COURSE	Name	: Thesis
	Code	: EE185401
	Credit(s)	: 8
	Semester	: IV

Description of Course

The Thesis course is a capstone project for the master program as one of the requirements to complete the master program study. Thesis research is the culmination of all knowledge gained by students during the study and scientific validation and expertise that has been obtained. Students must write the results of their research in the Thesis book and take the Thesis examination, and publish the results of their thesis research in scientific journals as one of the graduation requirements.

Learning Outcomes

Knowledge

(P01) Mastering the concepts and principles of science in a comprehensive manner, and to develop procedures and strategies needed for the analysis and design of systems related to the field of power systems, control systems, multimedia telecommunications, electronics, intelligent multimedia network, or telematics as a preparation for further education or professional career.

(P02) Mastering engineering concepts and principles to develop the necessary procedures and strategies for systems analysis and design in the areas of power systems, control systems, multimedia telecommunications, electronics, intelligent multimedia network, or telematics.

(P03) Mastering the factual knowledge of information and communication technology as well as the latest technology and its utilization in the field of power systems, control systems, multimedia telecommunications, electronics, intelligent multimedia network, or telematics.

Specific Skill

(KK01) Being able to formulate engineering problems with new ideas for the development of technology in power systems, control systems, multimedia telecommunications, electronics, intelligent multimedia network, or telematics.

(KK02) Being able to compose problem solving in engineering through depth and breadth of knowledge which adapts to changes in science and technology in power systems, control systems, multimedia telecommunications, electronics, intelligent multimedia network, or telematics.

(KK03) Being able to produce system design for problem solving by utilizing other fields of study and concerning technical standards, performance aspect, reliability, ease of application, and assurance of sustainability.

(KK04) Being able to implement alternative solutions of engineering problems by concerning in factors of economy, public health and safety, culture, social, and environment.

General Skill

(KU01) Being able to develop logical, critical, systematic, and creative thinking through scientific research, the creation of designs or works of art in the field of science and technology which concerns and applies the humanities value in accordance with their field of expertise, prepares scientific conception and result of study based on rules, procedures and scientific ethics in the form of a thesis or other equivalent form, and uploaded on a college page, as well as papers published in scientific journals accredited or accepted in international journals.

(KU02) Being able to perform academic validation or studies in accordance with their areas of expertise in solving problems in relevant communities or industries through the development of knowledge and expertise.

(KU03) Being able to formulate ideas, result of thought, and scientific arguments in a responsible and academic manner, and communicate them through the media to the academic community and the wider community.

(KU04) Being able to identify the scientific field that becomes the object of his research and positions into a research map developed through interdisciplinary or multidisciplinary approach.

(KU05) Being able to take decisions in the context of solving problems of science and technology development that concerns and implements the humanities value based on analytical or experimental studies of information and data.

(KU06) Capable of managing, developing and maintaining networking with colleagues, peers within the broader institutes and research community.

(KU07) Being able to improve the capacity of learning independently.

(KU09) Being able to develop themselves and compete in national and international level.

(KU11) Being able to implement information and communication technology in the context of execution of his/her work.

Attitude

(S08) Internalizing values, norms and academic ethics

(S11) Trying his/her best to achieve perfect results.

Course Learning Outcomes

Knowledge

Mastering the concepts and principles of scientific and engineering comprehensively, and factual knowledge about information and communication technology and the latest technology to develop procedures and strategies needed for the analysis and design of systems in the field of Electrical Engineering and its applications which are the topic of discussion.

Specific Skill

Being able to formulate and compile engineering problem solving, produce system designs and implement alternative engineering problem solving by expanding knowledge that adapts changes in science or technology in the field of Electrical Engineering which is the topic of discussion.

General Skill

Being able to produce a feasible thesis to be published in scientific journals by utilizing both software / hardware technology in conducting experiments related to system analysis and design which is the topic of discussion.

Attitude

Striving maximally in solving problems in the field of Electrical Engineering which is the topic of discussion to achieve perfect results.

Main Subjects

1. Introduction (Background, Problem Formulation, Objectives, Contributions)
2. Research Studies and Basic Theory
3. Research Methodology
4. Research Results and Discussion
5. Conclusions and Suggestions

Reference(s)

[1] Supporting textbooks
[2] Papers from supporting journals or conferences
[3] Pedoman Penyusunan Thesis, Program Pascasarjana ITS, 2014.
[4] Pedoman Penyusunan Tesis, Departemen Teknik Elektro, http://teras.ee.its.ac.id/

Prerequisite(s)

Scientific Writing