

## FernUniversität in Hagen The German Teleteaching University CampusSource The Exchange Platform for Virtual Universities

FernUniversität in Hagen  
University for  
Distance Education –  
Teleteaching

Michael Stepping

Presentation at South Ural State University, December 18, 2006



# FernUniversität in Hagen

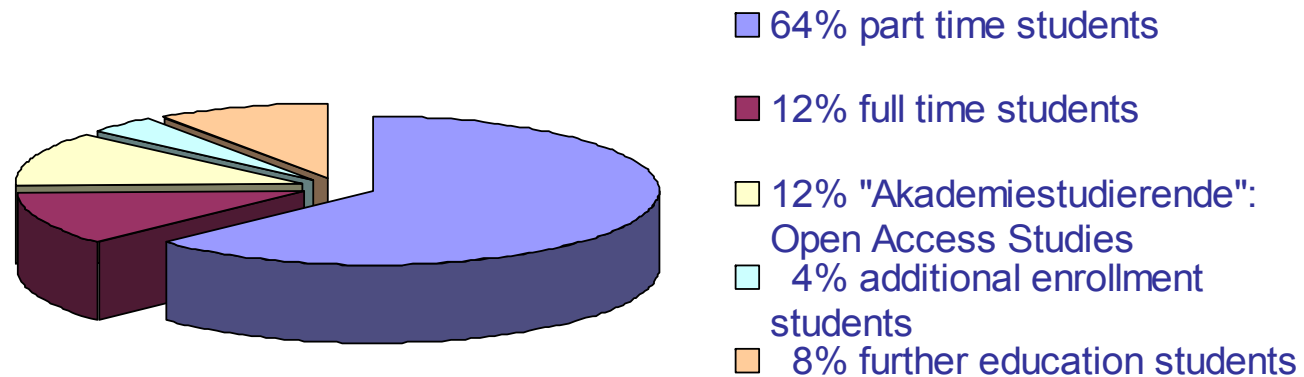
---



- ◆ opened 1975, public university
- ◆ only single mode distance teaching university in Germany
- ◆ integral part of regular higher education system
- ◆ fully in line with conventional universities
- ◆ overall use of media in teaching and learning
- ◆ leading role in use of electronic media
- ◆ comprehensive Virtual University / mobile university
- ◆ basics-oriented and application-related research

# FernUniversität in Hagen

- **Established in December 1974**  
by act of Parliament of the state of North-Rhine-Westphalia
- **The only public distance teaching university in Germany**
- **Profile and status of our students**
  - 29-35 years of age on average
  - 80 % in employment
  - 19 % already have a first academic degree





\* head counts

# Mission statement: concepts and strategies

---



- **Media use – the engine for the university of the future**
- **Research – a base for lecture and further education**
- **Lecture – attractive through innovation**
- **Further education – rapid answer to the demands of education**
- **Internationalisation – using the advantages of our system**
- **Cooperation – open for synergies**

# Study Offers (Types and Forms)

Degree Study Programmes	Academic Further Studies	
<p><b>Bachelor Master (Diplom, Magister) Postgraduate</b></p> <p>Defined curricula</p>	<p><b>„Akademiestudien“ / Open Access Studies</b></p> <p>Studies on demand Individual choice of courses (lectures, seminars, exercises, ...)</p>	<p><b>Special Academic Further Studies</b></p> <p>Determined subject and course/s a. structured study offers b. degree programmes</p>
<p><b>Academic degree</b></p> <p>University <b>admission qualification</b> required ("Hochschulzugangsberechtigung")</p> <p>Currently on offer: <b>Ca. 30 programmes</b></p>	<p><b>Certificate</b> Recognition ("credit transfer") for degree studies possible</p> <p><b>No admission requirements</b></p> <p>Currently on offer: <b>Ca. 1.700 courses (lectures)</b></p>	<p><b>a. Certificate / Diploma b. Academic degree</b></p> <p><b>Individual admission requirements</b> and rules - professional training / experience - diploma, degree</p> <p>Currently on offer: <b>Ca. 25 programmes</b></p>

