JÖNKÖPING UNIVERSITY
School of Engineering

PROGRAMME SYLLABUS
Preliminary, not confirmed

Graphic Design and Web Development, 180 credits

Grafisk design och webbutveckling, 180 högskolepoäng

Programme Code:	TGGD5	Programmestart:	Autumn 2028
Confirmed:		Education Cycle:	First-cycle level

Title of Qualification

Degree of Bachelor of Science with a major in Informatics specialisation Graphic Design and Web Development

Filosofie kandidatexamen med huvudområdet informatik inriktning Grafisk design och webbutveckling

Programme Overview

Main field of study

The main field of study Informatics is defined as the study of the creation and use of information systems. Studies in the field include:

- IT systems, IT applications, IT infrastructures, and IT-based services and products
- Development and change of IT support
- Use of IT in organizational contexts, both public and private
- Humans in professional and non-professional settings, such as developers and users of IT
- The mutual influence between IT and individuals, organizations, and society
- Conditions for and effects of IT design and use

Scientific studies in Informatics are conducted from both positivist and interpretative perspectives. Common research approaches within the field include case studies, interviews, surveys, action research, participatory design, and design science. Other predominant methods for collecting empirical data are focus groups, observations, and document studies. Informatics takes an interdisciplinary approach, often incorporating theories from reference disciplines such as business administration, economics, sociology, and psychology.

Informatics is distinct from computer and systems science as well as cognitive and information science. Computer and systems science studies information technology from a technical and natural sciences perspective, while cognitive and information science focuses on human cognitive interaction with information systems.

Through studies in informatics, knowledge and understanding are developed regarding how IT is used and creates value in organizations. The ability to analyze, assess, and manage complex strategic IT-related issues and situations is established. Additionally, skills are developed in applying methods for leadership and management of and controlling complex IT projects in various organizational contexts, as well as eliciting and defining requirements, procuring, implementing, and evaluating the usability of information systems to solve problems for individuals, organizations, and society.

Background

A design strategy based on in-depth knowledge of digital media, user experience, and visual communication is the key to being able to create and maintain satisfactory messages, products and services for the benefit of both businesses and society. The *Graphic Design and Web Development* programme is planned to provide multidisciplinary knowledge for various professions associated with the digital world of today and tomorrow, in which information, communication and technology come together to create societal benefits.

The programme will provide knowledge about how the communicative message reaches the user in the intended manner. Creating digital platforms and other communication channels that are user-friendly and adapted to suit the target group are also important elements of achieving the objectives of the programme.

In addition, the programme will provide a scientific foundation enabling continued studies to be carried out at second-cycle level within informatics and will also be of such an applied nature that students are employable immediately after completing the programme.

Objectives
The bachelor's programme aims to create an understanding of – and provide knowledge of – how digital products, services and messages are designed to achieve customer satisfaction and to meet the user's needs. The aim of the programme is also to clearly integrate current research within applicable areas of the field of informatics and specific knowledge in relation to design processes, working models and concept development methods. The objective is that, on graduation, students should have both an overall perspective and the skills needed in order to be able to work within the digital media industry.

Post-graduation employment areas
There are many different professional roles within the main area of informatics, and the programme provides the basic knowledge needed to work as a graphic designer, user experience designer, a web designer, a front-end programmer or with digital media production, etc. The main prospective employers are ad and communication agencies, information and marketing departments, web agencies, and design companies, as well as the daily press and magazines.

Post-graduation studies
The programme provides a basis for continued studies at second-cycle level within the main field of Informatics.

Educational concept at the School of Engineering
The education concept at the School of Engineering consists of several common elements included in the academic programmes to enhance the quality and appeal of the education, ensuring that students become professionally skilled and in demand. The concept particularly emphasizes industry collaboration and internationalization as two key components for creating successful and attractive programmes. All three- and five-year programmes include a mandatory industrial placement course (IPC) worth 15 credits and an "internationalization semester" that facilitates studying abroad. They also feature 15 credits for "broadening courses" outside the technical or core area of specialized technical knowledge.

