	ANALYSIS	Proficiency levels			
		1	2	3	4
Architectural layers	**User Interaction (UI)**	1.1 Identification of the core elements of an external assignment whereby clarification is sought from the client, users and experts. (UI) 1.2 Taking inventory at the client and of the user needs and translating these into IT solutions. (UI) 1.3 Getting acquainted with the existing interactive concepts, services and products. (UI)	2.1 Benchmarking functionality, user interaction and UX design for the benefit of the assignment that is carried out within a company. (UI) 2.2 Analysis of the client's core values, products or services, user needs and how these are expressed in the products or services. (UI) 2.3 Evaluation of the progress of the project from the perspective of the user. (UI)	3.1 Analysis of the user, user interaction and experience, both individually (physical, psychological, personal characteristics) and in a larger social context (social / cultural / ethical / technological). (UI) 3.2 Analysis of the actual and state-of-the-art interactive technologies. (UI) 3.3 Analysis per iteration of the effect of the own intervention on/in the UX. (UI)	4.1 Analysis of social, domain and/or branch-specific trends and opportunities and communicating at a strategic level on this to the key stakeholders. (UI)
	Organisational Processes (OP)	1.4 Analysis of a certain organisational process, organisation, data stream, data need and process control at an operational level. (OP) 1.5 Analysis of bottlenecks and cause-effect relationships from the perspective of the information provision. (OP)	2.4 Analysis of several operational and tactical organisational processes and the quality of the current ICT provision. (OP) 2.5 Analysis of the correlation of the bottlenecks and cause-effect relationships. (OP) 2.6 Record the ICT requirements from the perspective of the needs of the relevant stakeholders. (OP) 2.7 Analysis of available ICT options in the field. (OP)	3.4 Analysis of the consequences of a (strategic) change of direction on organisational processes and their information provision. (OP) 3.5 Analysis (quantitative and/or qualitative) of the current and future situation in the area of, for example, policy, strategy, alignment and architecture, while applying the most commonly used methods. (OP) 3.6 Analysis of the current acceptance of new technologies and possible resistance. (OP) 3.7 Analysis of structured and unstructured internal and external data. (OP)	4.2 Carry out thorough, theoretically supported research into technological (inter-organisational) process innovations (AI, machine & deep learning, digital twins, blockchain, etc.). (OP)
	Infrastructure (IS)	1.6 Analysis of a local/small infrastructure according to a standard method and based on given (non)functional requirements. (IS)	2.8 Analysis of the quality of a medium sized infrastructure and the services present on it based on accessible methods and standards. (IS) 2.9 Analysing infrastructure-related incidents, problems and security threats. (IS)	3.8 Analysis of trends on the area of infrastructures and translating this into desired or necessary developments in company infrastructure. (IS) 3.9 Carry out a requirements-impact or gap analysis for an enterprise infrastructure to chart	4.3 Carry out a requirements-impact or gap analysis for an enterprise infrastructure to chart out (non)functional requirements, needs and/or shortcomings. (IS)

				out (non)functional requirements, needs and/or shortcomings. (IS)	
	Software (SW)	1.7 Collect and validate functional requirements for a software system with one stakeholder according to a standard method. (SW) 1.8 Define acceptance criteria for functional requirements stated above. (SW) 1.9 Analyse and solve a simple mathematical problem. 1.10 Analyse a simple problem and create an algorithm to solve it. (SW)	2.10 Carry out a requirement analysis for a software system with various stakeholders, while taking into account the quality properties including security. (SW) 2.11 Carry out an analysis to formulate and validate functionality, security, design, interfaces etc. of an existing system or component. (SW) 2.12 Set up an acceptance test based on quality properties. (SW)	3.10 Carry out a requirement analysis for a software system with various stakeholders in a context of existing systems. (SW) 3.11 Define acceptance criteria based on quality properties and a risk analysis carried out with, among others, attention for security aspects. (SW) 3.12 Analyzing data to train the ML-system (SW)	4.4 Carry out an analysis for complex software-in-software systems including all non-functional requirements such as safety, security and privacy. (SW)
