plan

- If you're developing a completely new product or service, you need to include a section in your business plan that focuses on the status of your development efforts. The sections to include in this portion of the plan include:

- Development status and tasks (explain where you are in the development of your product or service such as whether you have a working prototype, if you're commencing mass production, etc.)
- Challenges and risks – acknowledge if there are major challenges or risks such as a product design you don't yet know if you can make work, competing firms working on somewhat similar ideas who might beat you to the market, a large competitor who might cut prices and lose money for a time to keep you from launching and succeeding with your business and so on
- Intellectual property—patents, licenses and other protections for your intellectual property if you can get them and where your firm is in the development or establishment of these

Common mistake: over-optimistic evaluation of readiness of the offering. Try to mentally walk through the stages you still need to complete if the offering is not done, and discuss with seasoned advisors if possible.

Operations Plan

- The operations plan outlines how your business will be run and how your product or service will be produced. The sections to include in this portion of the plan include:

General approach to operations

- Business location – identify where your business will be located, why that location is a great one, the costs of it (which will be included in your financials) and so on
- Facilities
- Equipment

Management Team and Company Structure

- Many investors and others who read business plans look first at the executive summary and then go directly to the management team section to assess the strength of the people starting the firm. The sections to include in this portion of the plan include:

- Management team – focus on the skills, knowledge and experience that each team member brings to the venture
- Board of directors
- Board of advisors
- Company structure

You may want to include an organisational chart which is a graphic representation of how authority and responsibility are distributed within the company.

Recommended or required reading:

1. Bygrave, W., & Zacharakis, A. (2017) Entrepreneurship, 4th Edition. Wiley.
2. Frederick, H., O'Connor, A., & Kuratko, D. (2016). Entrepreneurship theory process practice (4th ed.). Cengage.
3. Eric, Reis (2017) The Startup Way: How Entrepreneurial Management Transforms Culture and Drives Growth
4. Massey, C. (Ed.) (2011). Managing the small firm in New Zealand. Pearson.
5. Timmons, J. A., Gillin, L. M., Burshtein, S. L., & Spinelli, S. (2011). New venture creation. Entrepreneurship for the 21st century - A Pacific Rim perspective. McGraw-Hill.
6. Osterwalder, A. & Pigneur, Y. (2010). Business model generation. Wiley.
7. Blank, S. & Dorf, B. (2012). The startup owner's manual: The step-by-step guide for building a great company. K&S Ranch.
8. Ries, E. (2011). The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses. Crown Business.
9. Audretsch, D. B., Falck, O., Heblich, S., & Lederer (Eds.) (2011). Handbook of research on innovation and entrepreneurship. Edward Elgar.

Language of the course:

English, Slovak, Greek, Romanian, Croatian

Name of the teacher:

Supervisor:

Feedback for evaluation

- questionnaires
- feedback from students through focus-group meetings

“Apitherapy” Course Outline

Course description

This Apitherapy curriculum is divided in 7 courses, helping the trainees go through it step by step, following the guideline established by the European Qualifications Framework. This curriculum includes not only content about Apitherapy, bee products used in alternative medicine with their characteristics, indications and administration, but also Useful Links to various helpful website pages containing articles and pictures, Counter – indications, Glossary, where the trainees will find definitions of key words used in the content of the curriculum.

Courses:

- What is Apitherapy
- HONEY – Characteristics, indications and administration
- PROPOLIS – Characteristics, indications and administration
- BEE POLLEN – Characteristics, indications and administration
- BEESWAX – Characteristics, indications and administration
- ROYAL JELLY – Characteristics, indications and administration
- BEE VENOM – Characteristics, indications and administration

The learner has knowledge about: what apitherapy is; ways of working; ways of implementing; benefits of bee products used in apitherapy; characteristics, indications and administration of bee products such as honey, propolis, bee pollen, beeswax, royal jelly and bee venom.

