

University of Hagen

Dresden, 2017



DRESDEN
concept
Excellence in
Wissenschaft
und Kultur



Figure 1: logo of the University of Hagen

1. Introduction

- only state maintained distance teaching university in German-speaking countries
- was founded on 1st of December 1974 and started services in educational science, mathematics and economics on the 1st of October in the same year
- today there are five faculties: humanities and social science; mathematics and computer science; business administration and economics, law and environmental science



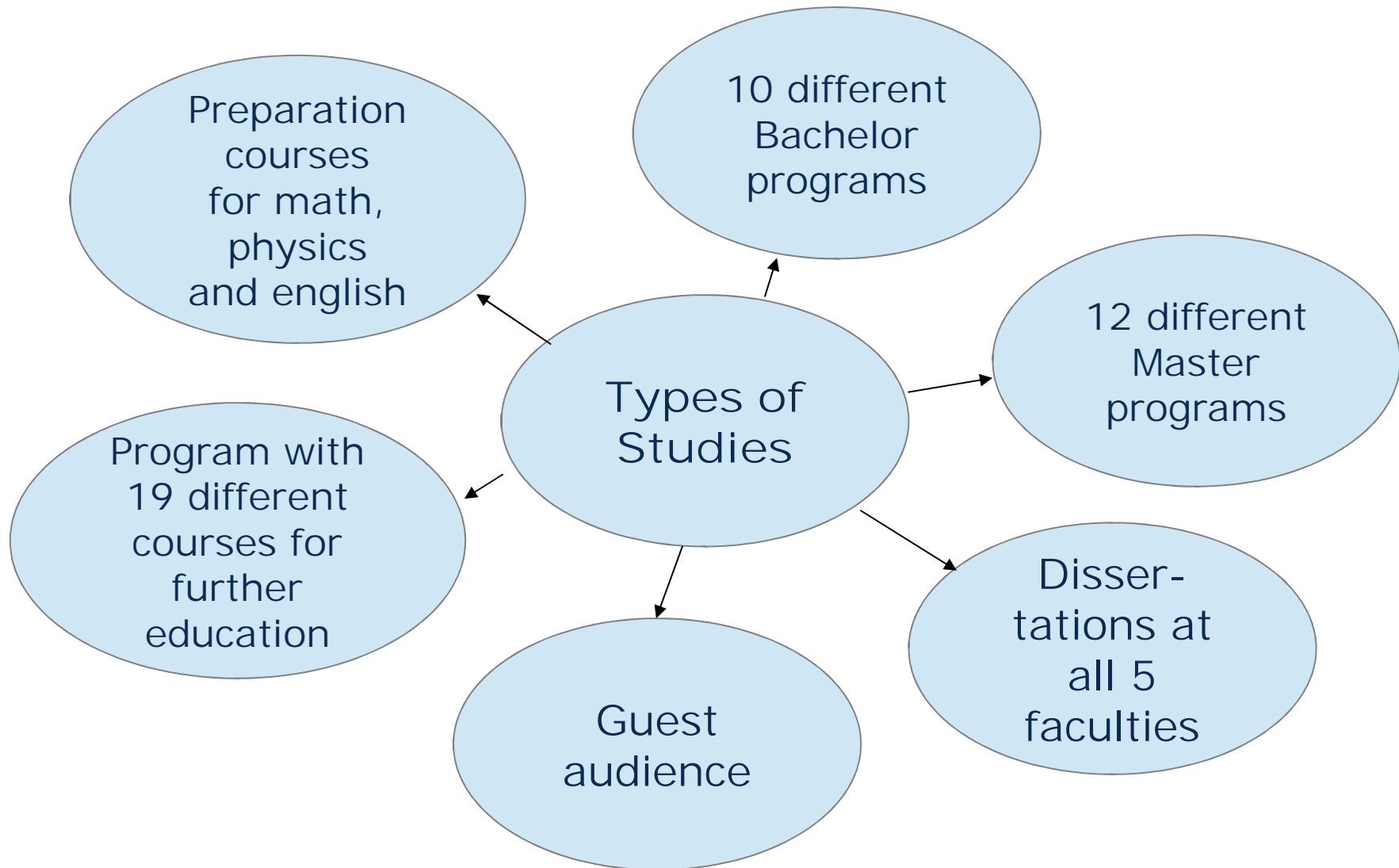
Figure 2: advertisement photo of the University of Hagen



