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## Experiments with Mobile Robots

Orig. title: Tele-Experimente mit mobilen Robotern

**Prof. Dr. Klaus Schilling**  
**Julius-Maximilians-Universität Würzburg**

### **Abstract:**

Via the Internet we offer the possibility to do live experiments with mobile robots on modeling of robotic kinematics, navigation and path planning of robots, model analysis, controller design for motor control and sensor data processing. Two different robots are used for these experiments. On the one hand there is a robot based on a differential drive (TOM), and on the other hand a four-wheeled, car-like robot with Ackerman-steering and rear-wheel drive. Experiments with mobile robots provide students of computer and engineering science a motivating task to practice their broad theory of undergraduate courses on interesting applied exercises. The following experiments with real mobile robots of the University of Würzburg are now available via the Internet:

### **Course structure:**

- 1) Kinematics of a car-like mobile robot
- 2) Motor control of a car-like mobile robot
- 3) Path planning of a car-like mobile robot
- 4) Modelling of the kinematics of a robot using a differential drive
- 5) Mathematical modelling of the robot control differential drive
- 6) Speed controller design of a robot
- 7) Tuning rules for a PID Controller

### **Amount/Credit:**

4 credit hours/6 ECTS

### **Exam:**

Seminar paper

## Wireless Communication and Networking (WICNET)

**Prof. Dr. Alexandru Soceanu**  
**Hochschule für angewandte Wissenschaften -**  
**Fachhochschule München**

### **Course structure:**

Part I: Wired- and Wireless Networking: Fundamentals

- Fundamentals of networking technology and architecture
- TCP/IP protocol stack
- Bridge and Spanning Tree
- IP Protocol and IP Routing
- IP Multicasting
- Voice-over-IP
- Data Link communication technologies:  
PPP/Modem, Bluetooth, WLAN
- Network traffic analysis

Part II: Wireless Communication and Networking

- Fundamentals of Wireless transmission technology
- Radio Frequency IDentification technology (RFID)
- Bluetooth Communication and Analysis
- WLAN 802.11 standards
- WLAN communication analysis
- WMAN 802.16 Standard
- WLAN security, management and troubleshooting
- Mobile IP operation
- IP Version 6: Nativ IPv6 networking, tunneling IPv6 over IPv4 infrastructure

### **Amount/Credit:**

4 credit hours/5 ECTS

### **Exam:**

Written examination

## ComComp

Communication for Computer Scientists

**Mary Waltie, Karen Zhuber-Okrog**  
**Julius-Maximilians-Universität Würzburg**

### **Abstract:**

The focus of this course is on improving students' ability to read specialised texts in the areas of information technology and mathematics by means of short reading and writing assignments. Advanced grammar will be introduced as necessary. Everyday speaking skills will also be practised.

### **Course structure:**

1. Start up : „English and the computer“  
Hardware - Cybercrime&Security - Jobs in the IT-Sector - Job Applications
2. Run & run: „English for computer scientists“ :  
Multimedia - Web 2.0 - Programming - Online Identity - Recent and Future Trends in IT - Communication - Geek culture  
- Artificial Intelligence
3. Help!

### **Amount/Credit:**

2 credit hours/4 ECTS

### **Exam:**

Written examination

## English for Business

**Andrea Hunt, M.A., Damian Quinn, M.A.**  
**Friedrich-Alexander-Universität Erlangen-Nürnberg**

### **Abstract:**

English for Business invites advanced learners of English to extend their business English skills by becoming part of an imaginary business team. Using the innovative „blended learning“ format, the course combines the advantages of internet-based study (approximately 70%) with the support of face-to-face teaching (30%).

Focus is placed on targeting vocabulary learning and developing skills of comprehension and analysis in English. Learners are placed in authentic business situations and use realistic company documents to acquire a professional and critical approach to their language learning.

English for Business is aimed at those who already have a good command of English and who wish to acquire subject-specific language skills.

Within the framework of the UNIcert® programme, learners will be expected to have passed two courses at level III. Within the Council of Europe's Common European Framework of Reference, learners should have reached level B2.

### **Course structure:**

English for Business is a blended-learning course.

The course consists of:

- two classroom meetings with the course tutor in Erlangen and a third meeting, also in Erlangen, at which students take a final exam based on the content of the online part of the course
- approximately 32 hours of online study

The online study is fully supported by the course tutor by way of email and pre-arranged chat sessions, and students are encouraged to form ‚study partnerships‘ among themselves.

