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# DIGITAL PROGRAMMES

How DOES IT WORK

WATER WALL  
GRAFFITY

Ownership  
INTERACTIVE

WATER  
RAIN ROOM

~~APP WATER BLUE~~  
GRAFFITY WALL APP

DIFFERENCE

BLUE TOOTH

- LIBRARY CARD
- OWNERSHIP ARCHIVE

- WELCOME SCREEN

- ARTWORK ✓

SENSE OF TRUST

VIEW OF THE RAIN ROOM  
FRAM OUTSIDE

**kea**

COPENHAGEN SCHOOL OF DESIGN AND TECHNOLOGY

KNOWLEDGE ALONE IS NOT ENOUGH. YOU NEED SKILLS.

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**AT KEA, KNOWLEDGE  
ALONE IS NOT ENOUGH.  
YOU NEED SKILLS.**



**STUDENT ENVIRONMENT**

# KEA DIGITAL

KEA Digital offers business-oriented study programmes covering a wide range of skills from programming, processes and systems to business development, digital design and concepting. KEA Digital has approximately 1800 students, over one third of whom are international full-degree

students. This makes KEA Digital the largest and most international department at KEA.

KEA Digital offers six programmes taught entirely in English and accepts incoming exchange students to all of them:

<p><b>BACHELOR'S TOP-UP</b> 1½ YEARS / 90 ECTS</p> <p>—</p> <p>WEB DEVELOPMENT      ●</p> <p>SOFTWARE DEVELOPMENT      ●</p> <p>DK INT</p>	<p><b>BACHELOR'S</b> 3½ YEARS / 210 ECTS</p> <p>—</p> <p>BUSINESS ECONOMICS AND IT      ● ●</p> <p>DK INT</p>
<p><b>AP DEGREE</b> 2 YEARS / 120 ECTS</p> <p>—</p> <p>COMPUTER SCIENCE *      ● ●</p> <p>MULTIMEDIA DESIGN      ● ●</p> <p>DK INT</p>	

\* 5 SEMESTERS / 2½ YEARS / 150 ECTS

Although there is some variation between programmes, the teaching is generally case-based and involves group work. All programmes focus on preparing students to implement their

IT skills and knowledge in a business context. Lecturers have practical business experience and many draw on their business connections in case projects.



All students complete a compulsory (unpaid) internship, which lasts either 10 or 20 weeks, depending on the programme. Internships often take place in IT and Digital Design companies, but may also be done in a wide range of other businesses. Internships allow students to test what they have learned in practice and contribute enormously to their development as professionals in their field.

In keeping with the concept of lifelong learning, it is important that students take responsibility for their own learning – to an increasing degree as they progress through their studies and grow into professionals.

Lecturers provide continuous feedback to help students develop within the field, but students should be prepared to make and discuss their own decisions. There are approximately twenty contact hours between lecturers and students but the programme requires full-time study (approximately 37 hours/week) and students are expected to work independently and in groups on projects outside the contact hours.

Exchange students should be aware of these requirements and be prepared to challenge themselves with a new way of working if they are used to a different approach to teaching and learning from their home institutions.



## GLOBALISED EDUCATION

### EXCHANGE STUDENTS – INCOMING AND OUTGOING

All programmes have opportunities for incoming and outgoing students, which are detailed in the individual programme descriptions in this brochure.

At KEA, the autumn semester runs from late August until late January, while the spring semester runs from the beginning of February until late June.

Exams for the autumn semester are held in January. If the semester at the partner institution starts at the beginning of January, every effort will be made in collaboration with the partner institution to permit incoming exchange students to KEA and outgoing exchange students from KEA to complete the required exams that take place in January at KEA.

Arrangements may be made, for example, to take oral exams virtually (e.g. on Skype) if this is acceptable to the partner institution.