The learner has skills to: select and apply basic methods, tools, materials and information in the area of apitherapy.

The learner has the competence of: being able to understand the curative properties of bee products and to implement the recommendations regarding the proper range of use of bee products in treating diseases; to adapt their own behavior to circumstances in solving problems.

Learning topic: What is Apitherapy?

Organisation:

Course:

Teaching hours: 10+

Mode of delivery: Apitherapy Virtual World

EQF level: level 4

Assessment methods:

- online Learning Modules
- class deliverables
- papers, projects, presentations,
- portfolio.

Learning outcomes of the course unit:

The student has knowledge on the general level (EQF 2) about :

- what is apitherapy;
- working methods;
- implementation methods;
- benefits resulting from the use of bee products used in apitherapy;
- characteristics of bee products such as honey, propolis, bee pollen, beeswax, royal jelly and medicinal bee venom.

The student has the following skills:

- selection and application of basic methods, tools, materials and information in the field of apitherapy

The trainee has the competence:

- to be able to understand the healing properties of bee products and implement recommendations regarding the correct use of bee products in the treatment of diseases; adapt your behavior to circumstances in solving problems.

Learning activity content:

The units forming the learning activity syllabus:

1. What is Apitherapy?
2. Historical development of apitherapy
3. The use of apitherapy in Europe

Recommended or required reading:

1. Stangaciu S. What is apitherapy? www.apitherapy.com
2. Bogdanov S. Pollen: Production, Nutrition and Health: A Review. Bee Product Science; 2014. <http://www.bee-hexagon.net/>
3. Claudette RAYNAL-CARTABAS, Dr. Stefan STANGACIU, 2015 En bonne santé avec les abeilles (Livre DVD/CD) (French Edition) ISBN : 978-2-8132-0776-0

Language of the course:

English, Slovak, Greek, Romanian, Croatian

Name of the teacher:

Supervisor:

Feedback for evaluation

- questionnaires
- feedback from students through focus-group meetings

Learning topic: HONEY

Organisation:

Course:

Teaching hours: 10+

Mode of delivery: Apitherapy Virtual World

EQF level: level 4

Assessment methods:

- online Learning Modules
- class deliverables
- papers, projects, presentations,
- portfolio.

Learning outcomes of the course unit:

Knowledge:

- defines honey, its nutritional and medicinal honey properties
- knows the types of honey and pro and cons of its usage in treatment
- lists biologically active substances included in honey

Skills:

- classifies biologically active substances in honey
- compares types of honey
- is able to predict the risk related to honey utilization in treatment

Competences:

- takes responsibility for task completion
- adapts own behaviour to circumstances in solving problems

Learning activity content:

The units forming the learning activity syllabus:

1. Characterisation of honey
2. Properties and nutritional value
3. Honey in Medicine

Recommended or required reading:

1. Burlando B, Cornara L (2013) Honey in dermatology and skin care: a review. *J Cosmetic Dermatol* 12:306–313
2. N. S. Al-Waili, "Effects of daily consumption of honey solution on hematological indices and blood levels of minerals and enzymes in normal individuals," *Journal of Medicinal Food*, vol. 6, no. 2, pp. 135–140, 2003.
3. Claudette RAYNAL-CARTABAS, Dr. Stefan STANGACIU, 2015 *En bonne santé avec les abeilles* (Livre DVD/CD) (French Edition) ISBN : 978-2-8132-0776-0

Language of the course:

English, Slovak, Greek, Romanian, Croatian

Name of the teacher:

Supervisor:

Feedback for evaluation

- questionnaires
- feedback from students through focus-group meetings

Learning topic: PROPOLIS

Organisation:

Course:

Teaching hours: 10+

Mode of delivery: Apitherapy Virtual World

EQF level: level 4

Assessment methods:

- online Learning Modules
- class deliverables
- papers, projects, presentations,
- portfolio.

