

## Summer Semester 2022 – Lectures in English Language

PLEASE NOTE:

- The lectures are listed according to the faculty/study program that offers them. If you fulfill the prerequisites 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 time table. The time table, however, will only 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" = hours per week per semester, 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.
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### ELECTRICAL ENGINEERING AND INFORMATION TECHNOLOGY (BACHELOR PROGRAM) – ENGLISH TAUGHT STUDY PROGRAM

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#### First Semester

**4233 Electrical Engineering 1: Analysis of Electric Networks** (Jobke)

4 hrs/week     5 ECTS credits

**288 Mathematics 1: Analysis 1 with Exercises** (Elser)

4 hrs/week     5 ECTS credits

**3000 Mathematics 2: Linear Algebra with Exercises** (Elser)

4 hrs/week     5 ECTS credits

**5432 Mathematics Tutorial** – Linear Algebra, Analysis 1 (Elser, Berens)

**4341 Programming** (Zeller, Drotleff)

4 hrs/week     5 ECTS credits

**1850 Digital Technology** (Siggelkow)

4 hrs/week     5 ECTS credits

**1402 Physics Mechanics/ Physics 1** (Doderer, Sieber)

4 hrs/week     5 ECTS credits

### Third Semester

#### **4240 Electrical Engineering 3: Circuit analysis in the time and frequency domains (Berens)**

4 hrs/week    5 ECTS credits

#### **Metrology 2: Advanced: 5 ECTS credits**

##### **5139 Metrology 2 (Pfeil)**

2 hrs/week

##### **1816 Electronics, Practical Training: Linear Metrology (Reusch)**

4 hrs/week

#### **Robotics – Module: 5 ECTS credits**

##### **5761 Robotics + Lab (Wöllhaf, Glöckler, Stehle)**

4 hrs/week

##### **5768 Robotics Practical**

4 hrs/week

#### **Part of Digital Practical Module**

##### **1809 Computer Technology / Practical Training (Jobke – normally Siggelkow)**

2 hrs/week    2 ECTS

*Module together with: 1438 Digital Technology Practical Training (2<sup>nd</sup> Sem) – 3 ECTS but possible to take as individual course*

##### **1815 Electronics (Ludescher)**

4 hrs/week    5 ECTS credits

##### **1816 Electronics Practical: Linear Metrology (Reusch)**

2 hrs/week    5 ECTS credits

##### **1438 Digital Technology Practical (Brümmer)**

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)**

2 hrs/week

#### **Electrical Engineering Practical – Module 5 ECTS**

##### **5891 Basic Practical Electrical Engineering 1: Basic Circuit (Bechteler – normally Siggelkow)**

2 hrs/week    3 ECTS credits

##### **7079 Basis Practical Course Electrical Engineering 2: Implementation and Verification (Ruf)**

2 hrs/week    2 ECTS credits

*Possible to take as individual course – ECTS to clarify directly with professor*

### Fourth Semester

##### **10159 Embedded GUI (graphical user interface) Lecture and Practical (Berger)**

4 hrs/week    5 ECTS credits

## **Sixth Semester**

**1501 Internet Applications** Lecture and Practical (Fechter)

4 hrs/week     5 ECTS credits

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## **E-MOBILITY AND GREEN ENERGY (BACHELOR PROGRAM) – ENGLISH TAUGHT STUDY PROGRAM**

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## **First Semester**

**1402 Physics Mechanics/ Physics 1** (Doderer, Sieber)

4 hrs/week     5 ECTS credits

**4233 Electrical Engineering 1: Analysis of Electric Networks** (Jobke)

4 hrs/week     5 ECTS credits

**288 Mathematics 1: Analysis 1 with Exercises** (Elser)

4 hrs/week     5 ECTS credits

**3000 Mathematics 2: Linear Algebra with Exercises** (Elser)

4 hrs/week     5 ECTS credits

**5432 Mathematics Tutorial** – Linear Algebra, Analysis 1 (Elser, Berens)

**4341 Programming** (Zeller, Drotleff)

4 hrs/week     5 ECTS credits

**Electrical Engineering Practical** – Module 5 ECTS

**5891 Basic Practical Electrical Engineering 1: Basic Circuit** (Bechteler – normally Siggelkow)

Block seminar every two weeks, start 18.03.2022     2/3 ECTS credits

**7079 Basis Practical Course Electrical Engineering 2: Implementation and Verification** (Ruf)

2 hrs/week     2/3 ECTS credits

*Possible to take as individual course – ECTS to clarify directly with professor*