Figure 4: main campus of the University of Hagen

1. Introduction
2. Organisation of programs
3. Quality assurance
4. Technology used
5. Student assessment
6. Teaching approaches
7. Research

2. Organisation of Programs



Costs

- preparation courses: €60 per course
- guest audience: €20 per semester weekly hours
- Bachelor study programs (3 years): €1800 - €3000
- Master study programs (2 years): €700 - €1200

Sponsorship

- indigent people (prisoners, people who gain services from the social welfare office or BAföG) can receive a discount up to €360 per semester
- provide information about other external sponsorships and studentships

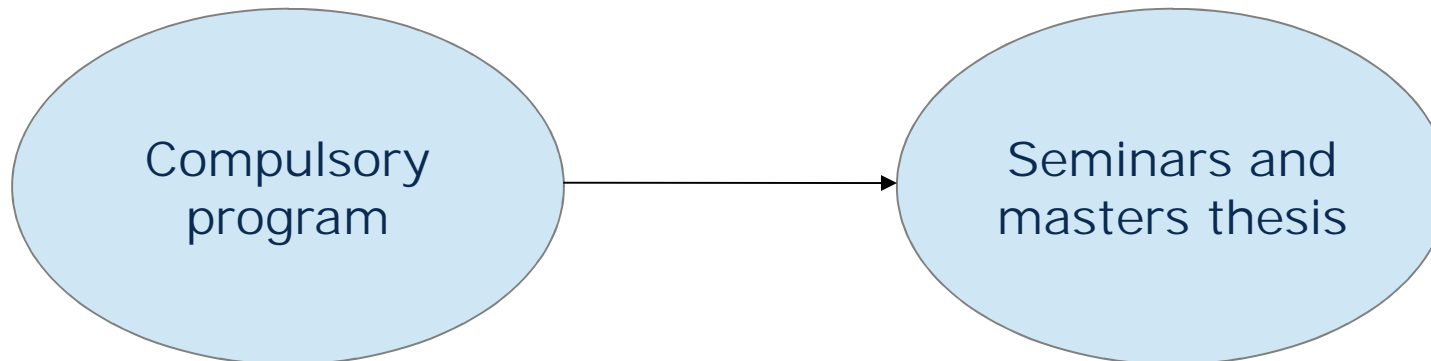
Studies without A-level

- Requirements: minimum 2 year apprenticeship and 3 years of practical experience
- 2 opportunities:
 1. preparation studies for 4-8 semesters or 80 ECTS
 2. passing 2 admission examinations

Procedure until beginning of the semester



Procedure of Master studies on the example of economics



- consists of 2 optional modules and 6 compulsory modules with 2 hour exam and sending exercises
- maximum obligation of 8 compulsory courses

- precondition: successful attendance on seminar for the preparation of the thesis
- writing the 50-page thesis in 6 months

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3. Quality Assurance

- hard to measure the quality of the University of Hagen since no index is rating it
- to ensure high quality of bachelor and master studies new bachelor or master studies have to be appraised by the external accreditation company AQAS e.V.
- to guarantee that also parents can learn at any time there is a kindergarden called „MiniCampus“ on the territory of the university, which can be used flexibly especially in the exam period
- the library includes right now entrance to 814000 books, 1600 journals and newspapers as well as 42000 electronic journals