### INTERNSHIP AND CULTURAL DIVERSITY

**8%** OF OUR STUDENTS ARE IN INTERNSHIP ABROAD

**71** DIFFERENT NATIONALITIES CAN BE COUNTED AMONG KEA STUDENTS

**80** PLUS INTERNATIONAL INSTITUTIONS HAVE A PARTNERSHIP WITH KEA



**COMPUTER SCIENCE** <sup>DK/INT</sup>

# DO YOU WANT TO TRANSLATE YOUR PASSION FOR PROGRAMING INTO VALUABLE EDUCATION?

Computer Science is a 2 ½-year programme focusing on databases and their structure. Students learn to program and to develop and maintain IT systems as well as to analyse business requirements and implement solutions. The teaching combines classroom instruction and individual and group project work. A cross-disciplinary, application

-oriented approach is taken. Close ties to the business community are fostered, for example, by students writing papers in cooperation with public sector organisations or private sector businesses. A mandatory ten-week internship in a relevant business ensures that students have the opportunity to use their competences in practice.

**2½ YEARS**  
**5 SEMESTERS**  
**150 ECTS**

Programme start:  
Summer and Winter

Language of  
instruction: English

Learn more:  
**KEA.DK/CS**

1	2	3	4	5
PROGRAMMING		ORGANISATION AND IT	ELECTIVES	INTERNSHIP
ORGANISATION AND IT	TECHNOLOGY			FINAL PROJECT
SYSTEM DEVELOPMENT		OPEN TO EXCHANGE		

**JOB OPPORTUNITIES**

Typical jobs for a computer scientist include web developer, systems administrator/developer, programmer, IT consultant and system designer.

**FURTHER EDUCATION**

Possibility of continuing to a 1½ year top-up BA in Software Development, Web Development or Digital Concept Development at KEA. Possibility of applying for a BSc in IT Technology or Software Engineering at DTU.

**EXCHANGE**

**OUTGOING EXCHANGE STUDENTS**

KEA Students can go on exchange in their 4th semester, which consists of 30 ECTS of electives. This means that they have flexibility in their choice of courses as long as they are within the field of Computer Science. They can also take math-based IT courses.

**INCOMING EXCHANGE STUDENTS**

Exchange students are accepted to the 3rd and 4th semesters. There is only one intake per year (summer), so the 3rd semester is always in the autumn and the 4th in the spring.

There is a focus on group work and project management. Please note as well that in contrast to Computer Science programmes at many other institutions, KEA's programme does not include mathematics.



## 3<sup>RD</sup> SEMESTER COURSES

### SYSTEM DEVELOPMENT: 10 ECTS

System Development is designed to provide students with the competencies to participate professionally and efficiently in the development of IT systems with relevant qualities.

Moreover, the core area is intended to enable students, from initial idea to running system, to further develop and integrate IT systems on a systematic basis using situation-specific, modern system development methods and techniques.

In the 3rd semester, students will learn how to choose a situation-specific system development method and work systematically with this method on a specific project. Students will be introduced to different agile processes in general and get a thorough introduction to SCRUM.

Students will hand in one mandatory assignment during the semester, which will allow them to take the exam in System development held at the end of semester.

### TECHNOLOGY: 10 ECTS

Technology is designed to provide the students with the competencies to help select and apply technology in connection with system development

and programming of IT systems, and provide the student with basic knowledge of technological aspects.

This course deals with security-related threats, the use of virtualisation, programming interfaces for communication purposes and the use of application protocols when developing distributed systems.

### PROGRAMMING: 10 ECTS

Programming is designed to provide the students with the competencies to efficiently and professionally implement IT systems with relevant qualities using modern, up-to-date programming techniques and software construction tools.

The student will learn to construct programs that support multiple simultaneous users and are based on collaborative processes in a distributed architecture. Additionally, the student will learn to develop software components and web applications.

There is one interdisciplinary exam for Technology (20% of the grade) and Programming (80% of the grade). In order to take the exam, students must hand in two mandatory assignments.

## 4<sup>TH</sup> SEMESTER COURSES

The 4th semester consists entirely of electives. The number and type of electives offered depend on the number of students enrolled in a particular semester and the interest of certain topics.

A catalogue is put out the semester before and shortly before the beginning of the semester, a decision is made on which electives will be offered based on the number of students who have signed up for each one. Often the same electives are offered, as they cover popular and highly relevant topics.