# Undergraduate and graduate studies

---



## **Faculty** of

Mathematics, Computer Science and Information Technology  
(and formerly Electrical Engineering):

BSc / MSc Mathematics

BSc / MSc Informatics

MSc Systems Engineering

Master of Computer Science

BSc / MSc Economic Information Technology

BSc / MSc Information Sciences

# Undergraduate and graduate studies

---



## Faculty of Cultural and Social Sciences:

BA Cultural Studies

BA Politics and Organisation

BA Educational Science

MA Governance

MA Philosophy in a European Context

MA Formation of European Modernity

MA Sociology – Individualisation and Social Structure

MA Psychology of Change

MA E-Education

BA/MA Information Sciences



# Undergraduate and graduate studies

---



## Faculty of Economics:

BSc Economics

MSc Economics

BSc Economic Information Technology

MSc Economic Information Technology

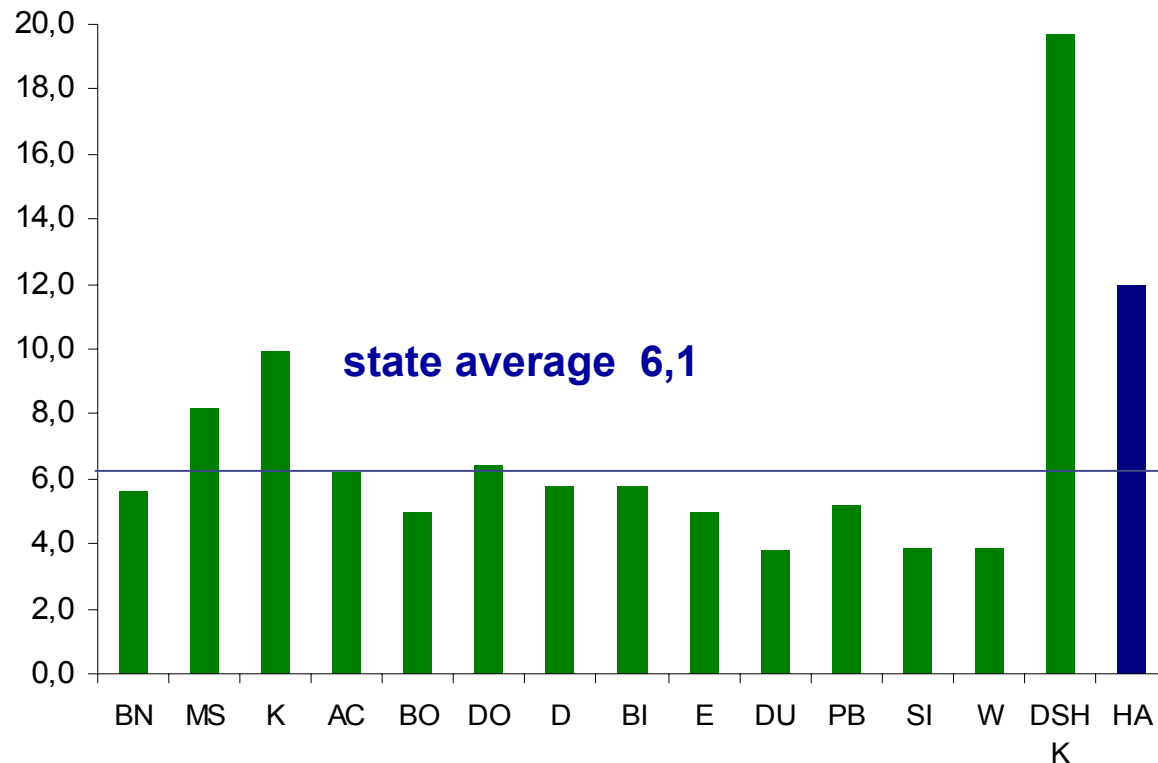
## Faculty of Law:

LL.B. Laws

LL.M. Laws

# Graduates per professor: state comparison

Average of the years 1998 to 2002



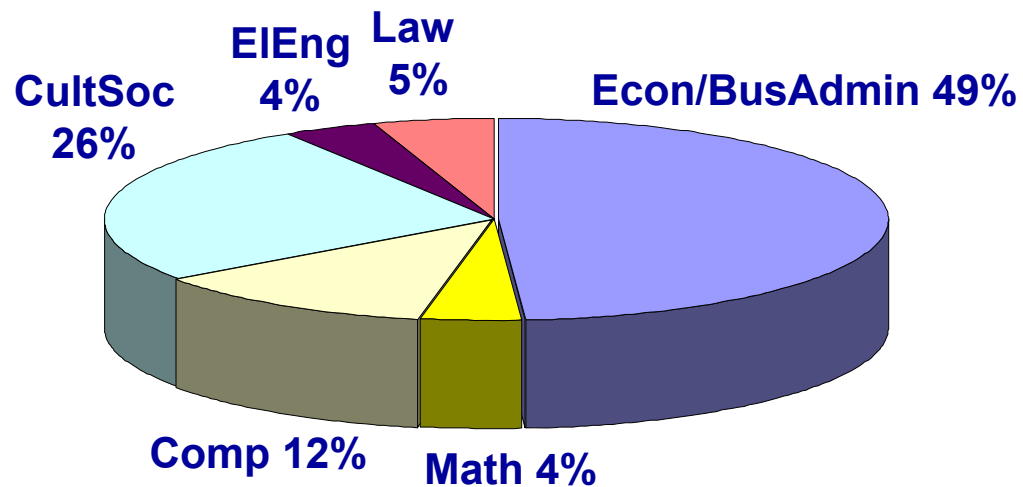
Quelle: Stammbblätter der Hochschulen NRW 2002

