

Course Syllabus

Department: Science & Technologies

Date: 2013.11.29

I. Course Prefix and Number: TECH 259

Course Name: Special Projects

Credit Hours and Contact Hours: 6 Credit Hours (6 Contact Hours)

Catalog Description including pre- and co-requisites: *supporting data required for grade prerequisite of 'C' or higher.* Student will complete special projects under direction of instructor with the goal of demonstrating integration of knowledge and skills related to instrumentation and control technologies curriculum. An alternative for those students who are unable to undertake or complete TECH 250 Technology Co-op. Prerequisite: TECH 232 and Instructor's approval.

Relationship to Academic Programs and Curriculum including SUNY Gen Ed designation if applicable:

The course is an alternative to TECH 250 Technology Co-op for the students in the Instrumentation and Control Technologies curriculum. May be taken by other students as an elective with the instructor's approval.

II. Course Student Learning Outcomes: *State the student learning outcome(s) for the course (e.g. Student will be able to identify...)*

At the conclusion of the course student will:

- Keep log of troubleshooting equipment/process and document attention to safety considerations
- Investigate, plan and project integration under guidance of the instructor using parts or all of microcontroller, programmable logic controller, automation control, mechatronics, and machine vision.
- Assess and articulate business case for technical solutions for the project.

College Learning Outcomes Addressed by the Course: *(check each College Learning Outcome addressed by the Student Learning Outcomes)*

- | | |
|---------------------------------------------------------|-----------------------------------------------------------|
| <input checked="" type="checkbox"/> writing | <input type="checkbox"/> computer literacy |
| <input checked="" type="checkbox"/> oral communications | <input checked="" type="checkbox"/> ethics/values |
| <input type="checkbox"/> reading | <input checked="" type="checkbox"/> citizenship |
| <input type="checkbox"/> mathematics | <input type="checkbox"/> global concerns |
| <input checked="" type="checkbox"/> critical thinking | <input checked="" type="checkbox"/> information resources |

III. Assessment Measures (Summarize how the college and student learning outcomes will be assessed): *For each identified outcome checked, please provide the specific assessment measure.*

List identified College Learning Outcomes(s)	Specific assessment measure(s)
Ethics/Values, Citizenship	Of the seven learning journals, at least one journal will address ethics/values for technology professional; and at least on journal will address the relevance of the project work in the context of socioeconomics.
Writing, Information Resources	The student will complete a written report based on instructor's feedback on the drafts of the report.
Oral Communication	The student will prepare oral presentation and improve it through at least one trial and feedback cycle.

IV. Instructional Materials and Methods

Types of Course Materials:

Project dependent. (Such as the texts used in other courses required for the AAS Instrumentation and Control Technologies.)

Methods of Instruction (e.g. Lecture, Lab, Seminar ...):

Project dependent combination of mini-lectures, case-studies, consultations, and visits to industries.

V. General Outline of Topics Covered:

Consultation sessions with faculty about initial scope and goals of the projects

Journals on progress made including record of problem solving and troubleshooting

Mid-term evaluation and changes to scope and goals of the projects

Project report and oral presentation.