

RCET2253: Systems Analog and Digital Lab Syllabus

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Office Hours: M-F, 3-4 pm
Office: T&T 323

Lab Hours: M-F 8:00-10:50 am
Core Lab: T&T 336

Course Description

Students will design, construct, test, and troubleshoot electronic circuits using proper test equipment. Experiments and circuit design will align with subjects taught in RCET 2251 Systems Analog and Digital Theory and RCET 2271 Introduction to Lab Simulation Software.

Prerequisites/Corequisites

- *PREREQ*: RCET 1156 Analog & Digital Control Devices Lab
- *COREQ*: RCET 2251 Systems Analog & Digital Theory

Required Materials

- First & Semester Lab Book/Notes
- Laptop computer with ISU account and Labview installed
- Lab Book - bound engineering notebook with numbered pages
- safety glasses & tools

Course Objectives

Successful students will demonstrate an ability to solve narrowly defined technical problems using applied mathematics and scientific/engineering/technology principles. Additionally, successful students will apply methods, processes, and operations, particularly those necessary for the understanding of electrical phenomena and circuit analysis in support of COREQ RCET 2251.

Key Objectives

Students will demonstrate the following:

- ☐ *adherence to Lab Safety*
- ☐ *an ability to calculate and predict analog and digital circuits*
- ☐ *an ability to accurately create schematics, and block diagrams*
- ☐ *an ability to document predicted waveforms and predicted timing diagrams*
- ☐ *proper circuit construction*
- ☐ *proper use of test equipment and circuit measurements*
- ☐ *an ability to accurately document measured values*
- ☐ *an ability to accurately explain circuit operation*
- ☐ *an ability to troubleshoot circuit problems*
- ☐ *a commitment to quality, timeliness, and continuous improvement*

Course Structure

Labs will be assigned and submitted electronically via Moodle. Late Labs will not be accepted without 24-hour prior approval from the instructor, if approved late labs will be subject to a 10% per day penalty. Safety violations and excessive parts damage will, at a minimum, result in a loss of professionalism points. Egregious safety violations and or egregious parts damage may result in program dismissal.

Grading

60%	Labs
30%	Power Supply Project
<u>10%</u>	Professionalism
100%	Total

Disability Services

The RCET program is committed to providing an accessible learning environment for students with documented disabilities. If there are aspects of the instruction or design of this course that result in disability-related barriers to your participation, please contact Disability Services to engage in a confidential conversation about the process for requesting accommodations. Students are encouraged to register with Disability Services as soon as they begin this course or in the timeliest manner possible as accommodations are not provided retroactively. More information can be found online at isu.edu/disabilityservices, or by contacting Disabilities Services at:

Disability Services - Main Office
Rendezvous Complex, Room 125
921 South 8th Avenue
Pocatello Id. 83209

Phone: 208-282-3599
Fax: 208-282-4617
VP for ASL: 208-417-0620
Email: disabilityservices@health.isu.edu