



**Exponential  
University**  
of applied sciences

# Short Module Manual

# **Digital Business (B.Sc.)**

XU Exponential University  
of Applied Science



## SHORT FACTS

<b>Graduation</b>	Bachelor of Science	<b>Type of Study</b>	Full-time
<b>Scope</b>	180 ECTS	<b>Total numbers of semesters</b>	6 semesters
<b>Language</b>	English	<b>Matriculation Date</b>	Every Semester

**Teaching method** Seminars in small groups, additional excursions, case studies, integration into practice

## Course and content of studies

### SEMESTER 1

#### DM 1 Foundation of Digital Business **5 ECTS** presentation

- **Business Process Management:** Basics of process management, application areas of business process management, business processes in companies, modelling and automation of business processes/workflow management, BPM, project work
- **Managerial Information Systems:** Management information systems, historical development, goals and tasks, design-, architecture- and integration of analytical information systems, Business Intelligence (BI)

#### DM 2 Foundation of Digital Business IT **5 ECTS** written exam

- **Business Informatics:** Introduction to business informatics, knowledge – information – data, tasks, application areas and possibilities of IT in companies, information systems, structure and tasks of IT management, e-business
- **Hardware and Software Technologies:** Technical bases, hardware and machine language, computer architecture, computer networks, internet technologies, software and software technologies, introduction databases

#### BM 1 Human Resources and Organization **5 ECTS** presentation

- **Human Resources Management:** Basic terms/aspects and theoretical foundations of human resource management, quantitative and qualitative personnel planning, recruitment, personnel management, HR development, legal aspects
- **Organization:** Basics, organizational theories, organizational design, organizational technology, informal organization, change of organizations



SEMESTER 1

**IM 1 Digital Transformation**

**5 ECTS**  
portfolio exam

- **Disruptive Innovations:** Basic terms, challenges and requirements of transformation, digital future markets, Internet of Things (IoT), human communication, generations of digitization
- **Digital Solutions:** economy – new business models, technology – new applications, –hardware and –software, communication – new approaches to interaction/communication and collaboration, work and life – forms/structures and processes

**QM 1 Quantitative Methods 1**

**5 ECTS**  
written exam

- **Mathematics I:** Tasks of the analysis, functions and graphs, differential calculus, sequences and series, integral calculus, matrices
- **Statistics I:** Basic concepts, statistical investigation, data collection, tabular/graphical representation of data, univariate frequency distributions, location dimensions, scatter and skew, correlation/regression analysis, ratios and index figures

**SK 1 Academic Skills**

**5 ECTS**  
portfolio exam

- **Scientific Work:** basics of scientific work, problem definition, structure, citation, data, literature
- **Text and Data Processing:** formatting in Word, data processing in Excel, statistical work with Excel

**DM 3 Digital Business Systems**

**5 ECTS**  
term paper

- **Transaction Process Systems:** Practical introduction to ERP systems using the example of SAP ERP, case studies and practical work with SAP ERP to get to know the core business processes in logistics, accounting and controlling
- **Specific Information Systems:** Customer relationship management systems, supply chain management systems, production planning and control systems, decision support systems and command support systems

**DM 4 Database Systems**

**5 ECTS**  
presentation

- **Data Management:** Purpose/Tasks of data management, Business Intelligence and Data Warehouse, Big Data, Data Quality
- **Databases and Database Applications:** Databases and database systems, relational databases and introduction to SQL, Big Data-technologies

SEMESTER 2



SEMESTER 2

**BM 2 Marketing and Budgeting**

**5 ECTS**  
presentation

- **Marketing:** Development and concepts of marketing, approaches of marketing theory, marketing mix, marketing and buyer behavior research, basics of marketing research and sales forecasts
- **Budgeting/ Pricing:** Definition budget, budgeting types, project budgeting, controlling, pricing, price calculations and -systems

**IM 2 Cooperation (Cooperation and Communication)**

**5 ECTS**  
presentation

- **Collaboration Tools:** Work and organization design in industry 4.0, concepts and conditions of cooperation, tools and platforms
- **Communication Tools – Effective Corporate Networks:** communication media on the internet, social media, referral marketing

**QM 2 Quantitative Methods II**

**5 ECTS**  
written exam

- **Mathematics II:** Interest calculations, annuity calculations, statement of redemption, price and yield calculation, investment calculations
- **Statistics II:** Combinatorics, elements of probability theory, random variables, discrete and continuous standard distributions, limit sets and approximations, parameter estimation, testing of statistical hypotheses, non-parametric tests

**SK 2 Communication Skills**

**5 ECTS**  
presentation

- **Communication and Presentation:** Basics, models, functions and types of communication, presentation basics, society and media reality
- **Moderation Workshop:** Basics, preparation and follow-up of the moderation, implementation, dealing with conflicts

