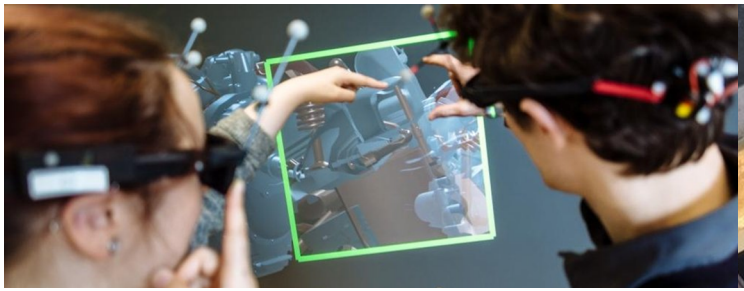
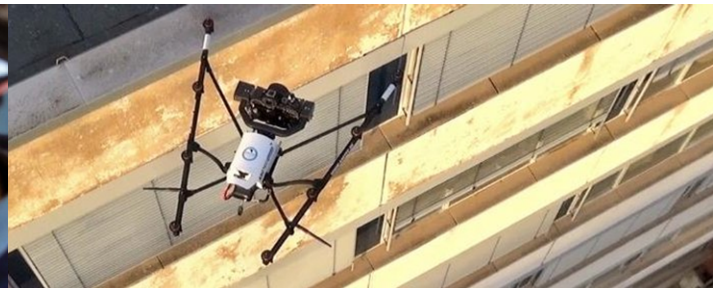
Master Digital Engineering

- Key idea:
  - Interdisciplinary course: Engineering and Computer Science
  - 2 years, entirely in English
  - Essential skills for Industry 4.0 (the German initiative to digitalize and automate the industry) – Digital Twins
  - Focus on civil engineering





Profession and career

- Industry 4.0 / Digital Twins
- Interdisciplinary projects between computer science and (civil)engineering
- Model manager in industry
- Analyst and scientist in engineering
- System integrator
- Technical manager
- Consultant for digitalization concepts
- Software developer
- Engineer in production
- Research positions

Study Plan

Name	*ECTS*
Fundamentals	18
Modelling	18
Simulation and Validation	18
Visualization and Data Science	18
Electives	12
Research Project	12
Master Module	24
Sum	120

Basic + Specialization	1. year
Project + Specialization + Master thesis	2. year

Review study and exam regulations!
https://www.uni-weimar.de/en/civil-engineering/studies/master-degree-programmes/digital-engineering/curriculum/

Some important facts:

- Master thesis requirements: English C1 and German A1
- Language courses for C1 can be used as Elective modules **(register early!)**
- Expected are 30 ECTS per semester (~ 5 successful modules)
- Stipulations (mandatory modules from Fundamentals) must be finished within the first 3 semesters
- 18 ECTS from Fundamentals completed before Project can be started
- Project must be completed before the master module can be started
- Preparatory research module must be completed before the thesis can be started

TIMETABLE **Digital Engineering** **summer term 2022** **Master** **Date: 25 March 2022**