Examples of electives are:

“Front-end Web Programming with Angular 2 and UX”, “Web Development with ASP.NET Core MVC”, “C Programming for Devices” and “IT Security”.

Each elective is worth 10 ECTS and students must hand in two mandatory assignments to be allowed to take the exam.

**MULTIMEDIA DESIGN** DK/INT

# DO YOU WANT TO DEVELOP FRONTEND AND CREATE UX & SOCIAL MEDIA?

There are five main elements in the Multimedia Design programme:

- User Interface Development
- User Experience (UX)
- Content Production
- Business
- Technology

As a student on this programme, you will work with all levels of the digital design process. During your studies, you will be in close contact with the business community and do projects together with different companies and organisations. We focus particularly on innovation and entrepreneurship and cooperate with a wide variety of agencies, companies and cultural organisations.

**2 YEARS**  
**4 SEMESTERS**  
**120 ECTS**

Programme start:  
Summer and Winter

Language of instruction: English

Learn more:  
[KEA.DK/MMDINT](http://KEA.DK/MMDINT)

1	2	3	4
DESIGN AND PROGRAMMING OF DIGITAL USER INTERFACES 1	DESIGN AND PROGRAMMING OF DIGITAL USER INTERFACES 2	ELECTIVES: FRONT-END DEVELOPER CONTENT CREATOR	INTERNSHIP
DESIGN AND PROGRAMMING OF DIGITAL CONTENT 1	DESIGN AND PROGRAMMING OF DIGITAL CONTENT 2		FINAL PROJECT
<b>OPEN TO EXCHANGE</b>			

**JOB OPPORTUNITIES**

Web designer, Frontend designer, Frontend developer, SoMe Manager, Content manager, Content creator.

**FURTHER EDUCATION**

Possibility of continuing to a 1½ year BA top-up in Design & Business or Web Development at KEA. Then you can apply for a Master's programme at the IT University of Copenhagen or pursue further studies abroad.

**EXCHANGE**

**OUTGOING EXCHANGE STUDENTS**

KEA students can go on exchange in their 3rd semester.

It is important that they take courses at the partner institution that match the courses they would have taken at KEA. This means that the students should have mainly courses focusing on creating digital content for web: UX Design, User Interface Design, front-end programming, digital video, and digital business knowledge.

Courses combining elements of programming and design, such as 3D development, digital video and games programming would be good choices for KEA Multimedia students.

**INCOMING EXCHANGE STUDENTS**

Exchange students are accepted to the 3rd semester. They are required to have some basic programming skills in HTML, CSS and Javascript as well as basic skills in Adobe Creative Suite software. As there is winter and summer intake in the Multimedia Design programme, the 3rd semester can be taken in the autumn or spring.

## 3<sup>RD</sup> SEMESTER COURSES

The 3rd semester of Multimedia Design consists of the following core subject areas:

- User Interface Development: 15 ECTS
- User Experience (UX): 5,1 ECTS
- Content Production: 5,1 ECTS
- Business: 2,4 ECTS
- Technology: 2,4 ECTS

The core subject areas are taught in smaller interdisciplinary modules that last between 2 and 7 weeks, and you can choose an overarching specialization that will direct the content of your modules. Examples of a specialization are:

### FRONTEND DESIGN

In front end design you will work extensively with HTML, CSS and JavaScript to create advanced interactive web applications. There will be an increased focus on the technical aspects, but with the visual design and user experience in mind.

Programming is at the core of frontend design, as is an in-depth understanding of the fundamentals. In addition, modern tools and frameworks for efficient development and deployment are introduced.

### PERSUASIVE CONTENT

The purpose of the elective is to qualify the student to undertake the design and production of audio-visual content, focusing on idea development, communication, storytelling and strategic content production across media platforms.

The semester will focus on, the user experience across digital media platforms, the creation of video content & marketing, immersive UX, data visualization, animation / explainers, social media content, interface design & CMS, exploring digital media trends with the purpose creating targeted digital content.

### ASSESSMENT

The 3rd semester ends with an exam that covers the whole semester. The exam consists of a project hand-in and an oral exam. Students must hand in a number of mandatory assignments throughout the semester in order to gain access to the exam.