**1850 Digital Technology** (Siggelkow)

4 hrs/week     5 ECTS credits

**7805 Physics Mechanics/ Physics 1** (Doderer/ Sieber)

4 hrs/week     5 ECTS credits

**5951 Physics 1 Exercises** (Doderer)

2 hrs/week     NO credits

## **Second Semester**

**2119 Machine construction** (Pfeffer) – (exceptionally instead of 7086 Machinery Design)

4 hrs/week     5 ECTS credits

### Third Semester

#### **4240 Electrical Engineering 3: Circuit analysis in the time and frequency domains** (Berens)

4 hrs/week    5 ECTS credits

#### **Automotive Engineering: Basics, Practical and CAD – Module: 10 ECTS**

##### **7087 Automotive Engineering** (Reick)

4 hrs/week    5 ECTS credits

##### **7034 Practical Automotive Engineering** (Reick)

2 hrs/week    3 ECTS credits

##### **7295 Computer Aided Design (CAD)** (Reick)

2 hrs/week    2 ECTS credits

##### **1815 Electronics** (Ludescher)

4 hrs/week    5 ECTS credits

#### **Computer-Aided Circuit Design 1 – Module: 5 ECTS**

##### **7077 Basis Practical Training Engineering 3: Programming of uC** (Ludescher)

4 hrs/week    2 ECTS credits

##### **1911 Circuit Design Practical Training** (Ludescher)

4 hrs/week    3 ECTS credits

#### **Electrical Engineering Practical – Module 5 ECTS**

##### **5891 Basic Practical Electrical Engineering 1: Basic Circuit** (Siggelkow)

2 hrs/week    2/3 ECTS credits

##### **7079 Basis Practical Course Electrical Engineering 2: Implementation and Verification** (Ruf)

2 hrs/week    2/3 ECTS credits

*Possible to take as individual course – ECTS to clarify directly with professor*

##### **5139 Metrology 2** (Pfeil)

2 hrs/week    5 ECTS credits

#### **Robotics – Module: 5 ECTS credits**

##### **5761 Robotics + Lab** (Wöllhaf, Glöckler, Stehle)

4 hrs/week

##### **5768 Robotics Practical**

4 hrs/week

### Fourth Semester

#### **7351 Project – Seminar Scientific Work** (Siggelkow, Pfeil)

Block seminar 22.3., 29.3., 5.4., 12.4., 19.4., 26.4. 5 ECTS credits

### Sixth Semester

#### **10159 Embedded GUI (graphical user interface)** Lecture and Practical (Berger)

4 hrs/week    5 ECTS credits

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## PHYSICAL ENGINEERING AND INFORMATION TECHNOLOGY (BACHELOR PROGRAM) – ENGLISH TAUGHT STUDY PROGRAM

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### First Semester

**10361 Mathematics 1: Analysis 1 with Exercises** (Smaga) (similar to ei/ em 288)

4 hrs/week      5 ECTS credits

**10362 Mathematics 2: Linear Algebra with Exercises** (Fr. Prof. Harth) (similar to ei/ em 3000)

4 hrs/week      5 ECTS credits

**10363 Mathematics Tutorial** – Linear Algebra, Analysis 1 (Smaga, Sieber) (similar to ei/ em 5432)

**1850 Digital Technology** (Bonenberger)

4 hrs/week      5 ECTS credits

**7805 Physics Mechanics/ Physics 1** (Schlemmer, Sieber)

4 hrs/week      5 ECTS credits

**7724 Tutorial / Physics 1: Mechanics and Thermodynamics** (Baumgarten, Sieber)

2 hrs/week

**7786 Chemistry** (Kolacyk)

4 hrs/week      5 ECTS credits

**6886 Electrical Engineering** (Vogel)

4 hrs/week      5 ECTS credits

**Computer Science, Module:** 5 ECTS

**198 Basic Principles of Computer Science** (Eberhardt)

4 hrs/week

**1420 Practical Computer Science** (Eberhardt)

2 hrs/week

### Third Semester

**2111 Analysis 3: Series Expansions and Transformations/ Numerical Mathematics** (Smaga)

4 hrs/ week      5 ECTS credits

**6050 Physics III – Optics and Waves and Quantum Physics** (Klemt, Sieber)

6 hrs/ week      5 ECTS credits

**7409 Materials Science/ Materials** (Kolacyk)

4 hrs/ week      5 ECTS credits

**2119 Design II: Machine Design/ Machine Construction** (Pfeffer) (exceptionally instead of 7086 Machinery Design)

4 hrs/ week    5 ECTS credits

**1271 Practical Physics – practical training in experimental physics 1** (Eberhardt, Baumgarten, Herzer)

2 hrs/ week    ? ECTS credits – part of a module??