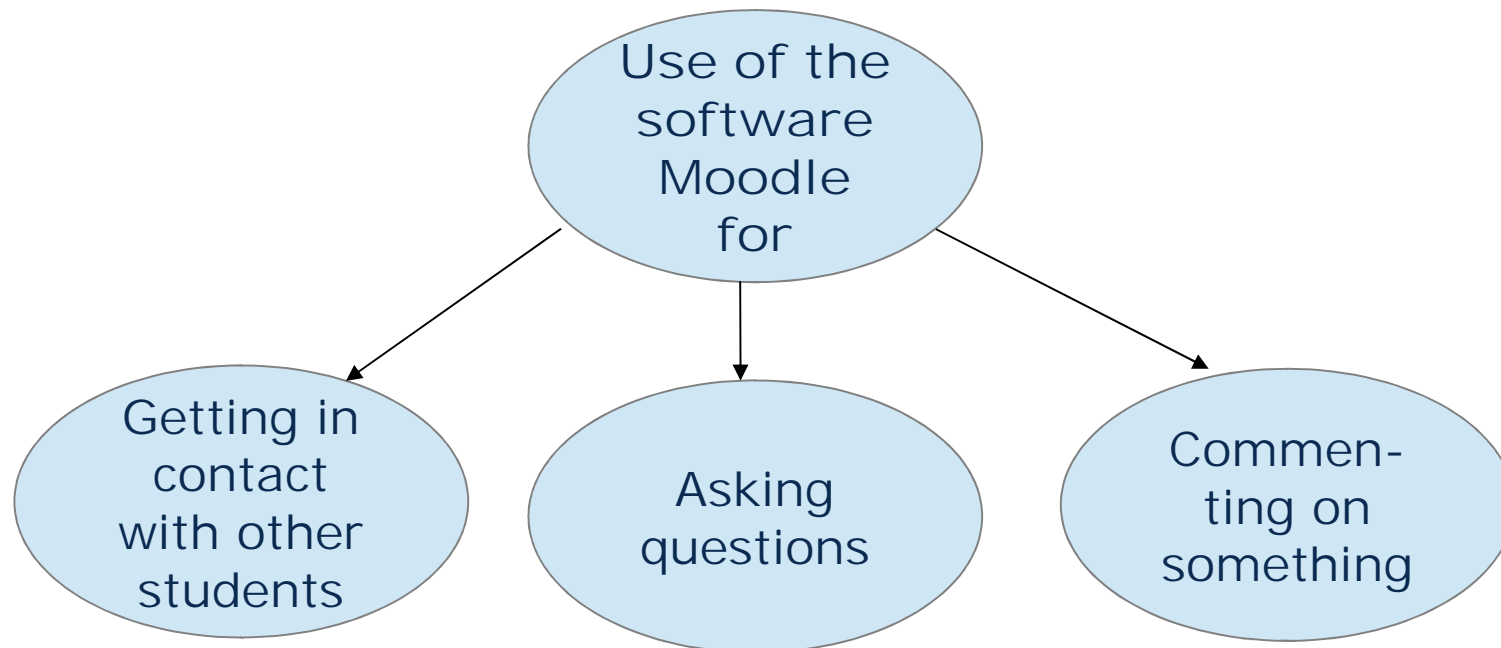


Figure 5: Library of the University of Hagen,
which also have their own web page

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4. Technology used

- Is built upon the concept of blended learning, which is a combination of „presence“ courses and e-Learning
- Studies material consisting of CDs, DVDs, computer programs, video conferences, simulation packages, training software, seminars and internet chat groups