## BA TOP-UP: WEB DEVELOPMENT <sup>INT</sup>

# DO YOU WANT TO DESIGN AND PROGRAM WEB APPLICATIONS?

The 1 ½-year top-up programme in Web Development covers the design and construction of web applications of all sizes. Students work creatively with coding, creating realistic projects while they improve their development and programming skills to a professional level. Students in this program come

from both programming heavy Computer Science and Design focused Multimedia Design. Close contact with the business community is emphasised, with students writing assignments in cooperation with businesses and doing an internship to test their competencies in practice.

**1½ YEARS**  
**3 SEMESTERS**  
**90 ECTS**

Programme start:  
Summer and Winter

Language of  
instruction: English

Learn more:  
**KEA.DK/WEB-  
DEVELOPMENT**

1	2	3
WEB DEVELOPMENT	DEVELOPMENT ENVIRONMENTS	INTERNSHIP
INTERFACE DESIGN	ELECTIVES	
DATABASES		FINAL PROJECT
OPEN TO EXCHANGE		

### JOB OPPORTUNITIES

Front or Back-end Developer, Programmer, Web Master, Web Shop Developer or Web Designer.

### FURTHER EDUCATION

With a BA top-up in Web Development, you can apply for a Master's programme, for example at the IT University of Copenhagen or at DTU, or pursue further studies abroad.

### EXCHANGE

#### OUTGOING EXCHANGE STUDENTS

KEA students can go on exchange in their 2nd semester and will need to find a course combination that is similar to what they would have had at KEA.

Courses relevant for Web Development students deal with Java, C# or other web based technologies. Courses with a heavy focus on math or physics are not normally a good match for these students.

#### INCOMING EXCHANGE STUDENTS

Exchange students are accepted to the 1st and the 2nd semester. Incoming students should be aware that the 1st semester is equivalent to the 5th semester of a BA programme, while the 2nd semester is equivalent to the 6th semester of a BA programme.

The prerequisite is three semesters of study within a related field with a focus on programming. As there is summer and winter intake to the programme, these semesters can be taken in the autumn or the spring semester.

## 1<sup>ST</sup> SEMESTER COURSES \*

### WEB DEVELOPMENT: 10 ECTS

This module is divided into two themes:

**Back-end Programming**, where the students work with design patterns, fundamental protocols of the World Wide Web and the advantages and limitations of client/server architecture. They learn to create web-based programs, apply basic programming principles, use web APIs and document program structures.

**Front-end Programming**, where the students work with fundamental protocols of the World Wide Web, advantages and limitations of client/server architecture, particular characteristics, weaknesses and strengths of different media. They learn to program and implement a dynamic web application, build suitable interfaces for applications and establish the communication from the user interface to the backend system.

### DATABASES: 10 ECTS

This module covers database systems, concepts and architectures on an intermediate level. The students will, among other things, work with ER modelling; SQL DDL and SQL DML statements; views, cursors, authorisations and permissions; indexing and DB optimisation; database normalisation; stored procedures, user-defined functions,

triggers, transactions, and prepared statements; accessing databases from a web application; introduction to No-SQL DB.

### INTERFACE DESIGN: 10 ECTS

The module covers the connection between functionality and design, working with themes such as Visual Design (Visual Styles, Colors and Typography), Information Architecture (for example Navigation and Content Organisation, Complex Data Display, and Responsive Design using Flexbox and Media Queries) and Interaction Design (for example Forms and Actions, Performance Optimisation, and Transitions and Animations).

Students must complete a number of mandatory assignments in each class to be allowed to take the exams at the end of semester. Each class will have an individual exam.

\* Equivalent to the 5th semester of a BA programme

## 2<sup>ND</sup> SEMESTER COURSES \*

### DEVELOPMENT ENVIRONMENTS: 10 ECTS

The objective of the module is to enable students to develop modern web applications using the object-oriented programming paradigm and the opportunities provided by the asp.net MVC Framework while working with the Integrated Development Environment Visual Studio. During the module, students will gain knowledge of a strongly typed programming language (C#); knowledge of a Version Control System (Git); object oriented programming skills; and familiarity with the asp.net MVC framework and Visual Studio 2015.