# Students per Faculty

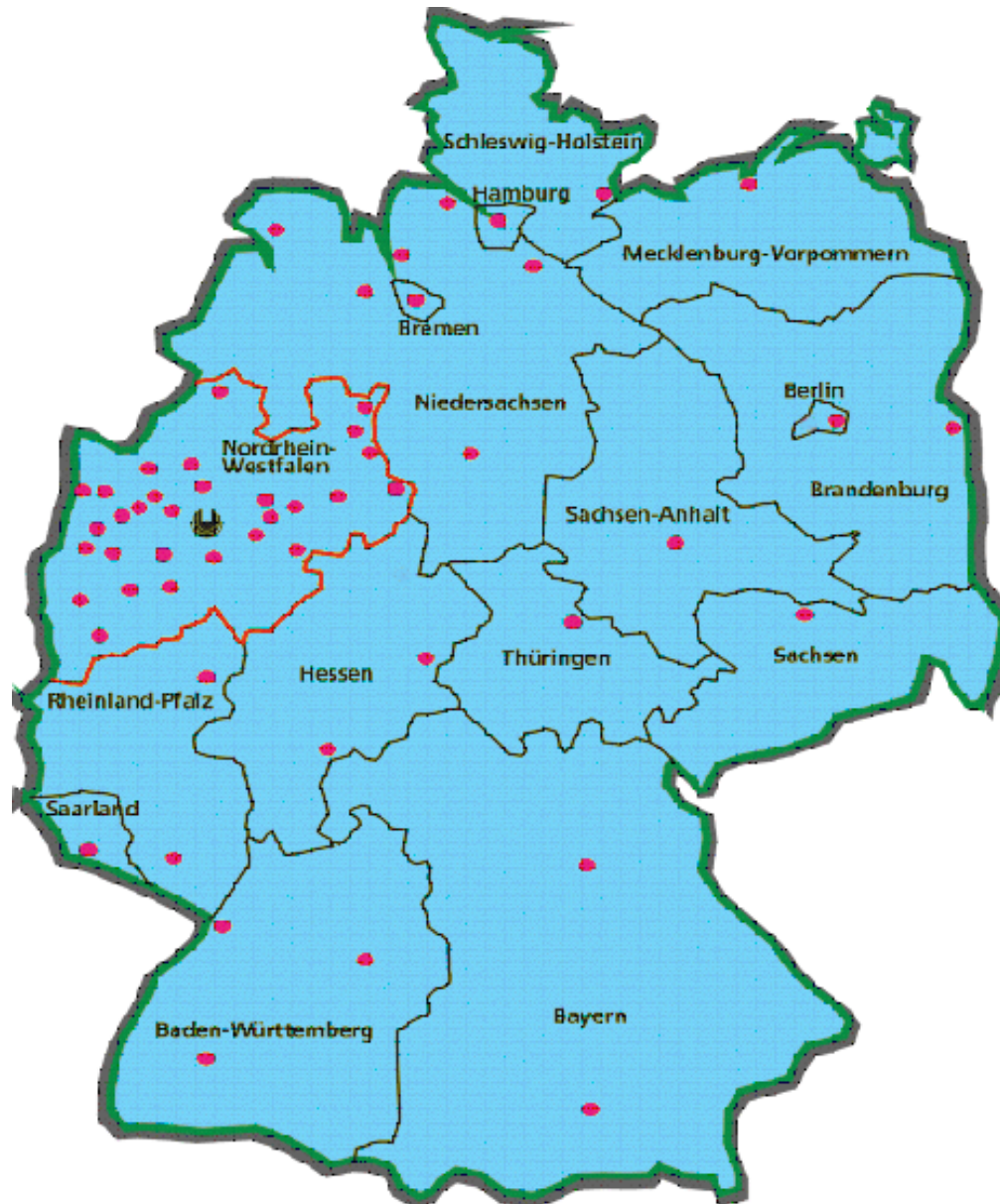
1999/00 // 2004/05



 Computer Science	12% // 13%
 Cultural and Social Sciences	26% // 25%
 Economics and Business Administration	49% // 46%
 Electrical and Computer Engineering	4% // 4%
 Law	5% // 8%
 Mathematics	4% // 4%



# Study centres in Germany



# Study centres in Europe



# FernUniversität international: facts

---



- **students in 93 countries worldwide**
- **study centres:  
Austria, Switzerland, Hungary, baltic states, Russia**
- **3.818 students of foreign citizenship: (= 9 %) (2003)**
- **1.942 students in the german speaking foreign countries**
- **1.731 students in non-german speaking foreign countries**
- **TestDaF Institute  
offers the TestDaF – the test of German as a foreign language test centres in more than 80 countries**



[www.FernUni-Hagen.de](http://www.FernUni-Hagen.de)

## Courses

---

- Students can study in various ways:
  - ◆ as a full-time student
  - ◆ as a part-time student
- Students get new course material in a 2 week cycle
- Students send in exercises every 2 weeks
- Exercises are corrected and sent back
- Communication by mail and phone



## FernUniversität in former time

---



- Lectures are split in Lessons
- 8 Lessons per Semester
- Each around 40-80 pages
- Homeworks, Assignments
  
- Paper sent via post-mail

# Virtual University: integrated concept

Online

- **lectures**
- **supervision and support**
- **communication and social contact**
- **support of online teamwork**
- **possibilities for training and laboratory courses**
- **access to libraries and information resources online**
- **access to research**
- **access to information, consultancy and advice**
- **access to administration**  
**(registry office, deaneries, examination offices)**

## FernUniversität today

---



- First Virtual Universities are developed in 1995
- Mapping reality in virtual environments
  - ◆ Lectures
  - ◆ Library
  - ◆ Enrollment office
  - ◆ Dean
  - ◆ ...

