CIVIL AND SUPPLY ENGINEERING
+ FOOD TECHNOLOGY

FOOD ECONOMY AND PROCESS TECHNOLOGY

MASTER STUDY SEMESTER

The study semester „Food Economy and Process Technology“ offers visiting students the opportunity to choose modules from a wide range of courses in the fields of food management and food technology. The modules are offered in English. In addition, students can also take German as a foreign language as an elective if desired.
The participants of the program will study on our main campus above the rooftops of Trier. The wine city of Trier, situated on the Moselle, is particularly attractive due to its proximity nearby countries Luxembourg, Belgium, France and Holland.

STUDY SEMESTER OBJECTIVE

The study semester „Food Economy and Process Technology“ imparts further qualifications relevant for management in the food industry, beyond the basics acquired in the bachelor’s degree program in food technology.
In addition to technical and practical training, we place great emphasis on intensive personal support for our students. Furthermore, there are a number of opportunities for cooperation in applied research activities and project work with a wide variety of real-world companies. In this way, we ensure that our range of courses is constantly in line with current scientific standards and oriented towards the needs of potential employers.

ENROLLMENT AND TUITION COSTS

Enrollment in the study semester is only possible for the summer semester and is limited to one semester based on 30 ECTS.
The university does not charge tuition for the semester of study. The general Admission fee is approximately 250 euros per semester, which includes public transportation in Trier and the surrounding region.

As a monthly budget you should plan about 750 EUR per month for general expenses.
Students who are not enrolled at an ERASMUS university must also pay a contribution of 500 EUR per semester. This covers the expenses for additional individual teaching offers such as tutorials.
Students can take advantage of our „buddy“ program, where local students provide individual help to get oriented and integrated into campus life.

Trier University
of Applied Sciences

H O C H
S C H U L E
T R I E R

SUMMARY

- This study semester is offered in the summer semester (April to the end of July).
- Modules, labs and projects are conducted in English
- Free choice of modules from the program of the respective semester
- Full recognition of the study program with 30 ECTS is possible

ADMISSION REQUIREMENTS

- Sufficient knowledge of English
- Bachelor's degree in a food technology or related field of study.

COURSE CATALOG: FOOD ECONOMY AND PROCESS TECHNOLOGY:

Module	Abbreviation	Duration	ETCS
International Commodity Trade in International Marketing	ICTIM	1 semester	6
Process Management in Business Management/ Start up Concepts	PMBM	1 semester	3
Supply Chain Management	SCM	1 semester	3
Beverage Technology/ Hygienic design	BTHD	1 semester	6
Product Development/ Product Design	PDPD	1 semester	6
Food Science in Everyday Life	FSEL	1 semester	3
Unit Operations in Food Processing	UPFP	1 semester	6
Biotechnology/ Genetic Engineering	BGE	1 semester	6
New Technologies in Food Engineering	NTFE	1 semester	3
German as Foreign Language	GFL	1 semester	6
German Social and International Business Culture	GSIBC	1 semester	3

HOW YOU CAN APPLY?

Documents can be submitted:

- completed application form
- current certificate of enrollement from your home university

More information below:

→ https://www.hochschule-trier.de/en/international/incomings/students/studentin-incoming-exchange-student

Application Deadlines:

- End of February for the summer semester

You can send the required documents by e-mail to: careglio@hochschule-trier.de or by mail to the following address:

DEPARTMENT OF CIVIL AND SUPPLY
ENGINEERING + FOOD TECHNOLOGY
TRIER UNIVERSITY OF APPLIED SCIENCES
To the attention of Prof. Dr. E. Careglio
Food Technology
Schneidershof D-54293 Trier
Germany

For further information on the modules that can be taken and the documents to be submitted, please contact your Study Coordinator Prof. Dr. E. Careglio: careglio@hochschule-trier.de

COURSE CATALOG:
FOOD ECONOMY AND PROCESS TECHNOLOGY

CIVIL AND SUPPLY ENGINEERING + FOOD TECHNOLOGY

Content

International Commodity Trade in International Marketing			Module No.: LMT-ST-11001	
Course Length	Semester	Frequency of Course Offered	Credit Points (ECTS)	Weight of Grade
1 semester	1st semester	☒ each summer semester ☐ each winter semester ☐ when needed	6 ECTS	same as credit points

Course Type	Contact Time	Self-Study	Total Workload
Lecture 2 hours, Seminar 2 hours	4 contact hours / 60 hours	120 hours	180 hours
☐ Lectures ☐ Discussions ☐ Group Work ☐ Case studies			

