THE UNIVERSITY of WISCONSIN MADISON

COLLEGE OF ENGINEERING
DEPARTMENT OF
ENGINEERING PROFESSIONAL
DEVELOPMENT

CONTINUING EDUCATION AIA
7 LU

ACCEPTED 7 Professional Development Hours NATIONWIDE

Principles and Practices of

Construction Project Scheduling

April 21, 2010
Madison, Wisconsin

A practical course where you will

- **Learn effective scheduling techniques**
- **Understand scheduling and its relationship to construction management**
- **Gain hands-on experience**

Save on Companion Courses

During UW–Madison's Construction Week in Madison, Wisconsin, you can also attend *Comprehensive Practices for Effective Construction Project Management*, Monday and Tuesday, April 19–20, 2010, and *Principles and Practices of Estimating for Construction and Design Professionals*, Thursday and Friday, April 22–23, 2010. Reduced fees are available when you attend multiple courses (please see enrollment form inside).
You may enroll in any two or all three courses from this enrollment form. If you have questions, please call toll free 800-462-0876 and ask for Bruce Kieffer, program director.

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Construction Week in Madison, Wisconsin

Principles and Practices of

Construction Project Scheduling

April 21, 2010
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Learn how to

- **Determine cost-effective and efficient construction work sequences**
- **Apply estimating productivity information to project scheduling**
- **Distinguish critical activities from those with "float" and their utilization**
- **Implement computer-based scheduling**

Principles and Practices of Construction Project Scheduling

April 21, 2010 in Madison, Wisconsin

Understand the Importance of Scheduling

This practical one-day course is your opportunity to learn scheduling methods used for today's construction projects. The knowledge you'll gain is essential to the fulfillment of your scheduling responsibilities.

Modern building and construction projects are complex undertakings. The coordination and assembly of all the necessary elements at a site at the right time are difficult to achieve at a profit, without proper up-front planning and use of scheduling techniques.

Implementation of a scheduling system is also essential to the management of a construction project and has become critically important for documenting actual project performance and its legal implications. As a course participant you will learn about effective tools available to assist you in this task.

Valuable Take-home Materials

You will receive an extensive set of notes that supplement your instructors' presentations. These have been developed to minimize the need for note taking, thus freeing you to concentrate on the material being explained or the exercise being presented.

For Related Course Descriptions

http://epd.engr.wisc.edu/bldgconstruction

Increase Your Skills and Knowledge

This course emphasizes practices being used today in construction project scheduling, particularly network scheduling techniques that are now required elements of many construction contracts. You will focus on the acquisition of basic skills and knowledge as you learn how to

- Create a work breakdown structure (WBS) for construction activities
- Link project activities into a logical construction sequence
- Estimate activity durations and costs
- Identify critical project activities
- Use schedules to balance resource utilization
- Integrate a project schedule with budget and cost control
- Communicate the construction schedule to staff and subcontractors
- Monitor, update and document project progress and costs
- Incorporate changes into existing project schedules

Gain Hands-on Experience

In addition to information-focused presentations, this course also features hands-on workshops where you can apply your newly acquired skills to practical work exercises and receive feedback on your learning. We invite you to bring along your own problems or solutions for review by the instructors and the other attendees.

An extended interactive presentation on the use of computer tools applied to scheduling will demonstrate how to establish activity and project duration, calendars and working times, and more!

Throughout the course we will encourage participants to share their experiences and perspectives.

Who Should Attend

This course focuses on the introductory knowledge and basic skills necessary for successful scheduling of construction projects. It will thus benefit staff members assigned scheduling responsibilities. For managers, it also offers a perspective on the scheduling process and its integration with other project responsibilities. To benefit the most, you should be familiar with basic mathematics and have an understanding of the building construction process.

Your Instructors

Ginelle Gilson PSP is a senior scheduler/planner for Boldt Construction in Appleton, Wisconsin.

