



Hochschule für Angewandte Wissenschaften Hamburg  
*Hamburg University of Applied Sciences*



# Life Sciences International Semester

## Nutrition & Health

Impressum

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## Life Sciences International Semester – Programme Structure

### Food Science Modules

- International Food Law
- Sensory Analysis
- Nutritional Science Project
- German Food and Culture
- Quality of Nutrition & Hygiene in Catering Services

### Business Modules

- Consumer Behaviour
- Sensory Analysis
- German Food and Culture
- International Human Resource Management



### Public Health & Nutrition Modules

- Public Health Nutrition
- Public Health Project
- Eating Behaviour
- Ergonomics with lab
- Food Safety & Public Health Policy in Europe

### General Modules

- Project Management
- Academic English
- Working in Multicultural Groups
- Survival German

### Module information

- All modules are **taught in English** and are worth **5 ECTS credits each**.
- Students can either choose all courses of one term or courses from different terms (as the lecture timetable allows)
- Students should have some knowledge of the modules they plan to take, as they are offered as part of year 2 and 3 of our Bachelor's programmes.

## Life Sciences International Semester – Labs and Equipment

### Nutritional Science Lab

The Nutrition Science Lab has equipment for a wide range of experiments on food. Students complete food analysis as part of communal feeding, preparation of forms of diets and special types of food, product development, industrial food preparation as well as the preparation for sensory analysis. The lab has basic equipment for all known household food preparation and cooking processes: various ovens, hobs, microwaves, kitchen machines, etc. In order to simulate food preparation for large numbers the lab is equipped with multi-purpose steamers from different companies, a pressure cooker, kettles, a tilt frying pan, inductions cooker, dishwasher, etc.

### Food Chemistry Lab

The Food Chemistry Lab has equipment for basic experiments in inorganic and organic chemistry as well as for modern instrumental food analysis by HPLC or GC. In the compulsory laboratory courses in Nutrition and Home Economics (Bachelor) students learn about the fundamental reactions and properties of chemical substances. The course in Food Chemistry teaches the students to analyse the constitution and the nutrient contents of complex foodstuffs. Master of Food Science students have the opportunity to work on a scientific project as a Master thesis, based on real research and development problems in cooperation with food companies.



### Lab for Sensory Analysis

The modern sensory analysis lab has twelve generously designed single cubicles according to DIN 10969. They are equipped with the latest hardware and software to allow computer-supported surveys, the collection of data and their statistical interpretation (FIZZ, Senstools, SPSS). Each cubicle also has its own water supply. In addition, different lighting and total darkness allow food to be judged independent of appearance, odour, taste or texture. The lab can also be used for group discussions and training courses.

### Lab for Household Technology

The lab for household technology allows practical application in the areas of physics and technology. Its modern equipment enables students to carry out a wide range of practical work. Lab work often looks at current questions in cooperation with industry. Students carry out experiments which allow them to get to know the structure and function of relevant household equipment and evaluate them through research. In connection with the investigation of the equipment functions students also use modern, PC-based measuring technology to gain experience with the most important processes of measuring technology.

## Life Sciences International Semester – Services & Costs

The Life Sciences International Semester is going into its third year in the summer semester 2009. In 2008 we had 19 international participants from our European partner universities. They joined German students in Hamburg to complete an international programme on nutrition and health.

### Services

Generally we can provide students with a **room** in an apartment in a student residence. Monthly rent is 250 Euro (Oct. 08).

German students will be »buddies« and will collect students at the airport and take them to their residence. They will help with registration, etc. and help them settle in.

A **social programme** with trips and activities will be organised for the weekends during the semester.

### Costs

Students coming from our **partner universities do not have to pay the tuition fees** at Hamburg University of Applied Sciences. All other students will have to pay 375 Euro for the semester.

All students have to pay a semester contribution of 210 Euro (Sept. 08). For this money they will get a **semester ticket** which allows them six months unlimited travel on Hamburg's public transport system (bus, underground)

Students from non EU countries will also have to sign up for the German **health insurance** system. This costs 58 Euro per month.