	Hardware Interfacing (HW)	1.11 Describe the architecture of a computer system. (HW) 1.12 Describe the working of actuators and sensors and measure these. (HW) 1.13 Compile (non)functional requirements and acceptance criteria for a computer system in, for example an embedded or AI system. (HW)	2.13 Identify detection and control aspects of the environment of a computer system in, for example, a sensor network. (HW) 2.14 Methodic specification of a computer system. (HW) 2.15 Carry out a protocol analysis. (HW) 2.16 Compile an acceptance test for a computer system. (HW)	3.13 Specify a distributed computer system including timing, resource use and performance. (HW) 3.14 Describe security aspects of computer systems that are connected to or via (public) networks. (HW) 3.15 Compile an acceptance test plan and an integration plan. (HW)	4.5 Investigate emerging technologies for application in distributed systems. (HW) 4.6 Investigate security aspects within emerging technologies. (HW)

	ADVISE	Proficiency levels			
		1	2	3	4
Architectural layers	**User Interaction (UI)**	1.1 Give advice on the interaction design that fits the assignment, client and user needs and previous acquaintance of these. (UI) 1.2 Give recommendations on the basis of certain usability-analysis for the design of an interactive product, system or service. (UI)	2.1 Provide well-founded, concrete advice on the interactive techniques and/or interactive concepts to be used. (UI) 2.2 Make proposals about the realisation choices, such as the technologies to be used, while keeping the users and company context in mind. (UI) 2.3 Give advice on the objectives of the current and next iterations.	3.1 Translate the analysis into strategic recommendations (in the short, medium and long term) for the design or improvement or investigation of a UX by using interactive tools. Here, substantiated advice is also provided concerning the most suitable design process (for example, UCD). (UI) 3.2 Give advice on the UX intervention(s) in the current or next iterations. (UI)	4.1 Extrapolate technological and societal trends and translate these into advice for the design and the strategic implementation of useful and innovative services and products. This advice describes a vision of the user experience and the relationship between the user and the product/service. (UI)
	Organisational Processes (OP)	1.3 Provide advice on improvements for a single organisational process in the area of organisation (structure), processes and information provision, while respecting the ICT options. (OP)	2.4 Provide advice on solutions for bottlenecks in the area of organisation structure (and roles), (organisation)process structure, cohesion and information provision. (OP) 2.5 Provide advice on new ICT possibilities, including package selection and advice. (OP)	3.3 Provide advice on the internal and external coordination between business and ICT (alignment and governance) while taking into account the goals of the organisation (including mission, visions, strategy and KPIs). (OP) 3.4 Provide advice on a professional change approach for the implementation of new ICT possibilities. (OP) 3.5 Provide advice on solutions for structured an unstructured data. (OP)	4.2 Provide advice concerning technological (inter-organisational) process innovations, whereby you also take into account the social context (mankind and organisation). (OP) 4.3 Create a broad base of support among all the relevant stakeholders. (OP)
	Infrastructure (IS)	1.4 Give recommendations about the set-up of, or adjustments to be made to, a local/small infrastructure. (IS)	2.6 Provide advice about the arrangement and management of an infrastructure with supported choices for (non)functional requirements, and for available technology, management models and management methods. (IS) 2.7 Propose methods that improve the information protection of an infrastructure of an SME. (IS)	3.6 Provide advice about components of an enterprise infrastructure, including management, protection and privacy aspects in relation to information and reference architectures, innovation, societal and international developments. (IS) 3.7 Provide advice about the migration to, or choice for a public, private or hybrid cloud. (IS)	4.4 Provide advice about components of an enterprise infrastructure, including management, protection and privacy aspects in relation to information and reference architectures, innovation, societal and international developments. (IS)

