

# *21E00052 Data-Driven Business*

## SYLLABUS

December 20<sup>th</sup>, 2021

Instructor's contact information	Course information
Henri Schildt <a href="mailto:Henri.schildt@aalto.fi">Henri.schildt@aalto.fi</a>  <a href="http://people.aalto.fi/#henri.schildt">http://people.aalto.fi/#henri.schildt</a> Student meetings by appointment, please email.	M.Sc. course (E) 2021-2022, Period 3 (10.1.2022 – 10.2.2022) The course is in English <a href="https://mycourses.aalto.fi/course/view.php?id=32298">https://mycourses.aalto.fi/course/view.php?id=32298</a>  Teaching Assistant: Dima Syrotkin

### 1. OVERVIEW

The purpose of this course is to help the participants understand the changes created by digitalization in the domain of organizations, management, and strategy. After taking the course, the students will be able to analyze how digital data flows can be used to optimize existing operations and create new products and services. Students will work in teams to analyze industry-level changes brought by digital technologies and develop data-enabled service concepts and associated business models.

### 2. PREREQUISITES

This course is open to all master's level students. Some elementary background knowledge in strategic management is desirable but not necessary.

### 3. LEARNING OUTCOMES

The students should develop broad basic understanding of contemporary use of data analytics, machine learning, and big data in creation of services and products as well as managing processes within and across organizations. The specific learning points are:

Knowledge and theory:

- Basic understanding of key technologies: big data, cloud computing, Internet of Things, digital platforms, and API ecosystems.
- Understanding of basic software design principles, including stacks and modularity.
- Understanding and ability to analyze “digital disruption” of industries and to create realistic scenarios potential development paths.

- Understand how and why digital technologies are influencing business models, networks effects, and platforms.
- Ability to analyze and design business models enabled by digital data.
- Understanding the function of data scientists and business analytics in corporations and understanding how professionals and activities are typically organized and used.
- Understanding how companies leverage machine learning and data science to create smart automation.

#### **4. ASSESSMENT, GRADING, EXAM FEEDBACK**

The course grading is based on four criteria:

1. Participation and contributions in the classroom and online conversations (10%)
2. Group assignments, including peer evaluation (20%)
3. Individual pre-session assignments (30%)
4. Individual final assignment (40%)

Participation in the lectures and exercise classes is optional, but it influences the grade. The students are allowed to miss one session without penalties and after that they incur -1% penalty for each additional session they miss.

#### **5. ASSIGNMENTS**

Final Individual assignment: Analyzing and responding to industry changes.  
Max 40 points, deadline on **20.2.** at 9pm

Group assignment: Digital and data strategies for a start-up company.  
Max 20 points, deadline on **9.2.** at 9pm

#### **6. READINGS**

The readings are assigned for each session, please see the schedule below.

## 7. SCHEDULE

The lecture schedule is displayed in the table below. Attending the lectures via Zoom is optional.

Session	Date	Topic	Readings and preparation	Assignments Due
#1	Mon 10.1.	Digital disruption and digital transformation	*Data Imperative Chapters 1 (optional) *Session one video, Welcome to the Course (Schildt) <a href="https://youtu.be/6SU7pcgc6lo">https://youtu.be/6SU7pcgc6lo</a>	None
#2	Thu 13.1.	The data imperative	*Data Imperative Chapters 2 *Case study: Percolata (YouTube) *Session two videos 1 & 2 (Schildt): <a href="https://youtu.be/O_0PNn57Zhg">https://youtu.be/O_0PNn57Zhg</a> <a href="https://youtu.be/2ryY0nfcJ8c">https://youtu.be/2ryY0nfcJ8c</a>	MCQ1
#3	Mon 17.1.	Complexity and modularity	*Data Imperative Chapter 4 *Case study: Relex Solutions *Session three video (to be posted)	MCQ2
#4	Thu 20.1.	Digital strategies and platforms	*Data Imperative Chapter 3 *Cusumano et al. 2020. The Future of Platforms. MIT Sloan Management Review, 61(3). *Case study: Tag-walk (FT) *Session four videos (Schildt) <a href="https://youtu.be/nfR1Bqe-e5I">https://youtu.be/nfR1Bqe-e5I</a> <a href="https://youtu.be/bn6N26Pwgkc">https://youtu.be/bn6N26Pwgkc</a>	Individual written assignment 1
#5	Mon 24.1.	Agile organizations and digital transformation process	*Data Imperative Chapter 5 *McKinsey report *Session five video (Schildt) <a href="https://youtu.be/4B0mWq5CQqA">https://youtu.be/4B0mWq5CQqA</a>	MCQ3
#6	Thu 27.1.	Self-managed organizations and digital work	Guest lecture	MCQ4
#7	Mon 31.1.	Data analytics and AI	*Data Imperative Chapter 6 *Podcast #1: The AI Podcast Ep. 1, Deep Learning 101 *Session seven video (Schildt) <a href="https://youtu.be/a-ReWejv8Zc">https://youtu.be/a-ReWejv8Zc</a>	MCQ5
#8	Thu 3.2.	The future of digitalized business	*Data Imperative Chapter 8 *Case study: Stitch Fix Algorithm Tour *Session eight video (Schildt) <a href="https://youtu.be/KRfezLSGtJE">https://youtu.be/KRfezLSGtJE</a>	Individual written assignment 2
GA	Thu 10.2.	Group assignment presentations		

## 8. COURSE WORKLOAD

Classroom hours	24h
Class preparation	56h
Individual assignments	40h
Group assignments	40h
<b>Total</b>	<b>160h (6 cr)</b>

## 9. ETHICAL RULES

Aalto University Code of Academic Integrity and Handling Thereof

<https://into.aalto.fi/pages/viewpage.action?pageId=3772443>

## 10. OTHER ISSUES

- Please register via Sisu
- Course materials will be available on MyCourses
- Participation in the sessions is optional
- Please read session #1 slides carefully for all kinds of practical information