### **Amount/Credit**

2 credit hours/2 ECTS

### **Exam:**

Written examination

## English for Economics

**Andrea Hunt, M.A., Damian Quinn, M.A.**  
**Friedrich-Alexander-Universität Erlangen-Nürnberg**

### **Abstract:**

English for Economics is designed especially to help students of Business and Economics to increase their command of English using materials relating to their own subject of study. The course uses the 'blended learning' format which combines the advantages of internet-based study with the support of face-to-face teaching. Focus is placed on helping students to develop skills of comprehension and analysis in English. Students are also introduced to useful resources in English available on the Internet and are encouraged to acquire a critical approach to their research and reading in the field of economics.

English for Economics is aimed at students who already have a good command of English and who wish to acquire subject-specific language skills. Within the framework of the UNICert® programme, students will be expected to have passed two courses at level III. Within the Council of Europe's Common European Framework of Reference, students should have reached level C1.

### **Course structure:**

English for Economics is a blended-learning course.  
The course consists of:

- three classroom meetings with the course tutor
- approximately 32 hours of online study.

### **Amount/Credit**

2 credit hours/3 ECTS

### **Exam:**

Written examination

## English for Politics

**Andrea Hunt, M.A., Damian Quinn, M.A.**  
**Friedrich-Alexander-Universität Erlangen-Nürnberg**

### **Abstract:**

English for Politics is designed to help students of Politics to increase their command of English using materials relating to their own subject of study. The course begins, however, with a detailed explanation of the political systems of the UK and the US and is therefore of interest to students of English or American Studies. Using the innovative 'blended learning' format, the course combines the advantages of internet-based study with the support of face-to-face teaching. Focus is placed on helping students to develop skills of comprehension and analysis in English. Students are also introduced to useful resources in English available on the Internet and are encouraged to acquire a critical approach to their research and reading in the field of politics.

English for Politics is aimed at students who already have a good command of English and who wish to acquire subject-specific language skills. Within the framework of the UNICert® programme, students will be expected to have passed two courses at level III. Within the Council of Europe's Common European Framework of Reference, students should have reached level B2. All students at Bavarian universities who fulfil these language and subject requirements will be eligible to take part in the course.

### **Course structure:**

English for Politics is a blended-learning course.

The course consists of:

- three classroom meetings with the course tutor
- approximately 32 hours of online study.

### **Amount/Credit**

2 credit hours/3 ECTS

### **Exam:**

Written examination

## English Law and Legal English

Orig. title: Fachsprache Jura: Einführung in das englische Recht und die englische Rechtssprache

**Francis Henry, B.A.**  
**Friedrich-Alexander-Universität Erlangen-Nürnberg**

### **Abstract:**

Für Jurastudenten, die für ihre Fremdsprachenqualifikation i.S. des §24 JAPO Englisch wählen, ist unser Angebot besonders geeignet, in der Regel als eine Begleitung zum Präsenzunterricht an ihrer Stammhochschule. Ob und inwieweit der Online-Kurs eine Präsenzveranstaltung ersetzen kann, bzw. i.S. des §24 JAPO angerechnet werden kann, hängt allerdings von der Prüfungsordnung der jeweiligen Juristischen Fakultät ab. Der Online-Kurs ist besonders auch für deutsche Jurastudenten konzipiert, die z.B. einen Studienaufenthalt im Ausland anstreben (ERASMUS, LINGUA, LEONARDO) oder die sich auf die fachbezogene UNICERT III- bzw. IV-Prüfung vorbereiten möchten, sowie für Juristen, die einen beruflich bedingten Aufenthalt im Ausland planen bzw. die im Rahmen ihrer beruflichen Tätigkeit für Kontakte mit ausländischen Mandanten und Kollegen fundierte Sprachkenntnisse benötigen. Hierzu soll ein Überblick über das landesspezifische Rechtssystem und die juristische Fachsprache vermittelt werden. Fachterminologie und wichtige fachspezifische, sprachliche Strukturen sollen erworben werden.

Des Weiteren sollen der Zielgruppe Lernstrategien an die Hand gegeben werden, um eine spätere eigenständige Arbeit mit dem Rechtssystem und der Rechtssprache zu ermöglichen.

### **Course structure:**

Folgende Hauptthemen (Einheiten) werden behandelt:

- The Courts and related institutions
- The Legal Profession
- Introduction to the Common Law
- Characteristics of the English Legal system
- Criminal Procedure
- Civil Procedure
- Introduction to the UK Constitution and Administration

Die Hauptthemen können einzeln ausgewählt werden. Es muss dabei keiner bestimmten Reihenfolge gefolgt werden, wobei es für Einsteiger sinnvoll ist, die Einheiten in der vorgeschlagenen Reihenfolge zu bearbeiten. Jedes Thema umfasst weitere Unterthemen, zum Teil mit zusätzlichen Materialien, die optional bearbeitet werden können.