Time	Monday	Tuesday	Wednesday	Thursday	Friday
07:30 - 09:00		(SaV) Experimental Structural Dynamics Dr. Zabel Luna-Blue, M7b start:05.04.2022	(SaV) Modeling of steel structures and numerical simulation (L/E) Prof.Kraus LH B, M13C Luna-Blue/Grey, M7b	(M) Introduction to Optimization/ Optimization in Applications Prof. Lahmer Luna-Blue, M7b	(SaV) Stochastic Simulation Techniques and Structural Reliability (E) -hybrid- Prof. Lahmer Luna-Grey, M7b
09:15 – 10:45	(M) Introduction to Optimization/ Optimization in Applications Prof. Lahmer LH B, M13C (F) Advanced Numerical Mathematics (L) Prof. Rüffer LH 2, C 13A start: 11.04.2022	(M) Advanced Modelling – Calculation /CAE (L+E) Prof. Rüffer / Dr. A.Legatiuk LH 2, C 13A start:05.04.2022 (F) Software Engineering (L) Prof. Ringert SR 3.31, S 143 start: 05.04.2022	(F) Statistics (L/E) Prof. Rüffer start: 06.04.22 LH 2,C13A (M) Advanced BIM (E) Prof. Koch OrionPool, C 11C BetonPool, C13 B start:13.04.22 (F) Algorithms and Data Structures (E) F. Andreussi Audimax, St6 Haus F start:13.04.22	(F) Complexity Theory (E) Dr. Jakoby LH 6, C9A start: 07.04.2022 (M) Advanced BIM (L) Prof. Koch HS A, M 13 C start: 14.04.2022 (VaDS) Visualization (L/E -online (live&recorded)- Prof. Fröhlich start: 07.04.2022	(SaV) Simulation Methods in Engineering (L) -in person/online*- Prof. Koch LH A, M13 C start: 22.04.2022 *online:06.05.2022 27.05.2022 10.06.2022
11:00 – 12:30	(SaV) Modeling of steel structures and numerical simulation (L/E) Prof.Kraus LH B, M13C Luna-Blue/Grey,M7b (F) Advanced Numerical Mathematics (E) Prof. Rüffer LH 2, C 13A start: 11.04.2022	(F) Complexity Theory (E) Dr. Jakoby SR3.31, S143 start:05.04.2022	SaV) Stochastic Simulation Techniques and Structural Reliability (L/E) Prof. Lahmer LH, HK7	(VaDS) Image Analysis & Object Recognition (E) Ch. Benz LH 6, C 9A start:14.04.2022 (F) Statistics (L/E) Prof. Rüffer LH 2,C13A start:07.04.2022	(VaDS) Software Engineering (M.Sc:) (E) Prof. Ringert SR 2.16, S143 start: 08.04.2022
13:30 – 15:00	(E) Big Data &Language Technologies (S) Dr. Völske /Prof. Stein SR3.09, S143 start: 11.04.2022	(F) Algorithms and Data Structures (L) -online- Prof. Wüthrich Audimax, St6, Haus F start:12.04.2022 (VaDS) Generative Software Engineering (L) Prof.Ringert LH A, M 13 C start. 05.04.2022			(VaDS) Generative Software Engineering (L) Prof.Ringert LH 6, C 9A start. 05.04.2022 (SaV) Simulation Methods in Engineering (E) Prof. Koch Luna-Blue/Grey, M7b start: 22.04.2022
15:15 – 16:45	(E) Big Data &Language Technologies (E) Dr. Völske /Prof. Stein SR3.09, S143 start: 11.04.2022	(VaDS) Image Analysis & Object Recognition (L) Prof. Rodehorst LH 6, C 9A start:05.04.2022		(VaDS) Randomized Algorithms (L) Dr. Jakoby	(VaDS) Computer Graphics II: Computer Animation (E) N.N. LH 6, C 9A start: 15.04.2022
17:00 – 18:30	Computer Graphics II: Computer Animation (L) Prof.Wüthrich SR2.16, S143 start: 11.04.2022	(E) Academic English Part I* -online consultation - H. Atkinson start: 26.04.2022	(E) Academic English Part II* -online consultation – H. Atkinson start: 27.04.2022	(VaDS) Randomized Algorithms (E) Dr. Jakoby	
18:30 – 20:00					

* Compulsory registration

(L)=Lecture / (E) =Exercise / (S) = Seminar

Subject Area:
F –Fundamentals **SaV** – Simulation and Validation **M** - Modelling **VaDS** – Visualization and Data Science

List of abbreviations:
B11: Bauhausstraße 11
C13: Coudraystraße 13
HK7: Haußknechtstraße 7
M7b: Marienstraße 7b
M13: Marienstraße 13
LH: lecture hall
SR: seminar room

Stipulation + Fundamental Fundamental English course for C1 Specialization

FAQ

- Arriving in Weimar: What to do?
  - https://www.uni-weimar.de/en/university/international/to-weimar/preparing-your-stay/
- Student assistants helping you arriving
  - Manik Vipandeep (manik.vipandeep.mehta@uni-weimar.de)
- For CS courses:
  - Media students might receive 4.5 ECTS
  - DE students receive 6 ECTS -> more tasks and/or larger exam
- Feedback conference between students and program authority (Prof. Koch, Prof. Rodehorst)
- Check your university e-Mail box regularly!