Learning outcomes of the course unit:

1. knowledge
 - demonstrate basic understanding of how propolis is produced, harvested and stored;
 - demonstrate competent knowledge and understanding of the basic characteristics of propolis;
 - compare different applications of propolis
2. skills
 - examine the challenges in harvesting and preserving propolis in high quality;
 - explore and examine the basic characteristics of propolis (medical and nutritional);
 - analyse examples of propolis application in health promotion and prevention and as a form of apitherapeutic treatment;
3. competences
 - appreciate the importance of using propolis for human health

Learning activity content:

The units forming the learning activity syllabus:

1. What is propolis
2. Production and Storage
3. Propolis in Medicine

Recommended or required reading:

1. De Castro Ishida V.F., Negri G., Salatino A., Bandeira M.F.C.L. A new type of Brazilian propolis: Prenylated benzophenones in propolis from Amazon and effects against cariogenic bacteria. *Food Chem.* 2011;125:966–972. doi:10.1016/j.foodchem.2010.09.089
2. Bankova V.S., de Castro S.L., Marcucci M.C. Propolis: Recent advances in chemistry and plant origin. *Apidologie.* 2000;31:3–15. doi: 10.1051/apido:2000102.
3. Claudette RAYNAL-CARTABAS, Dr. Stefan STANGACIU, 2015 En bonne santé avec les abeilles (Livre DVD/CD) (French Edition) ISBN : 978-2-8132-0776-0

Language of the course:

English, Slovak, Greek, Romanian, Croatian

Name of the teacher:

Supervisor:

Feedback for evaluation

- questionnaires
- feedback from students through focus-group meetings

Learning topic: BEE POLLEN

Organisation:

Course:

Teaching hours: 10+

Mode of delivery: Apitherapy Virtual World

EQF level: level 4

Assessment methods:

- online Learning Modules
- class deliverables
- papers, projects, presentations,
- portfolio.

Learning outcomes of the course unit:

Knowledge:

- demonstrate basic understanding of how pollen is harvested and stored;
- demonstrate competent knowledge and understanding of the basic characteristics of pollen;
- compare and contrast different applications of pollen;
- compare and contrast pollen and the other bee hive products.

Skills:

- examine the challenges in harvesting and preserving pollen of good quality;
- explore and examine the basic characteristics of pollen (medical and nutritional);
- analyze examples of pollen application in health promotion and prevention and as a form of apitherapeutic treatment;
- analyze examples of pollen application in combination with other bee hive products.

Competence:

- appreciate the importance of using bee pollen for human health.

Learning activity content:

The units forming the learning activity syllabus:

- Harvesting and storage of pollen of good quality.
- Basic characteristics of bee pollen (medical and nutritional) in health prevention and treatment.
- Pollen application for human health, including in combination with other bee hive products.

Recommended or required reading:

1. Gilliam, M. (1979a). Microbiology of pollen and bee bread: The yeasts. *Apidologie*, 10(1), 43-53.
2. Barene, I., Daberte, I., & Siksna, S. (2015). Investigation of bee bread and development of its dosage forms. *Medicinos Teorija Ir Praktika*, 21(1), 16-22.
<http://dx.doi.org/10.15591/mtp.2015.003>.
3. Claudette RAYNAL-CARTABAS, Dr. Stefan STANGACIU, 2015 En bonne santé avec les abeilles (Livre DVD/CD) (French Edition) ISBN : 978-2-8132-0776-0

Language of the course:

English, Slovak, Greek, Romanian, Croatian

Name of the teacher:

Supervisor:

Feedback for evaluation

- questionnaires
- feedback from students through focus-group meetings

Learning topic: BEESWAX

Organisation:

Course:

Teaching hours: 10+

Mode of delivery: Apitherapy Virtual World

EQF level: level 4

Assessment methods:

- online Learning Modules
- class deliverables
- papers, projects, presentations,
- portfolio.