	Software (SW)	1.5 Give recommendations on specific requirements of a software system based on research into existing, comparable systems. (SW)	2.8 Provide advice on the purchase and selection of software components during the development of a software system whereby the cost aspect plays a role. (SW) 2.9 Provide advice on a section of the architecture or a limited software system. (SW) 2.10 Give advice on the use of prototypes in validating the requirements. (SW)	3.8 Give advice concerning the choice of software architecture or existing software frameworks whereby cost aspects and quality properties such as availability, performance, security and scalability play a role. (SW) 3.9 Provide advice about the approach to take during the processing and consultation of large quantities of data with attention for privacy. (SW) 3.10 Provide advice on the organisation of a software development process, including the test process. (SW) 3.11 Advising on the data architecture and model architecture, as well as corresponding frameworks. (SW)	4.5 Define a vision in regards to future technology and software architecture in collaboration with stakeholders. (SW)
	Hardware Interfacing (HW)	1.6 Verify and substantiate a given technical advisory. Verify and describe the initial architecture and the functionality of a given system configuration (microprocessor, memory or other building blocks). (HW)	2.11 Provide technical advice for the architecture of a computer system and the hardware and software components. (HW) 2.12 Provide advice about the linking of systems. (HW)	3.12 Provide a technical advisory on the (distributed) computer system that is to be realised, including the hardware and software components and links. (HW)	4.6 Provide a technical advisory on the application of emerging technologies to realise a distributed computer system. (HW) 4.7 Provide advice on future-oriented organisation of distributed computer systems. (HW) 4.8 Define the vision on a technology road map and coordinate this with key stakeholders. (HW)

DESIGN		Proficiency levels			
		1	2	3	4
Architectural layers	**User Interaction (UI)**	1.1 Translate the advisories into a simple user interaction with standard prototyping technique. (UI) 1.2 Design a (usability) test with which essential interaction problems can be identified. (UI) 1.3 Apply and carry out a standard interaction design process, including user-centered design. (UI)	2.1 Translate the advisories into a design of detailed user interaction with various prototyping techniques. (UI) 2.2 Design a usability test with which the objectives of the iteration can be evaluated. (UI)	3.1 Translate the advisories into a concrete and detailed UX design appropriate to the project phases. (UI) 3.2 Design a test with which the objectives can be evaluated from a user perspective. (UI)	4.1 Design a user experience that takes into account the long-term strategy and organisational goals of the client. Here, one should anticipate relevant societal trends and technological developments. (UI)
	Organisational Processes (OP)	1.4 Design a particular organisation process, particular data streams, an organisation component and/or a part of the information provision. (OP)	2.3 Design related organisation processes: a data structure (model), the process management of organisation processes, the functional organisation structure and/or the information provision, while taking security and privacy legislation into account. (OP) 2.4 Design the layout of a standard application. (OP) 2.5 Design the interfaces for an application in the application landscape (mapping). (OP)	3.3 Design the architecture of organisation processes and control models, including related control, information provision and change process. (OP) 3.4 Design a professional change approach with related interventions. (OP) 3.5 Design solutions for structured and unstructured data. (OP)	4.2 Design technological (inter-organisational) process innovations. (OP) 4.3 Evaluate and validate possible process innovations. (OP)
	Infrastructure (IS)	1.5 Compile specifications for a local/small infrastructure according to a standard method. (IS)	2.6 Advice about components of an enterprise infrastructure, including support, protection and privacy aspects in relation to information and reference architectures, innovation, societal and international developments. Describe support processes and agree on service level agreements (IS) 2.7 Automate the support and the roll-out of an infrastructure in a medium sized environment. (IS)	3.6 Design components of an enterprise infrastructure while respecting all the requirements in a private, public or hybrid cloud environment. (IS) 3.7 Design an incident response organisation (CSIRT) and systems in order to be able to adequately respond to incidents of every nature and scale. (IS)	4.4 Design components of an enterprise infrastructure while respecting all the requirements in a private, public or hybrid cloud environment. (IS)

			2.8 Compiling a technical design for a medium-sized infrastructure with related protection on the basis of (non) functional requirements.(IS)		