Ms. Gilson provides scheduling leadership to Boldt as they empower managers, engineers and superintendents to create, maintain and enforce complicated CPM schedules on projects totaling $300 million per year.

Boldt features a collaborative and interactive planning style that has been well received by project participants including owners, designers, subcontractors and craft workers.

Jason Krueger is a project manager for Boldt Construction in Appleton, Wisconsin.

Mr. Krueger has been developing and utilizing detailed CPM schedules on successively larger projects over the past 10 years. He has become a champion of planning and scheduling and a mentor to Boldt's ever-increasing team of construction professionals.

Bruce D. Kieffer is an architect and a program director at the University of Wisconsin–Madison. His background includes the development and implementation of project management systems and scheduling of large-scale construction projects as well as conceptual and detailed estimating with design firms.

Principles and Practices of Construction Project Scheduling

April 21, 2010 in Madison, Wisconsin

Course Topics

Overview of Basic Scheduling Concepts
- Scope and Work Breakdown Structure (WBS)
- Identifying the construction activities/tasks

Construction Sequencing and Network Logic Diagrams
- Construction sequence representation
- Precedence diagrams
- PRECEDENCE DIAGRAM–Workshop 1

Construction Activities/Durations
- Activity duration estimating and tools
- "Calendar" considerations; non-productive activities
- ACTIVITY DURATION ESTIMATING–Workshop 2

Project Schedule Computation
- Computation of activity start and finish times
- Determination of the critical path
- Calculation of non-critical schedule "float" time
- SCHEDULE COMPUTATION–Workshop 3

Construction Schedule Graphics and Communications
- Bar charts/Gantt charts
- Precedence diagrams/Network Logic Diagrams (NLD)

Linear Scheduling for Projects Involving Repetitious Work

Construction Scheduling with Computer-Based Tools–Interactive Demonstration Session
- Introduction to scheduling tools
- Entering work activities–how much detail is enough?
- Define logic and sequence
- Activity and project durations
- Calendars and working time
- Critical path analysis

Schedule Resource Loading and Leveling
- Resource loads and usage curves
- Identifying and mitigating peaks in resource usage
- Avoiding crew "starvation"–keeping staff busy
- Use of soft logic ties in lieu of resource loading

Schedule Formatting and Reporting
- Communicating the schedule to your project team
- Highlighting variance from plan: target vs. actual performance
- Electronic distribution of scheduling information
- Summarizing and reporting project schedule performance
- Focusing on changes and delays

Managing Project Progress/Time Management/Periodic Updating
- Updating progress information–how often
- Forecasting time performance
- Schedule acceleration/compression
- Communicating shared responsibility for achieving project scheduling

Final Questions and Answers

Course Schedule

Course registration will be at 8:00 a.m. on Wednesday, April 21, at The Madison Concourse Hotel, One West Dayton Street, Madison, Wisconsin. The course sessions will begin at 8:30 a.m. and adjourn at 5:00 p.m. There will be noon lunch and midmorning and midafternoon refreshment breaks.

Note: Please arrange your travel schedule so that you can attend the full course session (until 5:00 p.m.) on Wednesday.

Earn Continuing Education Credits

By participating in this course, you will earn .7 Continuing Education Units (CEU), 7 AIA Learning Units (LU), and 7 Professional Development Hours (PDH).

UW–Madison Construction Week

Madison, Wisconsin
April 19–23, 2010

Principles and Practices of Construction Project Scheduling is the second of three courses, offered the week of April 19–23, that focus on construction management techniques. It is preceded on Monday and Tuesday, April 19–20, by *Comprehensive Practices for Effective Construction Project Management*, and followed on Thursday and Friday, April 22–23, by *Principles and Practices of Estimating for Construction and Design Professionals*. The courses are offered sequentially in Madison as a convenience and opportunity for persons who may prefer to concentrate their learning by attending several courses during the same week.