### Contact

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## FOOD SCIENCES MODULES

<b>Module name: German Food and Culture</b>	<b>Lecturer: Dipl. oec. troph. H. Koopmann</b>
<b>Course objectives:</b> <ul style="list-style-type: none"><li>▪ The module contains a culinary journey throughout Germany.</li><li>▪ Students will find out about German favourite foods and beverages today and in the beginning of the last century.</li><li>▪ It will be reasoned in which way living and eating in Germany has changed and which international influence has taken place during the last 50 years.</li><li>▪ Students will prepare German traditional meals and will investigate the history of the recipes.</li></ul>	
<b>Contents:</b> <ul style="list-style-type: none"><li>▪ Scientific development of consumer demand during the last century</li><li>▪ International Influences of eating behaviour in Germany</li><li>▪ Development of Food production and processing</li><li>▪ Regional differences in German culture</li><li>▪ Preparing of typical German dishes</li><li>▪ Nutritional science analysis and history of the recipes German traditional meals</li><li>▪ Market overview, consumption, price comparisons</li></ul>	

<b>Module name: International Food Regulations</b>	<b>Lecturer: Prof. Dr. J. Fritsche</b>
<b>Course objectives:</b> <ul style="list-style-type: none"><li>▪ Recognise and understand the structure, content and importance of national legal food regulations within the legal EU framework</li><li>▪ Apply basic food labelling requirement, e.g. compilation of ingredient lists, nutrient information labelling systems, health claims based on real-life studies</li><li>▪ Legal differentiation of foods and beverages, food supplements and drugs</li><li>▪ Identify and apply relevant food regulations</li><li>▪ Identify relevant food regulatory issues and contribute to solve regulatory issues (project team)</li></ul>	
<b>Contents:</b> <ul style="list-style-type: none"><li>▪ Food Labelling (Codex Alimentarius, EU, USA)</li><li>▪ Health claim regulation processes in different international legal environments</li><li>▪ Regulatory differentiation of foods &amp; beverages, food supplements and drugs</li></ul>	

<b>Module name: Nutritional Science Project</b>	<b>Lecturers: Prof. Dr. C. Behr Völtzer, Prof. Dr. M. Hamm</b>
<b>Course objectives:</b> <ul style="list-style-type: none"><li>▪ Current nutritional questions are handled</li><li>▪ Secondary investigation at the selective topic</li><li>▪ Analysis of collected information</li><li>▪ To apply the knowledge acquired e.g. in the form of a flyer, a poster, an exhibition etc.</li></ul>	
<b>Contents:</b> <ul style="list-style-type: none"><li>▪ Special subjects from the nutrition of healthy and ill people</li><li>▪ Investigation of information, literature study</li><li>▪ Preparation of materials, public relations, text layout</li><li>▪ Nutritional science analysis and evaluation</li></ul>	

<b>Module name: Quality of Nutrition and Hygiene in Catering Services</b>	<b>Lecturer: Prof. U. Arens-Azevêdo</b>
<b>Course objectives:</b> <ul style="list-style-type: none"> <li>▪ Students will be able to....</li> <li>▪ Describe the mission statement of catering</li> <li>▪ Evaluate the different specialised systems like cook and serve, cook and chill etc.</li> <li>▪ Describe current and future equipment and decide the adequate technology based on the different demands of guests</li> <li>▪ Develop and evaluate nutritional standards for consumers in different institutions</li> <li>▪ Implement and control HACCP procedures</li> <li>▪ Know the European regulations and how it works</li> <li>▪ Implement quality assurance and improve continuously</li> </ul>	
<b>Contents:</b> <ul style="list-style-type: none"> <li>• The catering market in Europe and Germany</li> <li>• Specialised Systems like cook and chill, cook and serve, cook and freeze, sous vide etc.</li> <li>• Transport, storage and distribution of meals</li> <li>• Menu planning and Convenience foods</li> <li>• Basic conditions of food supply in different institutions like kindergarden, schools, nursing homes, canteens and hospitals.</li> <li>• Development of specific nutritional standards</li> <li>• Food and Nutrition Action Plan of Europe and Germany – consequences for catering</li> <li>• Hygiene management and HACCP</li> </ul>	