**DM 5 Digital Business Models**

**5 ECTS**  
case study

- **Business Model Development:** Business models, basics and methodology of business model development, metamodel and phases of business model development, techniques, case studies and project work
- **Business Intelligence/ Business Analytics:** Application areas of business analytics, basics – concepts – functions, phases and instruments of the BA process, visualization, practical work with BA applications, data collection and validation, project work

SEMESTER 3



**DM 6 Digital Engineering**

**5 ECTS**  
presentation

- **Agile Software Engineering/ Software Engineering Process:** Phases of software-engineering, classical procedures and process models of software development, agile software engineering, agile manifesto and core values, scrum, other agile methods
- **Software Engineering Project/ Coding Project:** From idea to concept, project planning and -controlling, introduction to app programming or web programming (Java/HTML5/JS), creation of the app, testing, integration/publication, presentation

**BM 3 Accounting**

**5 ECTS**  
written exam

- **Cost Accounting:** Differentiation between financial accounting, cost and cost activity accounting, subareas of cost and performance accounting, cost center accounting, multi-level contribution accounting, cost management, calculation methods
- **Financial Accounting:** Accounting principles, basic elements of accounting, methods and techniques, selected areas of accounting, exercises/applied bookkeeping, balance sheet, overview of contemporary apps (Datev, Salesforce, SAP etc.)

**IM 3 Interaction (Customer Interaction - UX)**

**5 ECTS**  
case study

- **UX User Experience Design:** User experience design, brainstorming, business analysis, user research, requirements and requirement management, information architecture, visual design, interaction design and concept, usability testing, lean UX
- **Human-computer-interaction:** Basics of human information processing, perception, cognition, motor skills, hardware and software for interaction, technological basics, embedded computer, social engineering, standards/laws and guidelines

**QM 3 Research Methods**

**5 ECTS**  
portfolio exam

- **Business Research Methods:** introduction to the basics and methodology of business management research , quantitative and qualitative research methods
- **Market Research (Project):** Introduction to market research, methods of market research – data collection and evaluation, data evaluation with Excel and SPSS, applied market research



SEMESTER 4

**SK 3 Project Management Skills**

**5 ECTS**  
presentation

- **Project Planning and Controlling:** Basic terms and principles of project management, project definition – project foundation, -organization, -planning and -implementation, project conclusion, modern/alternative forms of project management
- **Field Project:** Applied project management

**Study Abroad Semester**

**20 ECTS**

- **In accordance with the guidelines of the partner universities, there is the possibility of acquiring and deepening intercultural experience, setting professional priorities, and developing language and personal skills.**

**Internship**

**10 ECTS**  
internship report

- **Internship in a professionally appropriate field**

**BM 4a Finance and Investment**

**5 ECTS**  
written exam

- **Finance:** Financial objectives and management, capital requirements, comparison of external and internal financing, equity financing, short- and long-term debt financing, loan collateral, hybrid financial instruments, credit substitutes, derivatives
- **Investment:** Financial functions, concept of investment, investment planning, decisions under uncertainty, static investment calculations, financial mathematical basics, dynamic investment, utility value, planning of an investment program

**IM 4 Innovation**

**5 ECTS**  
oral exam

- **Innovation Management:** Definition of innovation management, corporate strategy and goals, innovation processes, types of innovations, evaluation/assessment, intersections within the company, implementation and anchoring
- **Innovation Techniques Workshop:** Innovation techniques and -methods (design thinking, lean start-up, TRIZ, mind-mapping, future workshop, SPRINT, open space, P2S among others)

**QM 4 Company / Research Project**

**5 ECTS**  
presentation

- **Development of a topic for a research project, creation of a research plan, implementation of the research project**

SEMESTER 5



**SEMESTER 5**

**BT 1 Bachelor Thesis Set-up**

**5 ECTS**  
presentation

- **Preparation Bachelor Thesis:** Literature vs. empirical work, scientific-ethical quality criteria, scientific fields, subject, planning and implementation, material research, -selection and -evaluation, revision of formal requirements and -citation methods
- **Bachelor Thesis Reflection /Coaching:** Professional support throughout the planning and development of the thesis, advice on all scientific formalities and related matters, concept presentation

**SEMESTER 6**

**BM 5a Ethics and Law**

**5 ECTS**  
written exam

- **Business Ethics:** Ethics and morals, the need for business ethics, basic positions of ethics, economic ethical approaches, moral action, ethical decision making, ethical dilemmas in management decisions, decent business management
- **Business Law:** Fields of law and legal, BGB, commercial transactions, principles of contract design (AGB), contract types according to BGB, legal basis and contract forms, special features of international treaties, company law, case studies

**IM 5 Organization**

**5 ECTS**  
case study

- **Organizational Agility – Agile Organizations:** Innovation and change management, corporate culture, agile principles, -values and -leadership, communication, scrum – agile project management, limits, and dangers
- **Organizational Productivity – Innovative Organizational Cultures:** Basics of productivity, Beyond budgeting, fields of beyond budgeting or better management, implementation, possibilities, limits and dangers

