



Oregon State University
Professional and
Continuing Education

Course Title: Applied Statistics and Data Analysis

Term Offered: On Demand

Instructor name: A. William Boehner

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Instructor phone: 208.867.4867

Instructor bio

Bill Boehner received a B.S. degree from the College of Forestry (in Wood Science and Technology) from the University of Maine in 1967, and an M.S. degree in Pulp and Paper Technology a year later from the same institution. He earned his Ph.D. degree in 1975 at the University of Minnesota, with a major in Wood Science and Technology. Dr. Boehner worked for Weyerhaeuser Company and Trus Joist MacMillan for a combined 31 years. Bill held several positions within these two companies including R&D project leader, technical director at Weyerhaeuser Company's first OSB plant in Grayling, Michigan, and Manager of the Research Center in Boise, Idaho. Bill's career has been dedicated to advancing the knowledge of manufacturing composites products: medium density fiberboard, particleboard, medium density siding, oriented strandboard, and laminated strand lumber. He has also been involved in product development activities.

Bill is currently a courtesy faculty member in the Department of Wood Science & Engineering at Oregon State University.

Course Description

This course introduces students to applied statistics and data analysis with a focus on the practical implications of statistics in the field of wood-based composites. The course will prepare the student to collect and analyze data using basic statistical tools. Students will learn how to compute and interpret basic descriptive statistics such as mean and standard deviation. Students will also learn how to compare means from different samples using t-tests and ANOVA and how to interpret the results of those tests. Understanding how and why to collect data and analyze data is critical for quality control, troubleshooting, and product performance.

Prerequisites

No prerequisites.

Course Sequencing

This course is part of the Wood-Based Composite Science program, which includes the following courses:

Course 1: Wood Structure

Course 2: Wood and Water Relationships

Course 3: Applied Statistics and Data Analysis

Course 4: Wood Adhesion Science and Technology

Course 5: Strand-based Composite Manufacturing

Course 6: Practical Wood Adhesives Technology

Course 7: Structural Plywood and Veneer Based Composite Manufacture

This course is **3rd** in the sequence.

Communication

I expect you to contact me when you begin the course and at any time you have questions. I will reply to course-related questions and email within 24-48 hours.

Continuing Education Units: None



Course Outline

Lecture	Topic	Learning Activities	Assessments
1	Introduction	Can follow example using a spreadsheet	Ungraded quizzes
2	Sampling and sample design	Can use data in lesson and spreadsheet to perform calculations and view changes	Ungraded quizzes
3	Plotting (visualizing your data)	Can follow example using a spreadsheet	Ungraded quizzes
4	Basic Statistics	Download file to follow analysis	Ungraded quizzes
5	Determining normality	Download file to follow analysis	Ungraded quizzes
6	t-tests: comparing two means	Download file to follow analysis	Ungraded quizzes
7	ANOVA: comparing more than two means	Download file to follow analysis	Ungraded quizzes
8	Distributions	Use any of the data sets to create the distribution	Ungraded quizzes

Disabilities, Accessibility, and Accommodations

PACE seeks to accommodate the diverse experiences and learning styles of the students. Accessibility accommodations are collaborative efforts between learners and PACE. If you require accommodations, please email pace@oregonstate.edu.

Expectations for Student Conduct

Student conduct is governed by the university's policies, as explained in the [Student Conduct Code](#). In an academic community, students, faculty, and staff each have responsibility for maintaining an appropriate learning environment, whether online or in the classroom. Learners, instructors, and staff have the responsibility to treat each other with understanding, dignity and respect. Disruption of teaching, administration, research, and other institutional activities is prohibited subject to sanctions under university policies.

Academic Integrity

Students are expected to comply with all regulations pertaining to academic honesty, defined as: An intentional act of deception in which a student seeks to claim credit for the work or effort of another person or uses unauthorized materials or fabricated information in any academic work.

Conduct in this Online Classroom

Students are expected to conduct themselves in the course (e.g., on discussion boards, email postings) in a civil manner. Students will be expected to treat all others with the same respect, as they would want afforded themselves. Disrespectful behavior to others (such as harassing behavior, personal insults, inappropriate language) or disruptive behaviors in the course (such as persistent and unreasonable demands for time and attention both in and out of the classroom) is unacceptable.



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Netiquette

In an online classroom, your primary means of communication is written. The written language has many advantages: more opportunity for reasoned thought, more ability to go in-depth, and more time to think through an issue before posting a comment. However, written communication also has its disadvantages. This includes a lack of the face-to-face signaling that occurs through body language, intonation, pausing, facial expressions and gestures. As a result, please recognize the possibility of miscommunication and compose your comments in a clear, positive, supportive, and constructive manner. Please be sure to be professional by demonstrating tolerance for diverse points of view and give each other the benefit of the doubt about any unclear intended meanings.

Evaluation

Course evaluation results are extremely important and are used to help improve this course and the learning experience of future students.

If you have feedback for improving the course, either during this session or for subsequent sessions, we would like to know. To provide direct feedback, please email pace@oregonstate.edu.

Contact Us

This course is offered through OSU Professional and Continuing Education. Contact us for more information using any of these methods:

Web: pace.oregonstate.edu

Email: pace@oregonstate.edu

Tel: 541.737.4197