Learning outcomes of the course unit:

1. knowledge
 - demonstrate basic understanding of beeswax is produced, harvested and stored;
 - demonstrate competent knowledge and understanding of the basic characteristics of beeswax;
 - demonstrate different uses of beeswax
2. skills
 - analyse examples of beeswax in health promotion and prevention and as a form of apitherapeutic treatment in cosmetics and food;
 - analyse examples of their uses of beeswax
 - examine the opportunities and threats connected with beeswax
3. competences
 - appreciate the importance of using beeswax in cosmetics

Learning activity content:

The units forming the learning activity syllabus:

1. What is a beeswax
2. Beeswax production
3. Uses of beeswax

Recommended or required reading:

1. Bogdanov S. Pollen: Production, Nutrition and Health: A Review. Bee Product Science; 2014. <http://www.bee-hexagon.net/>
2. Negri G., Marcucci C., Salatino A., Salatino M.L.F. Comb and propolis waxes from Brazil. J. Braz. Chem. Soc. 2000;11:453–457. doi: 10.1590/S0103-50532000000500004.
3. Claudette RAYNAL-CARTABAS, Dr. Stefan STANGACIU, 2015 En bonne santé avec les abeilles (Livre DVD/CD) (French Edition) ISBN : 978-2-8132-0776-0

Language of the course:

English, Slovak, Greek, Romanian, Croatian

Name of the teacher:

Supervisor:

Feedback for evaluation

- questionnaires
- feedback from students through focus-group meetings

Learning topic: ROYAL JELLY

Organisation:

Course:

Teaching hours: 10+

Mode of delivery: Apitherapy Virtual World

EQF level: level 4

Assessment methods:

- online Learning Modules
- class deliverables
- papers, projects, presentations,
- portfolio.

Learning outcomes of the course unit:

The graduate can theoretically characterize the bee product – Royal jelly, its composition, production, method of obtaining, manipulation, storage, lyophilization of the royal jelly. Furthermore, the graduate will be familiar with the use in history, the way of usage, the use of the royal jelly for medical purposes and as a food supplement.

Learning activity content:

The units forming the learning activity syllabus:

- Characterize royal jelly (composition, production and its use in history)
- Describe how to obtain, manipulate, store, lyophilize the royal jelly
- Describe the benefits of the royal jelly and how to use it

Recommended or required reading:

1. Zhang, S., Shao, Q., Geng, H., Su, S. 2017. The effect of royal jelly on the growth of breast cancer in mice. *Oncology Letters* 14: 7615-7621.
2. Pavel C., Mărghitaş, L.A., Bobiş, O., Dezmirean, D.S., Şapcaliu, A., Radoi, I., Mădaş, M.N. 2011. Biological Activities of Royal Jelly. *Animal Science and Biotechnologies*, 44 (2).
3. Claudette RAYNAL-CARTABAS, Dr. Stefan STANGACIU, 2015 *En bonne santé avec les abeilles* (Livre DVD/CD) (French Edition) ISBN : 978-2-8132-0776-0

Language of the course:

English, Slovak, Greek, Romanian, Croatian

Name of the teacher:

Supervisor:

Feedback for evaluation

- questionnaires
- feedback from students through focus-group meetings

Learning topic: BEE VENOM

Organisation:

Course:

Teaching hours: 10+

Mode of delivery: Apitherapy Virtual World

EQF level: level 4

Assessment methods:

- online Learning Modules
- class deliverables
- papers, projects, presentations,
- portfolio.

Learning outcomes of the course unit:

The student has knowledge on the higher level (EQF 3-4) about :

- what is bee venom
- working methods;
- implementation methods;
- characteristics of bee venom;
- benefits resulting from the use of bee venom used in apitherapy;

The student has the following skills:

- selection and application of basic methods, tools, materials and information in the topic of bee venom

The trainee has the competence:

- is able to understand the healing properties of bee venom and implement recommendations regarding the correct use of bee venom in the treatment of diseases; adapt your behavior to circumstances in solving problems.