Learning Goals

Learning outcomes and Competencies

Practical knowledge and Skills

After successful completion of the module, students can/will:

- Understand theories, rules, and principles for marketing strategy management.
- Acquire comprehensive knowledge of marketing approaches, brand models and channel design.
- Analyze and evaluate corporate strategic problems from a target group and channel, as well as market and brand perspective.
- Based on a critical assessment of the findings, students arrive at adequate strategic marketing decisions.
- Develop problem-solving skills through marketing-strategy as well as brand- and channel-related analysis and evaluation of solution options in the digital marketing context and deepen these in the simulation game.
- Use practical application of digital tools in the simulation game, and acquire and improve their solution-oriented skills.

Social Competence and Independence

- The students achieve a deepening of their personal, social, and methodological competences through varying learning and working scenarios.
- They can practice the acquired knowledge individually, discuss and reflect on solution options together to simulate complex decision-making, action competence as well as leadership attitudes at a management level.

Content

A comprehensive scope of strategic marketing will be taught. The focus of this module is on entrepreneurial, brand, and market-related awareness and marketing as well as channel-relevant aspects that are necessary at management level in the decision-making and implementation of (digital) marketing measures in corporate practice.

The objective is to provide students with essential tools and skills for the independent conception of marketing plans as well as skills for complex decision-making and control processes. The students will act and think holistically in the entrepreneurial context as well as in terms of an efficient marketing strategy.

Applicability of Module (to Different Courses of Study)

Course of Study 1	☐ Required Subject	☒ Compulsory Optional Subject

Recommended Prerequisites

Basic knowledge of business management.

Forms of Assessment		Requirement for Awarding of ECTS Points
☐ written exam ☐ oral exam ☐ internship or laboratory performance ☐ colloquium ☒ project presentation	☐ portfolio ☒ term paper or essay ☐ practical exam	Term Paper (6.000 Words) 70%, Presentation 30%
Professor/ Instructor		Module Coordinator
Prof. Dr. Patrick Siegfried PhD/MBA		Prof. Dr. Patrick Siegfried PhD/MBA

Bibliography/ Recommended Reading

Aaker, D. (2017): Strategic Market Management, 11th ed., Wiley.

Chapmann, C. / McDonnell Feit, E. (2019): R for Marketing Research and Analytics, Second Edition. Springer.

Kotler, P. / Keller, K. / Brady, M. / Goodman, M. / Hansen, T. (2019): Marketing Management, Fourth European Edition. Pearson.

Kumar, V. / Reinartz, W. (2019): Customer Relationship Management, Third Edition. Springer.

Palmatier, R. / Sridhar, S. (2021): Marketing Strategy – Based on First Principles and Data Analytics, Second Edition. Red Globe Press.

Siegfried, P. (2014): Knowledge Transfer in Service Research: Service Engineering in Startup Companies, Eul Publisher.

Process Management in Business Management/Start up Concepts				Module No.: LMT-ST-11002
Duration	Semester	Frequency of Course Offered	Credit Points (ECTS)	Weight of Grade
1 semester	1st semester	☒ each summer semester ☐ each winter semester ☐ when needed	3 ECTS	same as credit points

Course Type	Contact Time	Self-Study	Total Workload of Student(s)
Lecture 2 hours	2 contact hours / 30 hours	60 hours	90 hours
☐ Lectures ☐ Discussions ☐ Group Work ☐ Case studies			

Learning Goals (Learning Results)

Learning outcomes and Competencies

Practical knowledge and Skills

Upon successfully completing the module, students will be able to:

- Independently develop, design, and write their own business plan, as well as evaluate and assess business plans. They know what a business plan is, are familiar with its purpose, structure, its components, and the approach for drafting one.
- Understand why an entrepreneurial mindset is significant for the future viability of established companies.
- Explain the concept of corporate entrepreneurship and relate the determining factors of innovation: ability to implement, flexibility, agility, proactivity, and risk taking.
- Reflect and evaluate theoretical sustainability knowledge based on case studies.
- Apply circular business models to establish or foster sustainability in companies.
- Understand fundamental concepts of sustainability and corporate social responsibility, reflect them critically and apply them to practical problems.
- Independently analyze central problems in the development of business plans, the implementation of corporate entrepreneurship or the transformation or development of sustainable business models, by consulting literature and including current scientific findings, and provide solutions.
- Independently acquire additional knowledge.
- Present their assessments and opinions convincingly, and implement them creatively and actively in collaboration with experts and specialists from other fields.