	Software (SW)	1.6 Create a design for a software system, including a data base with model techniques according to a standard method. (SW)	2.9 Compile a design for a software system while taking into account the use of the existing components and libraries. (SW) 2.10 Apply design-quality criteria while taking into account security aspects and various types of devices. (SW) 2.11 Create a design for a system that can process and consult a large quantity of data. (SW) 2.12 Record the quality of the design, for example by testing or prototyping, taking into account the formulated quality properties. (SW) 2.13 Compile test subjects according to a given test strategy. (SW)	3.8 Compile a software architecture for a software system that is comprised of existing and new systems, and takes several stakeholders quality properties into account, including security and scalability. (SW) 3.9 Compile a test strategy for system tests. (SW) 3.10 Designing a data architecture and a model architecture (e.g. training a ML algorithm); including a testing strategy for te data and ML models. (SW)	4.5 Design a system for solving a generic class of problems. (SW) 4.6 Design a framework. (SW)
	Hardware Interfacing (HW)	1.7 Design a simple computer system, for example, an embedded or industrial automation system based on given hardware. (HW)	2.14 Methodically design a computer system by way of requirements with self-chosen hardware and software components. - Compile an application driver design. - Design a protocol. (HW)	3.11 Design a distributed computer system including determining actuators, sensors, timing, resource use and performance. (HW)	4.7 Design a distributed computer system with the use of hardware synthesis and/or artificial intelligence. (HW)

	REALISATION	Proficiency levels			
		1	2	3	4
Architectural layers	**User Interaction (UI)**	1.1 Realise and qualitatively test simple interactive products or services on the basis of an interactive design whereby use is made of accessible tools, design guidelines and/or house style. (UI)	2.1 Realise the interactive design with various tools and techniques. (UI) 2.2 Carry out the usability test in the field or in the lab. (UI) 2.3 Monitor the interactive design with the realised interactive product or service. (UI)	3.1 Realise and test the UX of an interactive product, prototype, system or service on the basis of the design while using the appropriate tools and techniques during the project phases. (UI) 3.2 Monitor the connection of the UX design and realised product in a predictable context. (UI)	4.1 Realise future-proof products, services and prototypes on the following aspects: - Innovative UX design - Innovative techniques and emerging standards. (UI) 4.2 Validation of vision and strategy with key stakeholders. (UI)
	Organisational Processes (OP)	1.2 Describe and compile work instructions, function and role descriptions and procedures for an (adapted) process. (OP) 1.3 Test the connection of the organisation processes to the supplied information provision. (OP) 1.4 Draft a simple implementation plan. (OP)	2.4 Realise the implementation and acceptance of procedures in correlation with new or adapted information provision and control. (OP) 2.5 Educate and train end users in the renewed processes and use of a new ICT. (OP) 2.6 Build and validate a Proof of Concept. (OP) 2.7 Structure a standard application (for example, CRM, ERP, BI). (OP)	3.3 Realise the implementation and acceptance of adapted organisation processes as based on an implementation plan. (OP) 3.4 Arrange solutions for structured and unstructured data. (OP)	4.3 Build and validate prototypes of new and technological solutions for (inter-organisational) process innovations. (OP)
	Infrastructure (IS)	1.5 Organise, test and make available of a local/small infrastructure. (IS)	2.8 Setting up a medium-sized infrastructure that meets the requirements with regard to performance, usability, security and compliance. (IS) 2.9 Setting up the basic monitoring of the infrastructure. (IS) 2.10 Compiling and carrying out a test plan for a medium-sized infrastructure in order to evaluate the quality based on the compiled (non)functional design. (IS)	3.5 Design components of an enterprise infrastructure while respecting all the requirements in a private, public or hybrid cloud environment. (IS) 3.6 Compile components of an environment in which the quality of a safe service provision is monitored centrally. (IS) 3.7 Compile and carry out a pilot/migration trajectory that includes transfer to management. (IS)	4.4 Realise an enterprise infrastructure or complex aspects or components thereof while respecting all the requirements in a private, public or hybrid cloud environment. (IS) 4.5 Compile an environment in which the quality of a safe service provision is monitored centrally. (IS)
	Software (SW)	1.6 Build, test and make available a simple software system. The set-up, filling and querying of a	2.11 Build and make available a software system that is comprised of several sub-	3.8 Build and make available a scalable software system that correlates with existing systems,	4.6 Coding of algorithmically complex problems.(SW)