Learning activity content:

The units forming the learning activity syllabus:

1. Characterisation of bee venom
2. Bee venom physiological effects
3. Bee venom in Medicine

Recommended or required reading:

Recommended:

3. Benton A.W., and Morse R.A.. 1968. Venom toxicity and proteins of the genus Apis. J. Apic. Res.; 7(3): 113-118.
4. Bogdanov S. 2017. Bee Venom: Composition, Health, Medicine: A Review. Bee Product Science, www.bee-hexagon.net.
5. Claudette RAYNAL-CARTABAS, Dr. Stefan STANGACIU, 2015 En bonne santé avec les abeilles (Livre DVD/CD) (French Edition) ISBN : 978-2-8132-0776-0

Language of the course:

English, Slovak, Greek, Romanian, Croatian

Name of the teacher:

Supervisor:

Feedback for evaluation

- questionnaires
- feedback from students through focus-group meetings

“Organic Agriculture” Course Outline

Course description

This Organic Agriculture curriculum is divided in 5 courses, helping the trainees go through it step by step, following the guideline established by the European Qualifications Framework. This curriculum includes content about Organic Agriculture, as well as Useful Links to various helpful website pages containing articles, videos and best practice examples, where the trainees will find key elements described in the content of the curriculum.

Courses:

- Producing Organic (Organic Agriculture Definition, Principles, Legislation and Certification)
- Why Organic Farming
- How to become an organic farmer
- The Organic logo
- Good Practices in Organic Farming in Europe

The learner has knowledge about: what is Organic Agriculture, the main principles of Organic Agriculture, the regulatory environment for the Organic Production and Certification, the reasons why and the process of how to become an organic farmer, as well as the rules to acquire the Organic logo and its importance on products' value. Last but not least, the learner will learn and acquire useful information from good practices of Organic Farming across Europe.

The learner has skills to: select and apply the principles, rules and requirements, methods and information in the area of Organic Agriculture in order to design their own Organic agribusiness, deliver high quality organic products and promote their products sales.

The learner has the competence of: being able to understand the basic concepts, principles, rules and requirements of Organic Farming, to identify the specific benefits of Organic Agriculture for the environment, animal welfare, nature protection and consumer demands as a means to promote organic product sales and to evolve towards environmentally friendly cultivation practices.

Learning topic: Producing Organic

Organisation:

Course:

Teaching hours: 10+

Mode of delivery: Organic Agriculture Virtual World

EQF level: level 4

Assessment methods:

- online Learning Modules;
- class deliverables;
- papers, projects, presentations.

Learning outcomes of the course unit:

The student has knowledge on the general level (EQF 3-4) about:

- What is Organic Agriculture (definition)
- Main principles of Organic Agriculture
- Legislation of the Organic Agriculture
- Certification of the Organic Production

The student has the following skills:

- Selection and application of the principles, rules, methods and requirements of Organic Farming. Anyone wishing to become an Organic Farmer should make sure that they are familiar with the necessary legislation-requirements in order to be fully aware of their responsibilities.

The trainee has the competence and be able to understand:

- The meaning of Organic Agriculture, the basic principles of Organic Agriculture and the importance of Organic Agriculture for the environment, animal welfare and nature protection.

Learning activity content:

The units forming the learning activity syllabus:

- What is Organic Agriculture
- The main principles of Organic Agriculture
- EU Legislation of Organic Agriculture
- Certification of Organic Production – (Production standards)

Recommended or required reading:

- To be completed (pending completion of the training material)

Language of the course:

English, Slovak, Greek, Romanian, Croatian

Name of the teacher:

Supervisor:

Feedback for evaluation

- questionnaires
- feedback from students through focus-group meetings

Learning topic: Why Organic Farming?

Organisation:

Course:

Teaching hours: 10+

Mode of delivery: Organic Agriculture Virtual World

EQF level: level 4

Assessment methods:

- online Learning Modules;
- class deliverables;
- papers, projects, presentations.

