DETAILED COURSE DESCRIPTION
ERE 653 Construction Planning and Scheduling

COURSE DEFINITION:
ERE 653, Construction Planning and Scheduling (Shared Resource with WPE 453)
Course format: 3 hours lecture/discussion and one 3-hour laboratory per week
4 credit hours - Fall semester
Pre- or co-requisite(s): Estimating experience and/or equivalent scheduling experience

SCOPE:
Level of Instruction:
ERE 653 is a graduate level course sharing resources with WPE 453. Students in ERE 653 do additional work for the graduate credit as described below.

Content:
Major Concepts:
1. Understand, define and develop Gantt, Activity on Node, Precedence Diagram, PERT and Linear Schedules.
2. Understand and perform activity identification.
3. Understand and perform duration analysis of activities.
4. Understand and perform schedule updates.
5. Understand and define resource planning and assignment.
6. Understand and define cost planning and scheduling.
7. Understand and develop schedules both manually and via Primavera’s SureTrak Project Manager, a scheduling software program.

ERE 653 is an introductory course of scheduling principles, definitions and practices. This course defines and develops student skills in scheduling through a series of exercises, both in class and through assignments, which introduce and develop skills necessary to create and manage construction schedules. This sequence introduces: Gantt, Activity on Node, Precedence Diagram, PERT and Linear schedules. The exercise sequence provides the student with experience in manual schedule creation and then computerized schedule creation. This course requires students to apply the concepts presented in class concerning planning and scheduling. Presentation skills are of increasing importance in the construction industry and the integration of a final oral presentation allows for students to gain experience in this important area. A paper of 10 or more pages on one of the Planning and Scheduling topics describing how the topic is applied to a specific construction firm or project, including an annotated bibliography of relevant books and papers and an additional schedule developed with SureTrak Project Manager are required.

Relation to curriculum or to other ESF or Syracuse University courses:
ERE 653 provides the introductory concepts of Planning and Scheduling which may be of interest to several ESF disciplines as well as several Syracuse University disciplines. The course is open to all students at ESF and SU subject to permission of the instructor. Prerequisites: Estimating experience or coursework.

OBJECTIVES:
After completing this course the student should be able to:
1. Define and develop Gantt, Activity on Node, Precedence Diagram, PERT and Linear Schedules.
3. Define and perform duration analysis of activities.
4. Define and perform schedule updates.
5. Define and perform resource planning and assignment.
6. Define and perform cost planning and scheduling.
7. Define and develop schedules both manually and via Primavera’s SureTrak Project Manager scheduling software program.
8. Articulate the relevance of the chosen topic with respect to Planning and Scheduling.
9. Articulate the development process and logic chosen to develop the chosen project.

**INSTRUCTIONAL FORMAT AND MATERIALS:**

*Format:* Three hours of lecture/discussion and one three-hour laboratory per week in the spring semester. Reading and other assignments are done outside of class.

*Materials:* Required texts are used and it is suggested the students have access to the World Wide Web.

**INSTITUTIONAL RESOURCES REQUIRED (INSTITUTIONAL IMPACT):**

A classroom with chalk or dry-erase board, overhead projector, computer with DLP device and screen are required. Slides and videotapes are also utilized. Duplication of handouts will be required. Students shall require access to the Construction Management computer facility for approximately 5 hours per week on the average. Software requirements in the Construction Management computer facility include Microsoft Office and SureTrak Project Manager and Primavera Project Planner as a minimum. Enrollment is estimated between 20 to 30 students per offering.

**HEALTH AND SAFETY CONSIDERATIONS:**

Health and Safety Considerations to be Specifically Addressed.

<p>| Conditions or situations present in association with the course? | YES | NO |</p>
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<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
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<td>1. Will substances with any of the following properties be used during instruction: flammability, toxicity, corrosivity, reactivity, registered pesticide, legally controlled, or other characteristics with the potential to cause harm or injury?</td>
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<td>2. Will any physical hazards be present during instruction? (e.g., machines that need safety guards; razor blades or syringes; compressed gases, etc.)</td>
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<td>3. Will any biological hazards be present during instruction? (e.g., handling animals (rabies or hantavirus); cultures or stocks of infectious agents (fungal spores, viruses, bacteria, etc.).)</td>
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<td>4. Will any radiation hazards be present during instruction? (e.g., radioisotopes, X-rays, ultraviolet rays, lasers, etc.)</td>
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<td>5. Will any electrical equipment that, due to its design, location, or method of use, pose any threat to safety during instruction? (Give considerable thought to electrical use outdoors, or any potentially wet location.)</td>
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<td>6. Will there be any personal safety issues related to the class? (e.g., due to time of day or location, at the end of any organized class exercise, will students be in danger of physical assault, etc.).</td>
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<td>7. Will any students be driving official State or research sponsored land or water vehicles during any class or instructional exercise?</td>
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<td>8. Will any type of personal protective equipment be necessary during class exercises? (e.g., hard-hats, eye/face protection, hearing protection, hand/foot protection, lab coat, visibility clothing, etc.)</td>
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*Health and Safety Considerations Narrative:* This is an indoor, lecture class. No hazardous or health and safety issues are anticipated in the classroom.

**CATALOG DESCRIPTION:**
**ERE 653 Construction Planning and Scheduling**
Three hours of lecture/discussion and three hours of laboratory.
The use of Gantt, Activity on Node, Precedence Diagram, PERT and Linear schedules. Identification of activities and duration analyses of these activities. Update schedules, plan and assign resources, plan cost and schedule. Schedule development is performed both manually and with industry accepted software. A term paper describing how the relevant topics of the course fit a specific industry application and an additional project utilizing the software are required. Fall.
Prerequisites: Estimating experience and/or equivalent scheduling experience.
Note: Credit will not be granted for both ERE 653 and WPE 453.

**COURSE HISTORY:**
New course November 2000.