**6051 Electronics TE2** (Vogel)

4hrs/ week    5 ECTS credits

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## **ELECTRICAL ENGINEERING AND EMBEDDED SYSTEMS (MASTER PROGRAM) – ENGLISH TAUGHT STUDY PROGRAM**

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**Advanced Control Systems/ Digital Control, Module:** 5 ECTS

**1706 Digital Control** (Berger)

3 hrs/week

**4876 Digital Control Lab** (Berger)

2 hrs/week

**1856 System Analysis and Simulation with LabView for Master** (Georgi/ Hohl)

4 hrs/week and Block seminar 25.-29.07    5 ECTS credits

**2333 Electrical Drives** (Farkas)

4 hrs/week    5 ECTS credits

**3008 Artificial Intelligence for Master** (Ertel)

4 hrs/week    5 ECTS credits

**3059 Lab on Artificial Intelligence for Master** (Ertel)

2 hrs/week    2 ECTS credits

**3311 Robotics** (Wöllhaf)

4 hrs/week    5 ECTS credits

**4443 Automation** (Ruf)

4 hrs/week    5 ECTS credits

**4872 Computer Architecture** (Siggelkow)

4 hrs/week    5 ECTS credits

**Embedded Computing, Module:** 5 ECTS

**4874 Embedded Computing Lab** (Pfeil)

2 hrs/week (SS only)

**7193 Embedded Project** (Brümmer)

3 hrs/week (SS only)

**6807 Processes and Automation in Photovoltaics** (Niedermeier, Fath)

4hrs/ week     5 ECTS

**7110 Wireless Communication** (Fechter)

4hrs/ week     5 ECTS

**7183 Signal Processing 2 and Lab** (Schulter)

4hrs/ week     5 ECTS

**7421 Implementation of Closed Loop Digital Control Systems (DDC)** (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 League Tournament Seminar for Masters** (Ertel, Stähle)

4 hrs/week     5 ECTS credits

**7781 Computer Vision** (Elser)

4 hrs/week     5 ECTS credits

**7790 Nearfield Communication** (Pfeil)

4 hrs/week     5 ECTS credits

**10280 Autonomous Driving** (Grösch)

Block seminar 23.04., 30.04., 4.5., 21.5. 3 ECTS credits

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**MECHATRONICS (MASTER PROGRAM) – ENGLISH TAUGHT STUDY PROGRAM**

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**1856 System Analysis and Simulation with LabView for Master** (Georgi, Hohl)

4 hrs/week and Block seminar 25.-29.07     5 ECTS credits

**Process Interface, Module:** total 8 ECTS

**(1905 Process Interface Equipment** (Ruf)

4 hrs/week     5 ECTS credits (WS only))

**2171 Lab on Process Interface Equipment** (Ruf)

2 hrs/week     3 ECTS credits (SS only)

**2233 Electrical Drives** (Farkas)

4 hrs/week     5 ECTS credits

**3008 Artificial Intelligence for Master** (Ertel)

4 hrs/week     5 ECTS credits

**3059 Lab on Artificial Intelligence for Master** (Ertel)

2 hrs/week    2 ECTS credits

**3311    Robotics** (Wöllhaf, Stähle)

4 hrs/week    5 ECTS credits

**2172    Lab on Robotics** (Wöllhaf)

2 hrs/week    3 ECTS credits

**Embedded Computing, Module:** 10 ECTS

**(3124    Embedded Computing** (Pfeil)

3 hrs/week (WS only))

**4874    Embedded Computing Lab** (Pfeil)

2 hrs/week (SS only)

**7782    Embedded Project** (Pfeil)

3 hrs/week (SS only)

**4443    Automation** (Ruf)

4 hrs/week    5 ECTS credits

**Advanced Control Systems/ Digital Control, Module:** 5 ECTS

**1706    Digital Control** (Berger)

3 hrs/week

**4876    Digital Control Lab** (Berger)

2 hrs/week

**6807    Processes and Automation in Photovoltaics** (Niedermeier, Fath)

4hrs/ week    5 ECTS

**7421    Implementation of Close Loop Digital Control Systems (DDC)** (Altmann)

4 hrs/week    5 ECTS credits

**7455    Advanced software development for Autonomous Mobile Robots** (Stähle)

4 hrs/week    5 ECTS credits

**7553    Robocup@Home League Tournament Seminar for Masters** (Stähle)

4 hrs/week    5 ECTS credits

**10280    Autonomous Driving** (Grösch)

2 hrs/week    3 ECTS credits

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#### **PRODUCT DEVELOPMENT IN MECHANICAL ENGINEERING (MASTER PROGRAM)**