Learning outcomes of the course unit:

The student has knowledge on the general level (EQF 3-4) about:

- The meaning of the term “Organic Agriculture”
- Specific benefits of organic Production for the environment, animal welfare, environment protection
- Consumers’ food choices, new consumption trends

The student has the following skills:

- Selection and application of basic methods, tools, materials and information in the field of Organic Agriculture in order to define their agribusiness mission and vision and define their goals and objectives in order to meet consumer needs.

The trainee has the competence and be able to understand:

- the meaning of the term “Organic Agriculture”,
- the added value of organic products

Learning activity content:

The units forming the learning activity syllabus:

- A growing sector – Dynamic market growth
- Organic Farming after 2021
- Consumer needs and wants (Changing consumer needs both in terms of consumption and with regard to environmental issues related to primary production)
- Building consumer trust
- Differentiation – added to the products

Recommended or required reading:

- To be completed (pending completion of the training material)

Language of the course:

English, Slovak, Greek, Romanian, Croatian

Name of the teacher:

Supervisor:

Feedback for evaluation

- questionnaires
- feedback from students through focus-group meetings

Learning topic: How to become an Organic farmer?

Organisation:

Course:

Teaching hours: 10+

Mode of delivery: Organic Agriculture Virtual World

EQF level: level 4

Assessment methods:

- online Learning Modules
- class deliverables
- papers, projects, presentations,

Learning outcomes of the course unit:

The student has knowledge on the general level (EQF 3-4) about:

- The organic principles – Organic production rules
- The certification process
- The Conversion process
- Financial support for Organic farmers – Common Agricultural Policy (CAP)

The student has the following skills:

- Selection and application of basic methods, tools, materials and information in the field of Organic Agriculture in order to become organic farmer

The trainee has the competence and be able to understand:

- The meaning of the Organic production
- Production rules
- The certification process
- The Conversion process

Learning activity content:

The units forming the learning activity syllabus:

- Organic production rules
- The certification process
- The Conversion process
- Financial support for Organic farmers – Common Agricultural Policy (CAP)

Recommended or required reading:

- To be completed (pending completion of the training material)

Language of the course:

English, Slovak, Greek, Romanian, Croatian

Name of the teacher:

Supervisor:

Feedback for evaluation

- questionnaires
- feedback from students through focus-group meetings

Learning topic: The Organic logo

Organisation:

Course:

Teaching hours: 10+

Mode of delivery: Organic Agriculture Virtual World

EQF level: level 4

Assessment methods:

- online Learning Modules
- class deliverables
- papers, projects, presentations,

Learning outcomes of the course unit:

The student has knowledge on the general level (EQF 2) about:

- the labelling of Organic products
- the meaning of the Organic logo
- the requirements and rules of organic production and certification
- the added value of certifies organic products
- Building trust in Organic Farming

The student has the following skills:

- selection and application of basic methods, tools, materials and information in the field of organic product logo and labelling

The trainee has the competence and be able to understand:

- the significance of the organic logo

Learning activity content:

The units forming the learning activity syllabus:

- to be completed (pending completion of the training material)

Recommended or required reading:

- To be completed (pending completion of the training material)

Language of the course:

English, Slovak, Greek, Romanian, Croatian

Name of the teacher:

Supervisor:

Feedback for evaluation

- questionnaires
- feedback from students through focus-group meetings

Learning topic: Good Practices in Organic Farming in Europe

Organisation:

Course:

Teaching hours: 10+

Mode of delivery: Organic Agriculture Virtual World

EQF level: level 4

Assessment methods:

- online Learning Modules
- class deliverables
- papers, projects, presentations,

Learning outcomes of the course unit:

The student has knowledge on the general level (EQF 2) about:

- Good practices in Organic Farming in Europe

The student has the following skills and be able to understand:

- What constitutes a success story in the field of Organic Agriculture

The trainee has the competence and be able to understand:

