Tsuyama College	Year	2021	Course Title	Thesis Work Ⅱ

Course Information

Course Code	0025	Course Category	Specialized / Compulsory
Class Format	Experiment	Credits	School Credit: 8
Department	Advanced Electronics and Information System Engineering Course	Student Grade	Adv. 2nd
Term	Year-round	Classes per Week	8
Textbook and/or Teaching Materials			
Instructor	KATORI Shigetaka,NAKAMURA Shigeyuki,NISHIO Kimihiro,SHIMADA Takao,TERAMOTO Takayuki,KAWANAMI Hiromichi,KIKUCHI Yosuke		

Course Objectives

Learning purposes : To acquire the ability to identify engineering and technical problems and to solve them concretely, and to acquire the basic skills of an engineer.

Course Objectives :
1. To be able to use international papers and other sources to research information on research themes and to grasp trends in advanced technologies.
2. To be able to independently develop a research plan, use hardware and software, perform specific experiments and analyses, and solve technical problems.
◎3. Students can present their research results at academic conferences outside the university. To be able to freely exchange opinions and ideas with many engineers.
◎4. Have an awareness as an engineer and be able to contribute to the local community and the world.

Rubric

	Excellent	Good	Acceptable	Not acceptable
Achievement 1	To be able to conduct research in foreign language papers and to understand related technology and research trends by collecting, organizing and analyzing necessary information.	To be able to conduct research in foreign language papers, and to understand simple related technology and research trends by collecting, organizing, and analyzing necessary information.	To be able to read a given article in a foreign language. Able to research literature in Japanese.	Cannot read a given paper in a foreign language. Cannot research literature in Japanese.
Achievement 2	To be able to formulate a research plan on one's own in accordance with the research objectives, and to be able to logically explain the hypothesis, the method of testing and evaluating the research, and the results.	To be able to formulate a research plan by oneself according to the research objectives, and to be able to test simple hypotheses and investigations.	To be able to understand the methods and results of experiments and analyses, and to understand their meanings with reference to the textbook.	Cannot understand the methods and results of experiments and analyses.
Achievement 3	To be able to make presentations and exchange opinions at conferences in foreign languages.	To be able to make a poster presentation in a foreign language.	To be able to make presentations and exchange opinions in Japanese.	Cannot make presentations or exchange opinions in Japanese.
Achievement 4	Understand the effects and impact of technology on society and nature, and understand the responsibility that engineers have to society. To be able to continuously improve oneself in order to grow as an engineer, and to take action to solve local problems.	Understand the influence and effect of technology on society and nature, and understand the responsibility that engineers have to society. To be able to continuously improve oneself in order to grow as an engineer.	To be able to continuously improve oneself in order to grow as an engineer.	Cannot engage in continuous self-improvement to grow as an engineer.