### **Amount/Credit:**

2 credit hours/3 ECTS

### **Exam:**

Written examination

## e-Xplore Technical English!®

An English course for the specific purposes of students of the various fields of engineering

**Prof. Dr. Uwe Bellmann**

### **Abstract:**

Der WebCourse e-Xplore Technical English!® bietet eine qualitativ hochwertige modularisierte Ausbildung - und macht den Studierenden auch noch Spaß.

Er ist

- praxisorientiert: Technisches Englisch für Ingenieure
- zielorientiert: Fachenglisch-Zertifikat Level C1.1 GER (europäischer Standard)
- kompakt und flexibel: 60 Stunden angeleitetes Selbststudium, als Semesterkurs in bis zu 16 Wochen oder auch intensiv in einigen Tagen
- individuell und interaktiv: Wir leiten Sie an, Sie bestimmen den Weg, das Tempo und die Intensität Ihres Lernprozesses selbst.
- kommunikativ: Fragen oder Probleme? Hochschullehrer und qualifizierte Tutoren helfen Ihnen.
- multimedial: Lernunterstützung durch Text, Bild, Audio und Video
- transparent: Lernfortschritts- und Lernerfolgsauswertungen immer im Blick
- mehr Wert: durch viele Referenzmaterialien und Tools, die auch nach Kursabschluss kostenlos weiter online nutzbar sind
- langjährig erprobt: seit 2004 im curricularen Einsatz
- evaluiert: von Studierenden und akademischen Organisationen, u. a. e-teaching.org
- akkreditiert: im Rahmen vieler Studiengänge an deutschen Hochschulen
- ausgezeichnet: mit Lernsoftwarepreisen, u. a. dem Comenius EduMedia Award 2007

### **Course structure:**

- Technical English: 8 Units mit 120 komplexen, wiederholbaren Aufgabenstellungen und ein Terminology Trainer mit über 1000 Übungen zu 200 lexikalischen Einheiten
- Academic und Business English: 9 Short Guides mit Einführungen und interaktiven Übungen
- Grammar: Theorie und Praxis
- e-Xplore Words! effektive Online-Tools für Englischlerner

### **Amount/Credit**

2 credit hours/2 ECTS

### **Exam:**

Online examination

## Figures and Numbers in Practice

**Prof. Dr. Angela Hahn**  
**Ludwig-Maximilians-Universität München**

**Abstract:**

Which formula is „a-squared plus b-squared equals c-squared“? Would you be prepared to demonstrate the fundamental theorem of calculus... in English?

FigNums is not intended to teach mathematics; rather the aim of the course is to demonstrate „how“ to communicate in English in the language of mathematics. Participants of FigNums can range from students of mathematics, engineering and computer science, to music theory, art and linguistics, to chemistry, biology and medicine and just about anywhere numbers are found. The topics covered include many areas of mathematics from simple arithmetic to advanced analysis and one or two unexpected topics.

**Course structure:**

Communicating in the language of mathematics requires the following skills:

1. speaking proficiency
2. listening comprehension
3. reading comprehension
4. writing (also using TeX script)

Sample exercises utilise the following skills:

- basic arithmetic
- algebra
- geometry
- analysis
- number theory
- set theory
- proofs
- linear algebra
- statistics

Practical oral exam while writing on the whiteboard

Online coach for individual and/or group feedback

**Amount/Credit:**

2 credit hours/3 ECTS

**Exam:**

Exercise

## Jobline LMU - Bewerbungstraining auf Englisch

**Prof. Dr. Angela Hahn**  
**Ludwig-Maximilians-Universität München**

### **Abstract:**

Jobline LMU is an English-language job applications training programme for students and school-leavers who would like to do an internship abroad and for graduates who have just finished their studies and are looking for a job or a graduate trainee programme in the English-speaking world. Jobline LMU is also suitable for people already in employment who are applying for positions at companies in English-speaking countries or at German companies with an English-language corporate culture.

### **Course structure:**

During the course you will develop both English language and intercultural skills for the specific context of job applications. Six self-study modules on the Jobline LMU website guide you through the complete job application process from first thoughts about where you want to work through to the job interview. You search for a potentially interesting job, analyse job ads and company websites and compose a CV and a cover letter based on your study of the online modules and with the help of guided discussions and group activities on an interactive communication platform.