<b>Module name: Sensory Analysis</b>	<b>Lecturer: Prof. Dr. M. Busch-Stockfisch</b>
<b>Course objectives:</b> <ul style="list-style-type: none"> <li>▪ Students will gain knowledge of sensory test methods.</li> <li>▪ They will get familiar with planning, realisation and statistical analysis of sensory tests.</li> <li>▪ Students will learn to apply sensory test results to product modifications.</li> <li>▪ The course will present sensory analysis as a tool for quality management.</li> </ul>	
<b>Contents:</b> <ul style="list-style-type: none"> <li>▪ Requirements for setting up a sensory taste panel</li> <li>▪ Training of sensory test methods in the nutritional science lab</li> <li>▪ Sensory analysis test methods of foods and statistical analysis</li> <li>▪ Setup of sensory sessions with application software</li> <li>▪ Preparation of sensory tastings including the relevant documentation</li> </ul>	

**BUSINESS MODULES**

<b>Module Name: Consumer Behaviour</b>	<b>Lecturer: Prof. Dr. H. Labrenz</b>
<b>Course objectives:</b> <ul style="list-style-type: none"> <li>▪ Students develop a general insight into the complexity of human behaviour and relate it to consumption processes (esp. food purchases). Students should identify and describe relevant factors of consumption behaviour.</li> <li>▪ Students learn to understand and explain consumer behaviour on the basis of findings of actual consumer research.</li> <li>▪ Knowledge about factors of consumption behaviour can be applied to the conceptualisation of communication measures (e.g. in counselling) or of marketing measures (e.g. in product development).</li> </ul>	
<b>Contents:</b> <ul style="list-style-type: none"> <li>▪ Households as business entities (status of private households in political economics, meaning of private consumption, economical explanatory approaches of consumption behaviour (utility theory, homo economicus, Lancaster).</li> <li>▪ Decision behaviour (individual decision behaviour, group decisions, e.g. of private households).</li> <li>▪ Psychological factors of consumer behaviour (system of psychological variables, activating determinants (emotion, motivation, attitude) and cognitive factors (perception, processing and memorisation of information).</li> <li>▪ Environmental factors of consumer behaviour (system of environmental variables, social physical environment).</li> </ul>	

<b>Module Name: Food Marketing</b>	<b>Lecturer: Prof. Dr. C. Wegmann</b>
<b>Course objectives:</b> <ul style="list-style-type: none"> <li>▪ Comprehension of the food market.</li> <li>▪ Students will get an insight into the development of integrated marketing concepts for food products.</li> <li>▪ Students will gain knowledge in planning and implementation of marketing instruments for food products.</li> <li>▪ Students will gain confidence for the assessment of advantages and disadvantages of options regarding the use of marketing methods.</li> </ul>	
<b>Contents:</b> <ul style="list-style-type: none"> <li>▪ Specifics of the food industry</li> <li>▪ Direct sales of food products</li> <li>▪ Cooperative marketing in the food sector</li> <li>▪ Retail marketing in the food sector</li> <li>▪ Advertising for food products</li> <li>▪ Branding and package design</li> <li>▪ Customer loyalty and customer satisfaction</li> </ul>	

