

Call for Applications: Baden-Württemberg Scholarship 2010/2011

The Landesstiftung Baden-Württemberg GmbH invites applications for “**Baden-Württemberg Scholarships for Students**” (www.bw-stipendium.de) from universities, universities of applied sciences, universities of education, and music and art academies of the State of Baden-Württemberg (Germany), as well as to universities outside Germany cooperating with Baden-Württemberg institutions. The scholarship program intends to promote the international exchange of exceptionally qualified German and foreign students. The program is available to highly qualified undergraduate, graduate and postgraduate students. The program both funds stays of foreign students at Baden-Württemberg universities, as well as stays of German students at foreign universities.

The University of Applied Sciences Ravensburg-Weingarten (URW), Germany (www.weingarten-university.de)

invites applications by USF students for Baden-Württemberg Scholarships for stays of 5 months duration at URW. Successful applicants are highly qualified students at Bachelor, Master or PhD level. The scholarships can be used for:

- ‘**Study abroad semesters**’. Successful applicants enroll in URW Bachelor and/or Master courses in the fields of Electrical Engineering, Computer Science, Applied Physics (incl. Environmental Technology and Optics), Mechanical Engineering, and Technology and Business Management; a list of English taught lectures (as of 2008/9) is attached below. Please, check with your undergraduate or graduate advisors which courses can be used to substitute USF courses.
- ‘**Thesis work**’. A limited number of research projects are available to successful applicants. A exemplary listing of projects (for 2010) is attached.

Schedules: Winter semester 2010/11 (Oct – Feb, prep courses in September)
Summer semester 2011 (Mar – Jul)

Funding level: € 600 (~\$800) per month

Application process for USF students:

Applications must be submitted to Dr. Rudy Schlaf (Electrical Engineering) via email (schlaf@usf.edu) and include the following documents:

- Statement of purpose detailing study or research plan, and planned schedule of stay.
- Curriculum vitae.
- Proof of enrolment at USF.
- Transcript of records and (for graduate students) Bachelors Degree certificate.
- Proof of English proficiency if not native English speaker.
- Two letters of recommendation.

Deadline for Applications: March 20, 2010

Dr. Schlaf will collect and forward the applications to URW by March 31st, 2009. Final award decisions will be made by the Landesstiftung Baden-Württemberg based on a shortlist assembled by URW and the review by the Central Scholarship Commission.

Landesstiftung Baden-Württemberg GmbH (www.landesstiftung-bw.de):

This state foundation established in 2000 promotes various projects of general public benefit linked by the common aim of securing the future capabilities of the State of Baden-Württemberg. Projects in the fields of education, science and research are supported in particular. Initial examples are programmes for internet and computer competence, research in the field of nutrition, food safety and consumer protection, a photonics center, financial support for vocational education, and the Baden-Württemberg Scholarship. Future and key technologies, human capital, internationalization, media competence, social learning, youth, family and civic commitment are also focal points of the work of the Landesstiftung. The Chairman of the Supervisory Board is Minister-President Günther Oettinger.

Winter Semester 2009/10 – Lectures in English Language (Attention: still to be confirmed)

hrs/week = hours per week per semester (1 hour = 45 minutes)

The **red numbers** refer to our LSF system (click "LSF" icon on the top right of the university's homepage) and allow you to find detailed course descriptions.

1 Languages

All courses: 2 hrs/week, 2 credits

German for Foreign Students :

**Deutsch als Fremdsprache DAF A1 - C1 (Beginners - Upper-Intermediate)
Deutsch als Fremdsprache / Technisches Deutsch**

English:

**Negotiating
Effective Presentations
Project Management
Finance and Accounting**

**Business English (Vantage – Higher)
BEC Exam Preparation – Vantage + Higher**

**General Technical English
Technical English: Motor Transportation
Technical English for Mechanical Engineering
Technical English for "Informatik"**

English Fluency - Intermediate + Upper Intermediate + Advanced

TOEFL Exam Preparation

Other language courses on various levels:

Chinese, French, Italian, Japanese, Polish, Portuguese, Russian, Spanish

2 Intercultural Sensitisation

Intercultural Training for the USA

2 hrs/week 2 credits

Intercultural Sensitisation for the Asian Market

3 x 8 hrs 2 credits

3 Technology Management / Business Management

Intercultural Management (Hohl)

2 hrs/week 3 credits

International Conduct of Negotiation and Moderation (Kunkel)

2 hrs/week 2 credits

International Management (Philippi-Beck)

2 hrs/week 3 credits

International Marketing (Weber)

2 hrs/week 3 credits **1477**

Industrial projects in student groups (Hohl)

2 hrs/week 3 credits

Business Analysis and Valuation (case studies) (Neff)