**3939    Computational Methods in Engineering** (Fr. Prof. Harth)

2 hrs/week    3 ECTS credits



## TECHNOLOGY MANAGEMENT AND OPTIMIZATION (MASTER PROGRAM)

Lectures offered in the frame of the TM&O Master program **are open for Master students only!**

Courses are held in Engl. if there are students of Y-Schools (ESC Troyes),

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### **1856 System Analysis and Simulation with LabView for Master** (Georgi)

4 hrs/week    5 ECTS credits

Sales and Business Development

### **6461 Customer Relation Management and Optimized Distribution** (Jäckle)

2 hrs/week    2 ECTS credits

## **Production Optimization 2**

### **6462 Product Optimization using Design of Experiments** (Pufall)\*

2 hrs/week    3 ECTS credits

### **6463 Production Technology and Simulation of production/ CAD and CAD Tools** (Philippi-Beck)\*

2 hrs/week    3 ECTS credits

## **Process- and Cost Optimization**

### **6459 Production Management and Optimization** (Schmidthöfer, Klett)\*

2 hrs/week    4 ECTS credits

### **6465 Value-Added Process Design** (Smets)

2 hrs/week    2 ECTS credits

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**NEW INTERNATIONAL ACADEMY – ONE OR TWO SEMESTERS OF INTERDISCIPLINARY STUDY PROGRAM IN ENGLISH ON BACHELOR LEVEL (TAKING SINGLE/ INDIVIDUAL COURSES IS POSSIBLE) – AS OF SS 2021**

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! Students can choose any of 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!

### **10102 Cross cultural communication and team work** (Hohl, Kadam)

Block seminar    3 ECTS credits

### **3971 Creative Problem Solving** (Frank Rudolph)

2 hrs/week    3 ECTS credits

### **10105 Practical Sales Project Seminar** (Thomas Fuss)

2 hrs/week    5 ECTS credits

### **10106 Research Methods in Business Marketing** (Nayan Kadam)

2 hrs/week    5 ECTS credits

**4474 New Technologies and Trends** (Robert Jenke)

2 hrs/week    5 ECTS credits

**7184 B2B Marketing & Sales** (Frau Prof. B. Niersbach)

2 hrs/week    5 ECTS credits

**10107 Entrepreneurial Leadership** (Prof. Opas Piansoongnern)

2 hrs/week    3 ECTS credits

**4475 + 1473 Systems Engineering and Practical Training** (Prof. Andreas Pufall)

4hrs/week    5 ECTS credits

**4156 Innovation Management** (Prof. Frank Ermark)

2 hrs/week    3 ECTS credits

**4906 Business Analysis and Valuation** (Frau Prof. Cornelia Neff)

2 hrs/week    3 ECTS credits

**10103 Business German** (Frau Dr. Judit Török)

(for Business German you need to have finished successfully an A2 course in German)

4 hrs/week    4 ECTS credits

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**BACHELOR LEVEL – Lectures in English language in various study fields**

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**6598 International Comparison of Health Care Systems** (Kern) (Health Economics GO)

2 hrs/week    2 ECTS credits

**1825 Operating Systems** (Eggendorfer) (Applied Computer Science – AI)

4hrs/week    5 ECTS credits

**6763 User Experience Design** (Ehret, Gräf) (Media Design, MD) – optional in English

6 hrs/week    10 ECTS credits

**7149 Interaction Design** (Ehret, Gast) (Media Design, MD) – optional in English

4hrs/week    5 ECTS credits

**7217 Game Design** (Scherzer) (Media Design, MD) – optional in English

4hrs/week    5 ECTS credits

**7667 Designing AR/ VR Experiences** (Lauterbach) (Media Design, MD) – optional in English

4 hrs/week    5 ECTS credits

**7214 Motion Design** (Lauterbach) (Media Design, MD) – optional in English

8 hrs/week    10 ECTS credits

**7090 Autonomous Mobile Robots** (Schneider, Stähle) (AI)

4 hrs/week    5 ECTS credits

**8965 Computer Aided Design CAD** (Baumgart) (Technology Management – TM)

2 hrs/week    2 ECTS credits

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**MASTER LEVEL – Lectures in English language in various study fields**

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**3311 Robotics** (Wöllhaf) (Computer Science – IN)