<b>Module Name: International Human Resource Management</b>	<b>Lecturer: Prof. Dr. A. Berger-Klein</b>
<b>Course objectives:</b> <ul style="list-style-type: none"> <li>▪ To give an orientation in the field of International Human Resource Management</li> <li>▪ How is Human Resource Management defined?</li> <li>▪ What are the goals of HRM?</li> <li>▪ What are the HRM activities?</li> <li>▪ What are the processes that contribute to HRM activities?</li> <li>▪ How HRM impacts on organizational performance?</li> <li>▪ What is the context, in which HRM processes take place?</li> </ul>	
<b>Contents:</b> <ul style="list-style-type: none"> <li>▪ International Employee relations</li> <li>▪ Organisational behaviour</li> <li>▪ HRM – characteristics, impact and context</li> <li>▪ Role of the HR function and the role of the HR practitioner</li> <li>▪ Managing health and safety as a part of HRM</li> <li>▪ Strategic HRM / HRM strategies</li> <li>▪ HR policies</li> <li>▪ Employee resourcing and human resource development</li> <li>▪ Performance management</li> </ul>	



**Module Name: Marketing Research**

**Lecturer: Prof. Dr. H. Laberenz**

**Course objectives:**

- Students become acquainted with different research methods and strategies in quantitative and qualitative marketing research.
- Students will be able to evaluate alternative approaches and methodologies in marketing research.
- Students experience how to develop a research plan.
- Students learn to devise a research question and to develop questionnaires.
- Students develop the skills necessary to undertake marketing research and/or investigative activities within a business/management context, including project management.
- The project work gives students the opportunity to conduct a small research project.
- The field research enables students to gain insights in the practice of empirical research work, data analysis and report writing.
- The final presentation will help the students to develop their oral and presentation skills.

**Contents:**

- Structure of and criteria for good marketing research processes.
- Concept development, appropriateness of different research methods (survey, observation, experimental research).
- Measurement and scaling concepts, questionnaire design, sample designs and sample procedures.
- Transforming raw data into information, communicating research results, oral presentation and research report.

**PUBLIC HEALTH & NUTRITION MODULES**

<b>Module name: Eating Behaviour</b>	<b>Lecturers: Prof. Dr. J. Westenhöfer, S. Adam</b>
<b>Course objectives:</b> <ul style="list-style-type: none"> <li>▪ To describe and evaluate methods to assess eating behaviour.</li> <li>▪ To describe physiological, psychological, social and cultural determinants and consequences of eating behaviour and to evaluate scientific literature in this field.</li> <li>▪ To develop, implement and to evaluate measures of health promotion and dietary interventions with special focus on overweight and eating disorders</li> <li>▪ To describe and use methods of life-long learning in the field of eating behaviour</li> </ul>	
<b>Contents:</b> <ul style="list-style-type: none"> <li>▪ Scientific theories and models of nutritional psychology and nutritional sociology and applied methods in health promotion, counselling and therapy.</li> <li>▪ Nutritional Psychology and nutritional Sociology: Principles of eating behaviour, methods to assess eating behaviour and nutritional status.</li> <li>▪ Dietary interventions: Behavioural modification techniques in dietary interventions, quality management and evaluation.</li> <li>▪ Applied nutritional psychology: Restrained eating, eating disorders and obesity: basic principles, prevention and therapy</li> </ul>	

<b>Module name: Ergonomics with lab work</b>	<b>Lecturers: Prof. Dr. G. Perger, F. Simon</b>
<b>Course objectives:</b> <ul style="list-style-type: none"> <li>• Students gain methodological expertise through a combination of theoretical knowledge and hands-on, to professional routines related applications in the laboratory “work and health”.</li> <li>• Students acquire general competence by combining expertise on the systems Human – Health – Work, the social and psycho-social context with the development and encouragement of personal skills (independence, communication, cooperation, abstraction and social skills).</li> </ul>	
<b>Contents:</b> <ul style="list-style-type: none"> <li>• Stresses and strains (noise, mechanical vibrations, climate, lighting, lifting and carrying of loads, hazardous substances)</li> <li>• Stresses and strains concepts, work related illness functional tests (audiometry, EMG, ECG, Ergo-Spitometry, biomechanics, visual test)</li> <li>• Arranging the work place according to ergonomic standards (anthropometrics + office working environment)</li> </ul>	

