Study regulations of the
FH Bachelor Degree

Web Business & Technology

To obtain the academic degree

Bachelor of Science in Engineering
abbreviated B.Sc.

as an appendix to the statutes of the FH Kufstein Tirol

Organizational form: Full-time
Duration: 6 Semesters
Scope: 180 ECTS
Places for beginners per academic year: 25 Full-time

Version 1
Decided by the FH Faculty Council on October 09, 2019

Table of Contents

With the amendment to the University Act 2020, the so-called "University of Applied Sciences Studies Act (FHStG)" has been renamed "University of Applied Sciences Act (FHG)". Accordingly, a necessary editorial adjustment was made in this document on January 13th, 2021 and the name FHStG was replaced by FHG.

1 JOB PROFILES

1.1 Occupational fields

Graduates of the Bachelor degree program Web Business & Technology can work in all industries involved in the design, development and operation of web-based and mobile software systems. However, due to their broad education, graduates are in great demand in the following core fields of activity:

- IT services in the field of web-based systems
- IT services in the field of mobile systems
- IT services in the area of full-stack development
- Management consulting in the context of web-based and mobile systems
- Services in the field of web business, e-marketing, e-commerce, e-tourism, etc.

Due to the increasing importance of digital products and services and the accompanying increase in the demand for specialists to process data, graduates can enter a wide variety of institutions and company types. This includes large companies in the national and international environment as well as small and medium-sized enterprises and organizations in the government and NGO environment. Essential characteristics of the vocational fields of activity are thereby:

1. A **good understanding of the technical background, methods and tools** of the development of web-based and mobile systems.
2. A **high flexibility in applying these methods and tools** in the whole spectrum between technology and application.

Below some typical job profiles are listed as examples. These job descriptions deliberately cover a very broad spectrum to make it clear that graduates of the Bachelor degree program can gain a foothold in very different areas depending on their specialization and previous experience. The Bachelor degree program itself provides a sound training for this purpose, geared to the competence requirements listed below.

Job profile: Software architect

Software architects design applications in close cooperation with the customers of these applications (e.g. the users) and accompany the development process of the application. The activities of these individuals range from analysis and design to project and requirements management. Specific tasks are:

- Documenting functional and non-functional requirements
- Modeling of interrelationships
- Communication with the stakeholders of an application
- Assumption of project management in the development project
- Designing a data architecture

Job profile: Software developer

Software developers create new applications in close cooperation with clients and software architects of a system. The spectrum of activities ranges from problem analysis and design to the implementation of the system. Software developers therefore require in-depth knowledge in the areas of software engineering, application development, databases (development and administration), operating systems, distributed and networked systems and application security. Specific tasks are:

- Front-end and back-end development of software applications
- Design and implementation of database architectures
- Development of security concepts for applications
- Ongoing maintenance of software applications

Job profile: Specialist in the field of Web/Mobile-IT

Departmental experts within an IT department support the persons in charge of the company, above all in the development of new, web-based business fields. In the IT department, the individuals are able to manage at least partial projects in the area of web applications. Specific tasks are:

- Development of web-based business models
- Support of operational processes through web technologies/IT
- Support in the selection of IT technologies to be used
- Consulting in the design and implementation of web-based and mobile IT architectures
- Server management & system administration for web-based infrastructures
- IT security management/testing of IT systems

Job profile: Expert for web design and front-end development

Experts in this field deal with the planning, design and implementation of the web-based or mobile interface of an application. They consider design aspects as well as the requirements for a good human-machine interface. The aim of their work is to achieve an implementation appropriate to the technology based on functional and non-functional requirements and to coordinate this with the other components of the application. Specific tasks are:

- Development of web designs from functional and non-functional requirements
- Technology selection of suitable implementation technologies for web-based and mobile user interfaces
- Design and implementation of interaction with other application components
- Testing of the implemented design for usability and user acceptance (usability tests)
- Integration with other aspects, e.g. web marketing (search engine optimization)

1.2 Qualification profile

The qualification goals and learning outcomes of the Bachelor degree program Web Business & Technology correspond both to the academic and professional requirements and to ISCED level 0688[1] (International Standard Classification of Education). The contents conveyed qualify the graduates for the professional fields of activity mentioned in the previous chapters and their requirements for competences. The following table lists the core competences required by the occupational fields listed above. Column three lists the modules that develop these competences.

Consolidation of professional competences and modules:

Job profile	Competence	Module
Specialist in the field of Web/Mobile-IT	Development of web-based business models	Project and Transfer
		Economic and Legal Fundamentals
	Consulting in the design and implementation of web-based and mobile IT architectures	Data Engineering
		App-Centered Software Development
		Web-Centered Software Development
	IT security management/testing of IT systems	Data Engineering
		Project and Transfer
		Server-Side Software Development
	Server management & system administration for web-based infrastructures	Data Engineering
		Server-Side Software Development
	Support in the selection of IT technologies to be used	Engineering and Project Management
		Project and Transfer
		Web-Based Technologies
	Support of operational processes through web technologies/IT	Engineering and Project Management
		Project and Transfer
		Web-Based Technologies
Software architect	Documenting functional and non-functional requirements	Data Engineering
		Engineering and Project Management
	Communication with the stakeholders of an application	Individual and Social Skills
		Project and Transfer
	Modeling of interrelationships	Engineering and Project Management
		Software Development
	Assumption of project management in the development project	Individual and Social Skills
		Project and Transfer
Software developer	Development of security concepts for applications	Network Technologies
		Security in Information Technology
	Front-end and back-end development of software applications	Software Development
		App-Centered Software Development
		Server-Side Software Development

[1] Example 4: A program consisting of 40% engineering (071), 30 % business (041) and 30 % languages (023) should be classified as 0788 ("Inter-disciplinary programs and qualifications involving engineering, manufacturing and construction") as no field predominates but 07 is the leading broad field. If engineering and business were equally important and greater than languages (e.g. 40 %, 40 % and 2 0%), the program would be classified as either 0788 or 0488 depending on which program, engineering (071) or business (041), is listed first in the program title (or, if not in the title, in the curriculum or syllabus).

Job profile	Competence	Module
		Web-Centered Software Development
		Web-Based Technologies
	Design and implementation of database architectures	Data Engineering
		Server-Side Software Development
	Ongoing maintenance of software applications	Software Development
		App-Centered Software Development
		Server-Side Software Development
		Web-Centered Software Development
		Web-Based Technologies
Expert for web design and front-end development	Performing search engine optimization and marketing	Web-Based Technologies
		Economic and Legal Fundamentals
	Development of monetization solutions for web-based and mobile software solutions	Web-Based Technologies
		Economic and Legal Fundamentals
	Web design development	App-Centered Software Development
		Web-Centered Software Development
		Web-Based Technologies
	Optimization of software applications with a view to different marketing channels	Economic and Legal Fundamentals
	Software product marketing	Economic and Legal Fundamentals

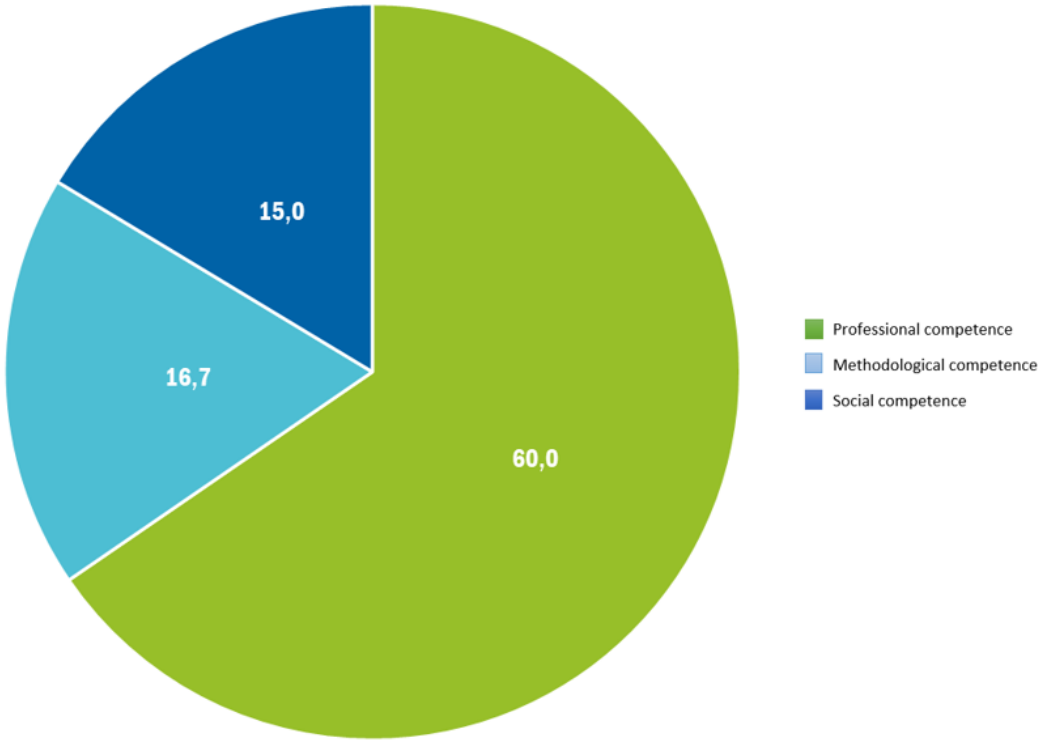
Based on the individual competences, it can also be deduced which competence groups are addressed by the individual modules. However, since each occupational profile has several core competences, but these can be assigned to several competence bundles, these two aspects are presented in separate tables.

Amalgamation of modules, courses and competence groups:

Competence	Module Title	LV
Professional competence	Data Engineering	Data Engineering
		Data Engineering Lab
	Network Technologies	Computer Networks (E)
		Computer Networks Lab (E)
	Security in Information Technology	IT-Security (E)
		IT-Security Lab (E)
	App-Centered Software Development	App-Centered Software Development
		App-Centered Software Development Lab
	Server-Side Software Development	Server-side Software Development & Data Management (E)
		Server-side Software Development & Data Management Lab (E)
		Web Development & Web-based Frameworks (E)
	Web-Centered Software Development	Software Development Fundamentals
		Software Development Fundamentals Lab
	Economic and Legal Fundamentals	Introduction to Applied Economics
		Introduction to Applied Economics
		Introduction to Business Administration
		IT Law
		Introduction to Accounting
		Web Business & Web Marketing (E)
		Web Development & Web-based Frameworks Lab (E)
		Web Business & Web Marketing Lab (E)
	Web-Based Technologies	Web Fundamentals & Web Design

Competence	Module Title	LV
		Web-Based Information Systems (E)
		Web & Mobile Usability (E)
	Software Development	Algorithms and Data Structures in Software Development
	Elective Courses Abroad BWL	Elective Courses Abroad Economics
	Elective Courses Abroad IT	Elective Courses Abroad Information Technologies
Methodological competence	Engineering and Project Management	Fundamentals of Information Technology & Operating Systems
		Software Engineering
	Mathematical Fundamentals	Mathematics & Statistics
		Mathematical Fundamentals of Computer Science
	Project and Transfer	Supervised Individual Project
		Integrated work placement (12.5 weeks fte)
		Practical Project I
		Practical Project II
		Bachelor Thesis Seminar
		Project Management for Technical Projects (E)
Social Competency	Elective Courses Abroad Social Skills	Elective Courses Abroad Social Skills
		Accompanying Seminar for the study abroad (E)
	Foreign languages	Foreign Language I
		Foreign Language II
		Foreign Language III
	Individual and Social Skills	Presentation Technology
		Teamwork & Communication
		Academic Research
		Personality Development in the Professional Environment

Distribution of competences based on WSH



2 CURRICULUM

2.1 Curriculum Data

	FT	PT	Comment if applicable
First year of study (YYY/YY$_{+1}$)	2020/21	-	
Standard duration of study (number of semesters)	6	-	
Obligatory WSH (Total number for all sem.)	74.7	-	In the FT study program, a semester abroad with WSH of the respective partner universities is planned. These WSH are not included in this figure.
Course weeks per semester (number of weeks)	15	-	
Obligatory LVS (Total for all sem.)	1590	-	In the FT program, a semester abroad with LVS from the respective partner universities is planned. These LVS are not included in this figure.
Obligatory ECTS (Total for all sem.)	180	-	
WS start (Date, comm.: poss. CW)	CW 40	-	
WS end (Date, comm.: poss. CW)	CW 5	-	
SS start (Date, comm.: poss. CW)	CW 11	-	
SS end (Date, comm.: poss. CW)	CW 28	-	
WS weeks	15	-	
SS weeks	15	-	
Obligatory semester abroad (semester specification)	5th semester	-	
Course language (specify)	German	-	The proportion of English-language courses amounts to 22% of the WSH
Internship (semester information, duration in weeks per semester)	6th semester (12.5 weeks)		
Resulting from the merging of the study programs or from the separation from the study program (StgKz; to be specified only for merging or separation)			

2.2 Curriculum matrix

The following description of the courses does not yet include the expenses for the individual supervision of the students. The supervisions in the module "Academic Research" and in the module "Bachelor Thesis Seminar" are divided into two parts:

a) the supervision during the individual project in the second semester, where 0.2 WSH per student are planned (total expenditure for 25 students corresponds to 5 AWSH), as well as
b) the supervision during the final Bachelor thesis in the sixth semester, which also includes 0.2 WSH per student (total expenditure for 25 students equals 5 AWSH).

Total AWSH sum of 15 AWSH is reached for all 6 semesters. The given framework of 111 AWSH over all semesters is adhered to; the higher total amount of supervision results, as shown, from the higher proportion of individually supervised work, which is divided between the two modules "Academic Research" and "Bachelor Thesis Seminar".

Curriculum matrix 1st semester

Course no.	Course title	Course type	T	E	eLV	WSH	No. of groups	AWSH	ALVS	MODULE	ECTS
DAT1	Data Engineering	ILV	X		20 %	3	1	3	45	DAE	4.5
DAT2	Data Engineering Lab	UE	X		0 %	1	3	3	45	DAE	2
ISK1	Teamwork & Communication	SE			30%	1	2	2	30	ISK	2
MAT1	Mathematical Fundamentals of Computer Science	ILV			20 %	3	1	3	45	MAT	4.5
SPR1	Foreign Language I	ILV			15 %	2	1	2	30	SPR	3
SWA1	Software Development Fundamentals	ILV	X		20 %	3	1	3	45	SWB	4.5
SWA2	Software Development Fundamentals Lab	UE	X		0 %	1	3	3	45	SWB	2
WEB1	Web Fundamentals & Web Design	ILV	X		15 %	2	1	2	30	WEB	3
WIA1	Academic Research	ILV	X		20 %	1	1	1	15	WIA	1.5
WIR1	Introduction to Business Administration	VO			15 %	2	1	2	30	WIR	3
Total line:						19		24	360		30.0
LVS = Total WSH * LV weeks						285					

Curriculum matrix 2nd semester

Course no.	Course title	Course type	T	E	eLV	WSH	No. of groups	AWSH	ALVS	MODULE	ECTS
ENG1	Fundamentals of Information Technology & Operating Systems	ILV	X		20 %	2	1	2	30	ENG	4
ENG2	Software Engineering	ILV	X		20 %	3	1	3	45	ENG	4.5
ENG3	Algorithms and Data Structures in Software Development	ILV	X		20 %	3	1	3	45	ENG	5
ISK02	Presentation Technology	SE			20 %	1	1	1	15	ISK	2
MAT2	Mathematics & Statistics	ILV			20 %	3	1	3	45	MAT	4.5
SPR2	Foreign Language II	ILV			15 %	4	1	4	60	SPR	5
WIA2	Supervised Individual Project	SE	X		15 %	0.2	25	5.0	75.0	WIA	4
WIR02	Introduction to Applied Economics	VO			15 %	1	1	1	15	WIR	1
Total line:						17.2		22.0	330.0		30.0
LVS = Total WSH * LV weeks						258.0					

Curriculum matrix 3rd semester

Course no.	Course title	Course type	T	E	eLV	WSH	No. of groups	AWSH	ALVS	MODULE	ECTS
NET1	Computer Networks (E)	ILV	X	X	20 %	2	1	2	30	NET	3
NET2	Computer Networks Lab (E)	UE	X	X	0 %	1	2	2	30	NET	2
PWT1	Practical Project I	PT	X		0 %	2	3	6	90	PWT	4
PWT2	Project Management for Technical Projects (E)	ILV		X	25 %	1	1	1	15	PWT	1.5
SPR3	Foreign Language III	ILV			15 %	3	1	3	45	SPR	4
SWA1	App-Centered Software Development	ILV	X		20 %	3	1	3	45	SWA	4.5
SWA2	App-Centered Software Development Lab	UE	X		0 %	1	3	3	45	SWA	2
WIR3	Introduction to Accounting	ILV			15 %	2	1	2	30	WIR	3
WIS1	Web-Based Information Systems (E)	ILV	X	X	25 %	2	2	4	60	WEB	3
WIS2	Web & Mobile Usability (E)	ILV	X	X	20 %	2	1	2	30	WEB	3
Total line:						19		28	420		30.0
LVS = Total WSH * LV weeks						285					