4. Technology used

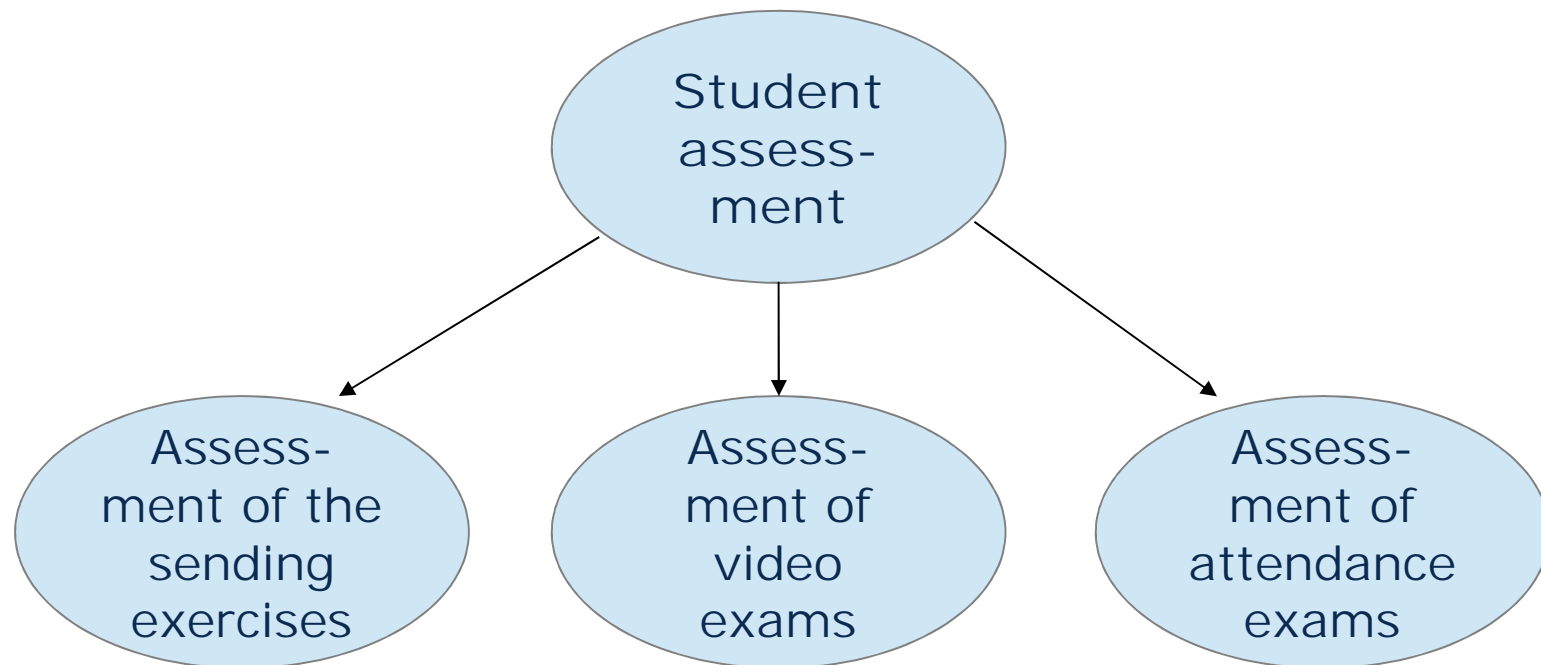


Figure 6: design and functionality of moodle

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5. Student assessment

- follow the normal process of student assessment



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lesson approaches

- a) study units with individual support from the module adviser

- b) net-based co-operation in seminars and working groups per videostreaming-events

- c) attendance events especially on weekends

6. Teaching approaches



Abroad additional centers existing in:

Bregenz (AU)
Linz (AU)
Wien (AU)
Saalfelden (AU)
Villach (AU)
Graz (AU)
Zurück (CH)
Budapest (H)
Riga (LV)

Figure 7: location of the regional centers in Germany

lesson methods

- study units, exercises, interactive CD-ROMs and DVDs, use of computer programs, video conferences, simulation packages, training softwares and internet chat groups

aspects of virtual learning

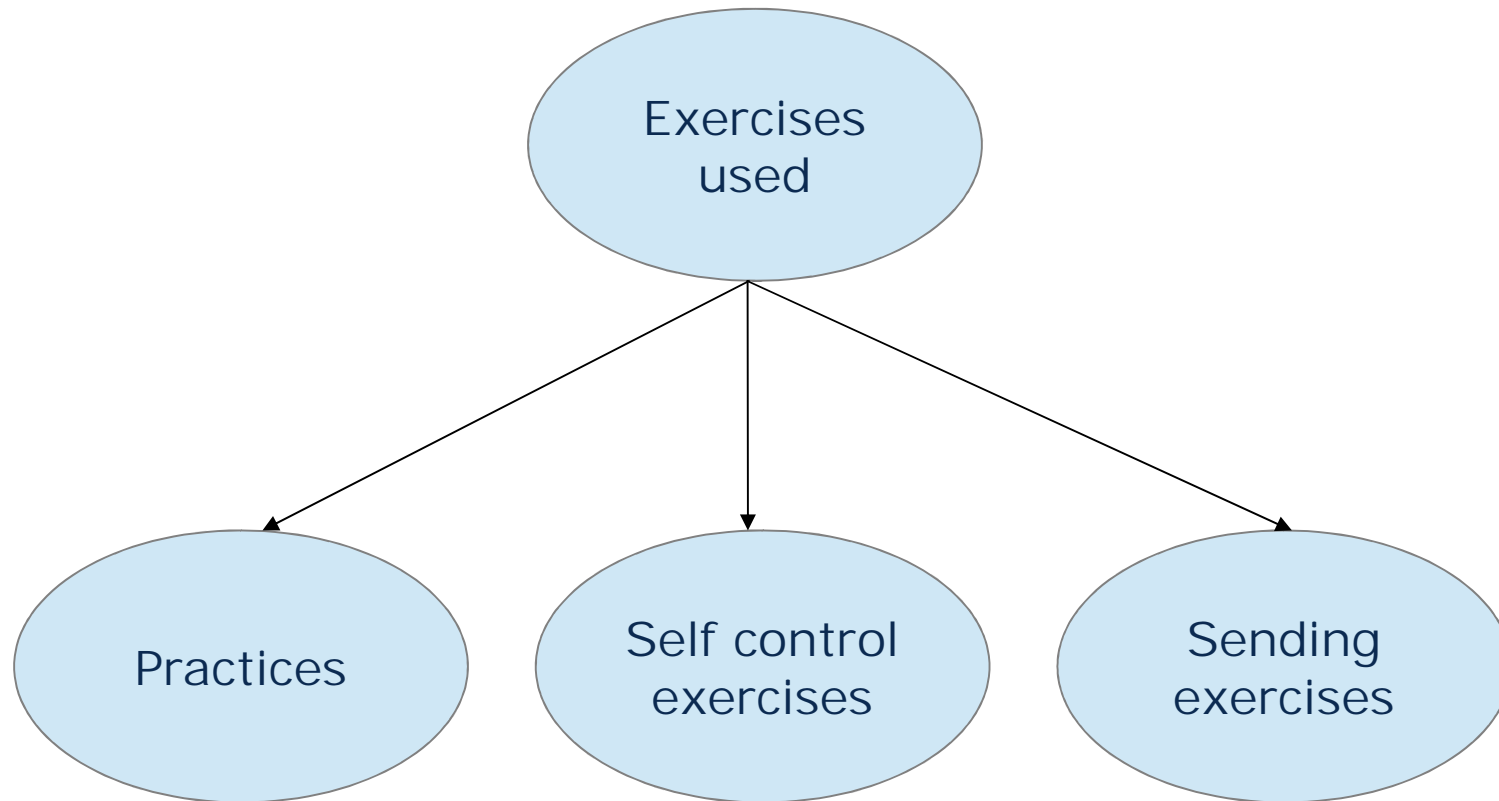
- a) online live transmission, which will be uploaded as a video after all the student questions got answered
- b) topic chats during virtual seminar

