5 Cr Monday through Friday 10 am – 1:50 pm T&T Room 401A

**Instructor**: Shane Slack, ShaneSlack@isu.edu **Office** T&T Room 405

**Office Hours:** M, T 2:00 - 3:00pm. Alternative meetings time can be made available by scheduling them with the instructor.

**Course Description** RCET ProgramRequired Course

*Laboratory experiments investigating complex multicomponent system integration, timing, termination, and calibration with electronically generated mixed signals, filtering, wave-shaping, and applications. An emphasis on large system troubleshooting techniques and teamwork. Includes a capstone project.* COREQ: 3374

**Books** ‘*RCET 3376 Laboratory Manual’* will be provide by the instructor via Moodle*.* Personal laboratory notebooks from previous RCET lab courses are strongly recommended for use as reference material. Equipment manuals will be provided as needed.

**Other supplies:** Laptop with a wired Ethernet port or USB to Ethernet adapter, bound grid paper notebook with numbered pages, tools as required in in first semester. TI-30 or equivalent. No programmable or solve function calculators are allowed on quizzes or tests.

**Attendance:** Department attendance policy will be enforced, refer to student handbook for more information.

**Goals** At the completion of this course, the students will be able to:

1. Develop, install, maintain, troubleshoot, and repair equipment and circuitry for large scale audio, video, and communications systems.
2. Complete a Capstone project with an accompanying written report, and identify and address potential financial, ethical, and social concerns.
3. Demonstrate an ability to work individually and as a team member.
4. Demonstrate an ability to successfully convey technical information to other team members, and train team members of the proper use and function of assigned equipment.

Student Learning Outcomes Addressed:

1. An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve well-defined engineering problems appropriate to the discipline;

2. An ability to design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes appropriate to the discipline;

3. An ability to apply written, oral, and graphical communication in well-defined technical and non- technical environments; and an ability to identify and use appropriate technical literature;

1. An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results;

5. An ability to function effectively as a member of a technical team.

**Grading**

1st 8 weeks Laboratory Notebook 10%

1st 8 weeks Workmanship 10%

Lab Checkoff Quizzes 30%

2nd 8 weeks Leadership/Workmanship 10%

2nd 8 week Goals & Documentation 10%

Capstone Project Report Documentation 30%

Total 100%

All laboratory experiments must be successfully completed (70% average with all objectives completed) by the midterm cutoff date, set by the instructor, in order to pass the course. All experiments must be signed off by the instructor, or authorized representative, by 1:50pm on the assigned due date. A scan of the lab write-up must be submitted by 11:59pm that same day. Any assignments submitted after the due date, will be penalized with a 10% grade deduction. An additional 10% will be deducted for each period of 24-hours in delaying to submit the assignment. Lab write-ups that are submitted without the instructor’s signature will not be accepted, and will receive a 0% grade. Assignments will not be accepted one week (7 days) after the original due date has passed. Waiver for submitting individual late assignments may be granted with a minimum of 24-hour prior authorization from the instructor. *Refer to the RCET 3376 Laboratory Manual for more information regarding Laboratory Notebook requirements, Workmanship rubric, and other lab rules.*

This schedule and the specific Laboratory experiments may be modified due to varying program activities, and to provide the students with knowledge of materials appropriate for technicians entering the workforce.

*Material from prerequisite courses and will be investigated throughout this course. Students are required to demonstrate adequate knowledge, and the ability to apply this information to the topics covered in the class. It is the student’s responsibility to be prepared with the information covered in prerequisite courses. Each unit test may contain random information from prerequisite courses to verify the student’s fundamental electronics knowledge.*

*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*](https://www.isu.edu/disabilityservices/)*, or by contacting Disabilities Services at:*

Disability Services - Main Office Phone: 208-282-3599

Rendezvous Complex, Room 125 Fax: 208-282-4617

921 South 8th Avenue, Stop 8121 VP for ASL: 208-417-0620

Pocatello, ID 83209-8121 Email: disabilityservices@health.isu.edu