Curriculum matrix 4th semester

Course no.	Course title	Course type	T	E	eLV	WSH	No. of groups	AWSH	ALVS	MODULE	ECTS
FSS1	Server-Side Software Development & Data Management	ILV	X		20 %	4	1	4	60	FSS	6
FSS2	Server-Side Software Development & Data Management Lab	UE	X		0 %	1	3	3	45	FSS	2
FSS3	Web Development & Web-based Frameworks	ILV	X		25 %	2	1	2	30	FSS	3
FSS4	Web Development & Web-based Frameworks Lab	UE	X		0 %	1	3	3	45	FSS	2
PWT3	Practical Project II	PT	X		25 %	2	3	6	90	PWT	4
SEC1	IT-Security (E)	ILV	X	X	20 %	2	1	2	30	SEC	3
SEC2	IT-Security Lab (E)	UE	X	X	0 %	1	2	2	30	SEC	2
WIR4	Web Business & Web Marketing (E)	ILV		X	25 %	2	1	2	30	WIR	3
WIR5	Web Business & Web Marketing Lab (E)	UE		X	0 %	1	3	3	45	WIS	2
WIR6	IT Law	ILV			15 %	2	1	2	30	WIR	3
Total line:						18		29	435		30
LVS = Total WSH * LV weeks						270					

Curriculum matrix 5th semester

Course no.	Course title	Course type	T	E	eLV	WSH	No. of groups	AWSH	ALVS	MODULE	ECTS
AWB1	Elective Courses Abroad Economics	ILV			0 %	0	0	0	0	AWB	12
AWI1	Elective Courses Abroad Information Technologies	ILV	X		0 %	0	0	0	0	AWI	13
AWS1	Elective Courses Abroad Social Skills	ILV			0 %	0	0	0	0	AWS	4
ISK3	Accompanying Seminar for the study abroad (E)	SE		X	100 %	0.5	2	1.0	15.0	ISK	1
Total line:						0.5		1.0	15.0		30
LVS = Total WSH * LV weeks						7.5					

Curriculum matrix 6th semester

Course no.	Course title	Course type	T	E	eLV	WSH	No. of groups	AWSH	ALVS	MODULE	ECTS
BAC1	Bachelor Thesis Seminar	SE	X		40%	0.5	2	1.0	15.0	BAC	10
ISK4	Personality Development in the Professional Environment	SE			100 %	0.5	2	1.0	15.0	ISK	1
PWT4	Integrated work placement	BPR	X		0 %	0	1	0	0	PWT	19
Total line:						1.0		2.0	30.0		30
LVS = Total WSH * LV weeks						15.0					

Overview of abbreviations in the curriculum:

Abbreviations	
eLV	E-learning proportion of course in percent
E	Lecture in English language
ECTS	ECTS – Credit points
LV	Course
LVS	Course hour(s)
WSH	Weekly semester hour(s)
T	Lecture with technical background

Summary of curriculum data:

Description	WSH	AWSH	ALVS	ECTS
Total number of courses over all semesters	74.7	106	1590	180
Total number of courses in 1st year of study	36.2	46	690	60
Total number of courses in 2nd year of study	37	57	855	60
Total number of courses in 3rd year of study	1.5	3	45	60
Total number of technical events over all semesters	45.7			120.5
Percentage of technical courses over all semesters based on WSH / ECTS	61.18 %			66.94 %
Total number of courses in English over all semesters	14.5			23.5
Proportion of courses in English over all semesters based on WSH / ECTS	22.07 %			13.99 %
Proportion of eLearning units over all semesters based on WSH	18.05 %			14.15 %

2.3 Modularization

Module number:	**Data Engineering**	**Scope:**	
DAE		**6.5**	**ECTS**
Degree program	University of Applied Sciences Bachelor Program - Web Business & Technology Full-time		
Position in the curriculum	1st semester		
Level	1st semester: Bachelor		
Previous knowledge	1st semester: no requirements		
Blocked	no		
Participant group	A-levels and/or corresponding previous training, beginners		
Literature recommendation	Data Engineering /ILV / Course no.: DAT1 / 1st semester / ECTS: 4.5 - Watson, R. T. (2013): Data Management. Databases and Organizations. 6th edition, eGreen Press - Date, C. (2015): SQL and Relational Theory. 3rd edition, O'Reilly Media, 2015		
	Data Engineering Lab /UE / Course no.: DAT2 / 1st semester / ECTS: 2 - Watson, R. T. (2013): Data Management. Databases and Organizations. 6th edition, eGreen Press - Date, C. (2015): SQL and Relational Theory. 3rd edition, O'Reilly Media, 2015		
Skills acquisition	Data Engineering /ILV / Course no.: DAT1 / 1st semester / ECTS: 4.5 The students: - understand what database systems are used for and how they work - know different database systems and can compare them with each other - have a detailed understanding of relational database systems - can depict facts of the real world as a data model - can transform data models into a relational data structure		
	Data Engineering Lab /UE / Course no.: DAT2 / 1st semester / ECTS: 2 This course builds on the learning objectives of the associated ILV and consolidates them in practical work with the concepts learned. The students: - can apply database systems in practice - can interact with database systems - can independently create data models - can develop and implement data structures for a problem		
Course contents	Data Engineering /ILV / Course no.: DAT1 / 1st semester / ECTS: 4.5 The following contents are covered in this course: - Fundamentals of database systems and data management - Data modeling (cardinality, conditionality, relationship types) - Key candidates, superkeys and primary keys - Normalization of data structures (1, 2, 3, BC normal form) - Interaction with relational databases using SQL - Outlook on advanced database concepts		
	Data Engineering Lab /UE / Course no.: DAT2 / 1st semester / ECTS: 2 The following contents are covered in this course: - Modeling and implementation of simple entity types (appropriate attributes, primary keys, etc.) - Modeling and implementation (DDL/DML) of 1:1, 1:n and n:m relationship types - Modeling and implementation (DDL/DML) of recursive relationships - Interaction with simple and complex data structures (DQL)		
Teaching and learning methods	Data Engineering /ILV / Course no.: DAT1 / 1st semester / ECTS: 4.5 - Lecture and discussion - Workshops with group projects		
	Data Engineering Lab /UE / Course no.: DAT2 / 1st semester / ECTS: 2 - Individual exercises - Group project		
Evaluation Methods Criteria	Data Engineering /ILV / Course no.: DAT1 / 1st semester / ECTS: 4.5		

	Exercise series and/or project work and/or written exam (together with 'Data Engineering Lab' as module examination)
	Data Engineering Lab /UE / Course no.: DAT2 / 1st semester / ECTS: 2 Exercise series and/or project work and/or written exam (together with 'Data Engineering' as module examination)

Module number:	**Software Development Basic Knowledge**	**Scope:**	
SWB		**6.5**	**ECTS**
Degree program	University of Applied Sciences Bachelor Program - Web Business & Technology Full-time		
Position in the curriculum	1st semester		
Level	1st semester: Bachelor		
Previous knowledge	1st semester: none / 1st semester: none (the theoretical foundation for this course is laid in the corresponding ILV)		
Blocked	no		
Participant group	A-levels and/or corresponding previous training, beginners		
Literature recommendation	Software Development Fundamentals /ILV / Course no.: SWA1 / 1st semester / ECTS: 4.5 - Ullenboom, C.: Java ist auch eine Insel - Einführung, Ausbildung, Praxis, Rheinwerk Computing, 2018 - Bloch, J.: Effective Java: Best Practices für die Java-Plattform, dpunkt.verlag, 2018		
	Software Development Fundamentals Lab /UE / Course no.: SWA2 / 1st semester / ECTS: 2 - Ullenboom, C.: Java ist auch eine Insel - Einführung, Ausbildung, Praxis, Rheinwerk Computing, 2018 - Bloch, J.: Effective Java: Best Practices für die Java-Plattform, dpunkt.verlag, 2018		
Skills acquisition	Software Development Fundamentals /ILV / Course no.: SWA1 / 1st semester / ECTS: 4.5 The students acquire basic knowledge of the principles of procedural and object-oriented programming. They are enabled to independently develop solutions for typical tasks and to implement them in applications. The students can use the basic elements of a modern programming language. The students: - can understand approaches of procedural and object-oriented programming - can analyze and understand programming examples - can understand language elements of modern programming languages - can select, configure, and use a suitable development environment		
	Software Development Fundamentals Lab /UE / Course no.: SWA2 / 1st semester / ECTS: 2 This course builds on the learning objectives of the associated ILV and consolidates them in practical work with the concepts learned. The students: - can independently develop solutions for typical software development tasks - can implement elaborated solutions in applications - can use the basic elements of a modern programming language		
Course contents	Software Development Fundamentals /ILV / Course no.: SWA1 / 1st semester / ECTS: 4.5 Introduction to programming languages with focus on the web (classification, principles, history). Detailed consideration of a specific programming language, structure of programs, data types, operators, process structures, modularization, object orientation. Fundamentals of software development and the tools used, in particular the integrated development environments (IDE) and the typical work steps from design, implementation and debugging to the running program.		
	Software Development Fundamentals Lab /UE / Course no.: SWA2 / 1st semester / ECTS: 2 In the lab the contents of the ILV "Software Development Fundamentals" are deepened with the aid of practical exercises and case studies. The knowledge gained will be discussed in the group and thus allow a deep insight into and consolidation of the material, which was theoretically dealt with in the ILV.		
Teaching and learning methods	Software Development Fundamentals /ILV / Course no.: SWA1 / 1st semester / ECTS: 4.5 - Lecture and discussion - Workshop with work on case studies		
	Software Development Fundamentals Lab /UE / Course no.: SWA2 / 1st semester / ECTS: 2 - Working on exercises - Case study		
Evaluation Methods Criteria	Software Development Fundamentals /ILV / Course no.: SWA1 / 1st semester / ECTS: 4.5 Exercise series and/or project work and/or final exam (together with 'Software Development Fundamentals Lab' as module exam)		
	Software Development Fundamentals Lab /UE / Course no.: SWA2 / 1st semester / ECTS: 2		

	Exercise series and/or project work and/or final exam (together with 'Software Development Fundamentals' as module exam)

Module number:	**Mathematical Fundamentals**	**Scope:**	
MAT		**9.0**	**ECTS**
Degree program	University of Applied Sciences Bachelor Program - Web Business & Technology Full-time		
Position in the curriculum	1st semester		
	2nd semester		
Level	1st semester: Bachelor / 2nd semester: Bachelor		
Previous knowledge	1st semester: Courses of the previous semester successfully completed. / 2nd semester: Courses of the previous semester successfully completed.		
Blocked	no		
Participant group	A-levels and/or corresponding previous training, beginners		
Literature recommendation	Mathematical Fundamentals of Computer Science /ILV / Course no.: MAT1 / 1st semester / ECTS: 4.5 - Brill, Manfred: Mathematik für Informatiker: Einführung an praktischen Beispielen aus der Welt der Computer. 2nd edition, München, Wien, Carl Hanser Verlag, 2005. - Nehrlich, Werner: Diskrete Mathematik: Basiswissen für Informatiker. Munich, Vienna, Carl Hanser Verlag, 2003. - Schwarze, Jochen. Mathematik für Wirtschaftswissenschaftler: Volume 1: Grundlagen. 14th edition, Herne, NWB Verlag, 2015. - Teschl, Gerald; Teschl, Susanne: Mathematik für Informatiker: Volume 1: Diskrete Mathematik und Lineare Algebra. 4th edition, Berlin, Heidelberg, Springer Vieweg, 2013.		
	Mathematics & Statistics /ILV / Course no.: MAT2 / 2nd semester / ECTS: 4.5 - Bourier, Günther: Beschreibende Statistik: Praxisorientierte Einführung - mit Aufgaben und Lösungen. 13th edition, Wiesbaden, Springer Gabler, 2018. - Bourier, Günther: Schließende Statistik: Praxisorientierte Einführung - mit Aufgaben und Lösungen. 9th edition, Wiesbaden, Springer Gabler, 2018. - Schwarze, Jochen. Mathematik für Wirtschaftswissenschaftler: Volume 2: Differential- und Integralrechnung. 13th edition, Herne, NWB Verlag, 2011. - Schwarze, Jochen. Grundlagen der Statistik: Volume 1: Beschreibende Verfahren. 12th edition, Herne, NWB Verlag, 2014. - Schwarze, Jochen. Grundlagen der Statistik: Volume 2: Wahrscheinlichkeitsrechnung und induktive Statistik. 10th edition, Herne, NWB Verlag, 2011. - Teschl, Gerald; Teschl, Susanne: Mathematik für Informatiker: Volume 2: Analysis und Statistik. 3rd edition, Berlin, Heidelberg, Springer Vieweg, 2014.		
Skills acquisition	Mathematical Fundamentals of Computer Science /ILV / Course no.: MAT1 / 1st semester / ECTS: 4.5 The students know and master those mathematical structures and methods used in the fields of basic information technology, software development, data engineering, computer networks and IT security. In particular, they master the handling and application of logical operators, set operators, properties of relations and place value systems (in particular binary and decimal systems). They understand basic concepts and properties of number sequences, as well as the O-notation used in algorithms.		
	Mathematics & Statistics /ILV / Course no.: MAT2 / 2nd semester / ECTS: 4.5 The students are able to carry out mathematical modelling for problems from the practice of computer science and economics and to find solutions with methods of differential and integral calculus. They are able to correctly capture, describe, analyze and interpret statistical data, as well as to apply basic methods of inferential statistics, in particular elementary estimation methods and simple test procedures.		
Course contents	Mathematical Fundamentals of Computer Science /ILV / Course no.: MAT1 / 1st semester / ECTS: 4.5 Propositional logic and logical operators, predicate logic, calculation laws of propositional and predicate logic; Set theory: Basic concepts, set operators, calculation rules for sets; Relations: Basic concepts, properties of relations, equivalence and order relations Numeric terms: Number sets, sum and product characters, place value systems, binary and hexadecimal system Sequences: term of the sequence, some essential properties, convergence, O-notation Modular arithmetic: Concept and calculation rules, applications		
	Mathematics & Statistics /ILV / Course no.: MAT2 / 2nd semester / ECTS: 4.5		

	Repetition of the concept of function and some significant functions. Differential calculus and its application in one and more variables. Elementary introduction to integral calculus. Descriptive Statistics: Fundamentals, position- and scattering indices, regression and correlation. Probability calculus: Concept formation, basic properties and rules, concept of discrete and continuous random variables;

Course contents	Inductive Statistics: Fundamentals, simple estimation methods, simple test methods
Teaching and learning methods	Mathematical Fundamentals of Computer Science /ILV / Course no.: MAT1 / 1st semester / ECTS: 4.5 Lecture, exercises, group work
	Mathematics & Statistics /ILV / Course no.: MAT2 / 2nd semester / ECTS: 4.5 Lecture, exercises, group work
Evaluation Methods Criteria	Mathematical Fundamentals of Computer Science /ILV / Course no.: MAT1 / 1st semester / ECTS: 4.5 Homework exercises and/or seminar work (in groups) and/or final examination
	Mathematics & Statistics /ILV / Course no.: MAT2 / 2nd semester / ECTS: 4.5 Presentation of exercises and/or seminar work (in groups) and/or final examination