<b>Module name: Public Health Nutrition</b>	<b>Lecturers: Prof. Dr. J. Westenhöfer, I. Borgmeier</b>
<b>Course objectives:</b> <ul style="list-style-type: none"> <li>▪ To describe and assess the significance of nutrition for Public Health</li> <li>▪ To use the Public Nutrition Action Cycle</li> <li>▪ To read and understand nutritional epidemiological literature</li> <li>▪ To understand the linkages between worldwide hunger and food markets</li> <li>▪ To be able to discuss ecological changes and food production</li> </ul>	
<b>Contents:</b> <ul style="list-style-type: none"> <li>▪ Nutritional epidemiology: survey of the nutritional status, bio-statistical methods, adjustment and revision methods, sources of error</li> <li>▪ Important nutritional epidemiology studies: Framingham, Nurses Study, EPIC, Monica</li> <li>▪ Public Health Nutrition Action Cycle</li> <li>▪ Selective Public Health nutritional problems: supernutrition, malnutrition, heating circuit diseases, diabetes, cancer diseases</li> <li>▪ Social status and food</li> <li>▪ Global issues in relation to food</li> </ul>	

<b>Module name: Public Health Project</b>	<b>Lecturers: Prof. C. Deneke, Prof. Dr. A. C. Seibt</b>
<p>The topic for the summer semester 2009 is Studying Abroad an investigation of health-related well-being and conditions for both, foreign students staying in Hamburg, and HAW students planning an academic semester or an internship abroad.</p> <p><b>Course objectives:</b></p> <ul style="list-style-type: none"> <li>▪ Define a research question, research existing literature, and conduct an appropriate assessment of a public health-related topic</li> <li>▪ Assess the underlying determinants/ prerequisites</li> <li>▪ Conduct an adequate investigation</li> <li>▪ Formulate an appropriate intervention policy, if applicable</li> <li>▪ Publish the main findings of your investigation, e.g. by a public presentation or a handbook</li> <li>▪ The main goal is to gain some intercultural competence by understanding other (university, scientific, student, young adult) cultures of different countries.</li> </ul> <p><b>Contents:</b></p> <ul style="list-style-type: none"> <li>▪ The Public Health Project is a practice-oriented project carried out by students. The project should be completed over the course of one semester. The first part of the course will be an introduction to basic concepts of health and health promotion.</li> <li>▪ The project is empirically oriented; tasks like questionnaire design, pilot testing, interviewing, data analysis and some type of result presentation will be part of the course.</li> <li>▪ The major content of the module are the experiences of intercultural understanding and more international competence and, last, but not least, worldwide fun!</li> </ul>	

<b>Module name: Food Safety &amp; Public Health Policy in Europe</b>	<b>Lecturer: Prof. Dr. R. Reintjes</b>
<p><b>Course objectives:</b></p> <ul style="list-style-type: none"> <li>▪ To follow</li> </ul> <p><b>Contents:</b></p> <ul style="list-style-type: none"> <li>▪ To follow</li> </ul>	

<b>GENERAL MODULES</b>
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<b>Module name: Academic English</b>	<b>Lecturer: Visiting lecturer from "Uni-Sprachkurse"</b>
<b>Course objectives:</b> To broaden the participants' knowledge of more challenging academic / scientific texts, and to enable students to present their work, both written and spoken, in a more sophisticated form.	
<b>Contents:</b> Students should be able to: <ul style="list-style-type: none"> <li>▪ Understand the use of English in an academic setting; be involved in professional communications</li> <li>▪ Make use of scientific literature; use acquired skills to give presentations</li> <li>▪ Realise the fun element in communicating in English</li> </ul>	

<b>Module name: Survival German</b>	<b>Lecturer: Visiting lecturer from "Uni-Sprachkurse"</b>
<b>Course objectives:</b> Students <ul style="list-style-type: none"> <li>• Become acquainted with the German language; learn to cope with things of everyday life</li> <li>• Go food shopping or the like together</li> </ul>	
<b>Contents:</b> <ul style="list-style-type: none"> <li>• Elementary German; simple phrases, questions and responses from everyday life</li> </ul>	

