HOCHSCHULE
RAVENSBURG-WEINGARTEN
UNIVERSITY
OF APPLIED SCIENCES

Winter Semester 2022/ 2023 - Lectures in English Language

PLEASE NOTE:

- The lectures are listed according to the faculty/study program offered. If you fulfill the pre-requisites you can take any course from any faculty/study program.
- If you take courses from different programs and semesters, there might be conflicts in the timetable. The timetable, however, will be announced shortly before the lecture period starts.
- The list is provisional and subject to change.
- The **red numbers** refer to our Campus Management System "LSF" and allow you to find detailed course descriptions, see https://www.lsf.hs-weingarten.de.
- "hrs/week/ SWS" = hours per week per semester, SWS= Semesterwochenstunde(n) in German (1 hour = 45 minutes),.
- With the exception of "Technology Management and Optimization", the lectures offered in the frame of Master programs are also open for advanced Bachelor students.

ELECTRICAL ENGINEERING AND INFORMATION TECHNOLOGY (BACHELOR PROGRAM)
(SEMESTER 2 AND 4 WILL TAKE PLACE IN ENGLISH IN THE WINTER SEMESTER, SEMESTER 1 AND 3 IN THE SUMMER SEMESTER)

Second semester

1396 Mathematics 3: Analysis 2 with exercises (Fechter)
4 hrs/week 5 ECTS credits

4912 Module Physics 2: Electrodynamics (Doderer)
4 hrs/week 5 ECTS credits

Computer-Aided Circuit Design 1 - Module: 5 ECTS
7077 Basis Practical Training Engineering 3: Programming of uC (Ludescher)
2 hrs/week
1911 Circuit Design Practical Training (Ludescher, Weber)
2 hrs/week

Module Metrology 1, 5 ECTS credits
2117 **Metrology 1** (Pfeil)
2 hrs/week
2121 **Metrology, Practical Training** (Pfeil)
2 hrs/week Total 5 ECTS credits

6048 **Object-Oriented Programming** (Zeller)
4 hrs/week 5 ECTS credits

3947 **Computer Technology** (Siggelkow)
4 hrs/week 5 ECTS credits

Fourth semester

1910 **Computer-Aided Circuit Design 2: Circuit Design –** (Siggelkow)
4 hrs/week 5 ECTS credits

2168 **Communication Technology** (Fechter)
4 hrs/week 5 ECTS credits

4651 **Power Electronics** (Farkas)
4 hrs/week 5 ECTS credits

5298 **Automation Module 1: Power Train Engineering** (Farkas)
4 hrs/week 5 ECTS credits
=5298 Electric Drives (EM4)

Automation Module 2, Module: 5 ECTS credits
1494 **Real Time Programming** (Pfeil)
4 hrs/week
1904 **Real Time Programming Lab** (Weissensbühler)
4 hrs/week 5 ECTS credits

4367 ***Intro to PSPICE/MATLAB with emphasis on communications circuits*** *(Klotzbücher)*
4 hrs/week 5 ECTS credits – to be confirmed

Sixth Semester

5839 **Traffic Telematics** (Fechter)
4 hrs/week 5 ECTS credits

E-MOBILITY AND GREEN ENERGY (BACHELOR PROGRAM) – ENGLISH TAUGHT STUDY PROGRAM
(SEMESTER 2 AND 4 WILL TAKE PLACE IN ENGLISH IN THE WINTER SEMESTER, SEMESTER 1 AND 3 IN THE SUMMER SEMESTER)

Second Semester

1396 Mathematics 3: Analysis 2 with Exercises (Fechter)
4 hrs/week 5 ECTS credits

4912 Module Physics 2: Electrodynamics (Doderer)
4 hrs/week 5 ECTS credits

Computer-Aided Circuit Design 1 – Module: 5 ECTS
7077 Basis Practical Training Engineering 3: Programming of uC (Ludescher)
2 hrs/week
1911 Circuit Design Practical Training (Ludescher, Weber)
2 hrs/week