		data base is part of the software system. (SW) 1.7 Build, test and make available a simple software system. (SW)	systems while using existing components. (SW) 2.12 Integrate software components into an existing system whereby you safeguard the integrity, security and system performance. (SW) 2.13 Carry out, monitor and report on unit integration, regression and system tests, with attention for security aspects. (SW)	perhaps in the cloud, according to the designed architecture while using existing frameworks. (SW) 3.9 Application of test automation in carrying out tests. (SW)	4.7 Build AI related software. (SW)
	Hardware Interfacing (HW)	1.8 Write software for a simple, given computer system equipped with actuators and sensors. Write software for a simple, given computer system equipped with actuators and sensors. (HW)	2.14 Organise a simple computer system and realise the links with hardware components via software. (HW) 2.15 Write and test application driver software. (HW) 2.16 Implement and test a protocol. (HW)	3.10 Realise a complete computer system including network, hardware and system software. (HW) 3.11 Compile and carry out an acceptance procedure in, for example a virtual environment, including aspects such as timing, resource use and performance. (HW)	4.8 Realise a complete computer system whereby use is made of hardware synthesis (vhdl) or artificial intelligence. (HW)

	MANAGE & CONTROL	Proficiency levels			
		1	2	3	4
Architectural layers	**User Interaction (UI)**	1.1 Record the most important decisions, results and insights concerning the interactive design in an iterative process. (UI)	2.1 Record the points of departure and findings concerning the user perspective between the iterations in a design and development process, and hereby make the connections between the iterations visible. (UI) 2.2 Use and correctly apply the standards (design guidelines concerning the interactive design, protocols and methods) that are appropriate within the company context. (UI)	3.1 Monitor the core values and UX of the product/organisation or service in every phase of the development and production process. (UI) 3.2 Communicate with stakeholders and record decisions related to core values and user experience design during all phases of the development process. (UI) 3.3 Increase user acceptance by way of documentation, training and/or marketing and provide a substantiated choice for the right form of these. (UI)	4.1 Supervise a complex project from a UX perspective at a strategic level while respecting the short and long term, involving and convincing stakeholders both formally and informally. (UI)
	Organisational Processes (OP)	1.2 Carry out maintenance activities on the process documentation (for example, business rules, principles and process models). (OP) 1.3 Describe the change needs of a particular sub-process. (OP)	2.3 Structure, maintain and actualise functional control processes. (OP) 2.4 Identify and inventory the change needs of several operational and tactical organisation processes (OP)	3.4 Guide and actualise principles, business rules and models of process architecture. (OP) 3.5 Proactively identify the change needs in all organisation processes and commence with related change processes. (OP)	4.2 Devise new technological solutions for the management of (inter-organisational) process innovations. (OP)
	Infrastructure (IS)	1.4 Compile and document standard management processes and work procedures including system and network configuration for the benefit of the management of a local/small infrastructure. (IS)	2.5 Incorporate the management of new technological developments concerning the infrastructure. (IS) 2.6 Implement components of the management processes. (IS) 2.7 Record the specifications of a management environment with which the quality of the ICT services can be measured, including the receipt and handling of customer requests, and being able to report on the level of services. (IS)	3.6 Set up management processes and carry out a public, hybrid or private cloud-based infrastructure. (IS) 3.7 Record the specifications of a proactive management environment of a public, hybrid or private cloud infrastructure. (IS)	4.3 Give form to the Business - IT alignment and IT governance in relation to an enterprise infrastructure. (IS)

	Software (SW)	1.5 Organise and make use of a management system to support the software development in teams. (SW)	2.8 Manage and use a development environment to support software development in teams, including, among others, continuous integration as an option. (SW) 2.9 Apply methods and techniques to manage a software development process and safeguard the quality (SW)	3.8 Carry out configuration, change and release management in conjunction with infrastructure management. (SW) 3.9 Organise a development environment with automated build and test infrastructure. (SW)	4.4 Design and realise a development environment with automated build and test infrastructure. (SW)
