

# Technology Leadership (TELR)

## Courses

### TELR 1990. Elective. (1-4 Hours)

Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

### TELR 2990. Elective. (1-4 Hours)

Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

### TELR 3990. Elective. (1-4 Hours)

Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

### TELR 4990. Elective. (1-4 Hours)

Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

### TELR 5121. Technology Leadership 1. (2 Hours)

Covers elements of technology practices such as technology engineering (system design and engineering, integration, and documentation); technology leadership (team building, communication, leadership styles, ethical behavior, and conflict resolution); market assessment (economics, business plans, intellectual property, risk assessment, and mitigation); and technology excellence (quality, reliability, serviceability, manufacturability, procurement, and problem solving). Requires work/training with a sponsoring organization or employer to improve a process or develop a project that is of significant value to the organization and demonstrates a quantifiable market impact while enhancing the student's technological depth and fostering the student's leadership development.

### TELR 5122. Technology Leadership 2. (2 Hours)

Continues the examination of technology practices begun in TELR 5121. Requires work/training with a sponsoring organization or employer to improve a process or develop a project that is of significant value to the organization and demonstrates a quantifiable market impact while enhancing the student's technological depth and fostering the student's leadership development.

**Prerequisite(s):** TELR 5121 with a minimum grade of B

### TELR 5131. Scientific Foundations of Technology 1. (2 Hours)

Presents a review of the fundamental science underlying technology disciplines. Develops a conceptual framework to understand interdisciplinary engineering practice and to make informed, back-of-the-envelope, quantitative estimates. Provides a review of topics such as principles of mechanics and mechanics of materials, wave physics, quantum physics, statistical and thermal physics, fluid physics, Maxwell's equations and constitutive relations, and topics in chemistry and biology.

### TELR 5132. Scientific Foundations of Technology 2. (2 Hours)

Continues the examination of fundamental science begun in TELR 5131.

**Prerequisite(s):** TELR 5131 with a minimum grade of B

### TELR 6962. Elective. (1-4 Hours)

Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

### TELR 7440. Technology Leadership Challenge Project 1. (4 Hours)

Offers students an opportunity to develop and present a plan for the demonstration of a marketable technology product or prototype. This course is the first half of a thesis-scale project in technology commercialization. Requires work/training with a sponsoring organization or employer to improve a process or develop a project that is of significant value to the organization and demonstrates a quantifiable market impact while enhancing the student's technological depth and fostering the student's leadership development.

2 Technology Leadership (TELR)

**TELR 7442. Technology Leadership Challenge Project 2. (4 Hours)**

Continues TELR 7440, a thesis-scale project in technology commercialization. Offers students an opportunity to demonstrate their development of a marketable technology product or prototype and to produce a written documentary report on the project to the satisfaction of an advising committee. Requires work/training with a sponsoring organization or employer to improve a process or develop a project that is of significant value to the organization and demonstrates a quantifiable market impact while enhancing the student's technological depth and fostering the student's leadership development.

**Prerequisite(s):** TELR 7440 with a minimum grade of B