Module Metrology 1 – 5 ECTS credits
2117 Metrology 1 (Pfeil)
2 hrs/week
2121 Metrology, Practical Training (Pfeil)
2 hrs/week Total 5 ECTS credits

3947 Computer Technology (Siggelkow)
4 hrs/week 5 ECTS credits

7079 Basic Practical Course – Electric Eng. 2 – Implementation and verification (Pfeil)
2 hrs/week 2 ECTS credits
5 ECTS together with 5891 Basic Practical Electrical Engineering 1: Basic Circuits: Module Electrical Engineering Practical (offered in WS in German and in SS in English)

Design – Module: 5 ECTS credits
1438 Digital Design, Digital Technology Practical (Brümmer)
2 hrs/week 2 ECTS credits
Module together with xx Machinery Design and xx Analog Design: Electronics Practical offered in SS in English

1421 Materials Science (Ortlepp, Reick)
4 hrs/week 5 ECTS credits

7086 Machinery Design (Reick)
4 hrs/week 5 ECTS credits

Fourth Semester

1910 **Computer-Aided Circuit Design 2: Circuit Design** (Siggelkow)
4 hrs/week 5 ECTS credits

2152 **Digital Signal Processing** (Siggelkow)
4 hrs/week 5 ECTS credits

2168 **Communication Technology** (Fechter)
4 hrs/week 5 ECTS credits

4651 **Power Electronics** (Farkas)
4 hrs/week 5 ECTS credits

4913 **Hybrids in Cars** (Farkas)
4 hrs/week 5 ECTS credits

5298 **Electric Drives (**Farkas**)**
4 hrs/week 5 ECTS credits
=5298 Power Train Engineering (EI4)

Sixth Semester

5839 **Traffic Telematics** (Fechter)
4 hrs/week 5 ECTS credits

PHYSICAL ENGINEERING (BACHELOR PROGRAM) – ENGLISH TAUGHT STUDY PROGRAM *

Second Semester

1396/ 10243 **(Analysis 2) Differential Equations and Vector Analysis** (Donges)
4 hrs/week 5 ECTS credits

10238 **Tutorial Analysis** (Sieber/ Baumgarten)
2 hrs/week no credits

1418 **(Physics 2) Electrodynamics** (Klemt/ Sieber)
4 hrs/week 5 ECTS credits

4912 **Module Physics 2: Electrodynamics** (Doderer)
4 hrs/week 5 ECTS credits

10239 **Tutorial Physics 2 Electrodynamics** (Sieber/ Baumgarten)
2 hrs/week no credits

1408 **Materials** (Kolacyak)
4 hrs/week 5 ECTS credits

Design 1 - Module: 5 ECTS credits
7957 **CAD Practical Training** (Daniela Schneider/ Reick)
2 hrs/week
2166 **Technical Mechanics** (Pfeffer)
2 hrs/week

Electronics TE 1 - Module: 5 ECTS credits
6052 **Electronics TE 1** (Vogel)
2 hrs/week
2218 **Practical Electrical Engineering/ Electronics** (Vogel/ Sieber)
2 hrs/week

Software Development - Module: 5 ECTS credits
6053 **Software Development** (Eberhardt)
2 hrs/week
6054 **Practical Software Development** (Eberhardt/ Herzer)
2 hrs/week

7351 **Project Seminar: Scientific Work** (Siggelkow, Pfeil) – new as of WS 2021/ 2022
4 hrs/week 5 ECTS credits

*semester 1, 2 and 3 are entirely taught in English, from semester 4 the study program is taught in German. During summer semester lectures from first and third semester are offered in English, during winter semester from the second semester

ELECTRICAL ENGINEERING AND EMBEDDED SYSTEMS - EMM (MASTER PROGRAM)

1856 **System Analysis and Simulation with LabVIEW for Master** (Georgi, Hohl)
4 hrs/week 5 ECTS credits