Participants who register for this course receive an email shortly before the course begins with information regarding course procedure.

### **Amount/Credit:**

2 credit hours/3 ECTS

### **Exam:**

Online test and written assignment

## Medilingua - English for Medical Purposes

Orig. title: Fachsprachentraining Medizin

**Prof. Dr. Angela Hahn**  
**Ludwig-Maximilians-Universität München**

### **Abstract:**

“Medilingua – English for medical purposes” is a blended learning course that combines face-to-face learning sessions with online phases. The course is for medical students who are planning to spend part of their medical education abroad or are considering a medical assignment in a foreign country where English is required.

### **Course structure:**

Online phases: health care systems in English-speaking countries, medical terminology, job applications for medical staff, authentic medical cases.

Workshops: Development of communicative competences and intercultural awareness.

Workshops take place at the following universities:

Please note that the registration procedure varies from university to university.

- Ludwig-Maximilians-Universität München (please consult [www.medilingua.lmu.de](http://www.medilingua.lmu.de); registration: [www.mecum-online.de](http://www.mecum-online.de); placement test obligatory in advance!)
- Universität Regensburg (please consult [http://www-cgi.uni-regensburg.de/Einrichtungen/ZSK/.](http://www-cgi.uni-regensburg.de/Einrichtungen/ZSK/))
- Friedrich-Alexander-Universität Erlangen-Nürnberg (please consult [www.sz.uni-erlangen.de](http://www.sz.uni-erlangen.de); placement test obligatory in advance!)

### **Amount/Credit:**

2 credit hours/3 ECTS

### **Exam:**

Written examination and online work

## Presentation Skills in English

**Prof. Dr. Dr. h.c. Gerhard Koller, Damian Quinn, M.A.  
Friedrich-Alexander-Universität Erlangen-Nürnberg**

### **Abstract:**

Presentation Skills in English aims to prepare participants to give a professional presentation in English. Presentation Skills in English is a blended-learning course which combines the flexibility and independence of self study online with the support of personal tutor-led workshops. Your self study takes place in a 'learning environment', specially designed to be attractive, practical and motivating. As you progress through the course materials you will receive instant feedback by means of interactive exercises. Communication with your personal course tutor and with other participants is made easy through an integrated messaging system. In the first workshop you will have an opportunity to meet other course participants and so establish the personal contacts which are essential to co-operation during the course. You will also familiarise yourself with the learning environment and have the chance to try out the interactive features of the course. A second workshop takes place a few weeks into the course to ensure that all participants are making the required progress. At this workshop we will also discuss the details of your personal presentations. Studying the online materials enables you to prepare effectively for your own presentation which will be given at the last of the three workshops.

### **Course structure:**

Presentation Skills in English is a blended-learning course. The course consists of:

- three classroom meetings with the course tutor
- approximately 25 hours of online study.

### **Amount/Credit:**

2 credit hours/3 ECTS

### **Exam:**

Project thesis

## Reading Training Business English

Orig. title: online-Lesetraining Wirtschafts-Englisch

**Prof. Dr. Jörg Roche**  
**Ludwig-Maximilians-Universität München**

### **Abstract:**

The online course offers interactive educational material for approximately 90 lessons.

The reading competency of Business English is developed and improved with the help of authentic literature from this area.

### **Course structure:**

- Methodology and History of Economic Thought
- Micro Economics
- Macro Economics

### **Amount/Credit:**

2 credit hours/2 ECTS

### **Exam:**

Online examination

## Reading Training Legal English

Orig. title: online-Lesetraining Jura-Englisch

**Prof. Dr. Jörg Roche**  
**Ludwig-Maximilians-Universität München**

### **Abstract:**

The online course offers interactive educational material for approximately 90 lessons.

The reading competency of legal English is developed and improved with the help of authentic literature from this area.

### **Course structure:**

- Contract Law
- Common Law
- Constitutional Law

### **Amount/Credit:**

2 credit hours/2 ECTS

### **Exam:**

Online examination

## Reading Training Political English

Orig. title: online-Lesetraining Politik-Englisch

**Prof. Dr. Jörg Roche**  
**Ludwig-Maximilians-Universität München**

### **Abstract:**

The online course offers interactive educational material for approximately 90 lessons.

The reading competency of policy and political science is developed and improved with the help of authentic literature from this area.

