

## **Appendix B-7 Syllabus - Graduation thesis/design**

Competence field	Graduation thesis/design
Curriculum designation	Graduation comprehensive training
Curriculum code	9061515010
Semester(s) in which the curriculum is taught	8 <sup>th</sup> Semester
Person responsible for the curriculum	Professor Li Wenguo
Lecturer	Professor Jiang Dongchu, Professor Li Wenguo, Professor Tan Yue, Professor Li Jiasheng, Associate Professor He Fei, Associate Professor Deng Yaqi, Lecturer Xiong Jie, Assistant Teacher Liu Xiongjie, Assistant Teacher Li Maolin, Assistant Teacher Zhong Peng, etc
Language	Chinese
The relationship between the curriculum and the major	The Comprehensive Training Program for Graduates can train students on how to apply the knowledge they have acquired over the past four years to engineering design or research. Under the guidance of their mentors, students can independently complete all aspects of their graduation projects. Students possess comprehensive abilities including research, information collection, proposal formulation, analysis and calculation, drawing design (in compliance with national standards), experimental testing, programming, translation of foreign data, writing reports (design manuals or papers), and graduation defense. The content integrates practical needs of scientific research and engineering, requiring students to complete engineering topics, research topics, or experimental topics related to electronic information engineering and similar fields.
Type of teaching, contact hours	Target students: Electronic Information Engineering major Teaching method: theoretical teaching, computer and microcontroller practice Contact hours: 448 hours Including: Theoretical teaching, experimental/practical teaching and computer practice are arranged by teachers according to each students specific project. Class size: Each teacher will guide 3-7 students
Workload	Total workload = 900 hours; Contact hours = 448 hours; Self-study hours = 452 hours;
Credit points	30.0
Requirements according to the examination regulations	Students complete the literature translation and project tasks (experiment, design or calculation) required by their tutors; pass the mid-term examination of comprehensive training for graduation; and complete the graduation design (thesis).

Prerequisite curriculum	Complete all required courses (1-7 semesters)
curriculum objectives /expected learning outcomes	<p><b>Learning outcomes:</b></p> <p>The goal and task of comprehensive training is to enable students to combine theoretical knowledge with skills, analyze and solve practical problems related to electronic information engineering. The specific objectives include:</p> <p><b>Knowledge:</b></p> <p>Demonstrate understanding of knowledge learned from the project, as well as literature review and research methodology.</p> <p><b>Skill:</b></p> <ol style="list-style-type: none"> <li>(1) The ability to independently conduct literature search and research;</li> <li>(2) Show analytical theory and practical ability;</li> <li>(3) Design the main framework of the thesis, develop hardware and software;</li> <li>(4) Drill the ability to comprehensively process and analyze data;</li> <li>(5) The ability to write papers and design instructions.</li> </ol> <p><b>Ability:</b></p> <p>Students should acquire the ability to track professional and related field development trends, delve into learning, obtain comprehensive interdisciplinary knowledge and skills relevant to the course, apply knowledge and modern engineering tools, consider economic, environmental, legal, safety, health, ethical factors in design, possess a certain degree of innovation and engineering literacy, and have teamwork and communication skills.</p>
Contents	<p><b>Graduation thesis/design (448 contact hours , 452 self-study hours)</b></p> <p><b>The first stage: topic selection and undergraduate thesis (paper) guidance (16 self-study hours)</b></p> <p>The supervisor of the graduation project must declare the topic one semester before the start of the thesis, fill in the "Approval Form for Graduation Project (Thesis) Topic", and submit it to the college for approval. On this basis, complete the "Graduation Project Task Book" and distribute it to the students at the beginning of the graduation project.</p> <p><b>Stage 2: Project research and literature review (64 contact hours , 64 self-study hours)</b></p> <p>Under the guidance of the tutor, the students will conduct research on the topics they are engaged in, consult relevant Chinese and foreign scientific and technological literature, complete the translation of foreign language literature, and write a literature review report.</p> <p><b>Stage 3: Determine the overall project plan (32 contact hours ,</b></p>

	<p><b>32 self-study hours)</b></p> <p>Students should formulate an overall plan according to the requirements of the Proposal Task Book under the guidance of their supervisors. The overall plan should include the following contents: the key points, difficulties, and innovations of the project, the basic theories and fundamental skills involved; implementation stages, tasks, technical indicators, and preliminary plans for each stage; external conditions required for implementation, including computers, software, hardware, experimental equipment, instruments, devices, and venues; technical outputs to achieve the ultimate goal of the project, including computer programs, hardware schematics with data, and conclusions of theoretical research.</p> <p><b>Phase IV: Implementation of the overall project plan (256 contact hours , 244 self-study hours)</b></p> <p>The implementation of the thesis plan is the most critical phase of the entire graduation project. It is carried out in stages according to the overall plan and continuously improved based on actual execution. During this period, due to the different sources and nature of the topics, the supervisor should provide targeted guidance. Particular attention should be paid to the graduation design of this major: the integration of theoretical research and engineering application; rigorous evidence-seeking and bold innovation, as well as the enhancement of computer application and practical experimental skills. The progress of students' graduation designs will be evaluated during the mid-term assessment.</p> <p><b>Stage 5: Write a thesis for the graduation project (64 contact hours , 64 self-study hours)</b></p> <p>The graduation thesis reflects the achievements of the graduation project and should be independently completed by the student under the guidance of a supervisor. The format of the thesis must strictly follow the unified format issued by the school's academic affairs office, and the bachelor's thesis and its attachments should be submitted in both paper and electronic versions on time.</p> <p><b>Stage 6: modification and defense of undergraduate thesis (32 contact hours , 32 self-study hours)</b></p> <p>Upon completion of the bachelor's thesis, the supervisor will conduct a review, modification and scoring. Once submitted, the departmental thesis defense panel will designate one or two teachers to evaluate and score the thesis.</p>
Study and examination requirements and forms of examination	The final results include: attendance rate (10%), thesis defense (15%), mid-term assessment (15%), graduation design (thesis) writing (30%), and graduation defense (30%).

	<p>1、 Attendance rate (10%): the initiative and ability of students in the whole comprehensive design process will be evaluated, and the tutor will give a score;</p> <p>2、 Thesis defense (15%): The thesis defense group examines the graduation comprehensive training topics submitted by students, reviews the thesis report submitted by students and gives corresponding scores</p> <p>3、 Mid-term assessment (15%): The instructor will review the mid-term assessment form submitted by the student, check the progress of the comprehensive training project for graduation, and give corresponding scores;</p> <p>4、 Writing of graduation design (thesis) (30%): The instructor evaluates the graduation design report submitted by the student and gives corresponding scores;</p> <p>5、 Graduation defense (30%): the defense score of students in the comprehensive design process.</p>
Media employed	Computers, multimedia, laser pointers, blackboards, Keil and Proteus software etc
Reading list	Hunan City College graduation thesis (design) report template