### ELECTIVES: 20 ECTS

Two elective courses are determined at the start of the semester. These may be selected from the list of electives, but are not limited to these.

Examples: Android Development (10 ECTS), iOS Development (10 ECTS) Human Computer Interaction (10 ECTS), Project Management (10 ECTS). Some electives are held jointly with students from the Software Development programme.

Students must complete a number of mandatory assignments in each class to be allowed to take the exams at the end of semester. Each class will have an individual exam.

\* Equivalent to the 6th semester of a BA programme



**BA TOP-UP: SOFTWARE DEVELOPMENT <sup>INT</sup>**

**DO YOU DREAM ABOUT A FUTURE WITHIN THE SOFTWARE INDUSTRY?**

In the top-up programme in Software Development, students learn how to design and program large, data-heavy and distributed systems. They work with all of the various aspects of the software development process, such as databases, contracts, tests, system integration, project management and system development.

Students in Software Development usually come from a Computer Science program.

There is close contact to the business community. For example, students write assignments in cooperation with a business and do an internship in a business to test their competences in practice.

**1½ YEARS**  
**3 SEMESTERS**  
**90 ECTS**

Programme start:  
Summer and Winter

Language of  
instruction: English

More info:  
**KEA.DK/SD**

1	2	3
DATABASES FOR SYSTEM DEVELOPERS		INTERNSHIP
SYSTEM INTEGRATION		
DEVELOPMENT OF LARGE SYSTEMS		
TEST		FINAL EXAM PROJECT
ELECTIVES		
OPEN TO EXCHANGE		

**JOB OPPORTUNITIES**

Software Developer, Technical Project Manager, Software Analyst, Software Programmer or IT Architect.

**FURTHER EDUCATION**

With a BA top-up in Software Development, you can apply for a Master's programme, for example at the IT University of Copenhagen or at DTU, or pursue further studies abroad.

**EXCHANGE**

**OUTGOING EXCHANGE STUDENTS**

KEA students can go on exchange in their 2nd semester and need to find a course combination that is similar to what they would have had at KEA. Outgoing exchange students are allowed to take math or physics based courses according to individual qualifications, but for KEA students in general these courses are not the best match.

**INCOMING EXCHANGE STUDENTS**

Exchange students are accepted to the 1st or the 2nd semester. Both spring and fall semester have a 1st semester class and a 2nd semester class. Incoming students should be aware that 1st semester is equivalent to the 5th semester of a BA programme, while the 2nd semester is equivalent to the 6th semester of a BA programme.

## 1<sup>ST</sup> SEMESTER COURSES \*

### TESTS: 10 ECTS

Students learn to plan and execute tests. They also gain an understanding of the strategic role of testing in the development process and the skills to be responsible for the internal QA in a project.

Students plan a test sequence based on a test model; use black-box and white-box test techniques; do both verification and validation; ensure traceability between requirements and tests at all levels; use tests for quality assurance during development; construct tests that verify upholding contracts, including internal contracts for subsystems; use techniques and tools to automate various kinds of tests; and build systems to monitor test and error handling during development.

### DATABASE FOR SYSTEM DEVELOPERS: 10 ECTS

The objective of this module is to qualify the student to be able to select and utilise different types of databases appropriately in relation to different domains of application.

In addition, the student should be able to analyse and work with large databases, including redesigning and optimising their performance.

The following themes and technologies will be explored: Database Fundamentals; SQL; database development lifecycle, business analysis and data modeling; database design and normalisation; database programming and implementation; OLTP, transactions management and optimisation; ORM, object-relational mapping; database administration, management, and maintenance; introduction to business intelligence, data warehousing, OLAP, and data mining; introduction to big data and NoSQL databases; and introduction to cloud computing with databases.

### ELECTIVE: 10 ECTS

Electives are determined at the start of the semester and some are held jointly with students from the Web Development programme.