**BT 2 Bachelor Thesis**

**10 ECTS**  
thesis

- **Independent preparation of the Bachelor Thesis**



## ELECTIVE MODULES IN 5th AND 6th SEMESTER

**2 specializations must be selected. The realization of the elective modules depends on a minimum number of participants**

<b>EL 1/2</b>	<b>Digital Marketing Management I &amp; II</b>	<b>per 5 ECTS</b> case study presentation
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- **Digital Communication:** Digital marketing and marketing communication, the development of a digital communication strategy, instruments, operational planning of digital communication policy, performance review, trends and perspectives
- **Brand Communication:** Goals and significance of strategic brand management, brand identity as the foundation of brand management, brand strategies and architectures, development and positioning, instruments, brand controlling
- **Cross Media Marketing:** Goals, characteristics and requirements of integrated communication, elements and planning of cross-media campaigns, project work
- **Customer Relationship Marketing/ Service Marketing:** Basics and goals of CRM, CRM processes and areas, phase model of CRM, tools, systems and technologies, data analysis and evaluation, implementation of service marketing, project work

<b>EL 3/4</b>	<b>Digital Technology Management I &amp; II</b>	<b>per 5 ECTS</b> case study term paper
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- **Data Security:** Information- and IT-security, goals of data security, legal framework and regulations, security concepts and standards in accordance with BSI IT basic protection and security management, security measures
- **Cyber Security:** Risk management (process cycle), cyber security measures, cryptographic procedures
- **Manufacturing Technologies:** Additive manufacturing process, procedure materials, fields of application, industrial application and sectors, economic aspects of the use of additive manufacturing processes, future scenarios and trends
- **Future Industries/ Industry 4.0:** Fundamentals and challenges of industry 4.0, technologies of industry 4.0 and their fields of application, introduction of industry 4.0 companies, practical examples for industry 4.0 in procurement, logistics etc.





**EL 5/6 Digital Mobility Management I & II**

**per 5 ECTS**  
term paper  
case study

- **Mobile Business:** Basics, potentials and development of mobile business, fields of application, legal framework for mobile commerce, mobile security
- **Mobile Technologies/Wearables:** Mobile computing, application areas of mobile technologies, mobile technologies in corporate use, future trend (learning about e.g. biometric authentication or mobile health monitoring via excursions)
- **Mobile Marketing:** Development/potential mobile marketing, market analyses and forecasts, definition/delimitation of Mobile Business, - Commerce and -Marketing, requirements/conditions mobile marketing, success factors and risks
- **Mobile Marketing Behavior:** Digital mobility, application areas of mobile solutions for information, knowledge exchange in social networks, online participation, open education, informal learning, changing lifestyles, current studies, project work

**EL 7/8 Digital Retail Management I & II**

**per 5 ECTS**  
presentation  
term paper

- **Digital Retail Business Management:** Digital distribution strategies, success factors, in e-commerce, electronic markets, shop concepts and systems, development/operation of an online shop, online trading, e-payment, security, practical exercises
- **Digital Retail Market Management:** Digital trade marketing, online marketing strategy, marketing mix in online trade, marketing process, instruments of online trade marketing
- **E-Commerce Technologies:** Technological foundations of e-commerce, online shop systems, content management systems, practical application of SEO and SEA, conception and implementation of an e-commerce solution in group work
- **Commercial Law:** Selected aspects and cases in a certain field (e.g. commercial law, internet law, law of e-commerce, contract law in e-commerce, competition law, copyright on the internet, data protection and data security, domain law)



**EL 9/10 Start-up Management I & II**

**per 5 ECTS**  
presentation  
case study

- **Business Plan Development:** Purpose/benefits of a business plan, special features/success factors for start-ups in the digital economy, idea generation/evaluation, market/industry analysis, marketing/communication, financial programming
- **Business Simulation Game:** Simulation game e.g. Topism, business ideas/models, market analysis, raising of capital, capacity utilization, product launch/-life cycle, company valuation, investment calculation, accounting
- **International Business Development:** Basic terms (business development, internationalization, international companies, forms of internationalization), market entry strategy, business plan preparation, organization, business development
- **Intercultural Management:** Culture and personality, corporate culture and national culture, culture-related aspects of management, practical exercises to train awareness of culture-related behavior, tools for intercultural management

**EL 11/12 Digital Research and Development I & II**

**per 5 ECTS**  
portfolio exam  
presentation

- **Data Mining:** Relevant data, databases and information, big data, smart data, knowledge discovery in databases, data mining, exercises
- **Forecasting:** Approaches to forecasting, types of forecasts, forecasting methods, quality measurements of forecast
- **Product Development:** Strategic product development, requirements analysis, determining product requirements, customer benefits as product profiles, generation-, selection-, evaluation- and presentation of product idea, industrial property rights
- **Research and Development Project:** Steps of the product development process, practical development work, presentation, documentation, evaluation

**IN TOTAL :**

**180 ECTS**