Module number:	**Academic Research**	**Scope:**	
WIA		**5.5**	**ECTS**
Degree program	University of Applied Sciences Bachelor Program - Web Business & Technology Full-time		
Position in the curriculum	1st semester		
	2nd semester		
Level	1st semester: Bachelor		
Previous knowledge	1st semester: None / 2nd semester: Courses of the previous semester successfully completed.		
Blocked	no		
Participant group	A-levels and/or corresponding previous training, beginners		
Literature recommendation	Academic Research /ILV / Course no.: WIA1 / 1st semester / ECTS: 1.5 - Bänsch, Axel: Wissenschaftliches Arbeiten: Seminar- und Diplomarbeiten. - Munich [i.a.]: Oldenbourg, 2009 - Chalmers, Alan: Wege der Wissenschaft.- Berlin; Heidelberg: Springer, 2007 - Eco, Umberto: Wie man eine wissenschaftliche Abschlussarbeit schreibt.- UTB Facultas Universitätsverlag, 2010 - Karmasin, Matthias; Ribing, Rainer. Die Gestaltung wissenschaftlicher Arbeiten. 6th edition, facultas.wuv / UTB, Vienna, 2011. - Leopold-Wildburger, Ulrika; Schütze, Jörg. Verfassen und Vortragen: Wissenschaftliche Arbeiten und Vorträge leicht gemacht. Springer, Berlin et al., 2002		
	Supervised Individual Project /SE / Course no.: WIA2 / 2nd semester / ECTS: 4 - Bänsch, Axel: Wissenschaftliches Arbeiten: Seminar- und Diplomarbeiten. - Munich [i.a.]: Oldenbourg, 2009 - Chalmers, Alan: Wege der Wissenschaft.- Berlin; Heidelberg: Springer, 2007 - Eco, Umberto: Wie man eine wissenschaftliche Abschlussarbeit schreibt.- UTB Facultas Universitätsverlag, 2010 - Karmasin, Matthias; Ribing, Rainer. Die Gestaltung wissenschaftlicher Arbeiten. 6th edition, facultas.wuv / UTB, Vienna, 2011. - Leopold-Wildburger, Ulrika; Schütze, Jörg. Verfassen und Vortragen: Wissenschaftliche Arbeiten und Vorträge leicht gemacht. Springer, Berlin et al., 2002		
Skills acquisition	Academic Research /ILV / Course no.: WIA1 / 1st semester / ECTS: 1.5 The graduates are able to: - Formulate research questions appropriately. - Plan methodological procedures for answering research questions. - Research, evaluate and quote specialist literature. - Prepare and write an academic paper of medium complexity and manageable size.		
	Supervised Individual Project /SE / Course no.: WIA2 / 2nd semester / ECTS: 4 The students - are able to align the subject areas of their studies with their individual, professional interests and abilities - can define a project in accordance with their professional interests and under consideration of academic approaches, which deepens and expands the individual knowledge and skills within the scope of the subject areas of the study course - have worked independently and successfully on a task of their own choice		
Course contents	Academic Research /ILV / Course no.: WIA1 / 1st semester / ECTS: 1.5 In the introductory course on academic research, the main aim is to familiarize students with the special features, rules and principles of science and academic research. The focus here is on the learning and understanding of deductive and inductive methods and the empirical methods for gaining knowledge. The students are prepared for writing seminar papers independently and according to the usual standards of academic work. This preparation includes a focus on dealing with literature as well as discussions about the quality of academic research - especially the concepts of intellectual honesty and intersubjective comprehensibility.		
	Supervised Individual Project /SE / Course no.: WIA2 / 2nd semester / ECTS: 4 Within the framework of an individual project, the students independently define a		

Course contents	A task which, in accordance with the subject areas of the degree program, is suitable for strengthening the respective knowledge and skills of the students. The project work strengthens the independence and the goal-oriented work of the students so that they do not lose sight of the goal even in the case of unforeseen difficulties. The project builds on the fundamentals of academic work and enables students to develop and apply an academic and systematic approach. The students are supported and advised by the lecturer.
Teaching and learning methods	Academic Research /ILV / Course no.: WIA1 / 1st semester / ECTS: 1.5 Lecture with discussion and examples
	Supervised Individual Project /SE / Course no.: WIA2 / 2nd semester / ECTS: 4 Needs-based coaching of students on individually selected project tasks
Evaluation Methods Criteria	Academic Research /ILV / Course no.: WIA1 / 1st semester / ECTS: 1.5 Seminar paper
	Supervised Individual Project /SE / Course no.: WIA2 / 2nd semester / ECTS: 4 Homework and/or project documentation

Module number:	**Foreign languages**	**Scope:**	
SPR		**12**	**ECTS**
Degree program	University of Applied Sciences Bachelor Program - Web Business & Technology Full-time		
Position in the curriculum	1st semester		
	2nd semester		
	3rd semester		
Level	1st semester: A1 to C2 (GER) / 2nd semester: A1 to C2 (GER) / 3rd semester: A1 to C2 (GER)		
Previous knowledge	1st semester: French, Italian, Spanish Module with objective A2: no previous knowledge allowed Module with objective B2: Previous knowledge required Chinese, Russian Module with objective A2: no previous knowledge allowed English, German Module with objective B2: Level B1 (GER) or English advanced course required Module with objective C1: Level B2 (GER) required Module with objective C2: Level C1 (GER) required 2nd semester: French, Italian, Spanish Module with objective A2: no previous knowledge allowed Module with objective B2: Previous knowledge required Chinese, Russian Module with objective A2: no previous knowledge allowed English, German Module with objective B2: Level B1 (GER) or English advanced course required Module with objective C1: Level B2 (GER) required Module with objective C2: Level C1 (GER) required 3rd semester: French, Italian, Spanish Module with objective A2: no previous knowledge allowed Module with objective B2: Previous knowledge required Chinese, Russian Module with objective A2: no previous knowledge allowed English, German Module with objective B2: Level B1 (GER) or English advanced course required Module with objective C1: Level B2 (GER) required Module with objective C2: Level C1 (GER) required		
Blocked	no		
Participant group	A-levels and/or corresponding previous training, beginners		
Literature recommendation	Foreign Language I /ILV / Course no.: SPR1 / 1st semester / ECTS: 3 All modules and levels: Course book - by arrangement; authentic materials, e.g. from English language journals (including specialist journals), newspapers and online media		
	Foreign Language II /ILV / Course no.: SPR2 / 2nd semester / ECTS: 5 All modules and levels: Course book - by arrangement; authentic materials, e.g. from English language journals (including specialist journals), newspapers and online media		
	Foreign Language III /ILV / Course no.: SPR3 / 3rd semester / ECTS: 4 All modules and levels: Course book - by arrangement; authentic materials, e.g. from English language journals (including specialist journals), newspapers and online media		
Skills acquisition	Foreign Language I /ILV / Course no.: SPR1 / 1st semester / ECTS: 3		

	The modules are designed according to the Common European Framework of Reference for Languages (CEFR). In the modules, students will acquire the language skills and develop the skills necessary for a business-oriented professional or academic activity. The following competences are taught according to CEFR, i.e. after completion of the module, successful graduates will have mastered the following activities:

Skills acquisition	A1 - Beginner Can understand and use familiar everyday expressions and very simple sentences aimed at satisfying specific needs. Can introduce him/herself and others and ask other people questions about him/herself - e.g. where he/she lives, people he/she knows or things he/she has - and can answer questions of this kind. Can communicate in a simple way if the interlocutors speak slowly and clearly and are willing to help. A2 - Basic knowledge Can understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. personal and family information, shopping, work, local area). Can communicate in simple, routine situations involving a simple and direct exchange of information on familiar and common matters. Can describe with simple language his/her own background and education, immediate environment and things related to immediate needs. B1 - Advanced language use Can understand the main points when clear standard language is used and when it comes to familiar matters from work, school, leisure, etc. Can cope with most situations encountered when travelling in the area where the language is spoken. Can express himself/herself simply and coherently on familiar topics and personal areas of interest. Can report on experiences and events, describe dreams, hopes and goals and give brief reasons or explanations for plans and views. B2 - Independent use of language Can understand the main contents of complex texts on concrete and abstract topics; also understands technical discussions in his/her own special field. Can communicate so spontaneously and fluently that a normal conversation with native speakers is possible without much effort on both sides. Can express himself/herself clearly and in detail on a wide range of topics, explain a point of view on a topical issue and indicate the advantages and disadvantages of different options. C1 - Expert language skills Can understand a wide range of demanding, longer texts and also grasp implicit meanings. Can express him/herself fluently and spontaneously without having to search for words more often. Can use the language effectively and flexibly in social and professional life or in education and studies. Can express himself/herself clearly, in a structured and detailed manner on complex matters, using various means of text linking as appropriate. C2 - Approximate mother-tongue knowledge Can easily understand practically anything he/she reads or hears. Can summarize information from various written and oral sources, presenting reasons and explanations in a coherent presentation. Can express himself/herself spontaneously, very fluently and precisely, and can also make clear finer nuances of meaning in more complex situations.
	<u>Foreign Language II /ILV / Course no.: SPR2 / 2nd semester / ECTS: 5</u> The modules are designed according to the Common European Framework of Reference for Languages (CEFR). In the modules, students will acquire the language skills and develop the skills necessary for a business-oriented professional or academic activity. The following competences are taught according to CEFR, i.e. after completion of the module, successful graduates will have mastered the following activities: A1 - Beginner Can understand and use familiar everyday expressions and very simple sentences aimed at satisfying specific needs. Can introduce him/herself and others and ask other people questions about him/herself - e.g. where he/she lives, people he/she knows or things he/she has - and can answer questions of this kind. Can communicate in a simple way if the interlocutors speak slowly and clearly and are willing to help. A2 - Basic knowledge Can understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. personal and family information, shopping, work, local area). Can communicate in simple, routine situations involving a simple and direct exchange of information on familiar and common matters. Can describe with simple language his/her own background and education, immediate environment and things related to immediate needs.

	B1 - Advanced language use Can understand the main points when clear standard language is used and when it comes to familiar matters from work, school, leisure, etc. Can cope with most situations encountered when travelling in the area where the language is spoken. Can express himself/herself simply and coherently on familiar topics and personal areas of interest. Can report on experiences and events, describe dreams, hopes and goals and give brief reasons or explanations for plans and views. B2 - Independent use of language Can understand the main contents of complex texts on concrete and abstract topics; also understands technical discussions in his/her own special field. Can communicate so spontaneously and fluently that a normal conversation with native speakers is possible without much effort on both sides. Can express himself/herself clearly and in detail on a wide range of topics, explain a point of view on a topical issue and indicate the advantages and disadvantages of different options. C1 - Expert language skills Can understand a wide range of demanding, longer texts and also grasp implicit meanings. Can express him/herself fluently and spontaneously without having to search for words more often. Can use the language effectively and flexibly in social and professional life or in education and studies. Can express himself/herself clearly, in a structured and detailed manner on complex matters, using various means of text linking as appropriate. C2 - Approximate mother-tongue knowledge Can easily understand practically anything he/she reads or hears. Can summarize information from various written and oral sources, presenting reasons and explanations in a coherent presentation. Can express himself/herself spontaneously, very fluently and precisely, and can also make clear finer nuances of meaning in more complex situations.
Skills acquisition	<u>Foreign Language III /ILV / Course no.: SPR3 / 3rd semester / ECTS: 4</u> The modules are designed according to the Common European Framework of Reference for Languages (CEFR). In the modules, students will acquire the language skills and develop the skills necessary for a business-oriented professional or academic activity. The following competences are taught according to CEFR, i.e. after completion of the module, successful graduates will have mastered the following activities: A1 - Beginner Can understand and use familiar everyday expressions and very simple sentences aimed at satisfying specific needs. Can introduce him/herself and others and ask other people questions about him/herself - e.g. where he/she lives, people he/she knows or things he/she has - and can answer questions of this kind. Can communicate in a simple way if the interlocutors speak slowly and clearly and are willing to help. A2 - Basic knowledge Can understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. personal and family information, shopping, work, local area). Can communicate in simple, routine situations involving a simple and direct exchange of information on familiar and common matters. Can describe with simple language his/her own background and education, immediate environment and things related to immediate needs. B1 - Advanced language use Can understand the main points when clear standard language is used and when it comes to familiar matters from work, school, leisure, etc. Can cope with most situations encountered when travelling in the area where the language is spoken. Can express himself/herself simply and coherently on familiar topics and personal areas of interest. Can report on experiences and events, describe dreams, hopes and goals and give brief reasons or explanations for plans and views. B2 - Independent use of language Can understand the main contents of complex texts on concrete and abstract topics; also understands technical discussions in his/her own special field. Can communicate so spontaneously and fluently that a normal conversation with native speakers is possible without much effort on both sides. Can express himself/herself clearly and in detail on a wide range of topics, explain a point of view on a topical issue and indicate the advantages and disadvantages of different options. C1 - Expert language skills

Skills acquisition	Can understand a wide range of demanding, longer texts and also grasp implicit meanings. Can express him/herself fluently and spontaneously without having to search for words more often. Can use the language effectively and flexibly in social and professional life or in education and studies. Can express himself/herself clearly, in a structured and detailed manner on complex matters, using various means of text linking as appropriate. C2 - Approximate mother-tongue knowledge Can easily understand practically anything he/she reads or hears. Can summarize information from various written and oral sources, presenting reasons and explanations in a coherent presentation. Can express himself/herself spontaneously, very fluently and precisely, and can also make clear finer nuances of meaning in more complex situations.
Course contents	<u>Foreign Language I /ILV / Course no.: SPR1 / 1st semester / ECTS: 3</u> A1 - Beginner Understand and use familiar everyday expressions and very simple sentences aimed at satisfying specific needs. Introduce himself/herself and others and ask other people questions about him/herself - e.g. where he/she lives, people he/she knows or things he/she has - and answer questions of this kind. Communicate in a simple way if the interlocutors speak slowly and clearly and are willing to help. A2 - Basic knowledge Understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. personal and family information, shopping, work, local area). Communicate in simple, routine situations involving a simple and direct exchange of information on familiar and common matters. Describe with simple language his/her own background and education, immediate environment and things related to immediate needs. B1 - Advanced language use Use clear standard language and communicate on familiar matters from work, school, leisure, etc. Apply relevant conversation skills for travel in the area in which the language is spoken. Express himself/herself simply and coherently on familiar topics and personal areas of interest. Report on experiences and events, describe dreams, hopes and goals and give brief reasons or explanations for plans and views. B2 - Independent use of language Express the main contents of complex texts on concrete and abstract topics; participate in technical discussions in his/her own special field. Communicate so spontaneously and fluently that a normal conversation with native speakers is possible without much effort on both sides. Express himself/herself clearly and in detail on a wide range of topics, explain a point of view on a topical issue and indicate the advantages and disadvantages of different options. C1 - Expert language skills Understand a wide range of demanding, longer texts and also grasp implicit meanings. Express himself/herself fluently and spontaneously without having to search for words more often. Use the language effectively and flexibly in social and professional life or in education and studies. Express himself/herself clearly, in a structured and detailed manner on complex matters, using various means of text linking as appropriate. C2 - Approximate mother-tongue knowledge Effortless communication in all language situations. Summarize information from various written and oral sources, presenting reasons and explanations in a coherent presentation. Express himself/herself spontaneously, very fluently and precisely, and can also make clear finer nuances of meaning in more complex situations.
	<u>Foreign Language II /ILV / Course no.: SPR2 / 2nd semester / ECTS: 5</u> A1 - Beginner Understand and use familiar everyday expressions and very simple sentences aimed at satisfying specific needs. Introduce himself/herself and others and ask other people questions about him/herself - e.g. where he/she lives, people he/she knows or things he/she has - and answer questions of this kind. Communicate in a simple way if the interlocutors speak slowly and clearly and are willing to help. A2 - Basic knowledge Understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. personal and family information, shopping, work, local area). Communicate in simple, routine situations, involving

	a simple and direct exchange of information on familiar and common matters. Describe with simple language his/her own background and education, immediate environment and things related to immediate needs. B1 - Advanced language use Use clear standard language and communicate on familiar matters from work, school, leisure, etc. Apply relevant conversation skills for travel in the area in which the language is spoken. Express himself/herself simply and coherently on familiar topics and personal areas of interest. Report on experiences and events, describe dreams, hopes and goals and give brief reasons or explanations for plans and views. B2 - Independent use of language Express the main contents of complex texts on concrete and abstract topics; participate in technical discussions in his/her own special field. Communicate so spontaneously and fluently that a normal conversation with native speakers is possible without much effort on both sides. Express himself/herself clearly and in detail on a wide range of topics, explain a point of view on a topical issue and indicate the advantages and disadvantages of different options. C1 - Expert language skills Understand a wide range of demanding, longer texts and also grasp implicit meanings. Express himself/herself fluently and spontaneously without having to search for words more often. Use the language effectively and flexibly in social and professional life or in education and studies. Express himself/herself clearly, in a structured and detailed manner on complex matters, using various means of text linking as appropriate. C2 - Approximate mother-tongue knowledge Effortless communication in all language situations. Summarize information from various written and oral sources, presenting reasons and explanations in a coherent presentation. Express himself/herself spontaneously, very fluently and precisely, and can also make clear finer nuances of meaning in more complex situations.
Course contents	<u>Foreign Language III /ILV / Course no.: SPR3 / 3rd semester / ECTS: 4</u> A1 - Beginner Understand and use familiar everyday expressions and very simple sentences aimed at satisfying specific needs. Introduce himself/herself and others and ask other people questions about him/herself - e.g. where he/she lives, people he/she knows or things he/she has - and answer questions of this kind. Communicate in a simple way if the interlocutors speak slowly and clearly and are willing to help. A2 - Basic knowledge Understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. personal and family information, shopping, work, local area). Communicate in simple, routine situations involving a simple and direct exchange of information on familiar and common matters. Describe with simple language his/her own background and education, immediate environment and things related to immediate needs. B1 - Advanced language use Use clear standard language and communicate on familiar matters from work, school, leisure, etc. Apply relevant conversation skills for travel in the area in which the language is spoken. Express himself/herself simply and coherently on familiar topics and personal areas of interest. Report on experiences and events, describe dreams, hopes and goals and give brief reasons or explanations for plans and views. B2 - Independent use of language Express the main contents of complex texts on concrete and abstract topics; participate in technical discussions in his/her own special field. Communicate so spontaneously and fluently that a normal conversation with native speakers is possible without much effort on both sides. Express himself/herself clearly and in detail on a wide range of topics, explain a point of view on a topical issue and indicate the advantages and disadvantages of different options. C1 - Expert language skills Understand a wide range of demanding, longer texts and also grasp implicit meanings. Express himself/herself fluently and spontaneously without having to search for words more often. Use the language effectively and flexibly in social and professional life or in education and studies. Express himself/herself clearly, in a structured and detailed manner on complex matters, using various means of text linking as appropriate.