<b>Module Name: Project Management</b>	<b>Lecturer: Prof. Dr. C. Wegmann</b>		
<b>Course objectives:</b> <ul style="list-style-type: none"> <li>▪ To plan separate projects and to apply the instruments of the project management</li> <li>▪ To work as a project manager in a small up to middle-sized projects</li> <li>▪ To work client orientated in projects</li> <li>▪ To recognise critical situations in the project management</li> </ul>			
<b>Contents:</b> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> <li>▪ Specific aims and outline of purposes</li> <li>▪ Context analysis</li> <li>▪ Project workflow planning with critical path method</li> <li>▪ Capability planning</li> <li>▪ Cost planning</li> </ul> </td> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> <li>▪ Project organisation</li> <li>▪ Project controlling</li> <li>▪ Leadership and conflicts, profile of qualification</li> <li>▪ Use of software and project management</li> </ul> </td> </tr> </table>		<ul style="list-style-type: none"> <li>▪ Specific aims and outline of purposes</li> <li>▪ Context analysis</li> <li>▪ Project workflow planning with critical path method</li> <li>▪ Capability planning</li> <li>▪ Cost planning</li> </ul>	<ul style="list-style-type: none"> <li>▪ Project organisation</li> <li>▪ Project controlling</li> <li>▪ Leadership and conflicts, profile of qualification</li> <li>▪ Use of software and project management</li> </ul>
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<b>Module name: Working in Multicultural Groups</b>	<b>Lecturer: Prof. H. Helker</b>
<b>Course objectives:</b> <ul style="list-style-type: none"> <li>▪ Repetition and immersion of classic methods of group work and their application in a multicultural context.</li> <li>▪ Course objective is to raise the students' level of awareness of the differences in communicative practices in different cultures and the consequences these differences might have in intercultural communication.</li> <li>▪ The course will encourage the students to be critical about stereotypes in language and thinking. The course will help students to identify and understand the meaning of multiculturalism as a process in team building and work in a multicultural working environment.</li> </ul>	
<b>Contents:</b> <ul style="list-style-type: none"> <li>▪ Applying classic techniques of group work, the course looks into the development of practical skills.</li> <li>▪ Theory and practice of team management – team building, leading, conflict management.</li> <li>▪ Theory of cultural differences in communicative practices taking into account both verbal and non-verbal communication.</li> </ul>	

## Hamburg University of Applied Sciences (HAW Hamburg)

With over 12,000 students the HAW Hamburg is the second largest institution of higher education in Hamburg and the one of the largest of its kind in Germany. Founded in 1970, our roots go back to the 18th century. Practice orientation is our trademark: theory from lectures is put into practice in the laboratories, study projects are completed in the form of case studies and close cooperation with industry ensures a direct link to the future field of work. In addition to an academic title our professors have worked for many years in private companies and public institutions.

### Faculty of Life Sciences

The Faculty of Life Sciences is our second largest faculty with over 2,000 students enrolled there. The Departments Biomedical Engineering, Biotechnology, Environmental Engineering and Process Engineering, "Nutrition and Home Economics" as well as "Health Sciences" are located at this campus.



### Department of Nutrition & Home Economics

Graduates of the Department of **Nutrition and Home Economics** work in management and quality control positions in product development, production, marketing and sales of household services, comestibles and technical apparatus. Others focus on counselling, further education as well as public relations for nutrition and public health.

#### Degree programmes:

- Nutrition & Home Economics (Bachelor)
- Food Science (Master)

### Department of Health Sciences

The Department of **Public Health** has the study majors Health Promotion/ Prevention and Health Reporting/Epidemiology. Special focus is possible in the areas of Health Management and Public Health.