4 hrs/week 4 credits **3476**

4 MSc in Mechatronics

The lectures offered in the frame of this Master program are also open for advanced Bachelor students

Basics of Electronics (Ludescher)

4 hrs/week 5 credits **2435**

Electrical Drives (Paczynski)

4 hrs/week 5 credits **2233**

Embedded Computing (Bruemmer)

4 hrs/week 5 credits **3124**

Engineering Mechanics (Stetter)

6 hrs/week 7 credits **2354**

Engineering Design and Materials (Holbein/Niedermeier)

6 hrs/week 7 credits **2236**

Integration of Mechatronic Systems (Voos/Eisele)

4 hrs/week 5 credits **1397**

Process Interface Equipment (Altmann)

4 hrs/week 5 credits **1905**

Process Interface Equipment, Practical training (Altmann)

2 hrs/week 2 credits **2171**

Programming in C, Introduction (Siol)

4 hrs/week 5 credits **2239**

Simulation of Mechatronic Systems (Wöllhaf)

4 hrs/week 5 credits **1895**

5 Computer Science

Autonomous Intelligent Robots (Ertel)

2 hrs/week 3 credits **1404**

Software-Engineering, Practical training (Koch)

4 hrs/week 5 credits **1483**

Modern Database Techniques (Hulin)

4 hrs/week 5 credits (inclusive Practical Training 3232) **3219**

Modern Database Techniques, Practical training (Hulin)

2 hrs/week 2 credits **3232**

6 Social Work

Welfare State Regime (Egger de Campo)

2 hrs/week 3 credits **3788**

7 Mechanical Engineering (Master "Produktentwicklung im Maschinenbau")

Reading club in English language (Niedermaier)

2 hrs/week 2 credits

8 Electrical Engineering and Information Technology

Electrical Engineering 2

4 hrs/week 4 credits

Metrology

2 hrs/week 2 credits

Analysis 2 with exercises

4 hrs/week 5 credits

Programming

4 hrs/week 5 credits

Programming Lab

4 hrs/week 5 credits

Computer Technology Lab

Condition: previous knowledge from the lecture "Computer Technology"

2 hrs/week 2 credits

Network Technologies

4 hrs/week 5 credits

Summer Semester 2010 – Lectures in English Language (to be confirmed)

hrs/week = hours per week per semester (1 hour = 45 minutes)

The **red numbers** refer to our LSF system (click "LSF" icon on the top right of the university's homepage) and allow you to find detailed course descriptions.

1 Languages

All courses: 2 hrs/week, 2 credits

German for Foreign Students:

Beginners (Attention: this course starts with an intensive course from March 8-12, prior to the begin of lectures)

Intermediate

Upper intermediate

Advanced

English:

Negotiating 898

Effective Presentations

Project Management 55

General Technical English

Technical English in different areas

English Fluency - Upper Intermediate + Advanced

TOEFL Exam Preparation

TOEIC Exam Preparation

Other language courses on various levels:

Chinese, French, Italian, Japanese, Portuguese, Russian, Spanish

2 Technology Management / Business Management (Bachelor)

Intercultural management (Hohl)

2 hrs/week 3 credits

Industrial projects in student groups (Hohl)

2-3 credits

3 International Academy: Innovation Management and New Technologies (Bachelor)

For course descriptions, please see the information sheet of the International Academy

Optional Course

2 hrs/week 2 credits

Problem Solving and Decision Making/Creativity Techniques (Handschmann)

2 hrs/week 3 credits 3971

Change Management (Hohl)

2 hrs/week 3 credits 3968

Innovation Management

2 hrs/week 3 credits 4156

Technology Management and TRIZ - Theory of inventive problem solving (Thurnes)

2 hrs/week 3 credits 3970

New Technologies and New Trends (cycle of lectures)

2 hrs/week 3 credits 4474

Seminar

2 hrs/week 3 credits

Quality Management

2 hrs/week 2 credits 3967

Energy Engineering and new Energy Production

2 hrs/week 3 credits 3966

Systems Engineering and Cost Effective Analysis with Practical Training

4 hrs/week 5 credits 4475

4 Environmental Engineering

Lecture given in English upon request

Membrane Technology (Fritsch)

2 hrs/week 3 credits 860

5 Electrical Engineering and Information Technology (Bachelor)

Mathematics 2: Analysis 2 (Fechter)

4 hrs/week 5 credits 4057

Electrical Engineering 2 (Siggelkow)

4 hrs/week 4 credits 2114

Computer Networks (Schulter)

4 hrs/week 5 credits 1427

Metrology (Siggelkow)

2 hrs/week 2 credits 2117

Programming (Nieß)

4 hrs/week 4 credits 4341

Programming Practical Training (Zeller)