- Why these enterprises have succeeded in the field of Organic Agriculture
- How to apply the acquired knowledge in their enterprise

Learning activity content:

The units forming the learning activity syllabus:

- Good practices in Organic Agriculture

Recommended or required reading:

- To be completed (pending completion of the training material)

Language of the course:

English, Slovak, Greek, Romanian, Croatian

Name of the teacher:

Supervisor:

Feedback for evaluation

- questionnaires
- feedback from students through focus-group meeting

“Smart Agriculture” Course Outline

Course description

This Smart Agriculture curriculum is divided into 5 courses, helping the trainees go through it step by step, following the guideline established by the European Qualifications Framework. This curriculum includes content about Smart Agriculture, as well as Useful Links to various helpful website pages containing articles, videos and best practice examples, where the trainees will find key elements described in the content of the curriculum.

Courses:

- What is Smart Agriculture
- Internet of Things in Agriculture
- Drones in Agriculture
- Robotics in Agriculture

The learner has knowledge about: the meaning of smart agriculture; applications of smart farming, precision agriculture, the Internet of Things in agriculture; drones and robotics uses in agriculture;

The learner has skills to: select and apply basic methods, tools, materials and information in the wide area of smart agriculture (i.e. precision agriculture, smart farming, and digital farming).

The learner has competence of: being able to understand the basic concept of smart agriculture, the benefits and influence of IoT and drone technology in agriculture and to implement the recommendations regarding the proper use of smart agriculture applications (e.g. IoT smart sensors, drone technologies et cetera)

Learning topic: Introduction to Smart Agriculture

Organisation:

Course:

Teaching hours: 10+

Mode of delivery: Smart Agriculture Virtual World

EQF level: level 4

Assessment methods:

- online Learning Modules;
- class deliverables;
- papers, projects, presentations.

Learning outcomes of the course unit:

The student has knowledge on the general level (EQF 2) about:

- what is Smart Agriculture;
- Smart Agriculture related technologies;
- benefits resulting from the use of Smart Agriculture technologies in agriculture.
- Smart Agriculture projects, online information, best practices

The student has the following skills:

- selection and application of basic methods, tools, materials and information in the field of Smart Agriculture

The trainee has the competence and be able to understand:

- the meaning of Smart Agriculture, available smart farming technologies to agriculture, the influence of smart farming technologies to agriculture.

Learning activity content:

The units forming the learning activity syllabus:

- What is Smart Agriculture
- Why turn to Smart Agriculture
- Smart agriculture technologies
- The potential of Smart Agriculture
- Applications of Smart Agriculture in Europe

Recommended or required reading:

- Rehman, Aqeel-ur. (2015). Smart Agriculture: An Approach towards Better Agriculture Management. 10.4172/978-1-63278-023-2-024.
- Food and Agriculture Organization of the United Nations (2013). Climate-Smart Agriculture Sourcebook. <http://www.fao.org/3/i3325e/i3325e.pdf>
- Brase, T. (2009). Precision Agriculture
- <https://www.iof2020.eu/blog>

Language of the course:

English, Slovak, Greek, Romanian, Croatian

Name of the teacher:

Supervisor:

Feedback for evaluation

- questionnaires

- feedback from students through focus-group meetings

Learning topic: Internet of Things in Agriculture

Organisation:

Course:

Teaching hours: 10+

Mode of delivery: Smart Agriculture Virtual World

EQF level: level 4

Assessment methods:

- online Learning Modules;
- class deliverables;
- papers, projects, presentations.

Learning outcomes of the course unit:

The student has knowledge on the general level (EQF 2) about:

- meaning of the term “Internet of Things”
- why use IoT in agriculture
- how IoT in agriculture can benefit farmers
- IoT in Agriculture projects, online information, best practices

The student has the following skills:

- Selection and application of basic methods, tools, materials and information in the field of Internet of Things in agriculture

The trainee has the competence:

- the meaning of IoT in Agriculture,
- available IoT technologies that may be used in agriculture,
- the influence of IoT technologies in agriculture.