Social Competence and Independence

- The students achieve a deepening of their personal, social, and methodological competences through varying learning and working scenarios.
- They can practice the acquired knowledge individually, discuss and reflect on solution options together to simulate complex decision-making, action competence as well as leadership attitudes at a management level.

Content

The goal of the module is for students to develop a basic theoretical understanding of the entire entrepreneurship process, and in particular become acquainted with starting a company in the food industry. Furthermore, students will learn to use the instruments and tools for strategic management and will learn their application in an entrepreneurship context for the development of innovative business ideas, products, services, or entire business models.

Students will be acquainted with the individual core elements and components of a business plan and be able to independently draft as well as assess business plans. Furthermore, concepts of corporate entrepreneurship and intrapreneurship will be covered in detail. Finally, basic concepts and models of sustainability are discussed, and students are given a holistic, systemic perspective on the concept of sustainable entrepreneurship.

Applicability of Module (to Different Courses of Study)		
Course of Study 1	☐ Required Subject	☒ Compulsory Optional Subject

Recommended Prerequisites
Basic knowledge of business management.

Forms of Assessment		Requirement for Awarding of ECTS Points
☐ written exam ☐ oral exam ☐ internship or laboratory performance ☐ colloquium ☒ project presentation	☐ portfolio ☒ term paper or essay ☐ practical exam	Term Paper (4.000 words) 70%, Presentation 30%

Professor/ Instructor	Module Coordinator
Prof. Dr. Patrick Siegfried PhD/MBA	Prof. Dr. Patrick Siegfried PhD/MBA

Bibliography/ Study Aids

Clegg, S.; Schweitzer, J.; Whittle, A.; Pitelis, C. (2017): Strategy: Theory and Practice. 2nd ed. London: Sage Publications.

Hisrich, R.; Peters, M.; Shepert, D. (2017): Entrepreneurship. 10th edition. New York: McGraw-Hill.

HBR (2018): HBR's 10 Must Reads on Entrepreneurship and Startups. Boston: Harvard Business Review Press.

Kotler, P. / Keller, K. / Brady, M. / Goodman, M. / Hansen, T. (2019): Marketing Management, Fourth European Edition. Pearson.

Kumar, V. / Reinartz, W. (2019): Customer Relationship Management, Third Edition. Springer.

Palmatier, R. / Sridhar, S. (2021): Marketing Strategy – Based on First Principles and Data Analytics, Second Edition. Red Globe Press.

Tidd, J.; Bessant, J. (2018): Managing innovation. Integrating technological market and organizational change. 6th ed. Hoboken: John Wiley & Sons.

Supply Chain Management			Module No.: LMT-ST-11003	
Course Length	Semester	Frequency of Course Offered	Credit Points (ECTS)	Weight of Grade
1 semester	1st semester	☒ each summer semester ☐ each winter semester ☐ when needed	3 ECTS	same as credit points

Course Type	Contact Time	Self-Study	Total Workload of Student(s)
Lecture 2 hours	2 contact hours / 30 hours	60 hours	90 hours
☐ Lectures ☐ Discussions ☐ Group Work ☐ Case studies			

Learning Goals

Learning outcomes and Competencies

Practical knowledge and Skills
After successful completion of the module, students can:

- Realize the relevance and bottom-line impact of sourcing and supply chain management in a daily business environment.
- Select and apply the relevant management tools to achieve significant value creation by means of efficient operations processes.
- Define sourcing strategies and implement them sustainably, positioning the procurement and supply chain management department(s) as equal business partners.
- Demonstrate the ability to participate in management processes under real life conditions, and to analyze international business situations.
- Use the acquired skillset of international project managers – either agile or traditional –to structure and organize projects and monitor their progress for an efficient and effective use of resources and customer satisfaction.

Social Competence and Independence

- The students achieve a deepening of their personal, social, and methodological competences through varying learning and working scenarios.
- They can practice the acquired knowledge individually, discuss and reflect on solution options together to simulate complex decision-making, action competence as well as leadership attitudes at a management level.

Content

A customer-centered approach in supply chain management is a competitive advantage. Questions on the sustainability of a supply chain, the potential risks that might impact supply chain resilience as well as the appropriate degree of supply chain collaboration will therefore be key. To answer them, this course will cover the necessity of different supply chain designs, supply chain resilience as well as its performance measurements. In this context, supply chain risk management is an important focus. Students will discuss the effects of digitization across the supply chain in class and do research on additional relevant trends. To get a broader perspective on operations management, issues from process management as well as quality management will also be covered. Also, in the context of this course, case study work and the discussion of examples selected by the students will support the direct applicability of theoretical methods and concepts.