communication methods

- contact persons can be reached personally at Hagen campus or one of the 30 regional centres
- they can be called by telephone
- you can chat with them in chatrooms or in moodle

additional service

- it is offered a service oriented university library, which is sending books and articles on request by mail
- access to the university network from anywhere



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Cooperations in Research and Development

1. University of Economics and Finance St.Petersburg, Russia
2. University of Pecs, Hungary
3. Institute for Analytical Sciences, Deutschland
4. Universiteit Leiden, Netherlands
5. Universidad Iberoamericana, Mexico
6. Universite de Paris XII, France
7. Deutsch-Mexikanische Juristenvereinigung
8. Otto-von-Guericke-Universität Magdeburg, Faculty for Informatics, Germany
9. Melbourne University, New Zealand
10. E-Learning Lab, Shanghai Jiao Tong Univ
11. Department of Information Systems and Management, Tilburg University, Netherlands

Research emphasis

- research activities of the faculties in their scientific topics
- media-supported learning and wisdom construction e.g. learning over a whole life, diversity inclusion in the media-supported distance teaching of a university
- interdisciplinary researches e.g. intelligent systems for decision support

Research support

- University of Hagen supports researchs with the Hagener research dialogue
- aim is to visualize the results of the research for students and publicity
- weekly presentations and lectures of well respected researchers especially of social topics

- <http://www.fernstudium-wiwi.de/ohne-abitur-an-der-fernuni-hagen-studieren/>
- http://www.fernuni-hagen.de/arbeiten/statistik/open_m/studstat/global/Tab1P1_Dia_Internet.pdf
- <http://www.fernuni-hagen.de/forschung/schwerpunkte/index.shtml>
- <http://www.fernuni-hagen.de/english/profile/partners/environment.shtml>
- <http://www.fernuni-hagen.de/regionalzentren/ausland.shtml>
- <https://www.fernuni-hagen.de/regionalzentren/inland.shtml>
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- <http://www.fernuni-hagen.de/studium/studienangebot/bachelor.shtml>
- http://www.fernuni-hagen.de/studium/studienangebot/beruflich_qualifizierte/index.shtml
- <http://www.fernuni-hagen.de/studium/studienangebot/master.shtml>
- <http://www.fernuni-hagen.de/studium/studienangebot/weiterbildung.shtml>
- <http://www.fernuni-hagen.de/studium/studienangebot/vorbereitendekurse.shtml>
- <http://www.fernuni-hagen.de/studium/studienorganisation/gebuehren/foerderung.shtml>
- <https://www.fernuni-hagen.de/studium/studienorganisation/kursbelegung/index.shtml>
- <https://www.fernuni-hagen.de/studium/studienorganisation/kursbelegung/faq.shtml>