4 hrs/week 5 credits 1806

Computer Technology (Brümmer)

4 hrs/week 5 credits 3947

6 Mechatronics (Master)

The lectures offered in the frame of the MSc in Mechatronics program are also open for advanced Bachelor students

Advanced Control (Voos)

4 hrs/week 5 credits 1706

Automation (Altmann)

4 hrs/week 5 credits 4443

Laboratory on Mechatronics/Process Interface Equipment (Altmann)

2 hrs/week 3 credits 2171

Laboratory on Robotics (Wöllhaf)

2 hrs/week 3 credits 2172

LabView (Georgi)

4 hrs/week 5 credits 1856

Microsystems and Materials (Quincke)

5 hrs/week 6 credits 2438

Power Electronics (Paczynski)

4 hrs/week 5 credits 4441

Robotics (Wöllhaf, Voos)

4 hrs/week 5 credits 3311

Traffic Information Technology (Koch)

4 hrs/week

- 1) Fundamentals, individual surface traffic (cars), air traffic, traffic on waterways
2 credits
- 2) Rail and other public surface transport
3 credits

7 Computer Science (Bachelor)

Autonomous Intelligent Robots (Ertel)

2 hrs/week 3 credits

Software-Engineering, Lab Course (Koch)

4 hrs/week 5 credits 1483

Modern Database Technologies, Lecture and Practical Training (Hulin)

4 hrs/week 5 credits (3+2)

8 Social Work (Bachelor)

Nursing English (Dayé)

2 hrs/week 2 credits 3603

English for Social Work (Dayé)

2 hrs/week 3330

**Projects at University of Applied Sciences Ravensburg-Weingarten
open for international exchange students
in Summer Semester 2010**

Professor in Charge	Topic	Short description	Project available for students from the following study directions	Student needs good knowledge in the following fields
Johannes Fritsch	Development of an laboratory experiment on Carbon dioxide absorption	Absorption of CO ₂ in water and bases, influence of pressure and temperature, process optimization	Chemical Engineering, Environmental Engineering, Physical Chemistry	Thermodynamics, Process technology
Johannes Fritsch	Rheology of various liquids and solutions	Viscosimetry, non-Newtonian fluids, Influence if ions on the viscosity	Chemical Engineering, Physical Chemistry	Basic knowledge in physical chemistry
Eberhard Hohl	Human Resources Management and Development	Recruitment, Performance Appraisal, Promotion & Retraining programs (related to company projects)	Business Administration / Management. Technology	Basics in Business Administration and Organisational Psychology
Eberhard Hohl	International and Intercultural Management	Intercultural Competences, Intercultural Teamwork & Negotiations (related to company projects)	Business Administration / Management. Technology	Basics in Business Administration and Organisational Psychology
Eberhard Hohl	Leadership, Change and Innovation Management	New Leadership Concepts, Innovation & Change Strategies (related to company projects)	Business Administration / Management. Technology	Basics in Business Administration and Organisational Psychology
Wilfried Koch	Automatic time table construction using genetic algorithms. Programming	We work on a project automatically designing optimal time table from given demand data and economical constraints. For this project improvements and extensions have to be done.	Computer Science, possibly Information Technology	Good programming skills (C++ or Delphi) Fundamentals of SW engineering. Interest in AI and transport problems
Wilfried Koch	Automatic time table construction using genetic algorithms. Application test	We work on a project automatically designing optimal time table from given demand data and economical constraints. For this project application tests have to be done.	Computer Science, Economy, Civil Engineering, Industrial Engineering, Business Informatics	Interest in logistic transport, good logical thought

Wilfried Koch	Automatic Rescheduling of public Transport. Programming	We work on a project for automatically rescheduling of public transport in cases of delay etc. For this project improvements and extensions have to be done.	Computer Science, possibly Information Technology	Good programming skills (C++ or Delphi) Fundamentals of SW engineering. Interest in AI and transport problems
Wilfried Koch	Automatic Rescheduling of public Transport. Application test	We work on a project for automatically rescheduling of public transport in cases of delay etc. For this project application tests have to be done.	Computer Science, Economy, Civil Engineering, Industrial Engineering, Business Informatics	Interest in logistic transport, good logical thinking
Wilfried Koch	Multi-user interface for a rescheduling system	For the existing railway rescheduling system a multi-user-interface shall be implemented, so that the delay information may input to the system from different stations or from trains. (First step done)	Computer Science, possibly Information Technology	Good programming skills (C++ or Delphi) Fundamentals of SW engineering Interest in transport problems
Wilfried Koch	Developing a program for requirements tracing	Implementing a tool which checks if all given requirements are used in the implementation of a program	Computer Science, possibly Information Technology	Good programming skills (C++ or Delphi) Fundamentals of SW engineering
Wilfried Koch	Interfacing between Delphi and OpenOffice (basic work already done)	Facilitating the use of OpenOffice from Delphi and Borland C++-Builder.	Computer Science, possibly Information Technology	Good programming skills (C++ or Delphi) Component technology in C++ and Delphi Fundamentals of SW engineering
Wilfried Koch	Intelligent error analysis in technical processes	We run some projects where the goal is to detect errors in technical processes from the combination of several minor deviations.	Computer Science, possibly Information Technology	Good programming skills (C++ or Delphi) Component technology in C++ and Delphi Fundamentals of SW engineering Ability to interface with technical applications (intelligent error diagnosis) Interest in AI problems
Walter Ludescher	Pre-Amplifier for Logic-analyser	Circuit Design	Electrical Engineering, Computer Science, Information Technology	Basics of Electronics