Examples of electives are Software Design Patterns, iOS App Development, Big Data, Quantum Computing and Web Security. Each elective counts for 10 ECTS.

Students must complete a number of mandatory assignments in each class to be allowed to take the exams at the end of semester. Each class will have an individual exam.

\* Equivalent to the 5th semester of a BA programme

## 2<sup>ND</sup> SEMESTER COURSES \*

### SYSTEM INTEGRATION: 10 ECTS

This course studies the process of integrating different systems and software applications by examining current and emerging trends, strategies, and techniques for developing systems integration solutions effectively.

Example topics covered include, but are not limited to: implementing integration solutions using service oriented architecture; designing integration solutions reusing patterns; documenting integration requirements using business process models; IDE functionality and components, programming tools and utilities; development of methodologies and visual modeling instruments; object-oriented programming in Java; Java-based technologies, web services and integration.

Technologies used in the class include Java, Net-Beans IDE TomCat, GlassFish, Camel framework and MySQL

### DEVELOPMENT OF LARGE SYSTEMS: 10 ECTS

The aim of the subject element is to train the student to develop large-scale IT systems, where scalability is a key characteristic. The student must have knowledge of how key system development

methods handle issues related to scalability and the development of large distributed systems. The student must have knowledge of concepts, techniques and technologies for the continuous integration and delivery of software-based systems. The student must be able to design, implement, and maintain large distributed systems in distributed development teams.

### ELECTIVE: 10 ECTS

Electives are determined at the start of the semester and some are held jointly with students from the Web Development programme.

Examples of electives are Software Design Patterns, iOS App Development, Big Data, Quantum Computing and Web Security. Each elective counts for 10 ECTS.

Students must complete a number of mandatory assignments in each class to be allowed to take the exams at the end of semester. Each class will have an individual exam.

\* Equivalent to the 6th semester of a BA programme



**BA: BUSINESS ECONOMICS AND IT <sup>DK/INT</sup>**

# KEEN ON HAVING AN ENTREPRENEURIAL CAREER IN BUSINESS AND IT?

This unique programme provides the students with a solid base of skills to work with IT business analysis, digital business development, businesses and their relation to society and the economy,

change management and IT-management. Business Economics and IT trains the students to use relevant theory and methods for innovative and analytical thinking, planning and execution.

**3½ YEARS**  
**7 SEMESTERS**  
**210 ECTS**

Programme start:  
Summer

Language of instruction: English

Learn more:  
[KEA.DK/BEIT](http://KEA.DK/BEIT)

1	2	3	4	5	6	7
MICRO-ECONOMICS	MACRO-ECONOMICS	BUSINESS STRATEGY		ELECTIVES/ STUDYING ABROAD	INTERNSHIP	PHILOSOPHY OF SCIENCE AND PROJECT METHODOLOGY
BUSINESS ECONOMICS		INNOVATION & ENTREPRENEURSHIP				BACHELOR PROJECT
ORGANISATION		STRATEGIC MARKETING	INFORMATION TECHNOLOGIES			
SOFTWARE CONSTRUCTION		INFORMATION TECHNOLOGIES				
SYSTEMS DEVELOPMENT						
COMMUNICATION & PRESENTATION	SUPPLY CHAIN MANAGEMENT		BUSINESS LAW			
OPEN TO EXCHANGE						

**JOB OPPORTUNITIES**

You will be able to work within IT and leadership, i.e. project management, business processes, systems development, management and IT consulting or follow the path as an entrepreneur.

**FURTHER EDUCATION**

With a BA in Business Economics and IT, you can apply for a Master's programme or pursue further studies abroad.

**EXCHANGE**

**OUTGOING EXCHANGE STUDENTS**

KEA students can go on exchange in their 5th semester (autumn). The students can choose to focus on marketing and business or IT and Systems Development or to study a combination of the two.

**INCOMING EXCHANGE STUDENTS**

Exchange students are accepted to the 3rd and 5th semesters (autumn) and the 4th semester (spring). Prerequisites are basic training in programming and databases along with business courses, such as organisational theory and micro/macro economy.

