

**San José State University**  
**Aviation and Technology Department**

**Tech 199A Special Topics: Careers in Industrial Technology, Fall 2018**

**Course and Contact Information**

|                        |                     |
|------------------------|---------------------|
| <b>Instructor</b>      | Dr. Fred Barez      |
| <b>Office Location</b> | IS 107              |
| <b>Telephone</b>       | 408-924-4298        |
| <b>Email</b>           | fred.barez@sjsu.edu |
| <b>Office Hours</b>    | Th 2:30 to 3 pm     |
| <b>Class Days/Time</b> | Th/ 3:00 to 5:45 pm |
| <b>Classroom</b>       | IS 133              |
| <b>Prerequisites</b>   | None                |

**Course Format**

The course relies on materials and presentations in class and students are strongly encouraged to attend.

**Course Description**

Introduction to the fundamentals of being a successful college student on the path to a profession in Industrial Technology. This hands-on project oriented course will engage students in a variety of applications such as manufacturing systems, robotics, plant operation, materials and handling, computer network systems, IoT, and internet hardware. Guest speakers and tours of related industries.

**Course Learning Outcomes**

Upon successful completion of this course, students will be able to:

1. Identify the potential career opportunities for an Industrial Technology professional
2. Apply modern tools such as CAD and spread sheet to design and analyze requirements
3. Demonstrate the use of simple production equipment for fabrication and quality measurement
4. Articulate self-confidence through oral and written communication
5. Work as a team to design and fabricate a physical product

**Required Text/Readings**

**Textbook**

Introduction to Industrial Technology: Research and Development for Technological Progress, Akira Okada

**Course Requirements and Assignments**

Homework will be assigned weekly as a set and is due on the Thursday of each week following the week assigned.

### **Final Examination or Evaluation**

The final exam will be comprehensive, covering all material presented in class. There will be no make-ups for missed exams, except for medical or other reasons outside the student's control, and such must be documented with a written notice.

### **Grading Information**

Course grade will be based on homework assignments, exams.

|                         |     |
|-------------------------|-----|
| Homework                | 30% |
| Guest Speaker Summaries | 20% |
| Industry Tour Summaries | 20% |
| Term Projects           | 30% |

### **Determination of Grades**

There will be no curving of grades. Final grades will be assigned as follows:

|          |          |          |
|----------|----------|----------|
| A >94    | A- 90-93 |          |
| B+ 85-89 | B 80-84  | B- 76-79 |
| C+ 72-75 | C 69-71  | C- 65-68 |
| D+ 62-64 | D 59-61  | D- 56-58 |
| F <55    |          |          |

### **Examinations**

Two 75-minute exams and one 2-1/4 hour final examination.

### **Class Protocol**

Class participation and attendance are strongly encouraged. Use of cell-phones is not allowed. Laptop computers and tablet are allowed for taking lecture notes on the front row only.

### **University Policies**

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>

## **Tech 199A Special Topics: Careers in Industrial Technology Fall 2018 Course Schedule/Outline**

| <b>Week#</b> | <b>Lecture/Activity Topic(s)</b>                 |
|--------------|--|
| <b>1.</b>    | Industrial Technology Overview                   |
| <b>2.</b>    | Career Opportunities in Industrial Technology    |
| <b>3.</b>    | Speaker: Manufacturing Systems                   |
| <b>4.</b>    | Materials Handling Systems and Plant Operations  |
| <b>5.</b>    | Product Quality Assurance and Lean Manufacturing |
| <b>6.</b>    | Industry Tour: Jabil Circuits                    |
| <b>7.</b>    | Robotics in Manufacturing Operations             |
| <b>8.</b>    | Industry Tour: Bloom Energy                      |
| <b>9.</b>    | Speaker: Lean Manufacturing                      |
| <b>10.</b>   | Computer Network Systems in industry             |
| <b>11.</b>   | Speaker: Network Professionals                   |
| 12.          | Network Systems Hardware                         |
| 13.          | Industry Tour: Cisco Systems                     |
| 14.          | Internet of Things: An Overview                  |
| 15.          | Project Presentation                             |

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