Module Advanced Mathematics for Engineers
1876 **Advanced Mathematics for Engineers 1** (Ertel)
4 hrs/week 5 ECTS credits
6894 **Advanced Mathematics for Engineers 1 – Lab** (Ertel)
4 hrs/week 5 ECTS credits

1895 **Simulation of Mechatronic Systems** (Wöllhaf)
4 hrs/week 5 ECTS credits

1905 **Process Interface Equipment** (Ruf)
4 hrs/week 5 ECTS credits
8 ECTS together with Lab on Process Interface Equipment offered in SS

2236 **Engineering Design and Materials** (Niedermeier)
6 hrs/week 6 ECTS credits

2354 **Engineering Mechanics** (Stetter, Winkler)
6 hrs/week 6 ECTS credits

3124 **Embedded Computing** (Pfeil)
4 hrs/week 2 ECTS credits?
Part of Module Embedded Computing

3244 **SW – HW Design** (Siggelkow)
4 hrs/week 5 ECTS credits

4441 **Power Electronics** (Farkas)
4hrs/week 5 ECTS credits

6895 **Circuit & Systems 1 - System-on-Chip** (Pfeil)
4 hrs/week 5 ECTS credits

6896 **Signal Processing 1 + Signalprocessing 1 Lab** (Schulter)
4 hrs/week 5 ECTS credits

7421 **Implementation of Closed Loop Digital Control Systems IDCS** (Altmann)
4 hrs/week 5 ECTS credits

Module Embedded Control – in total 5 ECTS
7118 **Embedded Control Seminar** (Berger)
2 hrs/week
7453 **Embedded Control Lab** (Berger)
2 hrs/week

7455 **Advanced Software Development for Autonomous Mobile Robots** (Ertel, Stähle)
4 hrs/week 5 ECTS credits

7553 **Robocup@Home Seminar for Masters = Robocup Software architecture Project** (Ertel, Stähle)
4 hrs/week 5 ECTS credits

7790 **Nearfield Communication** (Pfeil)
4 hrs/week 5 ECTS credits

7945 **Lidar and Radar Systems** (Elser)
4 hrs/week 5 ECTS credits

10120 **Autonomous Driving** (Grösch)
2 hrs/week 3 ECTS credits

MECHATRONICS - MM (MASTER PROGRAM)

1856 **System Analysis and Simulation with LabVIEW for Master** (Georgi, Hohl)
4 hrs/week 5 ECTS credits

Module Advanced Mathematics for Engineers
1876 **Advanced Mathematics for Engineers 1** (Ertel)
4 hrs/week 5 ECTS credits
6894 **Advanced Mathematics for Engineers 1 – Lab** (Ertel)
4 hrs/week 5 ECTS credits

1905 **Process Interface Equipment** (Ruf)
4 hrs/week 5 ECTS credits
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4 hrs/week 5 ECTS credits

7421 **Implementation of Closed Loop Digital Control Systems IDCS** (Altmann)
4 hrs/week 5 ECTS credits

7455 **Advanced Software Development for Autonomous Mobile Robots** (Ertel, Stähle)
4 hrs/week 5 ECTS credits

7553 **Robocup@Home Seminar for Masters = Robocup Software architecture Project** (Ertel, Stähle)
4 hrs/week 5 ECTS credits

7790 ***Nearfield Communication*** *(Pfeil) – this semester only for EMM3 students, if you are really interested, let me know and I will get in touch with Prof. Pfeil to see if there is still space available*
4 hrs/week 5 ECTS credits

7945 **Lidar and Radar Systems** (Elser)
4 hrs/week 5 ECTS credits

10120 **Autonomous Driving** (Grösch)
2 hrs/week 3 ECTS credits

!! TECHNOLOGY MANAGEMENT AND OPTIMIZATION (MASTER PROGRAM)
Lectures offered in the frame of the TMO Master program are open for Master students only and mostly offered in German (exceptionally and after verification with professor also open for senior bachelor students and if there are several students potentially in English - please check!)