## 3<sup>RD</sup> SEMESTER COURSES

During the 3rd semester, students work within the following subjects:

- Understand and work with business strategy and strategic marketing
- Identify and describe strategic IT applications
- IT governance and IT security
- Understand and work with supply chain management and ERP systems
- Understand IT technologies
- Project management (planning, QA and leadership)
- Modelling of IT systems and UX

The semester consists of three interdisciplinary modules and concludes with an oral exam in all three.

### **MODULE 1 STICK TO WHAT YOU DO BEST**

Business strategy, Information technologies, project management, SCRUM.

### **MODULE 2 GET IT OUT, WHERE?**

Strategic marketing, creating an IT system using UML and a developing tool, business strategy.

### **MODULE 3 MAKING THE WORLD GO ROUND**

Supply chain management, ERP, IT Governance, BPM, QA and project management.

Students who pass the exam are granted 10 ECTS in Business Strategy, 5 ECTS in Strategic Management, 5 ECTS in Information Technology and 10 ECTS in Systems Development.

## 4<sup>TH</sup> SEMESTER COURSES

During the 4th semester, students work within the following areas:

- Bringing IT, innovation, systems development, service management and business strategy together for business development
- How to create requirement specifications for IT systems
- Understanding and working with IT strategy, complex systems development and IT architecture
- Project management of complex projects
- How to handle innovation and how to start up your own company.

The semester consists of three interdisciplinary modules and concludes with an interdisciplinary exam.

### **MODULE 1 BUSINESS DEVELOPMENT**

Digitalisation, service management, cloud computing, creativity and innovation, start-ups, MIS and business strategy.

### **MODULE 2 IT STRATEGIES AND SOFTWARE ACQUISITION**

Managing IT projects and optimising business processes; building and managing systems; IT distributed systems and IT client server architecture; user requirements and QA.

### **MODULE 3 SYSTEMS DEVELOPMENT AND INTEGRATION**

Creating an IT strategy; IT web services and security; IT systems architecture; financial management of IT.

Students who pass the final exam will be granted 10 ECTS in Business Strategy, 5 ECTS in Information Technologies, 10 ECTS in Systems Development, and 5 ECTS in Innovation and Entrepreneurship.



## **5<sup>TH</sup> SEMESTER COURSES**

The 5th semester consists of two electives, each worth 15 ECTS. The electives are chosen by popular demand before the semester starts and may vary from semester to semester.

Examples of electives are:

### **BUSINESS PROCESS MANAGEMENT**

The course will introduce the student to techniques and tools for discovering, modelling and deploying business processes as well as to applications using the state-of-the-art cloud-based design and simulation tools for BPMN process modelling IBM Blueworkslive.

A special emphasis will be put on hands-on experience with IBM BPM tools from modeling to execution of a BPM application through cases designed in collaboration with industry partners.

### **ERP AND SAP S/4HANA®**

ERP systems play a central role in many modern organizations IT environment, supporting both strategic goals and the more daily operations taking place in the company.

The student will gain knowledge how ERP systems work through the introduction to the SAP S/4HANA®

(Cloud based) ERP system and also gain a better understanding about the business processes that ERP systems support.

More importantly the student will gain experience in executing standard processes in SAP S/4HANA®.

### **IoT AND DATA ANALYTICS**

The course will give the student deeper knowledge about both IoT and Data Analytics.

The student will learn about different IoT development suites and systems, and be able to participate in or lead an IoT project in a future job position.

The student will obtain knowledge about how IoT and Data Analytics can be combined for optimisation or creating new business models.





## WORKSHOP FACILITIES

# KEA IS A PLAYGROUND, A COMMUNITY, A WEALTH OF ACTIVITIES AND RESPONSIBILITIES

KEA Digital's programmes are taught in three buildings located in close proximity of each other; all courses from the same programme are taught in the same building. There are both traditional classrooms and rooms or areas for group work. All buildings have wifi and printing services but students are expected to bring own their computers to classes.

Some classes require that students have certain programs installed – if a cost is involved, students must pay for themselves, but there are often student discounts. All KEA students have access to the KEA library, which has many online resources and Material Connection as well as KEA Makerlab, which offers an introductory workshop at the start of each semester.