- <http://www.fernuni-hagen.de/universitaet/profil/index.shtml>
- <http://www.fernuni-hagen.de/universitaet/fakultaeten.shtml>
- <http://www.fernuni-hagen.de/universitaet/aktuelles/2014/12/01-am-40-jahre-fernuni-peters.shtml>
- <http://www.fernuni-hagen.de/universitaet/kommunikation/informationmaterial.shtml>
- <http://www.fvl-agentur.de/wp-content/uploads/logo-fernuni-hagen.jpg>
- https://moodle.org/pluginfile.php/50/local_plugins/plugin_screenshots/664/Moodle4_testinge.png
- <https://www.ub.fernuni-hagen.de/>
- http://www.wz.de/polopoly_fs/1.1596749.1395933532!/httpImage/onlineImage.jpg_gen/derivatives/landscape_550/onlineImage.jpg

Massive Open Online Courses

MOOCs

Arusyak Harutyunyan

International Scientific-Educational Center
National Academy of Sciences of Armenia

MOOCs.....

- are open to anyone – no mandatory qualifications
- have no fees for study
- have enrolments at start >>> learners at end
- have learners who are not students of universities
- are fully online
- are very lightly tutored & supported
- do offer assessment (in various forms)
- have low study hours per week, on modules not degree programs
- offer 'certificates of completion' rather than credits (but...)
- are a different business model to trad HE



Sample of MOOC Providers



- **FutureLearn**
- [Canvas](#)
- [Class2Go](#)
- [Coursera](#)
- [CourseSites](#)
- [edX](#)
- [Google Course-Builder](#)
- [Khan Academy](#)
- [Udacity](#)
- [Udemy](#)



Take the World's Best Courses

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THE UNIVERSITY of EDINBURGH

FROM 16 UNIVERSITIES



Artificial Intelligence Planning

Gertraud Wiering, Assiaa Taha

The course aims to provide a basic grounding in artificial intelligence techniques for planning, with an emphasis on the wide spectrum of different problems and approaches, including their underlying theory and their applications.

Jan 27th 2013

5 weeks long



Astrobiology and the Search for Extraterrestrial Life

Charles Cockell

Learn about the origin and evolution of life and the search for life beyond the Earth.

Jan 29th 2013

5 weeks long



Critical Thinking in Global Challenges

Celine Coqueana, Mayank Dutta

In this course you will develop and enhance your ability to think critically, assess information, and develop reasoned arguments in the context of the global challenges facing society today.

Jan 28th 2013

5 weeks long



E-learning and Digital Cultures

Jeremy Knox, Sian Bayne, Hamish Macleod, Jon Ross, Christine Sinclair

This course will explore how digital cultures and learning cultures connect, and what this means for a learning theory and practice.

Jan 28th 2013

5 weeks long



Equine Nutrition

Jo-Anne Murray

This course will cover many aspects of equine nutrition ranging from anatomy and physiology of the gastrointestinal tract to dietary management of horses/ponies affected with nutrition-related disorders.

TBA

5 weeks long



Introduction to Philosophy

Dave Ward, Duncan Pritchard, Michela Massimi, Sulin Lovello, Matthew Christian, Allan Hazlett, Alexander Richmond

This course will introduce you to some of the most important areas of research in