# Content

---

- Content has to be enriched for Multimedia
- First version was simply PDF
  - ◆ (electronical but not multimedia)
- Multimedia added value has to be provided
- Since 1997 development of animations
  - ◆ Multimedia animations

## Content format

- XML – format for content production
  - ◆ (Ascii-format, Unicode format, stanardised, non-proprietary, long-term stability)
- Structure:
  - ◆ (Document type definition (dtd))
  - ◆ XML schema definition (xsd)
  - ◆ CampusSource.xsd
- → Development of openFuXML

## Virtual Universities

---



- Several Platforms have been developed
- Keep knowledge and save investments
- → CampusSource was invented

# Features of Infrastructure Software

---



- provide general information
- administration of user data and material
- tools for creating multimedia content
- distribution and delivery of teaching and learning material
- means of communication and interaction
- interfaces for add-on services
- integration into an existing hard and software environment

# Information Services

description of the educational institution



**Die Fachbereiche**

- [Elektrotechnik](#)
- [Erziehungs- Sozial- und Geisteswissenschaften](#)
- [Informatik](#)
- [Mathematik](#)
- [Rechtswissenschaft](#)
- [Wirtschaftswissenschaft](#)

educational offers

dates, deadlines, announcements

## Termine und Fristen

Studienjahr 2000/2001

### Mintersemester 2000/2001

1. Antrag für die Zulassung/Einschreibung zum Studium einschließlich Belegung von Studienmaterial	15.05.2000-15.07.2000
<ul style="list-style-type: none"> <li>● Antrag auf Erlass/Ermäßigung der Gebühren für den Bezug von Fernstudienmaterial wegen Bedürftigkeit</li> </ul>	
2. Antrag auf Rückmeldung bzw. erneute Zulassung zum Studium einschließlich Belegung von Studienmaterial	01.06.2000-31.07.2000
<ul style="list-style-type: none"> <li>● Antrag auf Status- und/oder Studiengangwechsel</li> <li>● Antrag auf Wechsel in den Studiengang für bisherige Gast- oder Kurszweithörer</li> <li>● Antrag auf Einschreibung in einen weiteren Studiengang</li> <li>● Antrag auf Beurlaubung für ordentlich Studierende</li> <li>● Antrag auf Erlass/Ermäßigung der Gebühren für den Bezug von Fernstudienmaterial wegen Bedürftigkeit</li> </ul>	
<ul style="list-style-type: none"> <li>● Versandbeginn</li> </ul>	12.09.2000
<ul style="list-style-type: none"> <li>● Beginn des Semesters</li> </ul>	01.10.2000
<ul style="list-style-type: none"> <li>● Beurlaubungsbeginn</li> </ul>	03.10.2000



# Administration Services

students and guests

- signing in
- changing of user data
- credits
- personalized user interfaces

**Datenänderung**  
Veränderung der persönlichen Daten

**Neue Daten bitte in das Formular eintragen**  
(Felder mit einem \* müssen ausgefüllt werden!)

(1) Name*	<input type="text" value="Branskat"/>
(2) Vorname*	<input type="text" value="Sonja"/>
(3) Titel	<input type="text"/>
(4) Strasse, Haus-Nr.	<input type="text"/>
(5) Ort, PLZ	<input type="text"/>
(6) Land	<input type="text"/>
(7) Telefon	<input type="text" value="02331/987-2845"/>
(8) E-Mail	<input type="text" value="sonja.branskat@fernuni-hagen.de"/>

Zur Passwortänderung verwenden Sie bitte das Formular des folgenden Hyperlinks:  
<https://www.fernuni-hagen.de/URZ/DS/putownpw.html>

Heft-Nr.	Aufgabe	Punkte (Teilaufgaben)
1	Sprachtest	? von 0 (1)
	Multiple-Choice	? von 0 (1)
	Programm mit Tests	? von 0 (1)
	Smalltalk mit Grafik	? von 40 (1)
	Animationen - OR	? von 0 (1)
	Formel-Applet	? von 50 (6)
	Graph-Applet	? von 0 (1)
	Math. Formeln	? von 10 (2)
2	Bilder und Grafiken	? von 20 (3)
	Halb-offen autom. korrigiert	? von 20 (2)
	HTML-Upload	? von 10 (1)
	RTF-Upload	? von 0 (1)
	DOC-Upload	? von 20 (2)
	einfache Zuordnung	? von 0 (1)

