



Master in Life Sciences

A cooperation between
BFH, FHNW, HES-SO, ZHAW

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| Module | Managing the Food Supply Chain |
| Code | MSLS_V1_3 |
| Degree Programme | Master of Science in Life Sciences (MSLS) |
| ECTS Credits | 5 |
| Workload | 150 h: Contact 60 h; Self-study 90 h |
| Module Coordinator | <p>Name Dr. Christoph Lustenberger, Dr. Tatiana Starostina</p> <p>Phone +41 (0)58 934 56 16</p> <p>Email christoph.lustenberger@zhaw.ch, tatiana.starostina@zhaw.ch</p> <p>Address ZHAW Zürcher Hochschule für Angewandte Wissenschaften Life Sciences and Facility Management Campus Reidbach Postfach CH-8820 Wädenswil</p> |
| Lecturers | <ul style="list-style-type: none"> • Dr. Christoph Lustenberger • Dr. Tatiana Starostina • Prof. Dr. Selçuk Yildirim • Members of the Food Packaging Research Group • Guest lecturers |
| Entry Requirements | Basic knowledge of business administration |
| Learning Outcomes and Competences | <p>After completing the module students</p> <ul style="list-style-type: none"> • can assess the interplay of all the operational components of a supply chain. • are aware of measures for planning and designing the supply chain. • can assess the possible effects of strategic approaches to supply chain design. • are familiar with the planning and design principles of procurement, production and distribution processes. • are familiar with a selection of current methods and tools for the management of company networks. • are aware of the connections between the areas of supply chain management and supply chain software. • can correctly use selected logistics tools. • can identify and analyze key components of packaging design, such as shape, color, typography, and materials, to understand their role in consumer perception and product protection. • describe and evaluate advanced active and intelligent packaging solutions incorporating components such as sensors, indicators, absorbers and releasers, to ascertain their capacity in improving product safety, extending shelf life, and enhancing consumer engagement • aware of environmental challenges associated with current packaging systems. |

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| | <ul style="list-style-type: none"> • can articulate strategies to enhance the sustainability of packaging • know the existing and emerging biopackaging materials and their suitability for sustainable packaging |
| Module Content | <p>The module covers basic concepts and success factors for efficient supply chains in the food industry, taking into consideration new technologies, emerging trends, shifting demographics, changing markets and uncertain situations. On the basis of keynote speeches and workshops led by experts from the food industry and supported by excursions to food production and logistics companies, the topics of procurement, production, storage, distribution, planning and returns are explored.</p> <p>Supply chain management, business relations and logistics networks are major themes, as well as business processes, business methods, strategic and operational planning in the processing industry, by distribution, storage and sales.. The priorities are novel and sustainable packaging materials and processes. The module provides comprehensive coverage of key elements in packaging design and their significance in consumer communication. It encompasses advanced packaging technologies, including active and intelligent packaging, with a practical laboratory component to deepen understanding of their potential and challenges. Sustainability considerations are integrated, addressing the environmental impact of existing packaging solutions and proposing strategies to mitigate this impact. Furthermore, emerging biobased packaging materials are introduced and demonstrated in the laboratory, offering practical insights into sustainable packaging alternatives.</p> <p>The course will incorporate tests, group projects, laboratory practicals, and student presentations, all of which will be graded. Full attendance and participation in these activities are mandatory as they contribute significantly to the overall assessment. Failure to attend will result in a deduction of grades.</p> |
| Teaching / Learning Methods | <ul style="list-style-type: none"> • Lectures • Workshops • Case studies • Practical work at laboratory • Exercises • Excursions • Literature study |
| Assessment of Learning Outcome | <p>Written exams and presentation or report (Supply Chain Management, Food Packaging)</p> <ul style="list-style-type: none"> • 1/2 course Supply Chain Management • 1/2 course Food Packaging |
| Bibliography | <ul style="list-style-type: none"> • Chopra S., Meindl. (2015): Supply Chain Management, Pearson ISBN:978-1-292-09356-7 • Goldratt E., Cox J., (2013): Das Ziel, Campus Verlag ISBN: 978-3-593-39853-2 • Slack N., Brandon-Jones A., Johnston R. (2016): Operations Management • Yildirim, S., et al., Active Packaging Applications for Food. Comprehensive Reviews in Food Science and Food Safety, (2018). 17(1): p. 165-199. • Ellen MacArthur Foundation, The New Plastics Economy: Rethinking the future of plastics & catalysing action (2017) • Mendes, A. C., Perspectives on sustainable food packaging: is bio-based plastics a solution?, Trends in Food Science and Technology (2021) |
| Language | English |

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| Comments | |
| Last Update | 05.04.2024 |