8075 **Module 1: Product Engineering 1**
- **Data mining / Project** (Jenke)
- **Moderne Entwicklungsmethoden/ Modern development methods**

4 hrs/week 5 ECTS credits

xxxx **Module 2: Product Engineering 2**
- **Funktionsmaterialien / Functional materials**
- **Neue Materialien und Materialtrends/ New materials and material trends**

4 hrs/week 5 ECTS credits

10257 **Module 4: Cyberphysische Systeme/ Cyberphysical systems** (Schlemmer)

Module 8: Production Optimization 2

10271 Analyse und Optimierung von Produktionssystemen/ Analysis and optimization of production systems (Pufall)

2 hrs/week 3 ECTS credits

10265 Fabrikplanung/ Factory planning (Reinerth)

2 hrs/week 2 ECTS credits

Module 12: Business Management 1

10266 Business Development (Jäckle)

2 hrs/week 3 ECTS credits

10267 Unternehmerisches Handeln im technologischen Umfeld/ Entrepreneurial activity in a technological environment (Philippi-Beck)

2 hrs/ week 2 ECTS credits

Module 15: Optimization Methods 1

10270 Optimization with MatLab (Harth)

4 hrs/week 5 ECTS credits

Module 17: Optimization Methods 3

10268 Künstliche Intelligenz in Unternehmensprozessn/ Artificial Intelligence in business processes (Jenke)

4 hrs/week 5 ECTS credits

Module 18: Optimization Methods 4

10268 Maschinelles Lernen/ Machine Learning (Harth)

4 hrs/week 5 ECTS credits

NEW INTERNATIONAL ACADEMY – ONE OR TWO SEMESTERS OF INTERDISCIPLINARY STUDY PROGRAM IN ENGLISH ON BACHELOR LEVEL (TAKING SINGLE/ INDIVIDUAL COURSES IS ALSO POSSIBLE)

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! Students can choose any course(s) they are interested in - but in order to receive an RWU certificate for the International Academy students have to earn a minimum of 30 ECTS per semester incl. at least one practical project and one German course, as well as some compulsory and some elective courses!

8034 International communication - analysing and resolving conflicts in international contexts (Rudolph)

2 hrs/week 3 ECTS credits

4355 Simulating and Optimizing the value network (Hagen, Giesa)

Attention: Block seminar takes place first week/weekend of Jan before lectures officially start!

2 hrs/week 3 ECTS credits

6919 **Seminar: Academic writing** (Pufall)
2 hrs/week 5 ECTS credits

10105 **Practical Sales Project Seminar (RAFI)** (Fuss)
2 hrs/week ECTS credits

10244 **Intercultural Challenges in Customer and Account Management** (Kadam)
2 hrs/week 3 ECTS credits

10245 **Innovation and Virtual Leadership** (Piansoognern)
2 hrs/week 3 ECTS credits (marked case study)

10127 **International Project Management** (Collenberg)
2 hrs/week 3 ECTS credits

3585 **International Marketing** (Niersbach, Ali Reza)
Block Seminar 2 ECTS credits

10247 **Successful Seminar Presentations, Dialogues and Meetings** (Hohl)
Block Seminar 2 ECTS credits

3968 **Change Management and New Work** (Walter)
2 hrs/week 5 ECTS credits

10103 **Business German** (Török)
(in order to take Business Germany you should have a level of at least B1 in German)
4 hrs/week 4 ECTS credits

BACHELOR LEVEL – Lectures in English language in various study fields

6598 **International Comparison of health care systems** (Kern - Health Economics)
2 hrs/week 2 ECTS

6807 **Processes and Automation in Photovoltaics** (Niedermeier, Fath - Mech. Eng.)
2 hrs/week 2 ECTS

1825 **Operating Systems** (Eggendorfer - Applied Computer Science)
4 hrs/week 4 ECTS

MASTER LEVEL – Lectures in English language in various study fields

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3008 **Artificial Intelligence for Master** (Ertel - Computer Science)
4 hrs/week 5 ECTS credits