	Hardware Interfacing (HW)	1.6 Organise a development and test platform by way of co-design for the hardware/software, including tools. (HW)	2.10 Assess a given development environment on quality and performance. (HW) 2.11 Organise a management and test environment for a computer system. (HW)	3.10 Set up and make use of: - version management, - release management, - teamwork support, - automated testing for hard- and software systems. (HW)	4.5 Supervise co-design teams in the management of the realisation process of the hardware, software and synthesis, including the development environment. (HW)

Competency 6 Professionalisation			
Competency description	Mastery indicators: **Level 1 professionally suitable**	**Level 2 professionalisation-competent**	**Level 3 competent to start**
Develop an individual, appropriate professional attitude in order to apply knowledge, insights and skills in various international and intercultural professional settings. Results Professional culture Lessons Learned report Personal Development Plan 360 Degree Feedback Plan Stakeholder Analysis Portfolio Valued co-worker/project member	*Students demonstrate the competency by applying knowledge and skills within delimited, predictable circumstances (= simple practice situation). Students take responsibility for their own actions.* **1.1 Self-direction** Is able to operate in critical situations in an independent, results-oriented and stress-free manner. Is enterprising, shows initiative and dares to take risks. Recognises personal focus points and formulates learning goals based on feedback and self-reflection. Is good at planning and organising, monitoring milestones and deadlines, and honours commitments. Is able to identify, integrate and apply relevant knowledge and insights in every new situation. Takes personal duties and responsibilities seriously. **1.2 Social-communicative skills** Is able to cooperate effectively within a team. Is able to communicate effectively with people in various positions/roles. Is able to listen to and empathise with another person's point of view. Is able to communicate knowledge, insights and skills to others. Is able to give and receive feedback. Expresses him/herself effectively, orally and in writing, using correct, understandable and appropriate language.	*Students demonstrate the competency by independently analysing problems in new circumstances, using knowledge and skills. Students take responsibility for their own actions and those of direct stakeholders.* **2.1 Self-direction** Is able to operate in critical situations in an independent, results-oriented and stress-free manner. Is enterprising, shows initiative and dares to take risks. Recognises personal focus points and formulates learning goals based on feedback and self-reflection. Is good at planning and organising, monitoring milestones and deadlines, and honours commitments. Is able to identify, integrate and apply relevant knowledge and insights in every new situation. Takes personal duties and responsibilities seriously. **2.2 Social-communicative skills** Is able to cooperate effectively within a team. Is able to communicate effectively with people in various positions/roles. Is able to listen to and empathise with another person's point of view. Is able to communicate knowledge, insights and skills to others. Is able to give and receive feedback. Expresses him/herself effectively, orally and in writing, using correct, understandable and appropriate language.	*Students demonstrate the competency by taking initiative in new and unpredictable circumstances and solve complex problems innovatively. Students show leadership in a (multidisciplinary) team.* **3.1 Self-direction** Is able to operate in critical situations in an independent, results-oriented and stress-free manner. Is enterprising, shows initiative and dares to take risks. Recognises personal focus points and formulates learning goals based on feedback and self-reflection. Is good at planning and organising, monitoring milestones and deadlines, and honours commitments. Is able to identify, integrate and apply relevant knowledge and insights in every new situation. Takes personal duties and responsibilities seriously. **3.2 Social-communicative skills** Is able to cooperate effectively within a team. Is able to communicate effectively with people in various positions/roles. Is able to listen to and empathise with another person's point of view. Is able to communicate knowledge, insights and skills to others. Is able to give and receive feedback. Expresses him/herself effectively, orally and in writing, using correct, understandable and appropriate language.