Learning activity content:

The units forming the learning activity syllabus:

- IoT in agriculture
- Why use IoT in agriculture
- how IoT in agriculture can benefit farmers
- IoT in Agriculture projects, online information, best practices

Recommended or required reading:

- <http://www.iof2020.eu>
- <https://ec.europa.eu/digital-single-market/en/internet-of-things>
- <https://www.iotforall.com/iot-applications-in-agriculture/>
- https://www.researchgate.net/publication/334858202_Internet-of-Things_IoT-Based_Smart_Agriculture_Toward_Making_the_Fields_Talk

Language of the course:

English, Slovak, Greek, Romanian, Croatian

Name of the teacher:

Supervisor:

Feedback for evaluation

- questionnaires
- feedback from students through focus-group meetings

Learning topic: Drones in Agriculture

Organisation:

Course:

Teaching hours: 10+

Mode of delivery: Smart Agriculture Virtual World

EQF level: level 4

Assessment methods:

- online Learning Modules
- class deliverables
- papers, projects, presentations,

Learning outcomes of the course unit:

The student has knowledge on the general level (EQF 2-4) about :

- Drones in agriculture
- Why use drones in agriculture;
- Examples of drones used in agriculture

The student has the following skills:

- selection and application of basic methods, tools, materials and information in the field of drones in agriculture

The trainee has the competence:

- the meaning of drones
- Drones used in agriculture
- available drone technology that may be used in agriculture,

Learning activity content:

The units forming the learning activity syllabus:

1. Drones in agriculture
2. Why and how to use drones in agriculture
3. Drones in action

Recommended or required reading:

- <https://uavcoach.com/agricultural-drones/>
- <https://www.sensefly.com/industry/agricultural-drones-industry/>
- <https://ec.europa.eu/growth/tools-databases/dem/monitor/content/drones-agriculture>

Language of the course:

English, Slovak, Greek, Romanian, Croatian

Name of the teacher:

Supervisor:

Feedback for evaluation

- questionnaires
- feedback from students through focus-group meetings

Learning topic: Robotics in Agriculture

Organisation:

Course:

Teaching hours: 10+

Mode of delivery: Smart Agriculture Virtual World

EQF level: level 4

Assessment methods:

- online Learning Modules
- class deliverables
- papers, projects, presentations,

Learning outcomes of the course unit:

The student has knowledge on the general level (EQF 2) about:

- what is robotics;
- why robotic technology is needed in agriculture;
- how do farmers benefit by using robotic technology;
- benefits resulting from the use of robotic technology in agriculture;

The student has the following skills:

- selection and application of basic methods, tools, materials and information in the field of robotics in agriculture

The trainee has the competence:

- the meaning of Robotics in Agriculture,
- available robotic technologies that may be used in agriculture,
- the influence of robotic technology in agriculture.

Learning activity content:

The units forming the learning activity syllabus:

- robotics in agriculture - definition
- why robotics in agriculture
- how robotics in agriculture can benefit farmers
- agricultural robot applications in agriculture
- agricultural robots in practice

Recommended or required reading:

- <https://www.roboticsbusinessreview.com/agriculture/4-ways-robotics-change-agriculture-in-2019/>
- <https://interestingengineering.com/9-robots-that-are-invading-the-agriculture-industry>
- <https://blog.robotiq.com/top-10-robotic-applications-in-the-agricultural-industry>
- <https://builtin.com/robotics/farming-agricultural-robots>
- <https://ec.europa.eu/eip/agriculture/en/news/robotics-agriculture-and-food>
- <http://www.sweeper-robot.eu/>

Language of the course:

English, Slovak, Greek, Romanian, Croatian

Name of the teacher:

Supervisor:

Feedback for evaluation

- questionnaires
- feedback from students through focus-group meetings