Applicability of Module (to Different Courses of Study)

Course of Study 1	☐ Required Subject	☒ Compulsory Optional Subject

Recommended Prerequisites

Basic knowledge of business management.

Forms of Assessment		Requirement for Awarding of ECTS Points
☐ written exam ☐ oral exam ☐ internship or laboratory performance ☐ colloquium ☒ project presentation	☐ portfolio ☒ term paper or essay ☐ practical exam	Term Paper (4.000 words) 70%, Presentation 30%
Professor/ Instructor		Module Coordinator
Prof. Dr. Patrick Siegfried PhD/MBA		Prof. Dr. Patrick Siegfried PhD/MBA

Bibliography/ Recommended reading

Bowersox, D; Closs, D., Cooper, M. B. (2020): Supply Chain Logistics Management, 5th ed. New York: McGraw-Hill Education.

Chapman. S.; Arnold, J. R. T.; Gatewood, A.; Clive. L. (2016): Introduction to Materials Management. 8th ed. Harlow: Pearson Education Limited.

Christopher, M. (2016): Logistics and Supply Chain Management. 5th ed. Harlow: Pearson Education Limited.

Gattorna, J. (2015): Dynamic Supply Chains: How to design, build and manage people-centric value networks. Harlow: Pearson Education Limited.

Heizer, J.; Render, B.; Munson, C. (2021): Principles of Operations Management: Sustainability and Supply Chain Management. Global 11th ed. Harlow: Pearson Education Limited.

Jacobs, F. R. / Chase, R. (2017): Operations and Supply Chain Management – Global Edition, 15th global ed., Mc Graw Hill Education, Maidenhead.

Lysons, K. Farrington, B. (2020): Procurement and Supply Chain Management. 10th ed. Harlow: Pearson Education Limited.

Rausch-Phan, M.T.; Siegfried, P. (2022): Sustainable Supply Chain Management, Springer Publisher.

Stock, J. R.; Manrodt, K. B. (2020): Supply Chain Management. New York: McGraw-Hill Education.

van Weele, A. J. (2018): Purchasing and Supply Chain Management, 7th ed., Cengage Learning, London.

Beverage Technology/Hygienic Design				Module No.: LMT-ST-11004
Duration	Semester, in which the Module Takes Place	Frequency of Course Offered	Credit Points (ECTS)	Weighting of the Grade
1 semester	1 semester (Master)	☒ each summer semester ☐ each winter semester ☐ when needed	6 ECTS	same as credit points

Forms of teaching and learning	Contact Time	Self-Study	Total Workload of Student(s)
• Lecture • Seminar/laboratory practical	0.5 contact hours /7.5 hours	105 hours	180 hours

Learning Goals (Learning Results)

The students
…. Can describe the fundamental processes of beverage technologies from plant-based raw materials (fruits/cereals) to alcoholic fermentation. They can derive suitable applications from the characteristics of raw materials and able to define quality orientated processes.
…. know the basic processing and preservation methods for beverages, assessment criteria for their applicability and can analyze them.
….. know the sanitation and industrial hygiene technologies for liquid food. They can identify necessary applications as required and describe, select, and assess necessary procedures.

Content

Technological basics of production and operation of non-alcoholic beverages (water, fruit juices, soft drinks from different raw materials)
Alcoholic fermentation, wine making, making of champagne, and brewing
Requirements of the processes regarding cleaning, hygienic design, and cleaning operations

Applicability of Module (to Different Courses of Study)

Course of Study 1	☐ Required Subject	☒ Compulsory Optional Subject

Recommended Prerequisites

Fundamentals of food technology

Forms of Assessment		Requirement for Awarding of ECTS Points
☒ written exam ☐ oral exam ☐ internship or laboratory performance ☐ colloquium ☒ project presentation	☐ portfolio ☐ term paper or essay ☐ practical exam	Passed presentation graded with at least 4.0

Professor/ Instructor	Module Coordinator
Prof. Dr.-Ing. Jens Voigt	Prof. Dr.-Ing. Jens Voigt

Bibliography/ Study Aids

Recommended Literature:

- Sutherland, J.M., Varnam, A.:Beverages technology, chemistry and microbiology, Springer US, 978-1-4615-2508-0
- Mohammad Shafiur Rahman, Handbook of Food Preservation (2020) ISBN 9780429091483
- Tscheuschner, H.D. (Hrsg.), Voigt., J, et al.: Grundzüge der Lebensmitteltechnik, Kap. Getränkestellung, Reinigungstechnik, Betriebshygiene, 4. Auflage, 2017, ISBN978-3-95468-412-0