Jan 28th 2013

7 weeks long

... lots of the features of typical online courses

The screenshot shows a web browser window displaying the Coursera course page for 'Artificial Intelligence Planning' at The University of Edinburgh. The course is taught by Gerhard Wicker and Austin Tate, starting in January 2013. The page features a navigation menu on the left with links for Home, Course Information, Video Lectures, Course Social Platform (including Course Wiki, Discussion Forums, Course Tweets, and Virtual Meeting Space), and Week-by-Week (Week 1 and Week 2). The main content area is titled 'Announcements' and includes a 'Welcome to AI Planning' message, a 'Week 1' announcement, and a 'Check your web browser works with Firefox' notice. A right-hand sidebar lists 'Upcoming Deadlines' and 'New Lectures', including 'Course Welcome', '1.1 What is Planning?', '1.2 Conceptual Model for Planning', '1.3 Planning and Search', '1.4 Example Problems', 'Course: A Planning for Robots', '1.5 AI Planning in Context - Practical Systems', '1.6 AI Planning in Context - Tasking, Execution, Agents and Plans', '1.7 AI Planning in Context - Example Planners', '1.8 AI Planning in Context - Planning+', '2.1 Heuristic Search Strategies', '2.2 A* Tree Search', '2.3 Heuristics in A*', '2.4 A* Graph Search', '2.5 Short Heuristics', 'Course Conclusion', and '0-Plan: Task Systems Admin Items'.

..online spaces for learners to self-support + light touch oversight

The image shows a screenshot of a course website. On the left is a navigation menu with the following items: Home, Course Information, Video Lectures, **Course Social Platform** (circled in red), Course Wik, Discussion Forums, Course Tweets, Virtual Meeting Space, **Week-by-Week**, Week 1, Week 2, Instructor Support, and 118N Ecitor. The main content area on the right has three sections: **Course Information** (with text about social media and a Twitter tag #aiplan), **Week-by-Week** (with a list of weeks and topics like 'Introduction and Planning in Cont...', 'State-Space Search: STRPS and...', 'Par-Space Search and HTN Plan...', 'Graphplan and Planning Graph He...', and 'Par Execution and Applicat ors'), and **Recommended Backg** (with text 'The course is at an introductory level, but y...').

...lots of short videos & presentations

The screenshot shows a web browser window displaying a Coursera course page. The browser's address bar shows the URL: <https://class.coursera.org/genomicscience-2012-001/lecture/4>. The Coursera interface includes a navigation menu on the left with options like Home, Lectures, Video Lectures, Assignments, Discussion, Quiz, and Discussion. The main content area features a video player. The video player is currently displaying a presentation slide with the following text: "The Human Genome Project", "Harold Riethman, PhD", and "riethman@wistar.org". To the right of the slide is a small video inset showing a man in a suit. The video player controls at the bottom show a progress bar, a play button, and navigation buttons for "Previous" and "Next". The video title is "Lecture 2: The Human Genome Project". Below the video player, there are links for "Lecture 12: Epigenetics and Transcriptional Regulation" and "Lecture 13: ncRNA structure and function".

...interactive tools online

The screenshot shows a web browser window displaying a Coursera course page for "University of Michigan Social Network Analysis". The course is taught by "Andy Adamski, University of Michigan". The main content area features a video player for "19 Software Tools (13:13)". The video player is currently paused at 07:04 / 13:13. The video player interface includes a progress bar, a play/pause button, and navigation controls. The video content shows a window titled "gephi" running on a Linux system. The Gephi window displays a network graph with approximately 20 nodes and many edges. The interface includes several panels: a left sidebar with a "Tools" menu, a central workspace showing the graph, and a right sidebar with a "Layout" menu. A blue circle highlights a small icon in the bottom-left corner of the Gephi window. The video player controls at the bottom of the browser window include a "Previous" button, a "Press F for keyboard shortcuts" prompt, a "Next" button, and a "19 Software Tools (13:13)" label.

...timed assignments throughout the course

Assignments

Details: OFF * *Timezone: UTC+0000*

World Music - Assignment 1 [Go to assignment >](#)

Results available since Mon 30 Jul 03:59 pm

World Music - Assignment 2 [Go to assignment >](#)

Results available since Mon 05 Aug 08:59 pm

World Music - Assignment 3 [Go to assignment >](#)

Results available since Mon 13 Aug 08:59 pm

...automated assessment – computer-marks tests

STS markers M and N appear to be very closely spaced on a Radiation Hybrid map of chromosome 19, but much farther apart on a meiotic linkage map of the same chromosome. What might explain this?

- A. Expansion of the RH map around the centromere
- B. A meiotic recombination cold spot between M and N
- C. A meiotic recombination hot spot between M and N
- D. All of the above

Submit

Skip

...required readings, in the MOOC + externally

CHAPTER 3

Propositional Proofs

3.1 Introduction

Checking logical entailment with truth tables has the merit of being conceptually simple. However, it is not always the most practical method. The number of truth assignments of a language grows exponentially with the number of logical constants. When the number of logical constants in a propositional language is large, it may be impossible to process its truth table.

