



# Crate Design & Performance

## AUGUST 27TH - 29TH, 2024

### SHORT COURSE SUMMARY:

The Wooden Crate Design and Performance short course is a 2.5-day, in-person course. It will inform attendees about the principles of wooden crate design. This course will introduce the different crate styles and characteristics commonly used in the US.

Attendees will learn how the selection of wood affects crate performance in the field, how to evaluate the performance, and how to select the appropriate fastener to ensure crate performance. Attendees will be exposed to the principles of wood mechanics and how to use truss and buckling theories to design the components of crates.

Laboratory demonstrations will allow attendees to learn about the different ways how crate performance can be assessed in the laboratory



### WHO SHOULD ATTEND?

The course could be beneficial for professionals that are responsible to specify, design, purchase or evaluate wooden crates.

- Crate designers
- Packaging engineers
- DOD suppliers
- Procurement professionals
- Consultants

### TOPICS COVERED:

- < Effect of wood characteristics on crate design
- Principles of mechanics of wooden structures including truss theory and buckling theory
- Open and sheeted crate styles and characteristics
- Fundamental design principles used to size crate components
- Principles of cost effective crate design
- Fastener characteristics and selection of the right fasteners
- How to design crates for the military



### WANT TO KNOW MORE?

Contact Dr. Laszlo Horvath, Director and Associate Professor  
unitload@vt.edu | 540-231-7107



## CRATE DESIGN & PERFORMANCE

AUGUST 27TH-29TH 2024

### INSTRUCTORS:

#### DR. LASZLO HORVATH

Associate Professor, Virginia Tech  
Director, Center for Packaging and Unit Load Design

In 2010, Dr. Horvath received his Ph.D. in Forest Biomaterials from NC State. He is one of the few packaging professionals who have received the “ISTA CPLP - Professional Level” certification. He is the chair of the ASTM D1185 working group, a U.S. delegate of TC 51, and a voting member of ANSI MH1 and MH 10 committees.



#### DR. DANIEL HINDMAN

Associate Professor, Virginia Tech

Daniel Hindman serves as an associate professor in the Department of Sustainable Biomaterials at Virginia Tech where his research program focuses upon the efficient use of low-carbon, biologically-based materials for construction. Hindman’s research philosophy revolves around three principles related to wood materials: structure, safety, and sustainability. Hindman is a member of several professional organizations including the American Society of Civil Engineers and the National Wood Frame Building Association.



### COST:

This course is being offered only for in-person attendance. All attendees will be expected to participate in 2.5 days of lectures, laboratory exercises, and coursework. Active participation in assignments and discussions will be expected. Breakfast will be served daily along with lunch breaks and multiple snack breaks. Participants will receive a certificate of completion after successfully finishing the course.

#### Public Attendee:

\$1,456.00

#### Active Duty Military or DLA Employee:

\$1,092.00

#### CPULD Member (50% discount):

\$728.00

### TIME:

Tuesday, Aug. 27th, 8:00am - 5:00pm  
Wednesday, Aug. 28th, 8:00am - 5:00pm  
Thursday, Aug. 29th, 8:00am - 12:00pm

### LOCATION:

Brooks Forest Products Center  
Virginia Tech, MC 0503  
1650 Research Center Drive  
Blacksburg, VA 24061

### TO REGISTER:

Visit: [unitload.vt.edu/cdp](http://unitload.vt.edu/cdp)  
Or call: Erich Sawyer at 540-231-4084



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