

Lucerne University of
Applied Sciences and Arts

**HOCHSCHULE
LUZERN**



Master of Science in Applied Information and Data Science

www.hslu.ch/master-ids

The value of the programme for practitioners

Daniela Bassi

Head of Marketing & Communication, SUVA



“Big data analyses enable us to approach our customers individually and give them more satisfying experiences. In the insurance sector, this makes it a lot easier to monitor the benefits we pay and helps us to reduce the costs in the health sector. In general, using data is gaining in importance for addressing economic and social problems.”

Peter Delfosse

CEO, Axon Active Holding AG



“The digital transformation has a lot to do with data literacy, which is why companies in more and more industries now regard data science as a core competence. Digital assistants, artificial intelligence and machine learning will fundamentally change the way we work and live our lives, a transformation that matches closely with what data generalists at Lucerne University of Applied Sciences and Arts are learning in the Master’s programme in Applied Information and Data Science.”

Michael Lewrick

*Chief Innovation Officer,
Swisscom Enterprise Customers*



“*The Master’s course in Applied Information and Data Science offers a comprehensive set of methods and tools for using data to manage innovation projects. Using a hybrid approach – for example, by combining big data analytics with design thinking – gives you not only an overview of the entire problem-solving process but allows for deep learning and deep insights. Understanding this type of connection helps you to be more innovative, a quality that’s indispensable in a digitalised world.*”

Kevin Kuhn

Managing Partner, Jaywalker Digital AG



“Those who still consider data as an extra that’s nice to have for daily business are missing out on the opportunities for innovation, corporate development, progress and new knowledge that analytics offers. As a young entrepreneur, I took the plunge and started my own business after getting my Master’s degree at Lucerne University of Applied Sciences and Arts. Today, I advise companies and entrepreneurs on using data to develop themselves and their business model.”

Applied Information and Data Science in brief

Realise the potential in data and use it to shape your future

Data is *the* resource of the twenty-first century. Recognising patterns in large data sets and gaining valuable insights from them is increasingly becoming a key competence that companies and organisations are eager to acquire. With this in mind, we have designed the multidisciplinary Master's programme to optimally prepare you for the challenging specialist and management functions in the digital economy. During your studies, you will learn how to use the potential in data to create innovative products and services, develop new business models and optimise your current processes.

Advantages of the programme

- **Geared for practitioners** – to address specific issues in the applied fields
- **Flexible and individual** – to accommodate your individual needs
- **Interdisciplinary** – at the interface between technology, analytics, design and management
- **Open to career changers** – from virtually any discipline
- **International** – with a richly varied competency profile

Acceptance into the program

The programme is open to anyone with a Bachelor's or Master's degree from a university or a university of applied sciences. Applicants must have a keen interest in data technologies and analytical questions as well as a strong willingness to learn. Those who are new to statistics and computer science

can compensate any knowledge gaps they may have by taking the preparatory modules, which are part of the programme.

Application deadline: 15 May for the autumn semester / 30 January for the spring semester

Programme start: Mid-September (calendar week 38) / mid-February (calendar week 8)

Exchange semester: Students can include an exchange semester in their studies (preferably from the third semester)

Language of instruction: German (some modules in English)

Tuition fee: CHF 800 per semester

Tracks: Standard programme duration: Four semesters, can be extended up to eight semesters. Start of programme: In autumn or spring.

Degree

Master of Science in Applied Information and Data Science from Lucerne University of Applied Sciences and Arts (FHZ)

120 ECTS credits

Registration and information

Programme administration

Tel. +41 41 228 42 53

www.hslu.ch/master-ids

master.ids@hslu.ch

Your career opportunities

Wide range of career paths

The IDS Master's programme enables you to tackle challenging specialist and management functions in a wide range of fields, discover the vast potential hidden in data, and successfully manage complex data projects. You will not only hone your technical, analytical and method skills but also learn to convincingly communicate the findings you obtain from data.

Good employment prospects

The interdisciplinary nature of data science and the wide-ranging options for applying what you have learned will open up promising perspectives for you as a business person or researcher. The programme prepares you well for taking on challenging management roles in SMEs, corporations, public institutions, and non-profit organisations – in response to the strong demand for talented specialists and managers who can effectively apply the principles of data science in their work.

