# Course Catalogue Engineering and ICT

EXCHANGE PROGRAMME

Data Driven Innovation 2023-2024

University of
Applied Sciences
Windesheim

| Course summary<br>VOE Code: ICT.KS.DDI.V20      ECTS credits: 24      Level: Bachelor's degree (full-time) | |
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| **Course Title** | Data Driven Innovation |
| **Type** | Compulsory |
| **Learning competences** | |
| **Learning outcomes** | Data-driven Innovation focuses on aligning Business and IT, preparing a company for the digital future, using data. Data that is already present at the company, in some cases combined with external data.<br>Data-driven Innovation is a structural change in the way an organization can add value to its customers. It is a turning point in thinking about how an organization uses technology to re-establish processes. It changes the business model and therefore offers new opportunities.<br>Organizations need to adapt to this change by focusing on optimizing the customer's gain, control and retention. Processes can be redesigned, just as marketing, production and sales. And that also creates needs for a new policy on security, privacy and ethics. This is more and more controlled based on data-driven insights. But it also offers new possibilities in terms of learning and prediction.<br>You obtain advanced knowledge about project management, creating business solutions and doing research, while working on a project for a customer. You work with data, sometimes to recognize patterns, sometimes to forecast, sometimes to organize a data lab, or...... There are many options, but data-driven innovation is the key. |
| **Course content** | Data-driven Innovation projects can vary considerably. In Data-driven Innovation, every project is different, which means that the learning opportunities can vary as well. It is up to the student how you choose to shape your semester.<br>To help the students with their projects, a number of workshops can be attended. Some of them are obligatory (e,g., project management, planning), others are elective (scrum, game design etc.). The workshops are not graded individually, but are aimed to contribute to the success of the specific projects.<br>Students enrolled in this minor will select two Professional Skills (3ECTS each course) from our list of elective courses (Leadership, Financial Management, 7 Habits etc.)<br>Some examples of content are: Organizing and setting up a data lab; Forecasting production based on data of the past;<br>Machine learning; Business Process Redesign; Integration of several different systems and applications; Using data to predict the effect of climatological issues; Formulating a(n) (renewed) IT strategy and policy; Dealing with and effects of the GDPR for the organisation; IT architecture or application management. |
| **Planned learning activities and teaching methods** | Students work on a large project for 20 weeks. The project is done for actual client or in a real-life setting. The multidisciplinary student teams of 3 to 5 students work on the project for 32 hours every week (Tuesday to Friday) at school or at the client's location. As part of the project there are project coaching sessions, workshops contributing to your project and regular presentations in which students share their obtained knowledge and progress. The professional skills are scheduled on Mondays. Therefore students will need to be available from Monday to Friday during this semester. |
| **Recommended or required reading and other learning resources / tools** | Only freely-accessible learning materials are being used. When specific hardware of software is needed for your project, this will be provided. Sometimes a client has specific software. Use of it, and the conditions, will be discussed with the client. |
| **Prerequisites and co-requisites** | To be able to enroll in this minor you need to have 105 ECTS and finished your propaedeutic phase. |
| **Level** | Bachelor |
| **Grading scale** | A – Portfolio = 1 up to 10, 1 dec., Professional Attitude – Not Achieved/Achieved |

| Assessment methods and criteria | Type of assessment | Grade weighting | Criteria |
|---|---|---|---|
| | A - Portfolio | 1 | Higher or equal to 5.5 |
| | Professional Attitude | 0 | Higher or equal to 5.5 |

| Language of Instruction | English |
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| Name of lecturer | For information about the lecturers you can contact Wim Rietberg |
| Mode of delivery | Face to face |