Course contents	C2 - Approximate mother-tongue knowledge Effortless communication in all language situations. Summarize information from various written and oral sources, presenting reasons and explanations in a coherent presentation. Express himself/herself spontaneously, very fluently and precisely, and can also make clear finer nuances of meaning in more complex situations.
Teaching and learning methods	Foreign Language I /ILV / Course no.: SPR1 / 1st semester / ECTS: 3 ILV is designed according to a communicative, action-oriented approach
	Foreign Language II /ILV / Course no.: SPR2 / 2nd semester / ECTS: 5 ILV is designed according to a communicative, action-oriented approach
	Foreign Language III /ILV / Course no.: SPR3 / 3rd semester / ECTS: 4 ILV is designed according to a communicative, action-oriented approach
Evaluation Methods Criteria	Foreign Language I /ILV / Course no.: SPR1 / 1st semester / ECTS: 3 The performance and competence of the students in reading comprehension, listening comprehension, written expression, oral expression and the quality of their cooperation (also online) are taken into account for the assessment.
	Foreign Language II /ILV / Course no.: SPR2 / 2nd semester / ECTS: 5 The performance and competence of the students in reading comprehension, listening comprehension, written expression, oral expression and the quality of their cooperation (also online) are taken into account for the assessment.
	Foreign Language III /ILV / Course no.: SPR3 / 3rd semester / ECTS: 4 The performance and competence of the students in reading comprehension, listening comprehension, written expression, oral expression and the quality of their cooperation (also online) are taken into account for the assessment.

Module number:	**Fundamentals of Economics**	**Scope:**	
WIR		**13**	**ECTS**
Degree program	University of Applied Sciences Bachelor Program - Web Business & Technology Full-time		
Position in the curriculum	1st semester		
	2nd semester		
	3rd semester		
	4th semester		
Level	1st semester: Bachelor / 2nd semester: Bachelor / 3rd semester: Bachelor / 4th semester: Bachelor		
Previous knowledge	1st semester: Courses of the previous semester successfully completed. / 2nd semester: Courses of the previous semester successfully completed. / 3rd semester: Courses of the previous semester successfully completed. / 4th semester: no requirements / 4th semester: Courses of the previous semester successfully completed.		
Blocked	no		
Participant group	A-levels and/or corresponding previous training, beginners		
Literature recommendation	Introduction to Applied Economics /VO / Course no.: WIR02 / 2nd semester / ECTS: 1 Pindyck, R. S., & Rubinfeld, D. L. (2018). Mikroökonomie. Pearson Deutschland GmbH Varian, H. R. (2014). Grundzüge der Mikroökonomik. Walter de Gruyter GmbH & Co KG.Deutschland GmbH. Münter, M.T. (2018), Mikroökonomie, Wettbewerb und strategisches Verhalten. UTB GmbH Natrop, J. (2012). Grundzüge der angewandten Mikroökonomie. Walter de Gruyter GmbH & Co KG.Deutschland GmbH. Advanced literature: Kahneman, D. (2012). Schnelles Denken, langsames Denken. Siedler Verlag. Rifkin, J. (2014). Die Null-Grenzkosten-Gesellschaft: Das Internet der Dinge, kollaboratives Gemeingut und der Rückzug des Kapitalismus. Campus Verlag. Thiel, P., & Masters, B. (2014). Zero to one: Wie Innovation unsere Gesellschaft rettet. Campus Verlag.		
	Introduction to Business Administration /VO / Course no.: WIR1 / 1st semester / ECTS: 3 Vahs, D./ Schäfer-Kunz, J. (2015): Einführung in die Betriebswirtschaftslehre, 7th ed. Thommen, J.-P./ Achleitner, A.-K./ et. Al. (2017): Allgemeine Betriebswirtschaftslehre: Umfassende Einführung aus managementorientierter Sicht, 8th ed. Schweitzer, M./ Baumeister, A. (2015): Allgemeine Betriebswirtschaftslehre, 11th ed. Hutzschenreuter, T. (2015): Allgemeine Betriebswirtschaftslehre, 6th ed. Wöhe, G./ Döring, U./ Brösel, G. (2016): Einführung in die Allgemeine Betriebswirtschaftslehre, 26th ed. Weber, W./ Kabst, R./ Baum, M. (2018): Einführung in die Betriebswirtschaftslehre, 10th ed.		
	Introduction to Accounting /ILV / Course no.: WIR3 / 3rd semester / ECTS: 3 Buchholz, L./ Gerhards, R. (2016): Internes Rechnungswesen, Kosten- und Leistungsrechnung, Betriebsstatistik und Planungsrechnung Deimel, K./ Erdmann, G./ Isemann, R./ Müller, S. (2017): Kostenrechnung, Das Lehrbuch für Bachelor, Master und Praktiker Geirhofer, S./ Hebrank, C. (2016): Grundlagen Buchhaltung und Bilanzmanagement, 4th ed. Coenenberg, A.G./ Haller, A./ Et. Al. (2018): Einführung in das Rechnungswesen: Grundlagen der Buchführung und Bilanzierung, 7th ed. Wedell, H./ Dilling, A.A. (2018): Grundlagen des Rechnungswesens, 16th ed. Breidenbach, K., & Währisch, M. (2017): Buchhaltung und Jahresabschluss, 4th ed. Schmidt, M., Auer, B., & Schmidt, P. (2012): Buchführung und Bilanzierung: Eine anwendungsorientierte Einführung		
	Web Business & Web Marketing (E) /ILV / Course no.: WIR4 / 4th semester / ECTS: 3 - Chaffey, D. (2015): Digital Business and E-Commerce Management, 6th edition, Harlow: Pearson - Scott, D. M. (2009): Die neuen Marketing- und PR-Regeln im Web 2.0, mitp Verlag		
	IT Law /ILV / Course no.: WIR6 / 4th semester / ECTS: 3 - Bydlinski, Peter: Grundzüge des Privatrechts (for Austria).- Manz, 2007 - Posch, Willibald: Bürgerliches Recht (f. Österreich), Internationales Privatrecht.- Springer, 2008 - Kodex- or Manz legislative texts		

	- Kosmides, Timoleon: Die Bestimmung der Rechtsnatur von Access-Providing für die Bestimmung der Rechtsfolgen im Störungsfall, in: Taeger/Wiebe (Ed's.): Tagungsband Herbstakademie 2008: Von AdWords bis - Social Networks – Neue Entwicklungen im Informationsrecht, Edewecht 2008, p. 119–132

Literature recommendation	- Kosmides, Timoleon: Providing-Verträge. Systematik und Methodologie der Bestimmung von Rechtsnatur und Rechtsfolgen, Munich 2010 - Zahrnt, Christoph: IT-Projektverträge: Rechtliche Grundlagen, dpunkt, 2008
Skills acquisition	Introduction to Applied Economics /VO / Course no.: WIR02 / 2nd semester / ECTS: 1 The students: - Can deal with fundamental management problems from an economic point of view. - Are able to analyze decisions under uncertainty. - Can develop strategic decisions based on economic models. - Can evaluate the effects of digital technologies and products on the cost structure of a company and the formation of market forms.
	Introduction to Business Administration /VO / Course no.: WIR1 / 1st semester / ECTS: 3 The students: - Know the different business subareas. - Know the fundamentals of marketing. - Know the fundamentals of human resources management. - Know the structure of an enterprise and typical operational processes and are familiar with the basic constitutive factors of an enterprise. - Recognize connections in the sense of the manifold relationships between the business functions. - can clearly distinguish central business terms from each other. - Know the most important constitutional and functional business decisions. - Know the basic possibilities for supporting business processes and business subareas through the possibilities of information technologies.
	Introduction to Accounting /ILV / Course no.: WIR3 / 3rd semester / ECTS: 3 External accounting: The students - Know the fundamentals of mapping business decisions in the accounting system. - Know and understand the basic concepts and subareas of accounting. - Understand the technique and internal structure of double-entry bookkeeping. Can assess the structure of an accounting system and the characteristics of different types of accounts. - Can make simple business postings to balance sheet and profit and loss accounts and create posting records. - Recognize the significant effects of business transactions on the balance sheet and income statement. Internal accounting: The students - Are familiar with the tasks and solutions of cost and revenue accounting with its subsystems (cost element, cost center and cost unit accounting). - Can differentiate between the terms payments - disbursements, income - expenses, revenue - outlay - Can describe the organizational structure of a cost accounting system and explain its main features. - Know the systems of cost accounting (partial and full cost accounting).
	Web Business & Web Marketing (E) /ILV / Course no.: WIR4 / 4th semester / ECTS: 3 In the field of Web Business, students have: - a basic understanding of the mechanisms behind doing business on the web (Huntley's Law, Moore's Law, Gilder's Law, Drucker's Law, Metcalf's Law, etc.) - knowledge of different types of business models in web business (C2C, B2C, B2B etc.) - the ability to independently develop business models In the field of web marketing students have: - an understanding of the importance of digital and inbound marketing in web business - knowledge of different outbound/inbound marketing approaches (e.g. SEO, content marketing etc.) - the ability to independently develop a marketing strategy for a specific task

	IT Law /ILV / Course no.: WIR6 / 4th semester / ECTS: 3 The graduates can - Present general civil and private law aspects of entrepreneurial activity - Analyze frequent problem cases from practice on the basis of

Skills acquisition	Concrete case studies - recognize frequent IT legal questions and apply simple standard solutions
Course contents	Introduction to Applied Economics /VO / Course no.: WIR02 / 2nd semester / ECTS: 1 The course covers the following areas of applied economics: - Microeconomics and the behavior of managers and companies - Price and product policy of the company - Elementary principles of game theory - Company organization - Market Forms & Market Entry - Decisions under uncertainty - Behavioral economics - Economy of digitization

	Introduction to Business Administration /VO / Course no.: WIR1 / 1st semester / ECTS: 3
	
	Overview and context analysis of the most important subareas in business administration
	- Subject and fundamentals of business administration:
	  - Operational functional areas
	  - Business decision theory
	  - Fundamentals of Management and Ethics
	  - Fundamentals of Human Resources and Organization
	  - Marketing Fundamentals
	- Fundamentals of:
	  - Constitutive company decisions such as legal forms, location decisions, types of mergers and acquisitions and choice of business segment.
	  - Functional business decisions: Materials management, production management, marketing.
	- Fundamentals of business value creation processes and functions (value creation architecture and structure).
	- Fundamentals of market, process and strategy oriented management.
	- Fundamentals of the support of operational processes by information and communication technology

	Introduction to Accounting /ILV / Course no.: WIR3 / 3rd semester / ECTS: 3 External accounting: - Structure of the accounting system - Fundamentals of operational accounting: Tasks, sub-areas and basic concepts - Commercial accounting system: From inventory to opening balance sheet - Double-entry accounting system: Posting business cases to inventory and profit and loss accounts - Organization of bookkeeping (chart of accounts, sales tax, etc.) - Principle of period purity and accruals and deferrals Internal accounting: - Objectives and basic concepts of cost and revenue accounting - Fundamentals of cost and revenue accounting: Tasks, components and subareas - Structure of cost accounting (cost elements, cost centers, cost objects) - Contribution margin accounting
	Web Business & Web Marketing (E) /ILV / Course no.: WIR4 / 4th semester / ECTS: 3 The following contents are covered in this course: - Fundamentals of web business and web marketing - Mechanisms of web business - Business models in Web Business - Web marketing concepts - Business models and business model development
	IT Law /ILV / Course no.: WIR6 / 4th semester / ECTS: 3 The teaching of fundamental concepts of private law geared to the requirements of professional IT practice, in particular by presenting practical legal cases and jointly developing the legal principles required to solve the respective problem. The following areas are addressed individually in detail: - Distinction between public law and private law - Corporate Law - General contract law - Legal capacity and capacity of natural and legal persons and their legal consequences - Explanations of terms from the most important areas of law - Relationships between legal areas and IT practice

Teaching and learning methods	Introduction to Applied Economics /VO / Course no.: WIR02 / 2nd semester / ECTS: 1 Lecture, group work and discussion

Teaching and learning methods	Introduction to Business Administration /VO / Course no.: WIR1 / 1st semester / ECTS: 3 Lecture, group work and discussion
	Introduction to Accounting /ILV / Course no.: WIR3 / 3rd semester / ECTS: 3 Lecture, group work, presentation and discussion of tasks
	Web Business & Web Marketing (E) /ILV / Course no.: WIR4 / 4th semester / ECTS: 3 - Lecture and discussion - Working on case studies
	IT Law /ILV / Course no.: WIR6 / 4th semester / ECTS: 3 Lecture, group work, presentation and discussion of tasks
Evaluation Methods Criteria	Introduction to Applied Economics /VO / Course no.: WIR02 / 2nd semester / ECTS: 1 Final exam
	Introduction to Business Administration /VO / Course no.: WIR1 / 1st semester / ECTS: 3 Final exam
	Introduction to Accounting /ILV / Course no.: WIR3 / 3rd semester / ECTS: 3 Final exam
	Web Business & Web Marketing (E) /ILV / Course no.: WIR4 / 4th semester / ECTS: 3 Seminar paper and/or final examination MODULE EXAMINATION for the following courses: - Web Business & Web Marketing, - Web Business & Web Marketing Lab
	IT Law /ILV / Course no.: WIR6 / 4th semester / ECTS: 3 Final exam

Module number:	**Individual and Social Skills**	**Scope:**	
ISK		**6**	**ECTS**
Degree program	University of Applied Sciences Bachelor Program - Web Business & Technology Full-time		
Position in the curriculum	1st semester		
	2nd semester		
	5th semester		
	6th semester		
Level	1st semester: Bachelor / 2nd semester: Bachelor / 5th semester: Bachelor / 6th semester: Bachelor		
Previous knowledge	1st semester: no information / 2nd semester: Courses of the previous semester successfully completed / 5th semester: Courses of the previous semester successfully completed. / 6th semester: Courses of the previous semester successfully completed.		
Blocked	no		
Participant group	A-levels and/or corresponding previous training, beginners		
Literature recommendation	Presentation Technology /SE / Course no.: ISK02 / 2nd semester / ECTS: 2 - Renz, K.-C.: "Das 1 x 1 der Präsentation: Für Schule, Studium und Beruf", Verlag Springer Gabler, 2016 - Schulenberg, N.: "Exzellent präsentieren: Die Psychologie erfolgreicher Ideenvermittlung – Werkzeuge und Techniken für herausragende Präsentationen", Verlag Springer Gabler, 2017		
	Teamwork & Communication /SE / Course no.: ISK1 / 1st semester / ECTS: 2 - Gemünden, H.-G.: Management von Teams: theoretische Konzepte und empirische Befunde, Gabler, 2001 - Dietrich von der Oelsnitz ; Michael W. Busch: Team: Toll ein anderer macht's!: Die Wahrheit über Teamarbeit. Orell Füssli Verlag, 2012 - Noé, M.: Praxisbuch Teamarbeit, Hanser Verlag, 2012 - Rosenberg, M.: Gewaltfreie Kommunikation, Junfermann, 2012 - Schulz von Thun, F.: Miteinander reden, rororo, 2010		
	Accompanying Seminar for the study abroad (E) /SE / Course no.: ISK3 / 5th semester / ECTS: 1 Simmendinger, F.: "Auslandssemester: Conquer the world the easy way!", Amazon Publishing, 2012 Berninghausen, J.: "AussenEinsichten: Interkulturelle Falbeispiele von deutschen und internationalen Studierenden über das Auslandsjahr", Verlag Kellner, 2012		
	Personality Development in the Professional Environment /SE / Course no.: ISK4 / 6th semester / ECTS: 1 - Brandes-Visbeck, C.; Thielecke, S.: "Fit für New Work: Wie man in der neuen Arbeitswelt erfolgreich besteht - Businessmodelle, Work-Life-Balance, Co-Working & Co", Redline Verlag, 2018 - Hübler, M.: "New Work: Menschlich - Demokratisch - Agil: Wie Sie Teams und Organisationen erfolgreich in eine digitale Zukunft führen", Verlag Metropolitan, 2018 - Späth, T.; Grabitzki, S.: "Leben und Arbeit in Balance: Strategien und Übungen für Trainer, Coaches und Berater" Beltz Verlag, 2012		
Skills acquisition	Presentation Technology /SE / Course no.: ISK02 / 2nd semester / ECTS: 2 The graduates of the course - Have basic skills in presentation techniques in various contexts and forms. - Have mastered the necessary tools and software systems for the creation of presentations.		
	Teamwork & Communication /SE / Course no.: ISK1 / 1st semester / ECTS: 2 Students acquire knowledge of social interaction in teamwork to achieve group goals. At the same time, this course serves to establish a team spirit in the respective year in order to support group-oriented learning processes. The graduates can - name basic concepts of communicative processes, - consciously use content and relationship aspects of human communication, - moderate communicative processes within the team and - recognize and analyze problems in team communication and to develop and apply solution strategies.		