4 hrs/week    5 ECTS credits

**5812 Machine learning for Intelligent Systems** (Schneider)

4 hrs/week    5 ECTS credits

**6279 Computer Graphics for Master** (Scherzer) (Computer Science – IN) – optional in English

4hrs/week    5 ECTS credits

**6768 Game development for Master** (Scherzer) (Computer Science – IN) – optional in English

4hrs/week    5 ECTS credits

**7532 Shader Programming** (Scherzer) (Computer Science – IN) – optional in English

4 hrs/ week    5 ECTS credits

**7183 Signal Processing 2 and Lab** (Schulter) (Computer Science – IN)

4 hrs/ week    5 ECTS credits

**7781 Computer Vision** (Elser) (Computer Science – IN)

4 hrs/ week    5 ECTS credits

**7435 Software Security** (Eggendorfer) (Computer Science – IN)

4 hrs/ week    5 ECTS credits

Blended-Learning-Course with Presence Phases (please check LSF!)

**3939 Computational Methods in Engineering** (Harth) (Product Dev. in Mech. Engineering – PEM)

2 hrs/week    3 ECTS credits

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**LANGUAGE LECTURES AND INTERCULTURAL SEMINARS (CLIC)**

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

**4382 DAF – Deutsch als Fremdsprache A1+**

4 hrs/week    4 ECTS credits

Attention: The course starts with an intensive program from March 7 – 11, 2022, 8hrs

**4634 DAF – Deutsch als Fremdsprache A2**

4 hrs/week 4 ECTS credits

Attention: The course starts with an intensive program from March 7 – 11, 2022, 8hrs

**4630 DAF – Deutsch als Fremdsprache B1+**

Attention: The course starts with an intensive program from March 7 – 11, 2022, 8hrs

4 hrs/week 4 ECTS credits

**4631 DAF – Deutsch als Fremdsprache B2**

Attention: The course starts with an intensive program from March 7 – 11, 2022, 8hrs

4 hrs/week 4 ECTS credits

**4632 DAF – Deutsch als Fremdsprache C1.1**

3 hrs/week 2 ECTS credits

Attention: NO intensive course! Starts on Wed, March 16 with regular weekly courses; you need to do the placement test, and if you are indeed at C1 level you could – upon discussing with us – still participate in the B2 Intensive Course as a refresher and then start your C1 course with the beginning of the regular lectures

**5144 DaF – Presentation and Documentation / Präsentation und Dokumentation**

2 hrs/week 2 ECTS credits

**English**

**Several Professional English 1, B2 courses by study program e.g.**

**xxxx please check online for courses available shortly before the begin of the semester (LSF)**

2 hrs/week 2 ECTS credits

**Several Professional English 2, B2 courses by study program e.g.**

**xxxx – please check online for courses available shortly before the begin of the semester (LSF)**

2 hrs/week 2 ECTS credits

**4408 Improve your speaking skills B2 (Hopkins)**

2 hrs/week 2 ECTS credits

**10090 English for Specific Purposes: Digital Communication and Presentation Skills (Dr. Fiona Zink)**

2 hrs/week 2 ECTS credits

**10194 English for Specific Purposes: Student EQ Edge – Emotional Intelligence and your success (Dr. David Hopkins)**

2 hrs/week 2 ECTS credits

**10340 Developing the skills of cultural awareness, fluency and intercultural competencies in an English-speaking context (Ironside, Duncan)**

2 hrs/week 2 ECTS credits

**10070 English for Specific Purposes: Student EQ Edge – Propulsion Systems – Technics, Sales and**

**Service** (Uwe Hahn)

2 hrs/week    2 ECTS credits

**55    English for Specific Purposes: Project Management** (Bryan Conner)

2 hrs/week    2 ECTS credits

**Seminars on intercultural and other topics**

**5149    Working in International Scientific Project Teams** (Rudolph)

Block Seminar 1 ECTS credit – 27.03., 10.04., 17.04., 09:00 – 12:15)

If you want to participate, please let me know! This is normally a Master Course and we need to check availabilities

**7502    Intercultural Communications – Talking effectively to the English-speaking world** (Ironsides)

Block Seminar 1 ECTS credit

Please check LSF for exact dates shortly before semester begins

**3971    Creative Problem Solving** (Frank Rudolph)

2 hrs/week    3 ECTS credits

**Other language courses at various levels are offered**

Please check LSF for further details: French, Italian, Spanish, Japanese, (2-3 hours/week, 2-3 ECTS credits)

**6302    Chinese** (Yuan Yuan Wang)

2 hrs/week    3 ECTS credits