Product Development/Product Design			Module No.: LMT-ST-11005	
Duration	Semester, in which the Module Takes Place	Frequency of Course Offered	Credit Points (ECTS)	Weighting of the Grade
1 semester	1 semester (Master)	☒ each summer semester ☐ each winter semester ☐ when needed	6 ECTS	same as credit points

Forms of teaching and learning	Contact Time	Self-Study	Total Workload of Student(s)
• lecture • seminar • laboratory course • project	4 contact hours /60 hours	120 hours	180 hours

Learning Goals (Learning Results)

The students
... will understand the most important, basic food industry product concepts in the context of marketing and economics
... can assess marketing of new product developments under ecological and qualitative requirements
... can integrate the product-specific and technological foundations of product development into a marketing approach

Content

Assessment of a product development considering:
- Marketing criteria
- Economic aspects
- Ecological and qualitative requirements

considering the product-specific and technological bases of:
- Food Technology
- Food Sensory
- Nutritional characteristics and process technology

as practical development tasks/project work:
- Presentation and demonstration of project results

Applicability of Module

Course of Study 1	☐ Required Subject	☒ Compulsory Optional Subject

Recommended Prerequisites

Fundamentals of food technology, food law and food sensory, nutritional physiology

Forms of Assessment		Requirement for Awarding of ECTS Points
☐ written exam ☐ oral exam ☐ internship or laboratory performance ☐ colloquium ☒ project presentation	☐ portfolio ☐ term paper or essay ☐ practical exam	Passed Exam graded with at least 4.0

Professor/ Instructor	Module Coordinator
Prof. Dr.-Ing. Enrico Careglio	Prof. Dr.-Ing. Enrico Careglio

Bibliography/ Study Aids

Literature referenced in the seminar, individually on the project tasks

Food Science in Everyday Life				Module No.: LMT-ST-11006
Duration	Semester, in which the Module Takes Place	Frequency of Course Offered	Credit Points (ECTS)	Weighting of the Grade
1 semester	1 semester (Master)	☒ each summer semester ☐ each winter semester ☐ when needed	2 ECTS	same as credit points

Forms of teaching and learning	Contact Time	Self-Study	Total Workload of Student(s)
• lecture • seminar • project	2 contact hours /30 hours	50 hours	80 hours

Learning Goals (Learning Results)
Based on apparently ordinary applications in day-to-day nutrition, laws and principles will be acquired focused on engineering questions.

Content
Topics will be selected at the beginning of the course Possible subjects could be: - Food fraude - organic food - Food pairing - E-numbers

Applicability of Module		
Course of Study 1	☐ Required Subject	☒ Compulsory Optional Subject

Recommended Prerequisites
Fundamentals of food technology

Forms of Assessment		Requirement for Awarding of ECTS Points
☐ written exam ☐ oral exam ☐ internship or laboratory performance ☐ colloquium ☒ project presentation	☐ portfolio ☐ term paper or essay ☐ practical exam	Passed Exam graded with at least 4.0

Professor/ Instructor	Module Coordinator
Dr. Verena Eisner	Dr. Verena Eisner

Bibliography/ Study Aids
Literature referenced in the lecture, individually on the project tasks

Unit Operations in Food Processing				Module No.: LMT-ST-11007
Duration	Semester, in which the Module Takes Place	Frequency of Course Offered	Credit Points (ECTS)	Weighting of the Grade
1 semester	1 semester (Master)	☒ each summer semester ☐ each winter semester ☐ when needed	6 ECTS	same as credit points

Forms of teaching and learning	Contact Time	Self-Study	Total Workload of Student(s)
• lecture • seminar • project	4 contact hours /60 hours	120 hours	180 hours

Learning Goals (Learning Results)
The students gain knowledge in selected unit operations, which are common used in Food industries. Essential principles are known, can be applied and students are able to transfer physical, chemical and (micro-) biological correlations to different applications.