Start your career as an entrepreneur

The MSc in Applied Information and Data Science is designed not only for practitioners but also for people interested in developing their technical and management skills. Furthermore, it gives you an excellent basis for starting your own business.

Geared for practitioners

The Master's programme provides you with deep expertise as well as specific skills that you can apply readily in your work. You will be working on various projects to build your knowledge by tackling real-life problems encountered in a wide range of applied fields – under the guidance of experienced lecturers, each with a strong track record in academia and the industry.

Working while studying

The Master's programme is unique in that it gives you the flexibility you need for striking a good balance between your personal requirements and your work situation. For example, you can start in the spring or the autumn semester and determine how long you need to complete the programme, and you can extend your studies for up to eight semesters, depending on your other commitments. In addition, the attendance policy makes it possible to work part-time, as the lectures are always scheduled on two fixed, consecutive weekdays.

Contents of the Master's programme

Experts with strong technical skills

The Master's programme teaches students to recognise and use the potential of data for developing innovative products and services, designing new business models, and optimising current processes. For this, however, students must be committed to developing their technical, analytical and method skills and have a keen sense for the economic and social potential that is hidden in data.

Focus on value creation from data

You will learn how to access, integrate and structure the data you obtain from a wide range of sources. Furthermore, the programme enables you to identify patterns in complex data sets and to interpret and use them for predicting future events. While developing your technical and method skills plays a central role in the programme, effectively communicating the findings you derive from data is just as important. You will therefore learn to present such information convincingly and to formulate it correctly in accordance with generally accepted academic standards. The programme places particular emphasis on the responsible use of data, and you will therefore learn about the relevant ethical, legal and social issues in detail.

Well-structured programme

The following ten key topic areas will guide you through your studies:

- Management of Digital Enterprises and Digital Leadership
- Data-Driven Innovation and the Data Innovation Ecosystem
- Designing Data Products and Services
- Fundamental Data Engineering for Data Scientists
- Fundamental Data Analytics for Data Scientists
- Scale up! Working with Really Big Data
- Advanced Analytics for Unstructured Data
- Managing Data Projects and Professional Communication Skills
- Domain Experience – Real-Life Data Science in Action
- Master's Thesis (incl. Preliminary Study)

Flexibility for an individual profile

You can choose from a broad range of core electives, some of which are offered in collaboration with external partners, such as the Global School of Empirical Research Methods GSERM at the University of St. Gallen. The core electives are designed to help you pursue your personal interests and develop an individual profile.

Programme overview

Programme

First sem.	<p>≤ 12 Credits Management of Digital Enterprises and Digital Leadership (core electives)</p>	<p>≤ 6 Credits Data-Driven Innovation and Exploring the Data Innovation Ecosystem (core electives)</p>	<p>15 Credits Fundamental Data Engineering for Data Scientists</p>	<p>18 Credits Fundamental Data Analytics for Data Scientists</p>
Second sem.		<p>3 Credits Innovation Workshop (Hackathon)</p>	<p>9 – 12 Credits Scale Up! Working with Really Big Data (or) Advanced Analytics for Unstructured Data</p>	
Third sem.		<p>3 Credits Study Week</p>	<p>24 Credits Master's Thesis</p>	
Fourth sem.				

Credits = ECTS credits (one credit equals 30 hours of coursework)

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cs
ntal
lytics
Scientists

≤ 9 Credits
Designing
Data Products
and Services,
Data Visuali-
sation
(core electives)

≤ 9 Credits
Managing
Data
Projects and
Professional
Communica-
tion Skills
(core electives)

9 – 12 Credits
Domain Experience –
Real-Life Data Science
in Action
(core electives)

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6 Credits
Preliminary Study

Required modules

Core electives

The Lucerne School of Business

Our challenging, hands-on and academically sound Bachelor's and Master's programmes uniquely qualify our students for a career in companies, public institutions and non-profit organisations. We offer broadly diversified programmes and are the largest provider of continuing education among the Swiss universities of applied sciences with business programmes.

We are committed to sponsoring research and development projects while maintaining close relations with researchers, business communities and the public.

Clients from all parts of society stand to benefit from our experts' knowledge and experience in managing large projects.

While our attractive locations give us a strong presence in Central Switzerland, our large national and international network can open doors for you around the world.

The Lucerne School of Business

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