“Fundamentals of Circuit Analysis”Course

Three-level Project Manual

**September 2022**

**Ⅰ.Three-level project overview**

three-level project is a very important part of the course of "Fundamentals of Circuit Analysis". Through the implementation of course research projects, students can learn to use the circuit analysis software "multisim" to simulate and design the performance of simple circuits on the basis of mastering the basic theories of circuit analysis, so as to improve students' ability to comprehensively apply existing knowledge to solve problems. Cultivate the professional technical ability and comprehensive quality of electrical students.

**Ⅱ.Three-level project implementation purpose**

1. Master the basic usage method of computer-aided design software "multisim";

2. Able to use multism software to assist in solving problems, and will use its own instruments and meters.

**Ⅲ.Three-level project name and main content**

The title of the Three-level project of this semester: "Based on XX Circuit Simulation and Analysis", students need to learn to use the computer-aided design software "multisim", and use this analysis software to complete self-selected typical circuit simulation and analysis tasks.

**Ⅳ.Three-level project schedule**

After the teacher explained the "multisim" software in the classroom, the students completed the simulation and analysis of the circuit related to the three-level project after the class, and submitted the project research report "Based on the ××× Circuit Simulation and Analysis" within one week.

**Ⅴ.Project assessment method**

Teachers evaluate each student's project performance based on the student's three-level project report, which accounts for 30% of the total grade.

**Ⅵ.Research project report: see template for specific format**

1. Cover:

\*Project name: Based on ××× circuit simulation and analysis

\*Name:

\*Course Title: Fundamentals of Circuit Analysis

\*Date:20xx.

1. The main body of the research report: including the introduction of the basic principles of the research carried out by the relevant project, the research methods and related tools used; the detailed description of the project design; the research results and discussion, etc. The main outline is as follows:

(1) Software introduction

(2) Hardware design and principle

(3) Description of simulation results (including circuit principle and analysis description, etc.)

(4) The design of ××× circuit (including parameter calculation and test results)

**Note:**

**(1) The total number of words in the report shall be more than 1,000 words, with neat handwriting and standard graphics;**

**(2) Each student must submit a separate project report;**

**(3) The content of each report should be completed independently.**