# Administration Services

## Teaching staff

- content creation, up-dates, deletion
- messages to learners

## System administrators

- user data administration
- system administration

**Kursverwaltung**

Auswahl Kurs Name Sperrung

**Aktionen**

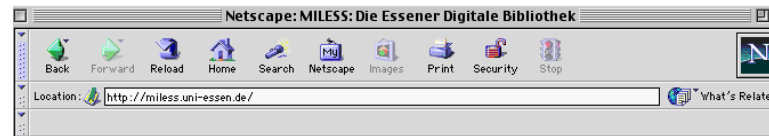
Betreuerauswahl Mitteilung senden Auswahl sperren Alles sperren Neuen Kurs anlegen Veranstaltungsart zuweisen Kursstatistik Auswahl entsperren Alles entsperren Bereich anlegen Veranstaltungsart anlegen

**Ansicht**

[Alle Kurse aktivieren](#)  
[Alle Kurse deaktivieren](#)  
[Zur Startseite](#)

# Distribution and Delivery of Content

- availability and easy access
- data storage system



# Communication and Interaction Services

## who

students with each other  
teaching staff and learners

## what

teaching content  
social contacts

Wortlaut	Priorität	Bereich, Kursname/Ordnungsnummer	Gelesen
Gelesene Nachrichten	<input type="button" value="unterdrücken"/>	Standardnachrichten	<input type="button" value="anzeigen"/>
<input type="button" value="Einstellungen übernehmen"/>			

## how

newsgroup  
chatrooms  
video  
CSCW

# Extra Services

Assignments

00053: Mathematik für Wirtschaftswissenschaftler I

[Neue Hinweise - unbedingt lesen!](#)

### Einsendeaufgaben zu Kurseinheit 1

Sie können alle Teilaufgaben mit dem jeweiligen Button einzeln an uns abschicken!

**Aufgabe 1 (18 Punkte)**

Berechnen Sie für  $x^4 = (0,10)^{\pi}$ ,  $x^5 = (1,15)^{\pi}$  und  $x^6 = (1,2,3,4)^{\pi}$  die unter a) bis f) gegebenen Ausdrücke, falls dies möglich ist. Begründen Sie Ihre Antwort, falls die Berechnung nicht möglich ist.

a)  $\frac{x^1 - x^3}{x^{(1)-x^{(3)}}$

b)  $12(-x^3)$

Buttons: [Vorschau](#), [Einsenden A](#)

Online library

**NEW** Dokumente nach Kategorien:  
Browsen Sie durch den Bestand

Suchen Sie hier im gesamten Bestand

Fachspezifische Suchmasken:

Informationen über MILESS

Stellen Sie hier selbst neue Dokumente in die digitale Bibliothek ein

**miless**

# The Initiative

---



1. **CampusSource** is an initiative funded by the state NRW.
2. **CampusSource** is an Open Source - initiative.
3. **CampusSource** is there for the set up and operating of virtual universities.
4. **CampusSource** brings results of research and development to a broad use.

# Aim of the Initiative

---

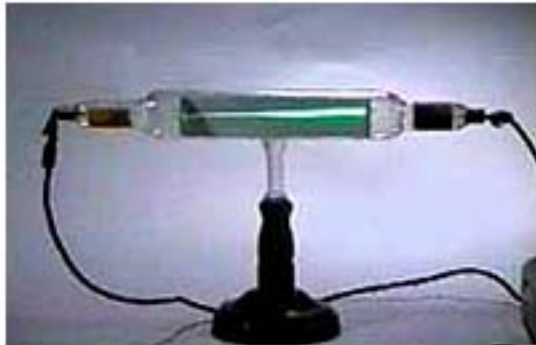


- to start cooperative processes for developing software and software technology,
- to support the development of using new media with regard to education and further education.
- making platforms of a virtual university available to others for use and further developments in cooperation, without any fees.

