

MOOCs for Informatics Essentials

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Our first MOOC at TU Wien

MOOC „Programming using Processing“ (in German)

- learning programming for beginners
- project start: October 2016
- link: <https://iMooX.at>
- 10 learning weeks á 6 hours learning time, first course started at 9. April 2018
- variables, data types, operations, conditionals, repetitions, arrays, functions, recursion
- didactics: examples first, then theory
 - start with graphics and animation programming
 - many tasks and solution explanations,
 - cooperation tasks
- used in pre-university courses, in some schools and as additional material for beginners at university

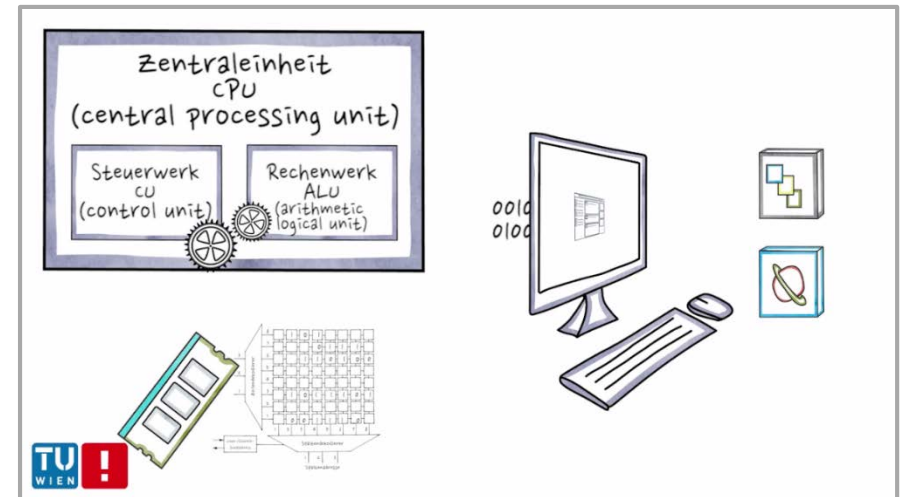
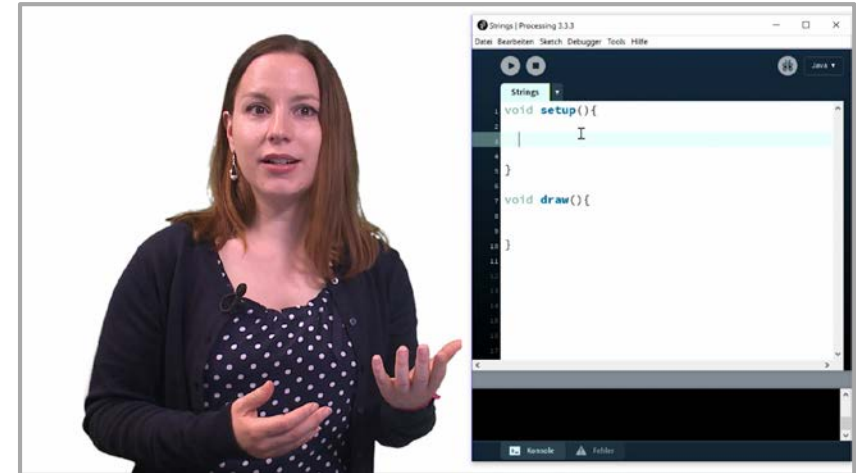


MINT- MOOCs

ab SS 2018
(Informatik,
Mathematik und
Mechanik)

iMooX

MOOC video production



Ingo MOOCs

Informatics Essentials online



- 9 MOOCs for Informatics Essentials
- produced by 5 Austrian Universities
 - TU Wien, Uni Linz, Uni Innsbruck, Uni Klagenfurt, Uni of Applied Arts Vienna
 - from May 2000 to April 2024
 - to cover the essential Informatics topics for beginners of informatics studies
- Topics
 - Ways of Thinking in Informatics
 - Programming with Java 1+2
 - UML Modelling
 - Algorithms and Data Structures
 - SQL and relational data model
 - Computer Architecture
 - AI and Machine Learning
- <https://einformatics.project.tuwien.ac.at/en/moocs/>
- <https://imoox.at/partner/tuwien>

MOOC Artificial Intelligence & Machine Learning

- Basic concepts and selected (introductory) algorithms of machine learning, also important social topics like fairness & ethics and legal issues
- Type of MOOC: object animation
- 90 h = 3 ECTS

Chapter structure

- Introduction (study time 2h)
- Basic Machine Learning (ML) Concepts (5h)
- Data & Applications (10h)
- Evaluation (10h)
- Algorithm Class #1 (Rule-based Classification & Regression) (20h)
- Algorithm Class #2 (Clustering) (20h)
- Algorithm Class #3 (Kernel Methods) (20h)
- Fairness, Ethics & Co in Machine Learning (2h)
- Outlook on Further Topics in Artificial Intelligence & Machine Learning (1h)
- Teaser

<https://iMooX.at>

Some Experiences

- + high quality (scientific, didactic, art)
- + additional learning material for all basic informatics courses
- + producers learned from each other to improve their teaching

- expensive
- hard to keep up to date
 - used technology
 - movies