	Accompanying Seminar for the study abroad (E) /SE / Course no.: ISK3 / 5th semester / ECTS: 1 The students:

	- are able to reflect in a structured way on similarities and contradictions of theoretical teaching knowledge and practical applications. - are able to develop a synthesis on the basis of critical reflection. - use their experiences to reflect on intercultural differences and similarities between the host country and their home country.
Skills acquisition	Personality Development in the Professional Environment /SE / Course no.: ISK4 / 6th semester / ECTS: 1 The student - know the fundamentals of personality development in a professional context. - know the concept of a proper work-life balance. - actively apply the concepts learned in the context of their work placement.
Course contents	Presentation Technology /SE / Course no.: ISK02 / 2nd semester / ECTS: 2 Presentations on technical content. Research techniques, structure and arrangement of presentations, use of media for presentations, lecture technique.
	Teamwork & Communication /SE / Course no.: ISK1 / 1st semester / ECTS: 2 Group dynamics, teamwork, impact principles, social structures, consolidation of the class community, social interaction.
	Accompanying Seminar for the study abroad (E) /SE / Course no.: ISK3 / 5th semester / ECTS: 1 During the seminar, students present and analyze their experiences during their stay abroad. The aim is to bring the individual experiences into an academic context (Intercultural Discourse, Intercultural Awareness & Understanding, etc.) and to discuss them with fellow students and compare them with their experiences. In order to achieve a stronger bond between the students and the FH Kufstein during their semester abroad, to strengthen the cohesion of the class and to promote an exchange of experiences among the students, this course will be held during the semester abroad with the help of eLearning methods. The teaching content is a structured reflection of the similarities and contradictions of theoretical teaching knowledge and practical applications in order to achieve a critical capacity for reflection for the theory-practice friction surface in the sense of a synthesis of both for professional practice. Through group discussions structured by the lecturer (e.g. via forums and chats) the individual experiences are critically reflected together.
	Personality Development in the Professional Environment /SE / Course no.: ISK4 / 6th semester / ECTS: 1 Within the framework of the integrated internship, the students examine the challenges of everyday work and reflect on their current tasks in the internship company in the context of their personal development. In the process - They know the essential characteristics of a conscious personality development in their professional environment - They become aware of the importance of an appropriate balance between work tasks and personal needs (work-life balance) - They are able to reflect on their activities during their internship in the context of their personal experiences, and - they receive individual and specific feedback from the lecturer within the framework of supervision.
Teaching and learning methods	Presentation Technology /SE / Course no.: ISK02 / 2nd semester / ECTS: 2 Lecture, group work, presentation and discussion of tasks
	Teamwork & Communication /SE / Course no.: ISK1 / 1st semester / ECTS: 2 Lecture, group work, presentation and discussion of tasks
	Accompanying Seminar for the study abroad (E) /SE / Course no.: ISK3 / 5th semester / ECTS: 1 Lecture, group work, presentation and discussion of tasks
	Personality Development in the Professional Environment /SE / Course no.: ISK4 / 6th semester / ECTS: 1 Individual coaching and work in small groups
Evaluation Methods Criteria	Presentation Technology /SE / Course no.: ISK02 / 2nd semester / ECTS: 2

	Homework and/or final presentation and/or final examination
	Teamwork & Communication /SE / Course no.: ISK1 / 1st semester / ECTS: 2
	Seminar paper
	Accompanying Seminar for the study abroad (E) /SE / Course no.: ISK3 / 5th semester / ECTS: 1
	Term papers and/or final presentation

Evaluation Methods Criteria	Personality Development in the Professional Environment /SE / Course no.: ISK4 / 6th semester / ECTS: 1 Final report

Module number:	**Web-based technologies**	**Scope:**	
WEB		**9**	**ECTS**
Degree program	University of Applied Sciences Bachelor Program - Web Business & Technology Full-time		
Position in the curriculum	1st semester		
	3rd semester		
Level	1st semester: Bachelor / 3rd semester: Bachelor		
Previous knowledge	1st semester: none / 3rd semester: Courses of the previous semester successfully completed / 3rd semester: Courses of the previous semester successfully completed.		
Blocked	no		
Participant group	A-levels and/or corresponding previous training, beginners		
Literature recommendation	Web Fundamentals & Web Design /ILV / Course no.: WEB1 / 1st semester / ECTS: 3 - Ertel, A.; Laborenz, K.: Responsive Webdesign: Konzepte, Techniken, Praxisbeispiele. Das Standardwerk in 3. Auflage!, Rheinwerk Computing, 2017 - Wolf, J.: HTML5 und CSS3 - Das umfassende Handbuch, Rheinwerk Computing, 2019 - Krug, S.: Don't make me think!: Web Usability: Das intuitive Web, mitp Business, 2014 - Grant, K.: CSS in Depth, Manning, 2018		
	Web-based Information Systems (E) /ILV / Course no.: WIS1 / 3rd semester / ECTS: 3 - Silberberger, H.: Collaborative Business und Web Services. - Springer, 2007. - Meier, A.; Stormer, H.: eBusiness & eCommerce: Management der digitalen Wertschöpfungskette. - Springer, 2012. - Kollmann, T.: E-Business: Grundlagen elektronischer Geschäftsprozesse in der Net Economy. - Springer Gabler, 2013. - Koch M.; Richter A.: Enterprise 2.0: Planung, Einführung und erfolgreicher Einsatz von Social Software in Unternehmen. - Oldenbourg, 2009. - Back, A. Gronau, N; Tochtermann, K.: Web 2.0 in der Unternehmenspraxis: Grundlagen, Fallstudien und Trends zum Einsatz von Social Software. - De Gruyter Oldenbourg, 2012. - Spörrer, S.: Content Management Systeme: Begriffsstruktur und Praxisbeispiel. - Springer Gabler, 2019.		
	Web & Mobile Usability (E) /ILV / Course no.: WIS2 / 3rd semester / ECTS: 3 -Krug, S.: "Don't make me think!: Web Usability: Das intuitive Web" mitp-Verlag, 2014 -Jacobsen, J.; Meyer, L.: "Praxisbuch Usability und UX: Was jeder wissen sollte, der Websites und Apps entwickelt - bewährte Usability- und UX-Methoden praxisnah erklärt", Rheinwerk Verlag, 2017 -Semler, J. Tschierschke, K.: "App-Design: Das umfassende Handbuch: Alles zu Gestaltung, Usability und User Experience" Rheinwerk Verlag, 2019 - Nielson, J.; Budiu, R.: Mobile Usability: Für iPhone, iPad, Android. MITP-Verlag, 2013		
Skills acquisition	Web Fundamentals & Web Design /ILV / Course no.: WEB1 / 1st semester / ECTS: 3 Students acquire the fundamentals of the development of web applications and websites. The basic knowledge for designing appealing and functional web applications and websites is also taught. The graduates are able to: - Understand and execute the development process for Web applications, - Use the basic technologies of the World Wide Web (HTTP, HTML, CSS), - Adapt Web applications for different device classes (Responsive or Adaptive Web Design), - Systematically develop the information architecture of a web application (sitemap, navigation structure, user guidance), - Understand the relevant design principles of web design in terms of colors, shapes, typography, multimedia, and - Design appealing applications according to the relevant design principles of web design.		
	Web-based Information Systems (E) /ILV / Course no.: WIS1 / 3rd semester / ECTS: 3 The students - have knowledge about the application of web-based information systems in the private, economic and public sector. - know essential elements of content- and communication-oriented information systems. - are familiar with typical application scenarios and can assess the potentials of existing and emerging technologies and contribute them to the conception of new applications.		
	Web & Mobile Usability (E) /ILV / Course no.: WIS2 / 3rd semester / ECTS: 3 The graduates of the course - have knowledge in the areas of web and mobile usability.		

Skills acquisition	- can present content in a barrier-free way and focus on the needs of visitors and users. - know how websites can stand out from other sites through easy user guidance, good findability and a good technology mix and thus become a competitive advantage.
Course contents	Web Fundamentals & Web Design /ILV / Course no.: WEB1 / 1st semester / ECTS: 3 The subject of this introductory course is the technological fundamentals of the web and all implementation technologies (HTML, CSS) that are important in this context. Students are introduced to the entire development process of a web application (design, wireframing, implementation, testing, operation and maintenance), with a special focus on the interface between web design and web programming. The main focus is on omnipresent web technologies that are widely used, such as the HTTP protocol for the communication between web server and client, HTML and CSS as primary tools for the presentation aspects on the client side. Fundamentals of Internet programming, page coding with the markup and markup language HTML, basic formatting, tables, forms, CSS fundamentals (structure of CSS files, selectors, simple formatting options, dynamic presentation effects) are taught. Students are also taught how to create appealing websites and web applications. In addition to the technological standards, this also includes specialist knowledge from the fields: Layout and perception, typography (readability and font formats), color theory (color schemes and effects), the use of media content (sound, animation).
	Web-based Information Systems (E) /ILV / Course no.: WIS1 / 3rd semester / ECTS: 3 - Classification of web-based information systems. - Consideration and differentiation of content-oriented and communication-oriented information systems on the basis of their characteristic properties and application examples. - Representative representatives of the respective classes of web-based information systems. - Application of web-based information systems in the business environment and on the Internet on the basis of case studies.
	Web & Mobile Usability (E) /ILV / Course no.: WIS2 / 3rd semester / ECTS: 3 The students learn how they can increase the usefulness of the websites and web applications for the users on the basis of usability criteria. This area also includes methods for usability evaluation and deals with the fundamentals of both technical and content usability. The usability of mobile systems is given special consideration in the course due to the increasing use of such systems.
Teaching and learning methods	Web Fundamentals & Web Design /ILV / Course no.: WEB1 / 1st semester / ECTS: 3 Lecture, group work, presentation and discussion of tasks
	Web-based Information Systems (E) /ILV / Course no.: WIS1 / 3rd semester / ECTS: 3 Written exam (multiple choice and open questions), group work, seminar papers, presentations
	Web & Mobile Usability (E) /ILV / Course no.: WIS2 / 3rd semester / ECTS: 3 Lecture, group work, presentation and discussion of tasks
Evaluation Methods Criteria	Web Fundamentals & Web Design /ILV / Course no.: WEB1 / 1st semester / ECTS: 3 Term papers and/or final examination
	Web-based Information Systems (E) /ILV / Course no.: WIS1 / 3rd semester / ECTS: 3 Final exam (together with 'Web & Mobile Usability' as module exam)
	Web & Mobile Usability (E) /ILV / Course no.: WIS2 / 3rd semester / ECTS: 3 Final exam (together with 'Web-based Information Systems' as module exam)

Module number:	**Systems & Software Engineering**	**Scope:**	
ENG		**13.5**	**ECTS**
Degree program	University of Applied Sciences Bachelor Program - Web Business & Technology Full-time		
Position in the curriculum	2nd semester		
Level	2nd semester: Bachelor / 2nd semester: Bachelor		
Previous knowledge	2nd semester: Courses of the previous semester successfully completed. / 2nd semester: Courses of the previous semester successfully completed		
Blocked	no		
Participant group	A-levels and/or corresponding previous training, beginners		
Literature recommendation	Fundamentals of Information Technology & Operating Systems /ILV / Course no.: ENG1 / 2nd semester / - Tanenbaum, A.; Austin, T.: Computer architecture: Von der digitalen Logik zum Parallelrechner - Pearson Studium, 2014. - Hellmann, R.: Rechnerarchitektur: Einführung in den Aufbau moderner Computer - De Gruyter Studium, 2016. - Hoffmann, D.: Grundlagen der Technischen Informatik - Carl Hanser Verlag GmbH & Co. KG, 2016. - Tanenbaum, A.: Moderne Betriebssysteme. - Pearson Studium, 2016. - Stallings, W.: Operating Systems: Internals and Design Principles - Pearson, 2017. - Silberschatz, A.; Gagbne, G.; Galvin, P. B.: Operating System Concepts - Wiley, 2013.		
	Software Engineering /ILV / Course no.: ENG2 / 2nd semester / ECTS: 4.5 - Sommerville, Ian: Software Engineering, Pearson Studium, 10th edition (2018) - Braude, Eric J.: Software Engineering - Modern Approaches, Wiley, 2nd ed. (2016) - Oestereich, Bernd; Scheithauer, Axel: Die UML-Kurzreferenz 2.5 für die Praxis, De Gruyter-Oldenbourg Verlag (2014) - Jacobson, Ivar: Use Case 2.0: The definitive guide. - Geirhos, Matthias: Entwurfsmuster: Das umfassende Handbuch, Rheinwerk Verlag (2015) - Spillner und Linz: Praxiswissen Softwaretest, dpunkt Verlag, 4th edition (2014)		
	Algorithms and Data Structures in Software Development /ILV / Course no.: ENG3 / 2. - Sedgewick, R.; Wayne, K.: Algorithmen: Algorithmen und Datenstrukturen - Pearson Studium - IT, 2014. - Cormen, T.; Leiserson, C.; Rivest, R.; Stein, C.; Molitor, P.: Algorithmen - Eine Einführung - De Gruyter, 2013. - Saake, G.; Sattler, K.-U.: Algorithmen und Datenstrukturen: Eine Einführung mit Java - dpunkt.verlag GmbH, 2013.		
Skills acquisition	Fundamentals of Information Technology & Operating Systems /ILV / Course no.: ENG1 / 2nd semester / The graduates are able to: - Name and describe the structure and functioning of computer systems and their components, - Assess the areas of application for computer systems of all kinds, - Give an overview of current operating systems, - Understand the essential architectural concepts and mechanisms of modern operating systems and assess their advantages and disadvantages and - Master common operating systems in practical use. Software Engineering /ILV / Course no.: ENG2 / 2nd semester / ECTS: 4.5 After the successful completion of the course, the students can - describe different process models with their strengths and weaknesses. - Describe and execute all phases of software development (analysis, architecture and design, implementation and quality assurance). - Identify differences and similarities between traditional software engineering and web engineering. - To apply the UML in its current version to the modeling of problems from the real world using design tools in analysis, architecture and design. - Understand and apply specific modeling concepts for Web applications. - Apply basic patterns in analysis and design. - Understand the quality assurance processes of software systems. - Apply test case identification and metrics to given problems.		
	Algorithms and Data Structures in Software Development /ILV / Course no.: ENG3 / 2.		