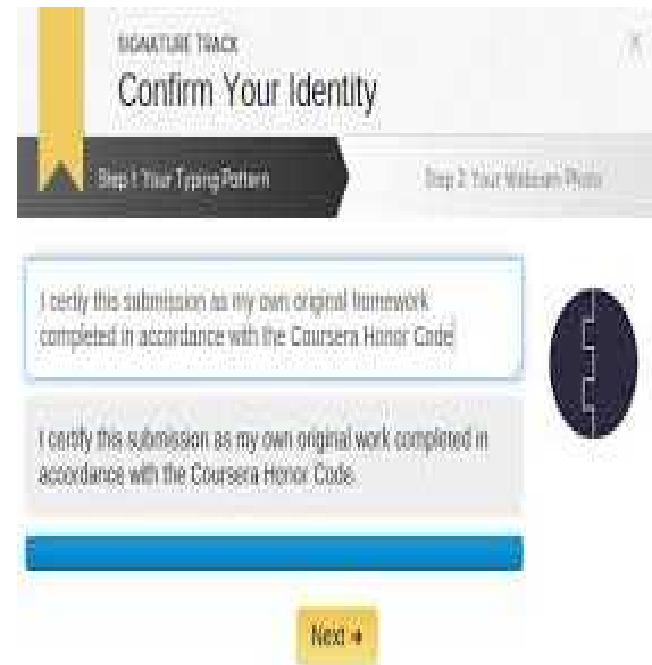
Proof methods provide an alternative way of checking logical entailment that addresses this problem. In many cases, it is possible to create a proof of a conclusion from a set of premises that is much smaller than the truth table for the language; moreover, it is often possible to find such proofs with less work than is necessary to check the entire truth table.

We begin this lesson with a discussion of simple, linear proofs. We then move on to hierarchically structured proofs, where proofs can be nested inside of other proofs. Once we have seen both linear and structured proofs, we show how they are combined in the popular Fitch proof system. We finish with definitions for soundness and completeness - the standards by which proof systems are judged.

Coursera.org

- Coursera works with universities to make some of their courses available online, and offers courses in physics, engineering, humanities, biology, social sciences, math, business, health and other subjects.
- All courses offered by Coursera are "accessible for free" and some give the option to pay a fee to join the "Signature Track." Students on the Signature Track receive verified certificates, appropriate for employment purposes. These students authenticate their course submissions by sending webcam photos and having their typing pattern analyzed.

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Coursera.org

Coursera now offers online “specializations” - certificates from participating colleges that allows students to master a skill with a targeted sequence of courses which conclude with an application through a Capstone Project.

Coursera.org

These specialization certificate options include topics such as
“Data Science” from Johns Hopkins University,
“Modern Musician” from Berkeley, “Fundamentals of
Computing” from Rice University,
"Digital Marketing" from University of Illinois,
"Cyber Security" from University of Maryland
and "Healthcare Care Informatics and Data Analytics" from
Georgia Institute of Technology.

As of May 2015, it offered more than 1000 courses from 119
institutions and had 13,026,242 users from 190 countries
enrolled

Edx.org

- **EdX** is a massive open online course (MOOC) provider and online learning platform. It hosts online university level courses in a wide range of disciplines to a worldwide audience, some at no charge. It also conducts research into learning based on how people use its platform. EdX differs from other MOOC platforms, such as Coursera and Udacity, in that it is nonprofit and runs on an opensource software platform. EdX was founded by the Massachusetts Institute of Technology and Harvard University in May 2012.

Futurelearn.com

- **FutureLearn** is a massive open online course (MOOC) learning platform founded in December 2012 as a company wholly owned by The Open University in Milton Keynes, England. It is the first UK-led massive open online course learning platform, and as of March 2015 included 54 UK and international University partners and—unlike similar platforms—includes four nonuniversity partners: the British Museum, the British Council, the British Library and the National Film and Television School.

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Other MOOC Providers

Canvas

- Features a well-organized listing of all current classes and the institutions that offer them.
- Is open-source, meaning that you can grab the code base for free and run it on your very own server.

Khan Academy

- Supplies a free online collection of more than 3,900 micro lectures via video tutorials stored on YouTube that cover a wide variety of subjects.

Udemy

Most courses on Udemy are free, but some are paid. Paid courses typically range in price from \$5 - \$250.