Assigned Department Objectives

Teaching Method

Outline	General or Specialized : Specialized Field of learning : Experiment and practice Foundational academic disciplines : Engineering/Electrical and Electronic Engineering, Information Engineering Relationship with Educational Objectives :This class is equivalent to "(4) Develop multi-disciplinary ability". Relationship with JABEE programs :The main goals of learning / education in this class are "(E)Development of research skills, E-1", also "A-3, C-1, C-2, D-1, D-2, D-3, E-2, E-3, F-1, F-2, G-1, G-2, " and "H-1" is involved. In this class, students are expected to acquire the following design skills: conceptual ability, problem-setting ability, ability to recognize problems from the viewpoint of public health and safety, culture, economy, environment, ethics, etc., ability to find solutions under the constraints arising from these problems, ability to express the conceptualized ideas in diagrams, sentences, formulas, programs, etc., and ability to plan and implement continuously. In this course, students will be involved in developing the ability to find solutions under constraints arising from these problems, the ability to express their concepts in diagrams, sentences, formulas, programs, etc., and the ability to plan and implement continuously. In addition, students are required to attend a lecture on engineering ethics. Course outline :This class is designed to cultivate the ability to discover problems and solve problems independently by working on distinctive research topics, and to deepen knowledge and acquire research and development skills. The results of the research will be submitted as a summary of the interim presentation, and if necessary, external presentations will be made at academic conferences.
Style	Course method : Students are expected to carry out research activities independently under the guidance of their supervisor. In the course of their efforts, the instructors provide guidance and advice on how to conduct engineering research, write scientific and technical papers, and make presentations and discussions as appropriate. Grade evaluation method : The supervisor will evaluate according to the conditions indicated in the lesson plan. In particular, the theme presentation will be evaluated as professional ability (10%), and the off-campus practical training report will be evaluated as cross-disciplinary ability (10%). In addition, the preparation for the midterm presentation (outline, preliminary draft) and the report on the lecture on engineering ethics will be evaluated as professional competence (70%), and the report on the fieldwork will be evaluated as cross-disciplinary competence (10%). In the evaluation, the level of achievement will be evaluated for each item of (A) and (C) to (H) of the educational program, and the student will pass if the total evaluation score is 60% or more. If the evaluation score does not reach the passing score, guidance will be given and re-evaluation may be conducted.
Notice	Precautions on the enrollment : This is a class that requires study outside of class hours. A total of 45 hours of study is required per credit, including both class time and study outside class time. Follow the instructions of the instructor regarding study outside of class hours. Course advice : This subject is the most important main subject in the major. Therefore, students are expected to take the initiative in all aspects and do their best. In addition, in the second year, when students receive a bachelor's degree from the National Institution for Academic Degrees and University Evaluation (NIAD), they are required to submit a "Master's Course Plan" and a "Summary of the Results of the Master's Course". In addition to the above, it is necessary for the students to proceed with their research activities keeping in mind that the contents of the special research will be the basis for all of these. In addition, students are required to submit a research record at the end of the first and second semesters. Foundational subjects : All subjects Related subjects : General subjects to be studied in the major Attendance advice : This subject is the most important main subject in the major. Therefore, students are expected to take the initiative in all aspects and do their best. In addition, in the second year, when students receive a bachelor's degree from the National Institution for Academic Degrees and University Evaluation (NIAD), they are required to submit a "Master's Course Plan" and a "Summary of the Results of the Master's Course". In addition to the above, it is necessary for the students to proceed with their research activities keeping in mind that the contents of the special research will be the basis for all of these. In addition, students are required to submit a research record at the end of the first and second semesters.

Characteristics of Class / Division in Learning

☐ Active Learning	☐ Aided by ICT	☐ Applicable to Remote Class	☐ Instructor Professionally Experienced

Course Plan

			Theme	Goals
1st Semester	1st Quarter	1st	Guidance (explanation by supervisor on how to proceed with the special research)	
		2nd	Students should plan their research for each special research theme. Create a "Learning Summary Course Plan".	
		3rd	Mid-term presentation (around the end of April)	
		4th	Research Activities	
		5th	Consult with your academic advisor and make a presentation at an off-campus conference at an appropriate time (while in the major course).	
		6th	Attendance at a lecture on engineering ethics	
		7th		
		8th		
	2nd Quarter	9th		
		10th		
		11th		
		12th		
		13th		

		14th		
		15th		
		16th	Writing a course plan for a general course of study Attendance at a lecture on engineering ethics	
2nd Semester	3rd Quarter	1st	Degree Application	
		2nd		
		3rd		
		4th		
		5th		
		6th		
		7th		
		8th		
	4th Quarter	9th		
		10th	Time to prepare the "Special Research Report" (December - January)	
		11th	Students compile the results of their research into a "Special Research Report" according to the designated outline and submit it to the department head (late January).	
		12th	Special research presentation (early February)	
		13th	Prepare for the presentation and submit the outline of the presentation to the steering committee member of the major department in charge (late January).	
		14th	Final presentation of the Special Study Report (mid-February)	
		15th	After peer review, revise the "Special Research Report" and submit it to the head of the department. After review, revise the "Special Research Report" and submit it to the department head.	
		16th		

Evaluation Method and Weight (%)

	Examination	Presentation	Mutual Evaluations between students	Behavior	Portfolio	Other	Total
Subtotal	50	50	0	0	0	0	100
Basic Proficiency	0	0	0	0	0	0	0
Specialized Proficiency	50	40	0	0	0	0	90
Cross Area Proficiency	0	10	0	0	0	0	10