Walter Ludescher	Pre-Amplifier for Ultrasound (low frequencies)	Circuit Design	Electrical Engineering, Computer Science, Information Technology	Basics of Electronics
Walter Ludescher	DDS-Signal-Generator	Circuit Design	Electrical Engineering, Computer Science, Information Technology	C-Programming, Micro-Controllers
Tim Nosper	Electronic for Motorbike*	Every BMW Motorbike has a standard Diagnosis Output which can be used to collect data. In additional a GPS unit will be integrated in the Logging Tool can memorize the position that can be visualized with Google earth	Computer Science Information Technology, System engineering	Programming in C, Micro Controllers, Basics of Electronics & Circuit Design, Digital Circuits, Java
Andreas Paczynski	Systems Engineering	System Engineering + Production/Management + Simulations / Mockup of Industrial Plant	Electrical Engineering, Software Engineering, Mechatronics	Internet Technology, ERP database, PLC
Andreas Paczynski	Systems Engineering	Industry Electronics	Electrical Engineering, Software Engineering, Mechatronics	Mechatronics (Mechanics and/or Electronics), Knowledge of C++, MatLab, LabView Internet Technology
Ralf Stetter / Andreas Paczynski	Systems Engineering / Mechanical Engineering	Mobile Robot Platforms, Unmanned Production Vehicles	Mechanical Engineering, Electrical Engineering, Software Engineering, Mechatronics	Mechatronics (Mechanics and/or Electronics), Knowledge of C++, MatLab, LabView, ProEng
Gerd Thieleke	Consequences of CO ₂ emission trading for the development of emission quota	In the future CO ₂ - Trading will be done in Europe. The mechanism of CO ₂ - Certification and trading should be analysed and also the influence of the electrical costs of power generation	Mechanical Engineering, Environmental Engineering, Technology Management	Energy and environmental technique
Gerd Thieleke	Further development of an automation system (Siemens S7- Technique) for water turbine test rig – Integration of generator features and investigations of isle net operation facilities	Coupling of a water turbine (Pelton) with generator in order to synchronise with the electrical net The operation and synchronisation should be done automatically with Siemens S7- System. A special generator security relay should be integrated and implemented. The additional operation of isle net mode should be investigated.	Electrical Engineering, Automation Engineering	Programming language Automation Techniques Electrical engineering

Gerd Thieleke	Development, construction and installation of new turbocharger test rig	In order to calibrate flow measurement probes according to high Reynolds-numbers, we want to build up a new test rig with a radical compressor. Additionally the test rig will be extended with a combustion chamber and a turbocharger to investigate the behaviour of turbochargers.	Mechanical Engineering, Environmental Engineering, Technology Management	Energy and environmental technique, fluid dynamik
Holger Voos	Development of Mobile Robotik Systems	Within the framework of several research projects, mobile robots are developed and investigated in the Mobile Robotics Lab at the university. This research includes mobile ground robots, unmanned aerial vehicles as well as multi-robot systems. Students are responsible for the development of subsystems within one of these projects or the theoretical investigation of algorithms in the area of cognitive systems and image processing.	Students from all engineering disciplines are welcome	Programming skills in C, C++, Java or Matlab, knowledge in embedded systems / microcontrollers would be also helpful
Konrad Woellhaf	Code generation for μ -Controllers	The programming of a μ -Controller takes a lot of time, mostly spend with the software-infrastructure and the interface. On the other hand commercial solutions are expensive. It should be possible to have an easy to use framework for simple applications.	Mechatronics, Informatics	Programming language C, Java
Konrad Woellhaf	3D Car Simulator	3D Animation is getting more important. The task is to build up a simple simulation model of a car and the animation in a 3D visualization. This model, starting with the kinematic than can be extended with physical effects.	Mechatronics, Informatics	VRML, Visual C++, MFC Knowledge of strong interest on VRML or X3D are recommended