### KEA LIBRARY

An essential part of KEA is the library service. The staff provides profound guidance to students, lecturers and external stakeholders. At the library the students will find inviting and inspiring surroundings with room for both immersion, group work and lively conversations.

Everybody at KEA is automatically registered as a loaner at the library. The library collection is divided into 7 zones: Media & IT, Design, Business, Technology, Optometry, Building and Study. The library keeps a copy of all curriculum books so the students can look at them whenever they need to. More information at [bibliotek.kea.dk](http://bibliotek.kea.dk)

### MATERIAL DESIGN LAB AND MATERIAL CONNEXION

Material Design Lab is an interdisciplinary space for everyone who would like to expand their knowledge about materials. It provides facilities for hands-on material studies, holds courses, events and extracurricular activities and gives insight into current development and research projects.

In autumn 2013, KEA became the seat of the largest material collection in the Nordic region, a project carried out in collaboration with Material ConneXion in New York. Material ConneXion includes approximately 1,500 physical samples on display and gives online access to more than 7,000 material samples. More information at [materialdesignlab.dk](http://materialdesignlab.dk)

## LIBRARY AND MATERIAL CONNEXION

# 13000

BOOKS ARE WAITING TO BE BORROWED. STUDENTS CAN HAVE THE BOOKS 30 DAYS AT A TIME

# 1500

PHYSICAL SAMPLES CAN BE FOUND AT MATERIAL CONNEXION IN GULDBERGSGADE

# 7000

CATALOGUED MATERIALS AND THEIR PROPERTIES ARE AVAILABLE ON THE ONLINE DATABASE





## WORKSHOP FACILITIES

# CREATIVE ENVIRONMENTS AT EVERY CORNER

At KEA, there is a new challenge around every corner. The students have endless opportunities to experiment and develop ideas into products in the different workshops and labs, which are equipped with everything from CNC milling machines and 3D printers to a wide range of digital hardware. KEA also has cozy corners, roof terraces, cafes and bars that the students can use for meetings and socialising.

### TECH LOUNGE

The Tech Lounge is located at KEA, Lygten 16 and it's loaded with new technology. Students can loan equipment, use the green screen room, use the UX lab and experiment with new technologies. Computer Science students can also learn C programming from the programmable Märkel train track.

The Tech Lounge hosts regular events about virtual reality, drone flying, Blockchain, and much more. More information at [kea.dk/techlounge](http://kea.dk/techlounge)

### WEARABLES LAB

At Wearables Lab, the students can learn the basics of electronics, build their own wearable devices, understand the role and need of wearable electronics today and how they can combine their imagination and knowledge to create new and unique devices.

The Wearables Lab is located at KEA, Guldbergsgade 29N. More information at [keawearables.com](http://keawearables.com)

### KEA MAKERLAB

KEA's prototype workshop can be found across from the reception at KEA, Guldbergsgade 29N. Here the students have access to several workshop facilities, including a wide range of machines and equipment like a CNC milling machine, a laser cutter or different 3D printers, allowing them to elaborate on their ideas from the concept to the final product.

More information at [kea.dk/kealabs/workshopgbg](http://kea.dk/kealabs/workshopgbg)



**FROM KNOWLEDGE TO PRODUCT**

- 5** CAMPUSES IN CENTRAL COPENHAGEN HOUSE ALL FULL-TIME PROGRAMMES
- 7** INTERDISCIPLINARY WORKSHOPS/LABS AND 30 TEACHING WORKSHOPS
- 2** OPEN HOUSES ARE HELD EVERY YEAR IN FEBRUARY AND NOVEMBER SHOWCASING THE STUDENTS WORK





**KNOWLEDGE ALONE IS NOT ENOUGH.  
YOU NEED SKILLS.**

**CONTACTS**

**Sophia Vejlgard**  
Head of KEA Global  
sopv@kea.dk

**Anne Dibbern**  
International Mobility Coordinator  
KEA Digital  
annd@kea.dk

More contact information at  
[global.kea.dk/contact-us](http://global.kea.dk/contact-us)

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