# The Open Source Approach

With the open source strategy the universities keep up the academic tradition to publish research results suitable to allow the verification of experiments, to underline their statements and to describe research experiments as exact as possible.

description of the experiment



source code

```
#Example CExample
#This is the script file BuildEditor which builds
#
# Copyright Apple Computer, Inc. 1986-1998
# All rights reserved.
#

Open "MacSheet"
set alert "note on"
echo Building the ResEdit < editor example
note -i
# Set the directory to the 'CExamples 3.0' folder
directory "Dwell"ResEdit.CExamples.CExamples
# Set the variable to indicate where ResEdit can find
# This variable is used by the note file to put
# example editor into ResEdit.
set buildName "DwellResEdit.ResEdit"
Export buildName

note -f "BuildEditor" > temp
loop
echo temp
loop
set end "note on"
echo " " built in "Evalute (end) - (start)
```



# Open Source-license

---



An Open Source licensing demands the **publishing of the source code** and allows every licensee to **modify the code** and **to pass it on**.

For the use of the software under an Open Source-license there are **no license fees**.

# Open Source from a Sellers Point of View

---



Set up of a community of users, developers and discussion partners:

- wide distribution of software
- exchange of user experience
- support for troubleshooting and debugging
- further development of the software
- backflow of third parties developments
- decentral, worldwide further development

# Open Source from a Users Point of View

---



- no license fees
- source code is available
- source code is allowed to be modified
- copies are allowed to be made and distributed
- adaptability of software to the individual needs of the user
- independence from hardware and software manufacturers

# GPL

---



**CampusSource** chose the GPL, as one of the most well known open source-licenses and made it the basis for cooperative processes for the development of software systems and modules for the set up and operation of an infrastructure for computer and network based teaching and learning.

# CampusSource and Open Source

---



The GPL (GNU General Public License) is a license that applies to US law but is not applicable completely under the German law.

**CampusSource** phrased the “General Terms of business“, in order to supplement and interpretate the GPL to make it valid under the German law, since there is no authorized translation.



Home

About us

Contact

License

Legal Notice



## CampusSource

Aim of this initiative, which is funded by the Ministry of Science and Research of the Federal State of North Rhine-Westphalia (Germany), is to set up cooperative processes for the development of software systems and modules as well as the creation and operation of an infrastructure for computer and network based teaching and learning at universities. The efforts of single university projects will be brought together and the Open Source platforms as technical requirement of a virtual university will be provided for use and further development to everyone interested.

- News
- Exchange
- Download
- Software
- Registration
- Projects
- Events
- Cooperation
- Open Source
- E-Learning
- Search
- Sitemap

### What's New

Please notice that this site is temporarily only available as [www.campussource.de/org](http://www.campussource.de/org).

- ◆ 2006.01.31 · **LON-CAPA 8th Annual Conference and Workshop** on May 19<sup>th</sup> - 20<sup>th</sup>, 2006 at Michigan State University, East Lansing, Michigan, USA
- ◆ 2006.01.16 · Update: **CommSy 4.1.0**
- ◆ 2005.12.23 · Update: **metacoorn 1.9** a handsel for administrators · next to many small functional improvements - up from this software version metacoorn has a generic and easy to configurate authentication to services like LDAP, NIS
- ◆ 2005.12.12 · Update: **ILIAS 3.5.5**
- ◆ 2005.12.07 · Workshop TU Berlin "**New Technologies in eLearning**" Presentation of CampusSource at December 1<sup>st</sup>, 2005: "**CampusSource opensource systems and cooperation activities 2005/2006**", Annett Zobel
- ◆ 2005.12.07 · Update: **CommSy 4.0.2**
- ◆ 2005.12.05 · Update: **Moodle 1.5.3**
- ◆ 2005.11.09 · Update: **Stud.IP Release 1.2.0-2**
- ◆ 2005.11.08 · Update: **ILIAS 3.4.5 and 3.5.3**
- ◆ 2005.11.04 · Update: **CommSy 4.0.1**

### Software

#### Uni Open Platform

Uni Open Platform is a platform used for the web based administration of courses and students. The platform implements a decentralized structure and offers a role based access control with a roll based user interface. Course materials are automatically and periodically released. The Offline Navigator enables the automatic download and organisation of course materials.