Objectives

Common learning outcomes
After the completion of the programme, students must meet the intended learning outcomes, as described in The Higher Education Ordinance by Degree of Bachelor and also the intended learning outcomes, as described by JTH:

Knowledge and understanding
1. demonstrate knowledge and understanding in the main field of study, including knowledge of the disciplinary foundation of the field, knowledge of applicable methodologies in the field, specialised study in some aspect of the field as well as awareness of current research issues

JTH. demonstrate broadening knowledge outside the chosen engineering field for the future professional role or demonstrate knowledge within the engineering field in an international context (study abroad)

Competence and skills
2. demonstrate the ability to search for, gather, evaluate and critically interpret the relevant information for a formulated problem and also discuss phenomena, issues and situations critically

3. demonstrate the ability to identify, formulate and solve problems autonomously and to complete tasks within predetermined time frames

4. demonstrate the ability to, present and discuss information, problems and solutions in speech and writing and in dialogue with different audiences, in both national and international contexts

5. demonstrate the skills required to work autonomously in the main field of study

JTH. demonstrate ability to apply the acquired knowledge in practical work and demonstrate insight into the future career

Judgement and approach
6. demonstrate the ability to make assessments in the main field of study informed by relevant disciplinary, social and ethical issues

7. demonstrate insight into the role of knowledge in society and the responsibility of the individual for how it is used

8. demonstrate the ability to identify the need for further knowledge and ongoing learning.

Programme-specific learning outcomes
Upon completion of the program, the intended learning outcomes provided for programme must also be met:

Knowledge and understanding

9. demonstrate knowledge within the field of media design and the creation of visual content for digital media platforms
10. demonstrate knowledge of different internet-based applications and standards within the design of user experiences and interactivity

Competence and skills

11. demonstrate an ability to realise visual expressions for both digital and traditional media through a structured design process
12. demonstrate an ability to develop internet-based products and services with a focus on the user experience

Judgement and approach

13. be able to analyse and reflect on visual expressions with regard to target audiences, brand identities, aesthetic genres and design processes
14. be able to analyse and reflect on functionality and development processes as well as the user's role and experience of internet-based applications.

Contents

Programme principles

The programme is worth 180 credits, and focuses on preparing students for further studies at a higher level, and on preparing them for working life. The programme's content revolves around the areas of digital information systems, communication and user experience.

The programme's basic philosophy is to combine these areas so that students gain an overall perspective and are ready to encounter an ever-changing world within this subject. Informatics is a broad area, and the programme is located within this main area. Here, and in this context, we take informatics to mean the following: *Informatics encompasses interdisciplinary studies of the design, application, use and benefits of information technology.*

The programme is structured in accordance with the principle of basic knowledge first, and the first year consists of fundamental theories and basic skills. This involves graphic design and visual communication, user experience, programming and web development.

In the second year, these skills are integrated and deepened through project courses and theoretical courses in web development, content design, and human-computer interaction. The second academic year concludes with an Industrial Placement Course (IPC) worth 15 credits, where the student spends nine weeks at a company. The third year offers a relatively flexible semester with a wide range of choices, allowing for international studies or courses necessary for admission to a specific master's programme.

The programme concludes during the spring semester of the third year with a degree project and advanced courses in visual design and web development.

The courses place great emphasis on ensuring that both lectures and independent work help students develop their analytical skills and holistic systems thinking. The teaching consists of lectures, seminars, lab sessions, and project work. Exercises and lab sessions are designed to clearly correspond to real-life cases and scenarios. Throughout the programme, there are several project assignments directly connected to the industry.

Mandatory assignments throughout the programme are collected in the student's portfolio. Scientific methods provide an analytical and reflective approach in practical applications and project work, with a particular focus on the student's main field of study: Informatics. In the advanced courses, students are expected to independently identify and solve problems and complete project tasks within given frameworks. The technical courses are conducted from a sustainability perspective, incorporating economic, social, and environmental responsibility.