3058 **Artificial Intelligence Lab** (Ertel - Computer Science) - in English if > 3 intl. participants
4 hrs/week 3 ECTS credits

3227 **Advanced Computer Graphics** (Scherzer- Computer Science)
8 hrs/week 10 ECTS credits

1895 **Simulation of Mechatronic Systems** (Wöllhaf)
4 hrs/week 5 ECTS credits

3219 **Modern Database Technologies** (Hulin - Computer Science)
Blended-Learning-Course with Presence Phases 5 ECTS credits

6896 **Signal Processing 1 + Signalprocessing 1 Lab** (Schulter - IN)
4 hrs/week 5 ECTS credits

7536 **IT Forensics**(Eggendorfer - Applied Computer Science)
4 hrs/week 5 ECTS
(!! SS22 7435 Software Security, WS22/23 7536 IT Forensics, SS23 7592 Hardware Security, WS23/24 7435 Software Security .....rotating)
Blended-Learning-Course with Presence Phases 5 ECTS credits

7536 **Advanced Controlling** (Neff - BWU)
4 hrs/week 5 ECTS credits

LANGUAGE LECTURES AND INTERCULTURAL SEMINARS (CLIC)

German as a foreign language = Deutsch als Fremdsprache (DaF)

4382 **DaF A1**
Attention: The course starts with a two-week intensive course September 20, 2021 and will be continued on Wednesdays from 9:45 – 13:00 throughout the semester
4 hrs/week 4 ECTS credits

4634 DaF A2,
Attention: The course starts with a two-week intensive course September 20, 2021 and will be continued on Wednesdays from 9:45 – 13:00 throughout the semester
4 hrs/week 4 ECTS credits

4630 DaF B1,
Attention: The course starts with a two-week intensive course September 20, 2021* and will be continued on Wednesdays from 9:45 – 13:00 throughout the semester
4 hrs/week 4 ECTS credits

4631 DaF B2,
Attention: The course starts with a two-week intensive course September 19, 2021* and will be continued on Wednesdays from 9:45 – 13:00 throughout the semester
4 hrs/week 4 ECTS credits

4632 DaF C1
4 hrs/week 2 ECTS credits (starts in the first semester week in October)

+ Support Courses throughout the semester

10103 Business German (Török)
(in order to take Business Germany you should have a level of at least B1 in German)
4 hrs/week 4 ECTS credits

English

Xxxx Professional English 1
Xxxx Professional English 2

10120 Improve your speaking skills C1 (Hopkins)

3993 English for Specific Purposes (ESP): Presenting Internationally (Monja da Silva)
2 hrs/ week 2 ECTS credits

10857 ESP – Intercultural Communications – Talking effectively to an increasingly globalized English-speaking world (Ironside)
2 hrs/week 2 ECTS credits

10194 ESP: Student EQ Edge - Emotional Intelligence and Your Success (Hopkins)
2 hrs/week 2 ECTS credits

8170 ESP – Get on the right track (Hopkins)
2 hrs/ week 2 ECTS credits

8170 **ESP – English for Marketing** (Brady-Kühnapfel)
2 hrs/ week 2 ECTS credits

7683 **English for Health Economics** (Riviere)
2 hrs/week 2 ECTS credits

898 **English Negotiating – Block Seminar** (Rudolph)
Blockseminar, 3 ECTS (max. 40 students)

6392 **The key to a successful job application – CV Writing and Interview Techniques** (Ironside)
Blockseminar, (max. 40 students)
2 hrs/ week 2 ECTS credits

4656 **Intercultural Sensitization**
Block Seminar 1 ECTS – date to be determined

To be updated and finalised a few weeks before semester start

Additional language course offers at various levels

xxxx **Chinese, Japanese, French, Spanish, Italian, Brazilian Portuguese, Swedish, Russian**
2 hrs/week 2 ECTS credits

To be updated and finalised a few weeks before semester start