#### Degree programmes:

- Health Science (Bachelor)
- Public Health (Master, in English)

## Nutrition & Home Economics (Bachelor)

The Bachelor programme is made up of six semesters including the completion of a Bachelor thesis. In each semester there are courses equivalent to a total of 30 credits. Students can choose one of three study majors in the second year to focus on a specific area:

### Compulsory courses

Year 1	Credit points	Years 2 and 3	Credit points
Business Studies	5	Concepts of nutrition	5
Introduction to Chemistry	5	Human Resource Management	5
Empirical Social research & Statistics	5	Cost accounting and controlling	5
Ergonomics	5	Food Chemistry	5
Nutrition Physiology	5	Microbiology & Toxicology of Food	5
Human Biology	5	Physics and Technology	5
Communication, psychology, sociology	5	Project Management	5
Food and Nutrition Science	5	Food and Nutrition science	5
Food merchandising & processing science	5	Quality and risk management	5
Mathematics, physics, Computer science	5	Internship (16 weeks)	20
Organic Chemistry and Biochemistry	5	Bachelor thesis	10
Scientific Methodology	5		

### Study majors

<b>Nutrition, Health, Counselling</b>	Credit points	<b>Food, Product development, Marketing</b>	Credit points
Dietetics	5	Food Marketing	5
Eating behaviour	5	Food sensorics	5
Adult training	5	Food Technology	5
Consumer Health Protection	5	Marketing	5
Health education	5	Market research	5
Methods of nutrition counselling	5	Private consumption	5
Public Health & Nutrition	5	Product development	5
Project: Health promotion		Project: Health promotion	5

<b>Service Management &amp; Technology</b>	Credit points	<b>General compulsory electives</b>	Credit points
Communal Feeding	5	Human Resource Management	5
Canteen kitchen and Cleaning Technology	5	Personnel Development	5
Household Technology, Energy, Environment	5	Work and Health Protection	5
Home Economics & Facility Management	5	Hygiene, Cleaning and Technology	5
Cleaning and Washing services	5	Services, Energy	5
Economics for large households & businesses	5	Household Technology, Energy, Environment	5
Living and Household Technology	5	Journalism	5
Project: Services Technology		Consumer politics	5
		Company communication	5

## Food Science (Master)

The Master programme Food Science is 4 semesters in length, ending with a Master thesis.

Course	Credit points
<b>Semester 1</b>	
Functionality of food contents	7,5
Technology of food production	10
Food Sustainability	5
Applied Mathematics & Statistics	7,5
<b>Semester 2</b>	
Packaging, logistics systems incl. ecological analysis	5
Food / Innovation Marketing	5
Sensory perception in relation to consumer behaviour and acceptance	5
Innovative Product Development	5
Food Law and regulations	5
Quality Assurance	5
<b>Semester 3</b>	
Advanced Food Analysis	5
Microbiology, toxicology	5
Industrial production processes	2,5
Advanced course in nutrition and nutrition research	7,5
Scientific Project	10
<b>Semester 4</b>	
Master Thesis	30

## Health Science (Bachelor)

The Bachelor programme is made up of six semesters including the completion of a Bachelor thesis. In each semester there are courses equivalent to a total of 30 credits.

### Compulsory courses

<b>Year 1</b>	<b>Credit points</b>
Introduction to Health Science & Public Health	7,5
Introduction to Health Promotion	7,5
Introduction to Epidemiology	7,5
Anthropology & Sociology of health & illness	7,5
Social Sciences	7,5
Foundation course Nutrition	7,5
Scientific Methodology	7,5
Sociology, psychology and empirical social research	7,5

### Years 2 & 3

<b>Health sciences</b>	<b>Credit points</b>	<b>Management</b>	<b>Credit points</b>
Health systems and health markets	5	Introduction to economics and business	5
Medicine and alternative medicine	5	Human Resource Management	5
Mental public health	5	Working with projects	5
Health economics and politics	5	Introduction to law	5
Surveillance and health reporting	5		
Evaluation in Health care	5		
Project: Health promotion 1	5		
Health education	5		
Health ethics	5		