Research basis

Several of the foundational courses in the program are connected to research in marketing, communication, web development, and programming. However, the primary research connection lies within the main field of Informatics, specifically in research related to Human-Computer Interaction (HCI). The progression through courses in User Research, User Experience Design, and Advanced Digital Prototyping is linked to research within the Human Centred Technology group. In the second year, students also take a course that covers AI in the creative field its connections to Human-Computer Interaction, which is closely tied to research conducted internally within the Department of Computer Science and Informatics, as well as to external research collaborations with the industry. The course on Information Visualization also shows a clear connection to the research conducted on the subject within the department.

Equal terms, gender equality and diversity

The School of Engineering (JTH) strives in all its activities to ensure that all individuals are given equal opportunities and treated equally. At both the JU and JTH levels, this is reflected in governing documents concerning organizational and personnel matters, the establishment and delivery of programmes and courses, as well as the monitoring of educational quality. At JTH, student influence is also ensured through student representation in various educational and industry councils.

Issues related to equal opportunities, equality, and diversity are addressed in the education offered through courses such as *User Research, Fundamentals of Graphic Design, User Experience Design, Marketing Communications, Visual Communication, AI for Creativity, Advanced Digital Prototyping*, and *Final Project Work in Informatics*.

Courses in graphic design and visual communication adresses issues concerning representation and diversity in message creation, as well as inclusive perspectives on different target groups. Emphasis is also placed on presenting a broad spectrum of historical and contemporary design, including works from various regions and cultures worldwide.

In the courses *Marketing Communication* and *Visual Communication*, learning objectives address ethical considerations in message creation, including gender equality, diversity, and social sustainability.

Courses related to user experience also incorporate learning objectives that emphasize ethical considerations, with issues such as ergonomics, accessibility, equality, and inclusion being key parameters in the design process for digital products. Similarly, the course *AI for Creativity* explores ethical considerations in AI-generated content, where representation and diversity are highlighted as significant aspects.

Finally, the learning objectives for *Final Project Work* in Informatics contain societal, ethical, and social aspects, connecting to previous learning objectives and relevant course content.

Study abroad

JTH has internationalization as a focus area where the educational programmes include opportunities for both international experiences at home as well as various opportunities to do internships and study abroad, giving students valuable experiences and skills to prepare them for a global labour market.

The program includes 30 credits for an exchange semester (semester 5), in which the student can choose courses freely within the subjects of Computer Engineering, Web Development, Computer Science, Informatics, Graphic Design, User Experience Design, or equivalent. It is also permitted to take courses that enhance the education in line with the School of Engineering's broadening concept (i.e., courses in areas such as internationalization, sustainability, or project management).
Students who choose not to participate in an exchange semester follow a predetermined course package at the School of Engineering and will take the program's two broadening courses *Entrepreneurial Project* and *Trends in Informatics* and 15 elective credits at Jönköping University.

Programme Progression

The structure of the program is focused on providing students with interdisciplinary knowledge in the main field of Informatics. In the first year, the courses offer fundamental knowledge and principles in graphic/visual design and technology, as well as insights into internet-based applications and their development. Additionally, basic studies in human-computer interaction, user experience, and programming are included. After the first year, students should possess sufficient theoretical and practical knowledge to create simple productions within each respective area.

In the second year, the program offers more advanced knowledge in the above areas, and students will also gain an understanding of how information, communication, and technology together create value for society and individuals. The concept of "User Experience Design" is also explored in greater depth during the second and third year. Students will learn and undertake applied projects on how to create various types of digital solutions and services with visual and graphic expressions that ensure a consistent user experience across different platforms.

Gradually, students' methodological knowledge is deepened in both design principles and concepts related to web development and programming. During the industrial placement course in the second year, students apply and solidify their theoretical knowledge practically at a company, organization, or similar, over an extended period, to be well-prepared for their future careers. Through the degree project and the industrial placement course, students gain insight into their need for continued competence development and additional knowledge within their field. Sustainable development, one of the core principles of the School of Engineering, is emphasized throughout the program.

