COURSE	Name	: Introduction to Research
	Code	: EE185102
	Credit(s)	: 2
	Semester	: I

Description of Course

This course is preparing student to formulate research ideas, to plan research activities and to write thesis proposals. In this course students will be given materials on basic knowledge of research before formulating the topics to be studied in their thesis. The materials include: defining problem in research, the difference between research project and practical/work project, understanding the hypothesis, novelty, plagiarism (including in method and methodology), types of research (qualitative and quantitative), types of collecting data method and techniques (survey, questionnaire, interview, measurement, data mining) and fishbone diagram.

Learning Outcomes

Knowledge

(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.

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.

General Skill

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

Attitude

(S09) Demonstrate a responsible attitude towards the work in the field of his/her expertise independently.

(S12) Working together to be able to make the most of his/her potential.

Course Learning Outcomes

Knowledge

Students understand the hypothesis, novelty, plagiarism and the types of research and various techniques of data retrieval in research so that the thesis proposal then can be prepared better.

Specific Skill

Students are able to develop a research problem that has the potential to be his/her research idea in their thesis, and contains elements of novelty and avoid plagiarism.

General Skill

Able to develop research plans that contain novelty starting from building a hypothesis, defining problem formulation and developing research methodology plan.

Attitude

Shows an honest attitude in developing the research topic, open to suggestions and inputs and responsible to avoid plagiarism activities.

Main Subjects

1. The procedure for a scientific article search
2. Introduction to Research
3. Hypothesis in research
4. An understanding of Novelty in research
5. Plagiarism
6. Data collection techniques in research
7. Types of research
8. Citation and use of Reference(s)
9. The 1st Lab-Research theme
10. The 2nd Lab-Research theme
11. The 3rd Lab-Research theme
12. The 4th Lab-Research theme
13. Preparation of Fishbone Diagram

Reference(s)

[1] Research Methodology., A Step by step guide for beginners., Ranjit Kumar., 3rd Edition., 2011
[2] Research Methodology: Methods and Techniques., 2nd Revised Edition., C.R. Kothari., New Age International Publisher., 2004
[3] Research and Methodology: Tools and Techniques., Prabhat Pandey, Meenu Mishra Pandey, 2015

Prerequisite(s)

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