	Is able to account for the achieved results and the process. **1.3 Creativity and problem-solving skills** Takes substantiated decisions based on the available information and an analysis thereof and comes up with feasible solutions. Comes up with new ideas, approaches or insights. Comes up with various solutions to a problem. **1.4 Awareness of social responsibility** Is aware of the importance of ethics and social values for an organisation and supports these. Can handle diversity (people from various cultures and backgrounds). Shows respect and cares for people and things in his/her environment.	Is able to account for the achieved results and the process. **2.3 Creativity and problem-solving skills** Takes substantiated decisions based on the available information and an analysis thereof and comes up with feasible solutions. Comes up with new ideas, approaches or insights. Comes up with various solutions to a problem. **2.4 Awareness of social responsibility** Is aware of the importance of ethics and social values for an organisation and supports these. Can handle diversity (people from various cultures and backgrounds). Shows respect and cares for people and things in his/her environment.	Is able to account for the achieved results and the process. **3.3 Creativity and problem-solving skills** Takes substantiated decisions based on the available information and an analysis thereof and comes up with feasible solutions. Comes up with new ideas, approaches or insights. Comes up with various solutions to a problem. **3.4 Awareness of social responsibility** Is aware of the importance of ethics and social values for an organisation and supports these. Can handle diversity (people from various cultures and backgrounds). Shows respect and cares for people and things in his/her environment.

Competency 7 Research skills			
Competency description	Mastery indicators: **Level 1 professionally suitable**	**Level 2 professionalisation-competent**	**Level 3 competent to start**
Research skills consists of three components: - Inquisitive attitude (with the aspects 'being critical', 'wish to understand', 'wish to achieve', 'wish to share', 'wish to innovate' and 'wish to know') - Apply knowledge from other people's research, and - Perform own research.	*Students demonstrate the competency by applying knowledge and skills within delimited, predictable circumstances (= simple practice situation). Students take responsibility for their own actions.* 1.1 Map out the relevant aspects of a simple problem. 1.2 Formulate possible solutions to identified problems. 1.3 Handle a problem in a systematic way. 1.4 Use sources when approaching a problem. 1.5 Process the provided and collected information. 1.6 Defend choices made regarding the final result. 1.7 Critically reflect on the handling of the problem.	*Students demonstrate the competency by independently analysing problems in new circumstances, using knowledge and skills. Students take responsibility for their own actions and those of direct stakeholders.* 2.1 Map out the relevant aspects of the problem. 2.2 Clearly formulate the goal and research questions based on a given case. 2.3 Identify an approach to systematically answer the research questions. 2.4 Select and use relevant sources to answer the research questions. 2.5 Collect and process the relevant research data. 2.6 Derive conclusions and/or recommendations from research results. 2.7 Critically reflect on the research approach.	*Students demonstrate the competency by taking initiative in new and unpredictable circumstances and solve complex problems innovatively. Students show leadership in a (multidisciplinary) team.* 3.1 Map out the relevant aspects of a complex problem. 3.2 Clearly formulate the goal and research questions based on the problem analysis. 3.3 Make substantiated choices concerning research methods and tools. 3.4 Select and use relevant, reliable and up-to-date sources to support the research. 3.5 Collect, analyse and interpret the relevant research data. 3.6 Derive substantiated conclusions and/or recommendations from research results. 3.7 Critically reflect on the research approach and the context in which it was performed.
Example of a professional setting and/or deliverable Research proposal Research plan Research report Advisory report			