### **Course structure:**

- Political Concepts, Systems, and Institutions
- Local and International Politics

### **Amount/Credit:**

2 credit hours/2 ECTS

### **Exam:**

Online examination

## ReMedial Grammar Advanced

An online error correction module for advanced learners of English (for students of English only!)

**Dr. Gunter Lorenz**  
**Friedrich-Alexander-Universität Erlangen-Nürnberg**

### **Abstract:**

ReMedial Grammar Advanced is intended to help advanced learners of English better to understand how grammar works in context - at their respective individual paces. The course is not intended as yet another grammar of English; there are plenty of good student grammars available already. Nor is it strictly a grammar course, with basic structures at the beginning and a systematic progression to more complex ones. In the exercises, all finite and non-finite verb forms can come up, and in our explanations we presuppose a reasonable awareness of the actual rules and give reminders of how they are to be applied in context.

ReMedial Grammar Advanced is intended as an online component of a classroom course; it is not to be recommended for use without backup at your university or polytechnical college. If you are interested in using ReMedial Grammar Advanced, please get your English Department to contact the ReMedial Grammar team at the FAU Erlangen.

### **Course structure:**

Finite and non-finite verb forms  
6 + 6 test units  
(exam mode and exercise mode)

### **Amount/Credit:**

2 credit hours/3 ECTS

### **Exam:**

Written examination

## **SciEnglish - Scientific English for Psychologists**

Orig. title: SciEnglish - Wissenschaftliches Englisch für Psychologen

**Dipl.-Psych. Paul Held**  
**Friedrich-Alexander-Universität Erlangen-Nürnberg**

### **Abstract:**

This course intends to facilitate the reading and understanding of scientific literature in psychology, by imparting strategies of elaboration, understanding and usage of relevant English texts. The theoretical linguistic basics which are needed for the thorough understanding of scientific literature are communicated, trained and stabilised through numerous specific exercises and though the lecture of readers in their original language.

### **Course structure:**

Introduction

Module 1: Introduction to SciEnglish

Part I (reading textbooks)

Module 2: Formation of words

Module 3: Exercises

Module 4: Exercises

Part II (understanding scientific journals )

Module 5: Stylistics of English

Module 6: Exercises

Part III (articles from scientific journals)

Module 7: Further readings

### **Amount/Credit:**

2 credit hours/4 ECTS

### **Exam:**

Online examination

## Towards International Business English

**Prof. Dr. Jörg Roche**  
**Ludwig-Maximilians-Universität**

**Abstract:**

Towards International Business English builds on a base knowledge of English and further develops it targeting the entry of the international business world.

The participants will learn the necessary terms and grammar using business related Topics and Projects. Furthermore there is a major training module of the Course focused on the so-called Soft Skills.

These goals serve the development of key competencies which helps the student significantly to increase their chances on the job market of the future and new job opportunities.

**Course structure:**

Modul 1: Soft Skills

Modul 2: Business Skills

Modul 3: Everyday Skills

**Amount/Credit:**

2 credit hours/3 ECTS

**Exam:**

Written examination

## Business Intelligens and Relationships

**Prof. Dr. Freimut Bodendorf**  
**Friedrich-Alexander-Universität Erlangen-Nürnberg**

### **Abstract:**

The course Business Intelligence and Relationships covers the analysis, design and optimization of relationships of a company with its partners.

In the first part of the course - Business Intelligence - strategies, methods and tools of business intelligence are presented, which aim at analyzing and improving customer and supplier relationships.

In the second part - Relationships - we take a closer look at the relations a company has with its customers and suppliers. We will discuss the potentials of relationships and in particular how they are supported by IT.

### **Course structure:**

1. Business Intelligence and Relationships - Overview
2. Business Intelligence
3. Customer Relationships
4. Supplier Relationships
5. Business Intelligence and Relationships - Scenarios

### **Amount/Credit:**

3 credit hours/6 ECTS

### **Exam:**

Written examination

## E-Business and E-Commerce

**Prof. Dr. Freimut Bodendorf**  
**Friedrich-Alexander-Universität Erlangen-Nürnberg**

**Abstract:**

- Analysis of new Business Structures and Processes
- Communication, Coordination and Cooperation of Companies with their Partners
- Mobile Business, Electronic Services, Push-Principles in Electronic Commerce, Agent Technology in Coordination Processes and Electronic Markets

**Course structure:**

Overview E-Business  
E-Commerce-Transactions  
E-Services  
Digital Products  
Communication Management  
Strategic Management  
Customer Strategies  
E-Business Structures  
E-Markets

**Amount/Credit:**

3 credit hours/6 ECTS

**Exam:**

Written examination