Reduced fees are available to those who attend multiple courses. (Please see the enrollment form). Further reductions are available to organizations sending more than one attendee. For more information on the courses and discounts, call toll free 800-462-0876 and ask for the program director, Bruce Kieffer, or call him directly at 608-262-2624.

Four Easy Ways to Enroll

Internet:
http://epd.engr.wisc.edu/webK035

Phone:
800-462-0876 or
608-262-1299 (TDD 265-2370)

Mail to:
Engineering Registration
The Pyle Center, Dept. 108
702 Langdon Street
Madison, Wisconsin 53706

Fax:
800-442-4214 or
608-265-3448

Course Information

Enroll early and save!

Please enroll me in the following course(s) during **Construction Week**

- ❑ **Course #K035 Principles and Practices of Construction Project Scheduling**
  April 21, 2010 in Madison, Wisconsin Fee: $395 if by March 29; $495 after March 29
- ❑ **Course #K034 Comprehensive Practices for Effective Construction Project Management**
  April 19–20, 2010 in Madison, Wisconsin Fee: $695 if by March 29; $795 after March 29
- ❑ **Course #K036 Principles and Practices of Estimating for Construction and Design Professionals**
  April 22–23, 2010 in Madison, Wisconsin Fee: $695 if by March 29; $795 after March 29

I will be attending more than one of the courses listed above and thus qualify for one of the following discounts:

- ❑ One 1-day course and one 2-day course: $895 if by March 29; $1095 after March 29
- ❑ Two 2-day courses: $1195 if by March 29; $1395 after March 29
- ❑ All three courses for the week: $1495 if by March 29; $1795 after March 29

Personal Information (Please print clearly.)

Name _____

Title _____

Company _____

Address _____

City/State/Zip _____

Phone (_____) _____ Fax (_____) _____

E-mail _____

Additional Enrollees

Name _____

Title _____

E-mail _____

Name _____

Title _____

E-mail _____

Billing Information

❑ Bill my company ❑ P.O. or check enclosed (Payable in U.S. funds to UW – Madison)

❑ MasterCard ❑ VISA ❑ American Express

Cardholder's Name _____

Card No. _____ Expires _____

UW# ❑❑❑
From envelope.

❑ Please check the box if you are a person with a disability and desire special accommodations. A customer service representative will contact you. Requests will be kept confidential.

On-site Courses Save Time & Money!

Engineering Professional Development can offer many of our courses face-to-face or online:

- At a location of your choice
- At your convenience
- At reduced per-person cost
- Tailored to your needs

To inquire about courses that we can bring to your site, including optimal group size and costs, call 800-462-0876 and ask for Corporate Education Director Carl Vieth (608-263-7424 direct or vieth@wisc.edu).

Or see http://epd.engr.wisc.edu/onsite

Need to Know More?

Call toll free **800-462-0876** and ask for

Program Director:
Bruce D. Kieffer
608-262-2624
kieffer@epd.engr.wisc.edu

Program Associate:
Debbie Benell
608-263-7428
benell@engr.wisc.edu

Or e-mail **custserv@epd.engr.wisc.edu**

General Information

Fee Covers

Notebook, publications and other course materials, break refreshments, lunch, and certificate.

No-Penalty Cancellation

To cancel your enrollment, you must notify us promptly. Please consider re-enrolling in a future course. You may enroll a substitute at any time before the course starts.

Location

This course will be held at The Madison Concourse Hotel, One West Dayton Street, Madison, Wisconsin. If you must be contacted during the course, messages may be left for you at 608-257-6000.

Accommodations

We have reserved a block of sleeping rooms ($106/single, $116/double, including airport shuttle, pool and exercise room) for course participants at the Madison Concourse Hotel and Governor's Club, One West Dayton Street, Madison, WI. To reserve a room, call 800-356-8293 or 608-257-6000 and indicate that you will be attending this course under group code 68857. Room requests made later than March 27 will be subject to availability. Your enrollment confirmation will include other hotel/motel information.