	Students are able to, - Use algorithms appropriately depending on the application, - Apply algorithms independently for problems, - Compare algorithms in terms of their complexity, - Select suitable data structures for given problems - Create data structures independently, - Apply algorithms to different data structures and - Use libraries for standard algorithms and data structures

Course contents	Fundamentals of Information Technology & Operating Systems /ILV / Course no.: ENG1 / 2nd semester / Within the framework of the course: - The basic structure of modern computer systems (system components, peripherals, computer architectures, etc.) is taught to the students, - The representation of complex types of information is presented and the calculation (place value systems, computer arithmetic) of these systems is developed, - The general concepts of operating systems are conveyed, - The difference between architectural principles, memory and process management techniques, file systems, etc. concepts of current operating systems are taught, - The ability to practice and evaluate the performance of these systems is communicated.
	Software Engineering /ILV / Course no.: ENG2 / 2nd semester / ECTS: 4.5 The course imparts knowledge in the following areas of software engineering: - Procedure models - Differences and similarities between software engineering and web engineering - Modeling with structural diagrams - Modeling with behavioral diagrams - Modeling with architecture diagrams - Modeling with interaction diagrams - Modeling of web applications - Analysis and analysis patterns - Architectural description - Design description and design samples - quality assurance
	Algorithms and Data Structures in Software Development /ILV / Course no.: ENG3 / 2. - Students can differentiate between algorithms and data structures with regard to their complexities - Students are familiar with sorting algorithms and can choose suitable ones for their problems - Students are familiar with search algorithms and can choose suitable ones for their problems - Students are able to create their own efficient algorithms and data structures - Students know standard libraries for algorithms and data structures and are able to use them
Teaching and learning methods	Fundamentals of Information Technology & Operating Systems /ILV / Course no.: ENG1 / 2nd semester / Lecture, group work, presentation and discussion of (practical) tasks
	Software Engineering /ILV / Course no.: ENG2 / 2nd semester / ECTS: 4.5 Lecture, instructional videos, self-study, quizzes, group work, presentation and discussion of solutions to exercises
	Algorithms and Data Structures in Software Development /ILV / Course no.: ENG3 / 2. Lecture, group work, presentation and discussion of (practical) tasks
Evaluation Methods Criteria	Fundamentals of Information Technology & Operating Systems /ILV / Course no.: ENG1 / 2nd semester / Seminar work and/or homework exercises and/or final examination
	Software Engineering /ILV / Course no.: ENG2 / 2nd semester / ECTS: 4.5 Term papers and/or final examination
	Algorithms and Data Structures in Software Development /ILV / Course no.: ENG3 / 2. Homework exercises and/or seminar work (in groups) and/or final presentation and/or final examination

Module number:	**Network Technologies**	**Scope:**	
NET		**5**	**ECTS**
Degree program	University of Applied Sciences Bachelor Program - Web Business & Technology Full-time		
Position in the curriculum	3rd semester		
Level	3rd semester: Bachelor		
Previous knowledge	3rd semester: Courses of the previous semester successfully completed. / 3rd semester: Courses of the previous semester successfully completed.		
Blocked	no		
Participant group	A-levels and/or corresponding previous training, beginners		
Literature recommendation	Computer Networks (E) /ILV / Course no.: NET1 / 3rd semester / ECTS: 3 - Comer, Douglas E.: Computer Networks and Internets: With Internet Applications, 6th Ed. - Upper Saddle River, Pearson Education, 2015. - Kurose, James F.; Ross, Keith W.: Computer Networking: A Top-Down Approach, 7th Ed. - Edinburgh, Pearson, 2017. - Panko, Raymond R.; Panko, Julia A.: Business Data Networks and Security, 10th Ed. - Edinburgh, Pearson, 2015. - Tanenbaum, Andrew S.: Computer Networks, 5th Ed. - Boston, Pearson, 2011		
	Computer Networks Lab (E) /UE / Course no.: NET2 / 3rd semester / ECTS: 2 - Comer, Douglas E.: Computer Networks and Internets: With Internet Applications, 6th Ed. - Upper Saddle River, Pearson Education, 2015. - Kurose, James F.; Ross, Keith W.: Computer Networking: A Top-Down Approach, 7th Ed. - Edinburgh, Pearson, 2017. - Panko, Raymond R.; Panko, Julia A.: Business Data Networks and Security, 10th Ed. - Edinburgh, Pearson, 2015. - Tanenbaum, Andrew S.: Computer Networks, 5th Ed. - Boston, Pearson, 2011.		
Skills acquisition	Computer Networks (E) /ILV / Course no.: NET1 / 3rd semester / ECTS: 3 Students know the principles of computer networks and their components. They understand specific protocols, mechanisms, and algorithms on all layers of computer communication.		
	Computer Networks Lab (E) /UE / Course no.: NET2 / 3rd semester / ECTS: 2 Students are able to apply their knowledge about the principles of computer networks and their components in order to design, implement, and configure distributed applications and in order to support the selection of appropriate software and hardware for computer networks.		
Course contents	Computer Networks (E) /ILV / Course no.: NET1 / 3rd semester / ECTS: 3 Principles: Network Software, Network Hardware, Reference Models; The Physical Layer: Guided Transmission, Wireless Transmission; The Data Link Layer: Framing, Error Detection, Elementary Protocols; The MAC Sublayer: Multiple Access Protocols, Ethernet, Wireless LANs; The Network Layer: Design Issues, Routing, Internetworking, The Network Layer in the Internet; The Transport Layer: Services, UDP, TCP; The Application Layer: Principles, some protocols, e.g. DNS, Email, HTTP/HTTPS		
	Computer Networks Lab (E) /UE / Course no.: NET2 / 3rd semester / ECTS: 2 Configuration of networks and components (hosts, switches, routers); planning, configuration, and testing of TCP/IP-based networks; subnetting		
Teaching and learning methods	Computer Networks (E) /ILV / Course no.: NET1 / 3rd semester / ECTS: 3 Lecture, group work, presentation and discussion of student tasks		
	Computer Networks Lab (E) /UE / Course no.: NET2 / 3rd semester / ECTS: 2 Lecture, group work, presentation and discussion of student tasks		

Evaluation Methods Criteria	Computer Networks (E) /ILV / Course no.: NET1 / 3rd semester / ECTS: 3 submission and presentation of tasks and/or written exam (together with 'Computer Networks Lab' as module-based grading)

Evaluation Methods Criteria	Computer Networks Lab (E) /UE / Course no.: NET2 / 3rd semester / ECTS: 2 submission and presentation of tasks and/or written exam (together with 'Computer Networks' as module-based grading)

Module number:	**App-Centered Software Development**	**Scope:**	
SWA		**6.5**	**ECTS**
Degree program	University of Applied Sciences Bachelor Program - Web Business & Technology Full-time		
Position in the curriculum	3rd semester		
Level	3rd semester: Bachelor		
Previous knowledge	3rd semester: Courses of the previous semester successfully completed / 3rd semester: Courses of the previous semester successfully completed (the theoretical foundation for this course is laid in the corresponding ILV)		
Blocked	no		
Participant group	A-levels and/or corresponding previous training, beginners		
Literature recommendation	App-Centered Software Development /ILV / Course no.: SWA1 / 3rd semester / ECTS: 4.5 Vollmer, G.: Mobile App Engineering: Von den Requirements zum Go Live, dpunkt.verlag, 2017 Künneth, T.: Android 8 - Das Praxisbuch für Java-Entwickler, Rheinwerk Computing, 2018 Knott, D.: Mobile App Testing: Praxisleitfaden für Softwaretester und Entwickler mobiler Anwendungen, dpunkt.verlag, 2016		
	App-Centered Software Development Lab /UE / Course no.: SWA2 / 3rd semester / ECTS: 2 Vollmer, G.: Mobile App Engineering: Von den Requirements zum Go Live, dpunkt.verlag, 2017 Künneth, T.: Android 8 - Das Praxisbuch für Java-Entwickler, Rheinwerk Computing, 2018 Knott, D.: Mobile App Testing: Praxisleitfaden für Softwaretester und Entwickler mobiler Anwendungen, dpunkt.verlag, 2016		
Skills acquisition	App-Centered Software Development /ILV / Course no.: SWA1 / 3rd semester / ECTS: 4.5 Students acquire the basic knowledge to develop, test and publish apps for different application platforms. The students: - Can use device-specific functions of app-centered application platforms programmatically (e.g. position determination via GPS, short-range radio systems such as RFID, Bluetooth) - Can use alternative input methods such as multitouch or sensor technology in apps - Can plan and implement apps for cross-platform scenarios - Know the specific requirements for developing, testing, and publishing apps for different application platforms		
	App-Centered Software Development Lab /UE / Course no.: SWA2 / 3rd semester / ECTS: 2 Students acquire the basic knowledge to develop, test and publish apps for different application platforms. The students: - Can use device-specific functions of app-centered application platforms programmatically (e.g. position determination via GPS, short-range radio systems such as RFID, Bluetooth) - Can use alternative input methods such as multitouch or sensor technology in apps - Can plan and implement apps for cross-platform scenarios - Know the specific requirements for developing, testing, and publishing apps for different application platforms		
Course contents	App-Centered Software Development /ILV / Course no.: SWA1 / 3rd semester / ECTS: 4.5 - Getting to know the architecture models of app-centric application platforms - Device-specific requirements and characteristics of mobile and other IoT devices (input and output capabilities, limited processing and storage capacities) - Development, testing and distribution of apps (development environments, simulators, app markets) - Use of additional functionalities of mobile devices (GPS, camera, Bluetooth, multitouch)		
	App-Centered Software Development Lab /UE / Course no.: SWA2 / 3rd semester / ECTS: 2 In the lab the contents of the ILV "App-Focused Software Development Basics" are deepened with the aid of practical exercises and case studies. The knowledge gained will be discussed in the group and thus allow a deep insight into and consolidation of the material, which was theoretically dealt with in the ILV.		
Teaching and learning methods	App-Centered Software Development /ILV / Course no.: SWA1 / 3rd semester / ECTS: 4.5 Lecture, group work, presentation and discussion of tasks		
	App-Centered Software Development Lab /UE / Course no.: SWA2 / 3rd semester / ECTS: 2 Lecture, group work, presentation and discussion of tasks		

Evaluation Methods Criteria	App-Centered Software Development /ILV / Course no.: SWA1 / 3rd semester / ECTS: 4.5 Exercise series and/or project work and/or final exam (together with 'App-Focused Software Development Lab' as module exam)
	App-Centered Software Development Lab /UE / Course no.: SWA2 / 3rd semester / ECTS: 2 Exercise series and/or project work and/or final exam (together with 'App-Focused Software Development' as module exam)

Module number:	**Transfer of Practice and Scientific Knowledge**	**Scope:**	
PWT		**28.5**	**ECTS**
Degree program	University of Applied Sciences Bachelor Program - Web Business & Technology Full-time		
Position in the curriculum	3rd semester		
	4th semester		
	6th semester		
Level	3rd semester: Bachelor / 4th semester: Bachelor / 6th semester: Bachelor		
Previous knowledge	3rd semester: Courses of the previous semester successfully completed / 4th semester: Courses of the previous semester successfully completed / 6th semester: Courses of the previous semester successfully completed.		
Blocked	no		
Participant group	A-levels and/or corresponding previous training, beginners		
Literature recommendation	Practical Project I /PT / Course no.: PWT1 / 3rd semester / ECTS: 4 - Rainwater, H.P.: Katzen hüten, MITP-Verlag, 2003 - Balzert, Helmut: Lehrbuch der Softwaretechnik. Basiskonzepte und Requirements Engineering.- Spektrum Akademischer Verlag, 2009. - Balzert, Helmut: Lehrbuch der Softwaretechnik. Softwaremanagement.- Spektrum Akademischer Verlag, 2008 - Balzert, Helmut: Lehrbuch der Softwaretechnik: Entwurf, Implementierung, Installation und Betrieb Gebundenes Buch, Spektrum Verlag, 2011 - Brandt-Pook, H.; Kollmeier, R.: "Softwareentwicklung kompakt und verständlich: Wie Softwaresysteme entstehen", Springer Verlag, 2016 - Post, U.: "Besser coden: So machen Sie Ihren Code (und die Welt) ein bisschen besser!", Rheinwerk-Verlag, 2017		
	Project Management for Technical Projects (E) /ILV / Course no.: PWT2 / 3rd semester / ECTS: 1.5 - Rainwater, H.P.: Katzen hüten, MITP-Verlag, 2003 - Balzert, Helmut: Lehrbuch der Softwaretechnik. Basiskonzepte und Requirements Engineering.- Spektrum Akademischer Verlag, 2009. - Balzert, Helmut: Lehrbuch der Softwaretechnik. Softwaremanagement.- Spektrum Akademischer Verlag, 2008 - Balzert, Helmut: Lehrbuch der Softwaretechnik: Entwurf, Implementierung, Installation und Betrieb Gebundenes Buch, Spektrum Verlag, 2011 - Brandt-Pook, H.; Kollmeier, R.: "Softwareentwicklung kompakt und verständlich: Wie Softwaresysteme entstehen", Springer Verlag, 2016 - Post, U.: "Besser coden: So machen Sie Ihren Code (und die Welt) ein bisschen besser!", Rheinwerk-Verlag, 2017		
	Practical Project II /PT / Course no.: PWT3 / 4th semester / ECTS: 4 - Rainwater, H.P.: Katzen hüten, MITP-Verlag, 2003 - Balzert, Helmut: Lehrbuch der Softwaretechnik. Basiskonzepte und Requirements Engineering.- Spektrum Akademischer Verlag, 2009. - Balzert, Helmut: Lehrbuch der Softwaretechnik. Softwaremanagement.- Spektrum Akademischer Verlag, 2008 - Balzert, Helmut: Lehrbuch der Softwaretechnik: Entwurf, Implementierung, Installation und Betrieb Gebundenes Buch, Spektrum Verlag, 2011 - Brandt-Pook, H.; Kollmeier, R.: "Softwareentwicklung kompakt und verständlich: Wie Softwaresysteme entstehen", Springer Verlag, 2016 - Post, U.: "Besser coden: So machen Sie Ihren Code (und die Welt) ein bisschen besser!", Rheinwerk-Verlag, 2017		
	Integrated work placement /BPR / Course no.: PWT4 / 6th semester / ECTS: 19 - Brenner, Doris: "Karrierestart nach dem Studium", Haufe Lexware; 2015 - Faber, Manfred et al.: "Berufseinstieg und Probezeit aktiv gestalten: Wie Sie nach dem Studium die Grundsteine für Ihre Karriere legen", Verlag Springer Gabler; 2014 - Rippler Stefan et al.:"Trainee-Knigge: Der Ratgeber für den erfolgreichen Karriere-Start"; Verlag Springer Gabler; 2013		
Skills acquisition	Practical Project I /PT / Course no.: PWT1 / 3rd semester / ECTS: 4 The graduates: - Are able to carry out a project on the basis of professional project management. - Understand the systematic, technically sound and on-schedule handling of projects. - Know the specific roles within a project. - Know the importance of project communication in all directions (conversations, documentation, descriptions, presentations) and know how to act accordingly.		

	- Have expertise to solve specific problems.

Skills acquisition	Project Management for Technical Projects (E) /ILV / Course no.: PWT2 / 3rd semester / ECTS: 1.5 The graduates: - Know the essential concepts of project management in the field of technical projects. - Know different project management methods. - Are familiar with the different roles of a project team. - Are able to define, design, plan, implement and evaluate projects of low complexity.
	Practical Project II /PT / Course no.: PWT3 / 4th semester / ECTS: 4 The graduates: - Are able to carry out a project on the basis of professional project management. - Understand the systematic, technically sound and on-schedule handling of projects. - Know the specific roles within a project. - Know the importance of project communication in all directions (conversations, documentation, descriptions, presentations) and know how to act accordingly. - Have expertise to solve specific problems.
	Integrated work placement /BPR / Course no.: PWT4 / 6th semester / ECTS: 19 The graduates are able to: - Apply the knowledge they have acquired during their studies in professional practice. - Understand processes in the professional environment. - Solve problems and implement solutions within the framework of professional projects (practical competence). - Work out and further develop arguments, problem solutions and strategies independently (problem-solving competence). In addition, they deepen, further develop and profitably implement the knowledge of communication with superiors, employees and colleagues (social competence).
Course contents	Practical Project I /PT / Course no.: PWT1 / 3rd semester / ECTS: 4 To prepare the students optimally for problems in working life, practical tasks are worked on in groups, preferably on the basis of commissions from partners from industry or public institutions, or field experiences are obtained under the guidance of the course leader. The students contribute their acquired knowledge and compare it with observations and experiences in the context of the practical project. While students can deepen and improve their subject-specific competences, complementary competences such as social competence, risk management, budgeting competence and economically responsible decision-making competence are also solidified. Based on a client briefing (by the course instructor or external partners such as associations and companies), the students work on the presented projects independently, only guided by the course instructor if necessary: Planning, coordination, budgeting, control, evaluation and final reporting are in the hands of the students. The role of the course leader is focused on project coaching.
	Project Management for Technical Projects (E) /ILV / Course no.: PWT2 / 3rd semester / ECTS: 1.5 After the basic definition of the project management functions, the students are introduced to the application in practice. In particular, the tasks of the project manager as well as other roles in project teams and the most important project management tools and methods are discussed. The course content includes the project concept and project types as well as performance planning, resource and cost planning, project organization, IT-supported project documentation and the concluding project manual. The specifics of IT-based and web-based projects are pointed out and the differences are worked out in the course.
	Practical Project II /PT / Course no.: PWT3 / 4th semester / ECTS: 4 To prepare the students optimally for problems in working life, practical tasks are worked on in groups, preferably on the basis of commissions from partners from industry or public institutions, or field experiences are obtained under the guidance of the course leader. The students contribute their acquired knowledge and compare it with observations and experiences in the context of the practical project. While the students

