

Course List for international Master of Science (MS) Degree Program in Electrical Engineering Department, Chang Gung University

(For 2019 Calendar Year Admission)

| | | | | | | | R: Required; E: Elective | | | | | | | |
|---|--|--|---------|---------------|--------------|--------------|--------------------------|-----|--|---------|---------------|--------------|--------------|--|
| Fields | R/E | Course Title | Credits | Year of Class | 1st Semester | 2nd Semester | Fields | R/E | Course Title | Credits | Year of Class | 1st Semester | 2nd Semester | |
| General Requirement | R | Seminar (Research Project) (1)(2) | 2 | 1st | 1 | 1 | General Requirement | E | Electronics Circuits Design* | 3 | 1st | 3 | | |
| | R | Seminar (1) | 1 | 1st | 1 | | | E | English Technical Writing | 2 | 1st | | 2 | |
| | R | Seminar (2) | 1 | 1st | | 1 | | E | Advanced English Writing | 4 | 2nd | 2 | 2 | |
| | R | Seminar (3) | 1 | 2nd | 1 | | | E | Practical Case Study* | 3 | 1st | | 3 | |
| | R | Seminar (4) | 1 | 2nd | | 1 | | E | Algorithms* | 3 | 1st | | 3 | |
| | R | Master Thesis | 6 | | | | | | | | | | | |
| A: Communications , Biomedical Engineering and Integrated circuit Systems | E | Digital Communications* | 3 | 1st | 3 | | B:Power and Control | E | Nano Circuit Design | 3 | 1st | | 3 | |
| | E | Random Processes* | 3 | 1st | 3 | | | E | Design of Micro-Sensors and Sensing Circuit Systems* | 3 | 1st | | 3 | |
| | E | Digital Signal Processing* | 3 | 1st | 3 | | | E | Medical Imaging | 3 | 2nd | 3 | | |
| | E | Optical Fiber Communications* | 3 | 1st | 3 | | | E | VLSI Computer-Aided Design | 3 | 2nd | 3 | | |
| | E | Digital Image Processing* | 3 | 1st | 3 | | | E | VLSI Digital Signal Processing Design | 3 | 2nd | 3 | | |
| | E | Error-Control Coding* | 3 | 1st | 3 | | | E | Embedded System Programming | 3 | 2nd | 3 | | |
| | E | Number Theory | 3 | 1st | 3 | | | E | Biomedical Imaging System | 3 | 2nd | 3 | | |
| | E | Biomedical Electronics | 3 | 1st | 3 | | | E | Wireless Network | 3 | 2nd | 3 | | |
| | E | VLSI System Design* | 3 | 1st | 3 | | | E | Cryptography | 3 | 2nd | 3 | | |
| | E | Software-Hardware Co-design | 3 | 1st | 3 | | | E | Network Security | 3 | 2nd | | 3 | |
| | E | Digital Silicon IP Design | 3 | 1st | 3 | | | E | Spread Spectrum Communications | 3 | 2nd | | 3 | |
| | E | Introduction to System-on-Chip Design | 3 | 1st | 3 | | | E | Adaptive Filter Theory | 3 | 2nd | | 3 | |
| | E | Analog Integrated Circuits Design* | 3 | 1st | 3 | | | E | Biomedical Information Processing | 3 | 2nd | | 3 | |
| | E | Introduction to Optoelectronics* | 3 | 1st | 3 | | | E | Medical Instrumentation | 3 | 2nd | | 3 | |
| | E | Communication Theory | 3 | 1st | | 3 | | E | Power System Analysis* | 3 | 1st | 3 | | |
| | E | Optical Fiber Communications Laboratory* | 1 | 1st | | 1 | | E | Linear System Theory* | 3 | 1st | 3 | | |
| | E | Wireless Communication* | 3 | 1st | | 3 | | E | Fuzzy Control | 3 | 1st | 3 | | |
| | E | Optoelectronics | 3 | 1st | | 3 | | E | Advanced Power Electronics | 3 | 1st | 3 | | |
| | E | Detection and Estimation Theory | 3 | 1st | | 3 | | E | Power Electronics Laboratory* | 1 | 1st | 1 | | |
| | E | Queueing Theory | 3 | 1st | | 3 | | E | Artificial Neural Network | 3 | 1st | | 3 | |