Content
Contents Developing of principles in process engineering (law of conservation of mass and energy) Overview over the diversity and complexity of unit operations in food processing Selected food processes: e.g. crystallization, emulsification, filtration further applications as selected individual for presentations

Applicability of Module		
Course of Study 1	☐ Required Subject	☒ Compulsory Optional Subject

Recommended Prerequisites
Fundamentals of food technology

Forms of Assessment		Requirement for Awarding of ECTS Points
☐ written exam ☐ oral exam ☐ internship or laboratory performance ☐ colloquium ☒ project presentation	☐ portfolio ☐ term paper or essay ☐ practical exam	Passed Exam graded with at least 4.0

Professor/ Instructor	Module Coordinator
Dr. Verena Eisner	Dr. Verena Eisner

Bibliography/ Study Aids
Literature referenced in the lecture, individually on the project tasks

Biotechnology/Genetic Engineering			Module No.: LMT-ST-11008	
Duration	Semester, in which the Module Takes Place	Frequency of Course Offered	Credit Points (ECTS)	Weighting of the Grade
1 semester	1 semester (Master)	☒ each summer semester ☐ each winter semester ☐ when needed	6 ECTS	same as credit points

Forms of teaching and learning	Contact Time	Self-Study	Total Workload of Student(s)
• Lecture 2 contact hours • Seminar 2 contact hours	4 contact hours /60 hours	120 hours	180 hours

Learning Goals (Learning Results)
The students analyze methods for isolation and assess possibilities of strain improvement of recyclables-producing microorganisms. They will understand and analyze industrial production with microorganisms and the basic process of product production. They will understand and analyze gene technology working methods and the construction of genetically modified organisms, in particular genetically modified microorganisms and plants and their use in the food and pharmaceutical sectors.

Content
- Screening procedures - Industrial production strains - Bioreactors, production by fermentation - Processing, technical use of enzymes - Basic and up-to-date genetic engineering methods and tools - Production and use of genetically modified organisms

Applicability of Module		
Course of Study 1	☐ Required Subject	☒ Compulsory Optional Subject

Recommended Prerequisites
Biological and microbiological knowledge (Bachelor level), knowledge of process engineering

Forms of Assessment		Requirement for Awarding of ECTS Points
☒ written exam ☐ oral exam ☐ internship or laboratory performance ☐ colloquium ☒ project presentation	☐ portfolio ☐ term paper or essay ☐ practical exam	Passed exam graded with at least 4.0

Professor/ Instructor	Module Coordinator
Prof. Dr. rer. nat. Beatrix Konermann	Prof. Dr. rer. nat. Beatrix Konermann

Bibliography/ Study Aids

Recommended reading:
RENNEBERG, R. et al.: Biotechnologie für Einsteiger (ISBN 978-3-662-56283-3)
CHMIEL, H. et al. (Ed.): Bioprozesstechnik (ISBN 978-3-662-54041-1)
KEMPKEN, F.: Gentechnik bei Pflanzen (ISBN 978-3-662-60743-5)
KURRECK, J. et al. (Ed.): Bioanalytik (ISBN 978-3-662-61706-9)

New Technologies in Food Engineering				Module No.: LMT-ST-11009
Duration	Semester, in which the Module Takes Place	Frequency of Course Offered	Credit Points (ECTS)	Weighting of the Grade
1 semester	1 semester (Master)	☒ each summer semester ☐ each winter semester ☐ when needed	3 ECTS	same as credit points

Forms of teaching and learning	Contact Time	Self-Study	Total Workload of Student(s)
• seminar	0.5 contact hours /7.5 hours	82.5 hours	90 hours

Learning Goals (Learning Results)

The students master
the independent processing of information from scientific publications on novel treatment, simulation and analysis methods and can analyze and present them.

Content

Selected topics of novel treatment and analysis methods
e.g. Ionizing Irradiation, High Pressure Treatment, Plasma Treatment, Pulsed Electric Fields, Tomography, Numerical Modeling, Infrared, Microwave, Radio Wave and Ohmic Heating

Applicability of Module

Course of Study 1	☐ Required Subject	☒ Compulsory Optional Subject

Recommended Prerequisites

Fundamentals of food technology;

Forms of Assessment		Requirement for Awarding of ECTS Points
☐ written exam ☐ oral exam ☐ internship or laboratory performance ☐ colloquium ☒ project presentation	☐ portfolio ☐ term paper or essay ☐ practical exam	Passed presentation graded with at least 4.0

Professor/ Instructor	Module Coordinator
Prof. Dr.-Ing. Marc Regier	Prof. Dr.-Ing. Marc Regier

Bibliography/ Study Aids

Recommended reading:
Richardson, P. : Thermal technologies in food processing, (ISBN 9781855735583).
Ortega-Rivas, E.: Processing Effects on Safety and Quality of Foods (ISBN 1420061127)
plus individual literature on the project tasks.