Course contents	can deepen and improve their subject-specific competences, complementary competences such as social competence, risk management, budgeting competence and economically responsible decision-making competence are also solidified. Based on a client briefing (by the course instructor or external partners such as associations and companies), the students work on the presented projects independently, only guided by the course instructor if necessary: Planning, coordination, budgeting, control, evaluation and final reporting are in the hands of the students. The role of the course leader is focused on project coaching.
	Integrated work placement /BPR / Course no.: PWT4 / 6th semester / ECTS: 19 Supplementing the theoretical knowledge of the students with practical activities and questions of commercial law in practice. At least 500 working hours in an external company with full employment (12.5 weeks, i.e. about 3 months with an assumed working week of 40 hours per week). The internship ensures that the students are able to find their way around when they start their professional life and gain confidence in the implementation of their acquired knowledge through the experience they have already gained. Processes, workflows and situations in the professional environment should be learned and understood. Support of the students during their internship: Reflection, discussion of problems and reports about experiences
Teaching and learning methods	Practical Project I /PT / Course no.: PWT1 / 3rd semester / ECTS: 4 Independent project work with accompanying coaching
	Project Management for Technical Projects (E) /ILV / Course no.: PWT2 / 3rd semester / ECTS: 1.5 Lecture, project, group work, discussion of tasks
	Practical Project II /PT / Course no.: PWT3 / 4th semester / ECTS: 4 Independent project work with accompanying coaching
	Integrated work placement /BPR / Course no.: PWT4 / 6th semester / ECTS: 19 Not applicable
Evaluation Methods Criteria	Practical Project I /PT / Course no.: PWT1 / 3rd semester / ECTS: 4 Final report (together with 'Project Management for Technical Projects' as module examination)
	Project Management for Technical Projects (E) /ILV / Course no.: PWT2 / 3rd semester / ECTS: 1.5 Final report (together with 'Practical Project 1' as module examination)
	Practical Project II /PT / Course no.: PWT3 / 4th semester / ECTS: 4 Project documentation
	Integrated work placement /BPR / Course no.: PWT4 / 6th semester / ECTS: 19 Final report

Module number:	**Web-based Information Systems**	**Scope:**	
WIS		**2**	**ECTS**
Degree program	University of Applied Sciences Bachelor Program - Web Business & Technology Full-time		
Position in the curriculum	4th semester		
Level	4th semester: Bachelor		
Previous knowledge	4th semester: no requirements		
Blocked	no		
Participant group	A-levels and/or corresponding previous training, beginners		
Literature recommendation	Web Business & Web Marketing Lab (E) /UE / Course no.: WIR5 / 4th semester / ECTS: 2 - Chaffey, D. (2015): Digital Business and E-Commerce Management, 6th edition, Harlow: Pearson - Scott, D. M. (2009): Die neuen Marketing- und PR-Regeln im Web 2.0, mitp Verlag		
Skills acquisition	Web Business & Web Marketing Lab (E) /UE / Course no.: WIR5 / 4th semester / ECTS: 2 In the field of Web Business, students have: - a basic understanding of the mechanisms behind doing business on the web (Huntley's Law, Moore's Law, Gilder's Law, Drucker's Law, Metcalf's Law, etc.) - knowledge of different types of business models in web business (C2C, B2C, B2B etc.) - the ability to independently develop business models In the field of web marketing students have: - an understanding of the importance of digital and inbound marketing in web business - knowledge of different outbound/inbound marketing approaches (e.g. SEO, content marketing etc.) - the ability to independently develop a marketing strategy for a specific task		
Course contents	Web Business & Web Marketing Lab (E) /UE / Course no.: WIR5 / 4th semester / ECTS: 2 In the lab the contents of the ILV "Web Business & Web Marketing" are deepened with the aid of practical exercises and case studies. The knowledge gained will be discussed in the group and thus allow a deep insight into and consolidation of the material, which was theoretically dealt with in the ILV.		
Teaching and learning methods	Web Business & Web Marketing Lab (E) /UE / Course no.: WIR5 / 4th semester / ECTS: 2 - Lecture and discussion - Working on case studies		
Evaluation Methods Criteria	Web Business & Web Marketing Lab (E) /UE / Course no.: WIR5 / 4th semester / ECTS: 2 Seminar paper and/or final examination MODULE EXAMINATION for the following courses: - Web Business & Web Marketing, - Web Business & Web Marketing Lab		

Module number:	**Security in Information Technology**	**Scope:**	
SEC		**5**	**ECTS**
Degree program	University of Applied Sciences Bachelor Program - Web Business & Technology Full-time		
Position in the curriculum	4th semester		
Level	4th semester: Bachelor		
Previous knowledge	4th semester: courses of the previous semester successfully completed		
Blocked	no		
Participant group	A-levels and/or corresponding previous training, beginners		
Literature recommendation	IT Security (E) /ILV / Course no.: SEC1 / 4th semester / ECTS: 3 - Comer, Douglas E.: Computer Networks and Internets: With Internet Applications, 6th Ed. - Upper Saddle River, Pearson Education, 2015. - Panko, Raymond R.; Panko, Julia A.: Business Data Networks and Security, 10th Ed. - Edinburgh, Pearson, 2015. - Rhodes-Ousley, Mark: Information Security: The Complete Reference, 2nd Ed. - New York et al., Mc Graw Hill education, 2013. - Stallings, William: Network Security Essentials: Applications and Standards, 6th Ed., Edinburgh, Pearson Education , 2017. - Tanenbaum, Andrew S.: Computer Networks, 5th Ed. - Boston, Pearson, 2011.		
	IT-Security Lab (E) /UE / Course no.: SEC2 / 4th semester / ECTS: 2 - Comer, Douglas E.: Computer Networks and Internets: With Internet Applications, 6th Ed. - Upper Saddle River, Pearson Education, 2015. - Panko, Raymond R.; Panko, Julia A.: Business Data Networks and Security, 10th Ed. - Edinburgh, Pearson, 2015. - Rhodes-Ousley, Mark: Information Security: The Complete Reference, 2nd Ed. - New York et al., Mc Graw Hill education, 2013. - Stallings, William: Network Security Essentials: Applications and Standards, 6th Ed., Edinburgh, Pearson Education, 2017. - Tanenbaum, Andrew S.: Computer Networks, 5th Ed. - Boston, Pearson, 2011.		
Skills acquisition	IT Security (E) /ILV / Course no.: SEC1 / 4th semester / ECTS: 3 The students know the principal goals and requirements concerning confidentiality, integrity, and availability of information systems. They are aware of the threat environment and specific types of attacks. They know how information systems can be secured against these types of attacks. They are also aware of management tasks in order to increase security for data, information, communication, and IT systems.		
	IT-Security Lab (E) /UE / Course no.: SEC2 / 4th semester / ECTS: 2 This course complements the IT-Security lecture, increasing the students' practical knowledge in this topic. Students can practically assess confidentiality, integrity, and availability of information systems. They can detect threats and specific types of attacks in information systems and can take adequate measures to secure these systems.		
Course contents	IT Security (E) /ILV / Course no.: SEC1 / 4th semester / ECTS: 3 Contents of this course are: - Threat environment: Goals of IT security, types of attackers and attacks, planning and managing IT security - Cryptography and cryptographic system standards: symmetric and public/private key encryption, digital signatures, Hashing, authentication, digital certificates, TSL/SSL, IPSec, wireless security - Access control: passwords, biometric methods, role-based access control, identity management - Firewalls: principles, static packet filtering, stateful packet inspection, NAT, intrusion detection and - Prevention systems, firewall architectures and management - Host and Data Security: host hardening, vulnerability and exploits, vulnerability testing, data protection and backups - Application Security: hardening applications, web server attacks, email security - Incident and Disaster Response: incident response, laws and regulations, business continuity planning		
	IT-Security Lab (E) /UE / Course no.: SEC2 / 4th semester / ECTS: 2		

	Contents of this course are: - Threat environment: Goals of IT security, types of attackers and attacks, planning and manageing IT security - Cryptography and cryptographic system standards: symmetric and public/private key encryption, digital signatures, Hashing, authentication, digital certificates, TSL/SSL, IPSec,

Course contents	wireless security - Access control: passwords, biometric methods, role-based access control, identity management - Firewalls: principles, static packet filtering, stateful packet inspection, NAT, intrusion detection and - Prevention systems, firewall architectures and management - Host and Data Security: host hardening, vulnerability and exploits, vulnerability testing, data protection and backups - Application Security: hardening applications, web server attacks, email security - Incident and Disaster Response: incident response, laws and regulations, business continuity planning
Teaching and learning methods	IT Security (E) /ILV / Course no.: SEC1 / 4th semester / ECTS: 3 Lecture, group work, presentation and discussion of student tasks
	IT-Security Lab (E) /UE / Course no.: SEC2 / 4th semester / ECTS: 2 Exercises, group work, presentation and discussion of student tasks
Evaluation Methods Criteria	IT Security (E) /ILV / Course no.: SEC1 / 4th semester / ECTS: 3 submission and presentation of tasks and/or written exam (together with 'IT-Security Lab' as module-based grading)
	IT-Security Lab (E) /UE / Course no.: SEC2 / 4th semester / ECTS: 2 submission and presentation of tasks and/or written exam (together with 'IT-Security Lab' as module-based grading)

Module number:	**Full-Stack Software Development**	**Scope:**	
FSS		**13**	**ECTS**
Degree program	University of Applied Sciences Bachelor Program - Web Business & Technology Full-time		
Position in the curriculum	4th semester		
Level	4th semester: Bachelor		
Previous knowledge	4th semester: Courses of the previous semester successfully completed / 4th semester: Courses of the previous semester successfully completed (the theoretical foundation for this course is laid in the corresponding ILV)		
Blocked	no		
Participant group	A-levels and/or corresponding previous training, beginners		
Literature recommendation	Server-Side Software Development & Data Management /ILV / Course no.: FSS1 / 4th semester / - Hauser, T.; Wenz, C.: PHP 7 und MySQL: Das umfassende Handbuch, Rheinwerk Computing, 2019 - Tilkov, S.; Eigenbrodt, M.; Schreier, S.; Wolf, O.: REST und HTTP: Entwicklung und Integration nach dem Architekturstil des Web, dpunkt.verlag, 2015 - Pollard, B.: HTTP/2 in Action, Manning, 2019 - Dippold, R; Meier, R.; Schnider, W.; Schwinn K.: Unternehmensweites Datenmanagement, Springer, 2005		
	Server-Side Software Development & Data Management Lab /UE / Course no.: FSS2 / 4th semester - Hauser, T.; Wenz, C.: PHP 7 und MySQL: Das umfassende Handbuch, Rheinwerk Computing, 2019 - Tilkov, S.; Eigenbrodt, M.; Schreier, S.; Wolf, O.: REST und HTTP: Entwicklung und Integration nach dem Architekturstil des Web, dpunkt.verlag, 2015 - Pollard, B.: HTTP/2 in Action, Manning, 2019 - Dippold, R; Meier, R.; Schnider, W.; Schwinn K.: Unternehmensweites Datenmanagement, Springer, 2005		
	Web Development & Web-Based Frameworks /ILV / Course no.: FSS3 / 4th semester / ECTS: 3 Zakas, N.: Understanding ECMAScript6: The Definitive Guide for JavaScript Developers, No Starch Press, 2016 Liebel, C.: Progressive Web Apps - Das Praxisbuch, Rheinwerk Computing, 2018 Fain, Y.; Moiseev, A.: Angular Development with TypeScript, Manning, 2019 Banks, A.; Porcello, E.: Learning React: Functional Web Development with React and Flux, O`Reilly, 2017		
	Web Development & Web-Based Frameworks Lab /UE / Course no.: FSS4 / 4th semester / ECTS: Zakas, N.: Understanding ECMAScript6: The Definitive Guide for JavaScript Developers, No Starch Press, 2016 Liebel, C.: Progressive Web Apps - Das Praxisbuch, Rheinwerk Computing, 2018 Fain, Y.; Moiseev, A.: Angular Development with TypeScript, Manning, 2019 Banks, A.; Porcello, E.: Learning React: Functional Web Development with React and Flux, O`Reilly, 2017		
Skills acquisition	Server-Side Software Development & Data Management /ILV / Course no.: FSS1 / 4th semester / The students acquire knowledge for the development, testing and operation of complex database-supported server-side applications. The students: - Can design, test and implement service interfaces for aspects such as security or performance - Can design and evaluate software architectures for complex and distributed applications - Can evaluate and implement different Web service technologies - Can evaluate and implement different and suitable message formats for data exchange - Know different ways of integrating database systems in the backend of an application - Can independently operate and administer server-side data storage solutions		
	Server-Side Software Development & Data Management Lab /UE / Course no.: FSS2 / 4th semester The students acquire knowledge for the development, testing and operation of complex database-supported server-side applications.		

	The students: - Can design, test and implement service interfaces for aspects such as security or performance - Can design and evaluate software architectures for complex and distributed applications - Can evaluate and implement different web service technologies

	- Can evaluate and implement different and suitable message formats for data exchange - Know different ways of integrating database systems in the backend of an application - Can independently operate and administer server-side data storage solutions
Skills acquisition	Web Development & Web-Based Frameworks /ILV / Course no.: FSS3 / 4th semester / ECTS: 3 Students acquire the basic knowledge to develop, test and maintain complex client-side web applications. The graduates are able to: - to apply basic concepts of client-side web development, - to recognize, understand and apply basic design patterns in software architectures, - implement complex client-side web applications using suitable technologies and frameworks and -evaluate common technologies and frameworks for the implementation of web applications (web technologies).
	Web Development & Web-Based Frameworks Lab /UE / Course no.: FSS4 / 4th semester / ECTS: Students acquire the basic knowledge to develop, test and maintain complex client-side web applications. The graduates are able to: - to apply basic concepts of client-side web development, - to recognize, understand and apply basic design patterns in software architectures, - implement complex client-side web applications using suitable technologies and frameworks and -evaluate common technologies and frameworks for the implementation of web applications (web technologies).
Course contents	Server-Side Software Development & Data Management /ILV / Course no.: FSS1 / 4th semester / - Use and implementation possibilities of Internet-based services and interfaces (APIs) - Implementation techniques of server-side applications based on suitable design patterns (MVC, IoC, ORM) - Aspects of security, performance and maintainability of server-side applications - Functionality and configuration of web servers - Server-side administration of database systems - Advanced tools in relational databases (indexes, triggers, etc.) - Database connection to applications (ORM, Web Service, ODBC, etc.)
	Server-Side Software Development & Data Management Lab /UE / Course no.: FSS2 / 4th semester In the lab the contents of the ILV "Server-side Software Development & Data Management" are deepened with the aid of practical exercises and case studies. The knowledge gained will be discussed in the group and thus allow a deep insight into and consolidation of the material, which was theoretically dealt with in the ILV.
	Web Development & Web-Based Frameworks /ILV / Course no.: FSS3 / 4th semester / ECTS: 3 This course teaches the development process of a client-side web application with consideration of the special characteristics of this development environment. Essential programming concepts of modern web development are explained theoretically and then applied (e.g. DOM API, Web Components, Progressive Web Apps) with the aid of suitable development environments and tools. Furthermore, the concepts and the practical application of client-side web frameworks, which are widely used in current practice, are taught. In addition, typical tasks implemented with such frameworks will be presented and discussed, such as asynchronous communication with server-side backends. In addition to these practice-oriented areas, various frequently encountered architecture patterns (e.g. MVC, Inversion of Control) are presented and their use in the frameworks under consideration is demonstrated.
	Web Development & Web-Based Frameworks Lab /UE / Course no.: FSS4 / 4th semester / ECTS: In the lab the contents of the ILV "Web Development & Web-Based Frameworks" are deepened with the aid of practical exercises and case studies. The knowledge gained will be discussed in the group and thus allow a deep insight into and consolidation of the material, which was theoretically dealt with in the ILV.