### Compulsory electives

<b>Health sciences</b>	<b>Credit points</b>
Biotechnology, Genetics and Environment	5
Work & Health protection	5
Consumer Health Protection	5
Ergonomics	5
Public Health Nutrition	5
Movement, relaxation, health	5
Eating behaviour	5
Methods of nutrition counselling	5
Project: Health Promotion 2	5
Epidemiology	5



## Public Health (Master)

Study Area/ Modules	ECTS	Work load	Contact hours
<b>Semester 1</b>			
Introduction to Public Health in Germany/Worldwide: I. History, Development, Concepts and Theories; Strategies and Practice in Germany, Europe and Worldwide	3	90	30
Health Policy, Management & Economics – Level 1: II. International Comparisons of Health Care Systems, Policies and Financing	6	180	60
Epidemiology & Bio-statistics – Level 1: III. Epidemiology & Study Design	6	180	60
Environment and Health: IV. Environment and Health	3	90	30
Health Promotion/Health Education, Social Sciences – Level 1: V. Theory and Methods, Strategies and Practice in Health Promotion and Prevention	6	180	60
VI. <i>Public Health Action Cycle 1: Assessment, Policy Formulation, Assurance, Evaluation</i>	3	90	30
VII.a Nutrition and Health <b>or</b>	3	90	30
VII.b Work and Health as field of concentration	3	90	30
<b>Semester 2</b>			
Health Policy, Management & Economics – Level 2: VIII. Health Management, Health Systems Administration, Evaluation, Quality Assurance	6	80	60
Epidemiology & Bio-statistics – Level 2: IX. Biostatistics; Epidemiology of Communicable and Non-communicable Diseases	6	180	60
Health Promotion/Health Education, Social Sciences – Level 2: X. Health Promotion and Prevention: Theory and Methods, Strategies and Practice - 2	3	90	30
XI.a Nutrition and Health <b>or</b>			
XI.b Work and health as field of concentration	9	270	90
Areas of individual interests and needs: XII. e.g. Psychology, Pedagogy, Sociology, Medicine, Social Work, Health & Law, Ethics, Sports, Medical Technology	6	180	60
<b>Semester 3</b>			
Master Thesis research & writing	30	900	–

## Hamburg

In the North of Germany and in the heart of Europe – Hamburg is Germany's second largest city (1.8 million inhabitants) and offers an excellent quality of life and international flair.

### City on the water

Hamburg is a city on the water. The »Alster«, a 1.6 km<sup>2</sup> large lake in the middle of the city, is the perfect place for sailing, canoeing and rowing – not just for sportspeople but also for city people who prefer a leisurely boat trip on a mild summer evening. The Elbe flows through Hamburg and connects the city and its international harbour with the world.

### Dynamic city

Hamburg is one of the most dynamic commercial centres in Europe with a strategic focus on six innovative segments: aviation (Airbus, Lufthansa), IT and media, international port and logistics, life sciences, nanotechnology and renewable energies. Competence clusters interlink companies, universities and research institutes to ensure that knowledge is shared and innovative ideas developed further.



### Green city

Hamburg is a green city. Numerous trees and large parks make life in this city very pleasant. Whether at the weekend or after work and whatever the weather – Hamburg citizens enjoy the parks at the »Alster«, the 140 hectare large »Stadtspark« or the flower paradise »Planten un Blomen«. Europe's »greenest« city offers a wide range of possibilities for everyone who enjoys spending time out of doors.

### City of culture & nightlife

Hamburg is a city of culture. A vibrant theatre scene offers everything from big, classical productions to fringe theatre. Hamburg is famous for its ballet and is the third largest musical city after New York and London. Fifty museums offer a varied programme of exhibitions and collections. The Beatles achieved international acclaim in the Hamburg »Starclub« and today world stars are at home in the arenas and on the stages of the city. And of course, the nightlife is legendary – with the world famous »Reeperbahn« you can party til the morning light.