| | E | Advanced Digital Signal Processing | 3 | 1st | | 3 | | E | Power System Stability and Control | 3 | 1st | | 3 | |
| | E | Principle and Application of Computer Vision | 3 | 1st | | 3 | | E | Electric Power Distribution Engineering* | 3 | 1st | | 3 | |
| | E | Advanced Error Control Coding and Applications | 3 | 1st | | 3 | | E | Solid State Energy Conversion | 3 | 1st | | 3 | |
| | E | Optoelectronic experiments* | 1 | 1st | | 1 | | E | Optimization Methods* | 3 | 1st | | 3 | |
| | E | Advanced Computer Architecture | 3 | 1st | | 3 | | E | Digital Control* | 3 | 1st | | 3 | |
| | E | Low-Power System Design* | 3 | 1st | | 3 | | E | Nonlinear Control | 3 | 2nd | 3 | | |
| | E | Bio-photonics Techniques* | 3 | 1st | | 3 | | E | Renewable Energy Technologies | 3 | 2nd | 3 | | |
| | E | Embedded System and Experiment* | 3 | 1st | | 3 | | E | Robust Control | 3 | 2nd | 3 | | |
| | E | Pattern Recognition | 3 | 1st | | 3 | | E | Advanced Topics of Electric Machines and Drives | 3 | 2nd | 3 | | |
| | E | Biomedical Chip Design and Application | 3 | 1st | | 3 | | E | Power Quality | 3 | 2nd | 3 | | |
| | E | Biomedical Signal Analysis | 3 | 1st | | 3 | | E | Electrical Machine Control | 3 | 2nd | | 3 | |
| | E | Medical Physics | 3 | 1st | | 3 | | E | Electromagnetic Transients Analysis | 3 | 2nd | | 3 | |
| | E | Design and Application of Mixed-Signal Integrated Circuits | 3 | 1st | | 3 | | E | Adaptive Control | 3 | 2nd | | 3 | |
| Comments | 1. Graduation credits: 34 (including 6 credits of Master Thesis) | | | | | | | | | | | | | |
| | 2. Credits of Required courses:12【(including 6 credits of Master Thesis + 4 credits of Seminar + 2 credits of Seminar (Research Project))】 | | | | | | | | | | | | | |
| | 3. Credits of elective courses: 22 (at least 9 credits from your field of study) | | | | | | | | | | | | | |
| | 4. **: courses opened for MS students and Senior student in undergraduate program, the other courses are for students in MS and Ph.D. programs. | | | | | | | | | | | | | |
| | 5. Others: A. Maxium of 9 credits from the field of Electrical Informatics (including Graduate Institute of CSIE, Electronic Engineering, and Electro-Optical Engineering) can be counted for graduation requirement credits. B. The credits of elective courses in the General Requirement can be considered as the credits for either in- or out- of the field of study. | | | | | | | | | | | | | |
| | 6. Seminar (3) and (4) are rquired before graduation. If you graduate within 2 years, those two courses can be waived but minimum of 34 credits are still required for the graduation. | | | | | | | | | | | | | |
| | 7. The professional courses (instructed in English) taken from other departments in the School of Engineering can be counted for required credits for graduation, but can not exceed 50% of the total required credits for graduation (excluding Master Thesis and Seminars). These taken courses have to be approved by your academic adviser and has to be approved by the Committee of graduate student affairs of the department to have these credits counted as the required credits for graduation. This policy is only applied for the international graduate students admitted from International Student Admission of CGU. | | | | | | | | | | | | | |

Chair of Department :

Wen-piao Lin

2019/04/03