Teaching and learning methods	Server-Side Software Development & Data Management /ILV / Course no.: FSS1 / 4th semester / - Lecture and discussion - Workshop with work on case studies

Teaching and learning methods	Server-Side Software Development & Data Management Lab /UE / Course no.: FSS2 / 4th semester - Working on exercises - Case study
	Web Development & Web-Based Frameworks /ILV / Course no.: FSS3 / 4th semester / ECTS: 3 Lecture, group work, presentation and discussion of tasks
	Web Development & Web-Based Frameworks Lab /UE / Course no.: FSS4 / 4th semester / ECTS: Lecture, group work, presentation and discussion of tasks
Evaluation Methods Criteria	Server-Side Software Development & Data Management /ILV / Course no.: FSS1 / 4th semester / Exercise series and/or seminar paper as well as final examination MODULE EXAMINATION for the following courses: - Server-side Software Development & Data Management, - Server-side Software Development & Data Management Lab, - Web Development & Web-based Frameworks, - Web Development & Web-based Frameworks Lab
	Server-Side Software Development & Data Management Lab /UE / Course no.: FSS2 / 4th semester Exercise series and/or seminar paper as well as final examination MODULE EXAMINATION for the following courses: - Server-side Software Development & Data Management, - Server-side Software Development & Data Management Lab, - Web Development & Web-based Frameworks, - Web Development & Web-based Frameworks Lab
	Web Development & Web-Based Frameworks /ILV / Course no.: FSS3 / 4th semester / ECTS: 3 Exercise series and/or seminar paper as well as final examination MODULE EXAMINATION for the following courses: - Server-side Software Development & Data Management, - Server-side Software Development & Data Management Lab, - Web Development & Web-based Frameworks, - Web Development & Web-based Frameworks Lab
	Web Development & Web-Based Frameworks Lab /UE / Course no.: FSS4 / 4th semester / ECTS: Exercise series and/or seminar paper as well as final examination MODULE EXAMINATION for the following courses: - Server-side Software Development & Data Management, - Server-side Software Development & Data Management Lab, - Web Development & Web-based Frameworks, - Web Development & Web-based Frameworks Lab

Module number:	**Elective Courses Abroad Business Economics**	**Scope:**	
AWB		**12**	**ECTS**
Degree program	University of Applied Sciences Bachelor Program - Web Business & Technology Full-time		
Position in the curriculum	5th semester		
Level	5th semester: Bachelor		
Previous knowledge	5th semester: Courses of the previous semester successfully completed.		
Blocked	no		
Participant group	A-levels and/or corresponding previous training, beginners		
Literature recommendation	Elective Courses Abroad Economics /ILV / Course no.: AWB1 / 5th semester / ECTS: 12 are determined by the respective partner university		
Skills acquisition	Elective Courses Abroad Economics /ILV / Course no.: AWB1 / 5th semester / ECTS: 12 The graduates are able - to describe and apply fundamental concepts and methods from business administration - to describe and apply deepening concepts and contexts from business administration - to critically evaluate and question methods and concepts from business administration - to apply and analyze methods and concepts from business administration to questions in the field of information technology and the web		
Course contents	Elective Courses Abroad Economics /ILV / Course no.: AWB1 / 5th semester / ECTS: 12 A generally valid module description for the semester abroad cannot and should not be defined due to the large number of partner universities and the choices they offer within the economically oriented sciences in order to guarantee freedom for students. The course content is based on the fundamentals and in-depth knowledge of the individual disciplines in the field of economics. The national credits are converted individually into ECTS points corresponding to performance where appropriate. Students are subject to the respective examination modalities at the partner university. Below are some examples of possible subject areas: - Organizational Management - Accounting - Controlling - Marketing - Marketing and Corporate Communications - Strategic Management - Business Management - Procurement, Production and Logistics - Business Information Systems - e-Commerce & e-Business - Information Management		
Teaching and learning methods	Elective Courses Abroad Economics /ILV / Course no.: AWB1 / 5th semester / ECTS: 12 are determined by the respective partner university		
Evaluation Methods Criteria	Elective Courses Abroad Economics /ILV / Course no.: AWB1 / 5th semester / ECTS: 12 are determined by the respective partner university		

Module number:	**Elective Courses Abroad Information Technologies**	**Scope:**	
AWI		**13**	**ECTS**
Degree program	University of Applied Sciences Bachelor Program - Web Business & Technology Full-time		
Position in the curriculum	5th semester		
Level	5th semester: Advanced knowledge, consolidation		
Previous knowledge	5th semester: Courses of the previous semester successfully completed.		
Blocked	no		
Participant group	A-levels and/or corresponding previous training, beginners		
Literature recommendation	Elective Courses Abroad Information Technologies /ILV / Course no.: AWI1 / 5th semester / are determined by the respective partner university		
Skills acquisition	Elective Courses Abroad Information Technologies /ILV / Course no.: AWI1 / 5th semester / The students have the ability to follow courses in information technology in a foreign language at university level and to acquire the foreign language contents. They deepen the knowledge they have already acquired in IT subjects during their studies or supplement their knowledge with areas or technologies that are complementary to their previous studies (e.g. in the area of multimedia technologies, (serious) gaming, company-related enterprise systems, etc.).		
Course contents	Elective Courses Abroad Information Technologies /ILV / Course no.: AWI1 / 5th semester / A generally valid module description for the semester abroad cannot and should not be defined due to the large number of partner universities and the choices they offer within the IT-oriented sciences (computer science, business informatics, information management and related disciplines), in order to guarantee freedom for students. The national credits are converted individually into ECTS points corresponding to performance where appropriate. Students are subject to the respective examination modalities at the partner university. The courses listed below are therefore to be regarded as examples. - Advanced Programming - Database Design & Development - Multimedia Technologies - Web Technology - Mobile Technologies - Enterprise Development & Enterprise Integration - Introductory courses to Game Design - Augmented and Virtual Reality - Human Computer Interaction and User Experience Design (UX) - Software Engineering and Testing - (agile) Project Management Methodologies		
Teaching and learning methods	Elective Courses Abroad Information Technologies /ILV / Course no.: AWI1 / 5th semester / are determined by the respective partner university		
Evaluation Methods Criteria	Elective Courses Abroad Information Technologies /ILV / Course no.: AWI1 / 5th semester / are determined by the respective partner university		

Module number:	**Elective Courses Abroad Social Skills**	**Scope:**	
AWS		**4**	**ECTS**
Degree program	University of Applied Sciences Bachelor Program - Web Business & Technology Full-time		
Position in the curriculum	5th semester		
Level	5th semester: Compulsory event		
Previous knowledge	5th semester: Courses of the previous semester successfully completed.		
Blocked	no		
Participant group	A-levels and/or corresponding previous training, beginners		
Literature recommendation	Elective Courses Abroad Social Skills /ILV / Course no.: AWS1 / 5th semester / ECTS: 4 are determined by the respective partner university		
Skills acquisition	Elective Courses Abroad Social Skills /ILV / Course no.: AWS1 / 5th semester / ECTS: 4 The students have the ability to follow courses on social interaction and communication in a foreign language at university level and to develop the foreign language content and present learning outcomes. They are able to perceive aspects of their own culture from a new perspective and develop a feeling for the culture of the host country. In this context, they are sensitized to the problems of intercultural cooperation and master the fundamentals of intercultural cooperation. The self-reflection of the students abroad also strengthens their ability to organize themselves and to work independently.		
Course contents	Elective Courses Abroad Social Skills /ILV / Course no.: AWS1 / 5th semester / ECTS: 4 A generally valid module description for the semester abroad cannot and should not be defined due to the large number of partner universities and the choices they offer within the economically oriented sciences in order to guarantee freedom for students. The course content is based on the fundamentals and in-depth knowledge of the individual disciplines in the field of economics. The national credits are converted individually into ECTS points corresponding to performance where appropriate. Students are subject to the respective examination modalities at the partner university. The following courses can serve as examples of suitable courses: - Intercultural studies - Rhetorical skills - Language skills - Presentation techniques		
Teaching and learning methods	Elective Courses Abroad Social Skills /ILV / Course no.: AWS1 / 5th semester / ECTS: 4 are determined by the respective partner university		
Evaluation Methods Criteria	Elective Courses Abroad Social Skills /ILV / Course no.: AWS1 / 5th semester / ECTS: 4 are determined by the respective partner university		

Module number:	**Bachelor Thesis Seminar**	**Scope:**	
BAC		**10**	**ECTS**
Degree program	University of Applied Sciences Bachelor Program - Web Business & Technology Full-time		
Position in the curriculum	6th semester		
Level	6th semester: Bachelor		
Previous knowledge	6th semester: Courses of the previous semester successfully completed.		
Blocked	no		
Participant group	A-levels and/or corresponding previous training, beginners		
Literature recommendation	Bachelor Thesis Seminar /SE / Course no.: BAC1 / 6th semester / ECTS: 10 - Bänsch, Axel; Alewell, Dorothea: "Wissenschaftliches Arbeiten", 11th edition, Oldenbourg Verlag, 2013 - Eco, Umberto: "Wie man eine wissenschaftliche Abschlussarbeit schreibt", UTB Facultas Universitätsverlag, 2010 - Chalmers, Alan: Wege der Wissenschaft.- Berlin; Heidelberg: Springer, 2007 - Kipman, U. ; Leopold-Wildburger U.; Reiter T.: "Wissenschaftliches Arbeiten 4.0: Vortragen und Verfassen leicht gemacht", Verlag Springer Gabler, 3rd edition, 2017		
Skills acquisition	Bachelor Thesis Seminar /SE / Course no.: BAC1 / 6th semester / ECTS: 10 The students are able to formulate a task into a project and to solve it with academic methods and practice-oriented tools during the project period, as well as to process this process independently in an academic work. The graduates are able to: - Independently define a topic from the field of web-based technologies, web-business or related fields, to academically prepare it and to independently develop a self-formulated research question, - to carry out the process of academic work autonomously and in a self-organized manner, - to present and discuss the results of their work in the seminar, - to use the available resources appropriately and purposefully (in particular time management, research skills), - to prepare an academic Bachelor thesis according to the standards of academic work and the formal requirements of the corresponding guidelines (improvement of the ability to express oneself), - to prepare an academic Bachelor thesis according to the standards of academic work and the formal requirements of the corresponding guidelines (improvement of the ability to express oneself).		
Course contents	Bachelor Thesis Seminar /SE / Course no.: BAC1 / 6th semester / ECTS: 10 The students regularly report on the progress of their Bachelor thesis during the editing process in coordination with their supervisor. In seminar-like form, they present their current work status in small groups in the form of short presentations and discuss the results of their work in the group. The students receive instructions and templates for the preparation of their Bachelor thesis and thus the corresponding accompanying academic supervision. In this course the students write their final Bachelor thesis. They are individually supervised by a lecturer with regard to individual questions. Within a given period of time, the students should academically research a question relevant to their studies and education within the framework of a Bachelor thesis. The topic is to be dealt with and discussed independently using academic methods. The Bachelor thesis can be written with a practical reference from the internship and thus academically and practically deal with a current and tangible problem.		
Teaching and learning methods	Bachelor Thesis Seminar /SE / Course no.: BAC1 / 6th semester / ECTS: 10 Presentation and discussion, work in small groups individually supervised academic work		
Evaluation Methods Criteria	Bachelor Thesis Seminar /SE / Course no.: BAC1 / 6th semester / ECTS: 10 Bachelor Thesis		

2.4 Internship

The students choose an internship independently. They can draw on the extensive range of internship advertisements offered by the Kufstein University of Applied Sciences. The Director of Studies checks the professional correspondence of the internship activities with the contents of the course and the qualification profiles of the course of studies. Subsequently, the Director of Studies checks whether the internship corresponds to the training objectives of the program and whether the student can be employed according to his/her level of qualification. An internship guide supports students in organizing their internship semester; students can also contact the Director of Studies if they have any questions or need support.
Students must apply for the internship using the form (= job description). The form contains the central data of the student and the internship supervision as well as the goals and the tasks/activities in the company providing the internship. The internship is confirmed or approved by the signatures of the Director of Studies and the internship supervisor.
The student must reflect, document and present the experiences and findings gathered and evaluate the internship. Conversely, the internship supervisor must evaluate the students. The student must prepare an interim report, a final report and a presentation and complete an evaluation form. At the beginning of the internship, he/she will receive an internship guide which lists the points to be worked on. A key requirement is to compare the agreed objectives with the achieved ones. The documentation prepared by the student and the supervisor is evaluated by the Director of Studies.

2.5 Semester Abroad

In the mandatory semester abroad, students of the Web Business & Technology program have the opportunity to apply the knowledge acquired during the first 4 semesters of study in the areas:

- Business Administration (12 ECTS),
- Information technologies (13 ECTS) and
- Social Skills (4 ECTS)

to deepen their knowledge in a targeted manner or to expand it through complementary knowledge. To this end, students can choose from the portfolio of approx. 200 partner universities and colleges of the FH Kufstein Tirol and take courses at these institutions, subject to the availability of study places. Depending on the university, Web Business & Technology students can choose from a variety of courses in different focus areas. Thus, students can deepen their knowledge in subject areas that cannot currently be offered at the FH Kufstein Tirol at Bachelor level (e.g. game development, VR/AR development, machine learning, etc.). The allocation of study places abroad is carried out on a university-wide basis, taking into account the performance of the respective students in the course of their studies to date, if more people are interested in a study place than are offered by the partner university. Over the past few years, students have been offered significantly more places abroad than they actually needed, so that the FH Kufstein Tirol has been able to ensure the possibility of studying abroad. If required, the course of studies can provide advice on the most appropriate subject focus during the semester abroad.
During the semester abroad the students are supported by the course "Accompanying seminar for the semester abroad" in order to actively reflect on their experiences in an academic context (Intercultural Discourse, Intercultural Awareness & Understanding, etc.).

3 ADMISSION REQUIREMENTS

The admission requirements at the FH Kufstein Tirol are regulated according to the following terms:

1. The general admission requirements are regulated by § 4 FHG as amended; it applies to **persons with a general university entrance qualification**.

2. **Persons without a school-leaving certificate** must take a **university entrance examination** according to § 64 a UG 2002 as amended. These persons acquire the general university entrance qualification for Bachelor studies in a specialization group by passing the university entrance examination in accordance with an ordinance issued by the Rector's Office of a University. The successful completion of the university entrance examination thus entitles the holder to admission to all studies in the specialization group for which the university entrance qualification was acquired. The university entrance examination can be obtained for certain groups of subjects in accordance with an ordinance of the Rector's Office of a university, whereby the following group of subjects is relevant for the FH Kufstein:

   - Social and economic studies (e.g. Business Administration, Economic Education, Statistics, Sociology).
   - Applicants who have completed a 3-year **vocational, middle school**, a **training in the dual system** or a **subject-relevant German advanced technical college certificate** obtain the entitlement to study at the FH Kufstein Tirol through additional examinations in the subjects German, English and Mathematics. In the case of the German advanced technical college certificate, the additional examination must only be taken in those of the three subjects in which the grade is "inadequate" or worse. All additional examinations must be passed before the start of the third semester.

3. For **individuals with relevant dual training** the **apprenticeship certificate** in one of the following **special fields** according to the respectively valid announcement of the Federal Ministry of Economics, Family and Youth is valid as an admission requirement:

   - Construction and building services
   - Office, Administration, Organization
   - Chemistry and Plastics
   - Electrical Engineering, Electronics
   - Trade
   - Information and Communication Technology
   - Metal Technology and Mechanical Engineering
   - Media Design and Photography
   - Paper Production, Paper Processing, Printing
   - Transport and Storage

4. **Persons with a degree** from one of the relevant **vocational middle schools** listed below may also be admitted:

   - School of Hotel Management, School of Tourism, School of Gastronomy (three years)
   - Commercial schools (at least two years)
   - Commercial, technical and arts and crafts colleges
   - Secondary school for economic professions
   - Secondary school for technical professions
   - Vocational schools for tourism professions

- Vocational schools for economic professions (three years)
- Business school (at least two years)
- Vocational schools for agricultural and forestry occupations (at least two years)
- Commercial schools (three years)

Newly emerging apprenticeships in similar fields must be recognized accordingly.

The **group of persons under numbers 3. and 4.** must complete **additional examinations** by the beginning of the third semester as an entry requirement and, if necessary, take appropriate preparatory courses. This is possible at the FH Kufstein.

The following additional examinations are required for this group of people:

- German
- English
- Mathematics

Below is an overview of which subject area of the German FOS/BOS is the relevant admission requirement. Here, additional examinations must be taken within the first semesters in the subjects Mathematics, German and English (if a grade of "poor" or worse was achieved in these subjects).

Creditable FOS/BOS specializations for course access to WEB

Type of school	Department*	Crediting possible
Secondary technical school (FOS)	Technology	Yes
	Economics & Administration	Yes
	Social Welfare	Yes
	Agriculture, Biotechnology and Environmental Technology	Yes
	Layout	Yes
	Health	Yes
	International Business Studies	Yes
Secondary vocational school (BOS)	Technology	Yes
	Economics & Administration	Yes
	Social Welfare	Yes
	Agriculture, Biotechnology and Environmental Technology	Yes
	Health	Yes
	International Business Studies	Yes

**) In the case of relevant internships (marketing, trade, administration), other disciplines can also be accepted (after consultation with the Director of Studies).*