**The FernUniversität/University of Hagen**

#### Moodle

Moodle is a Learning Management Systems (LMS) - a software package designed to help educators create quality online courses. One of the main advantages of Moodle over other systems is a strong grounding in social constructionist pedagogy.



**Perth · Australia**

#### LON-CAPA

The LearningOnline Network with Computer-Assisted Personalized Approach (LON-CAPA) is a distributed learning content management system, which enables the sharing and reuse of learning resources between different institutions, a course management system with functionality similar to commercial products, and an interactive homework system with particular strengths in math and science.



**Michigan State University · East Lansing**

# How does the Software Exchange Area work

---



You have three possibilities to participate in the software exchange area:

1. You can use the software.
2. You can develop the software further and adapt it to your needs.
3. You can become an active member in the **CampusSource** - community.

# How does the Software Exchange Area work

---

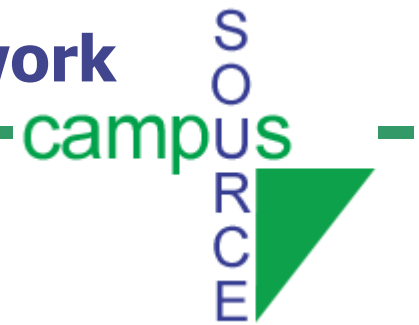


## 1. You can use the software:

- The documentation and installation descriptions are available to you.
- You can install the software.
- You don't pay any license fees.



# How does the Software Exchange Area work



## 2. You can further develop the software and adapt it to your needs:

- You get the source code.
- You can adapt **CampusSource**-software to your own needs.
- Make your modifications available to everyone according the general terms of business by **CampusSource**.
- Ensure a fast quality increase of the software by pointing out bugs and creating patches.

# How does the Software Exchange Area work

---



## 3. You can become an active member in the **CampusSource** - community:

Do you have open source software yourself ?

Then you can use **CampusSource** to deliver your own Open Source software to other users.

# CampusSource platforms



CommSy



EduWorkSpace



ILIAS open source



LON-CAPA



# CampusSource platforms

---



metacoön<sup>®</sup>



Moodle



OpenUSS



# CampusSource platforms



Stud.IP



Uni Open Platform



Virtuelle Universität



# CampusSource moduls

---



Freestyle Learning



FuXML



Javanti



# CampusSource moduls

---



litw<sup>3</sup>



Miless



Multimedia-Katalog



# CampusSource moduls



SuperX



Virtuelles Prüfungsamt



WebAssign





# LON-CAPA



The Learning*Online* Network with Computer-Assisted Personalized Approach (LON-CAPA) is a distributed learning content management system, which enables the sharing and reuse of learning resources between different institutions, a course management system with functionality similar to commercial products, and an interactive homework system with particular strengths in math and science

Prof. Kortemeyer  
**Michigan State University, East Lansing**

# moodle

campUS  
SOURCE



Moodle is a Learning Management Systems (LMS) – a software package designed to help educators create quality online courses. One of the main advantages of Moodle over other systems is a strong grounding in social constructionist pedagogy.

Mr. Dougiamas  
**Perth, Australien**



FuXML is an XML rendering framework, which realises the output of documents in several formats and for diverse user devices. In comparison to existing solutions, FuXML offers a high degree of flexibility as well as an advanced output quality. In particular, the print version delivered by FuXML is of superior quality if compared to other systems. FuXML offers extensive support for scientific documents including a high quality output of mathematical expressions on paper and on screen.

Mr. Gebhard  
**FernUniversität/University of Hagen**

# WebAssign



WebAssign provides the infrastructure for the comprehensive execution of tutorials on the Internet.

Prof. Six  
The FernUniversität/University of Hagen

## Contact

---



**CampusSource** Initiative  
at FernUniversität in Hagen  
Universitätsstraße 11  
58084 Hagen

Internet: <http://CampusSource.de>

# Thanks for your attention!

Dr.-Ing. Michael Stepping  
FernUniversität in Hagen