In the third year, the conceptual thinking expands during the work on the degree project. Theoretical knowledge is woven into projects where students must consider ethical values, cognition, utility effects, design principles, and economic conditions, providing a holistic perspective on how digital solutions and users interact, including both the possibilities and limitations. Planning and execution of the project involve target group and competitor analyses, user tests, personas for method and channel selection, and more. Relevant research in the field is introduced already in the first year and is continuously developed throughout the program, ensuring that students feel comfortable discussing pertinent research questions.

Courses

Course changes can occur, as long as they do not substantially affect the programme's content and learning goals.

Mandatory Courses

Semester	Course Name	Credits	Main field of study	Specialised in	Course Code
1	User Research	7.5	Informatics	G1N	TASG15
1	Fundamentals of Graphic Design	7.5		G1N	TGGG11
1	Foundations of Programming	7.5	Informatics	G1N	TGPG14
1	User Experience Design	7.5	Informatics	G1F	TUEK15
2	Front-End Fundamentals	7.5	Informatics	G1F	TGEK15
2	Marketing Communications	7.5		G1F	TMCK16
2	Visual Communication	7.5	Informatics	G1F	TVKK16
2	Web Design Project	7.5	Informatics	G1F	TWDK15
3	AI for Creativity	7.5	Informatics	G1F	TACK16
3	Content Creation and Portfolio	7.5	Informatics	G1F	TCPK16
3	Front-End Application Development	7.5	Informatics	G1F	TFAK16
3	Information Visualization	7.5	Informatics	G1F	TIVK14
4	Research Methods in Computer Science and Informatics	7.5	Computer Engineering, Informatics	G2F	TFIN14
4	Full-Stack Web Development	7.5	Informatics	G1F	TFWK17
4	Industrial Placement Course in Graphic Design and Web Development	15	Informatics	G2F	TNGN17
5	Elective credits	15			
5	Possibility to abroad	30			
5	Entrepreneurial Project	7.5		G1N	T1APJK
5	Trends in Informatics	7.5	Informatics	G2F	TTIN17
6	Advanced Digital Prototyping	7.5	Informatics	G2F	TDFN18
6	Visual Lab	7.5	Informatics	G2F	TVLN14
6	Final Project Work in Informatics	15	Informatics	G2E	TWIP17

Elective Courses

Semester	Course Name	Credits	Main field of study	Specialised in	Course Code
5	Digital Marketing and Social Media	7.5		G1F	TDMK13
5	Motion Graphics	7.5	Informatics	G2F	TMGN13

Teaching and Examination

The academic year is divided into two semesters, and the semesters into two study periods. In each study period two courses are generally taken in parallel. Assessment is part of each course or module. Modes of assessment and grades are shown in each course syllabus.

Entry Requirements

General entry requirements and Mathematics 2a or 2b or 2c, English 6 with required grade passed in the Swedish upper secondary school system or international equivalent. Or: Mathematics level 2a or level 2b or level 2c, English level 2 (or the equivalent).

Continuation Requirements

In order to begin the second year, at least 37,5 credits from the programme's first year must be completed. In order to begin the third year, at least 90 credits from the programme's first and second year must be completed.

Qualification Requirements

To obtain a Degree of Bachelor of Science with a major in Informatics, specialisation in Graphic Design and Web Development, students must complete a minimum of 180 higher education credits in accordance with the current programme syllabus, at least 90 of which must be in the main field of Informatics.

Quality Development

At JTH, systematic quality assurance is carried out within JU's established quality system. This system, based on the requirements of the Higher Education Act, the Higher Education Ordinance, and the *Standards and Guidelines for Quality Assurance in the European Higher Education Area*, has been reviewed and approved by the Swedish Higher Education Authority.

Active and continuous course evaluation, including student feedback through course surveys, forms one of the cornerstones of this system. Annual programme evaluations and student representation in JTH's various educational and industry councils are two additional examples.

Other Information

Admission is under ‘Admission regulations for first- and second cycle courses and study programmes at Jönköping University (Admission regulations)’.

This syllabus is based on ‘Regulations and guidelines for first-, second- and third-cycle education at Jönköping University’.