

SYLLABUS: MATH & MEASUREMENT FOR WELDERS (WD 4.269)

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WELCOME!

In this class, we're going to learn how to think through welding problems that involve math. My goal is not to just show you how to do things, but help you think them through for yourself.

- First, this makes it so you don't have to memorize a bunch of procedures – you can think them through.
- Second, I hope it will allow you to figure out new situations. I can't teach you all projects you might wind up doing during your welding career; I want you to be confident about doing the math on ANY welding project.

Your welding instructors and I worked hard to make sure this class is directly useful to you in welding program. Everything we'll do in here is designed specifically for the welding program you're in.

Some of you are more experienced than others, and you may already know some of the things we work on in the class. If that's true for you, find some of your fellow students who are having a hard time, and help them. And when we talk as a whole group, help the rest of us learn your thinking processes. For some of you, what we do in this class may be hard for you. Stick with it, work hard, and ask for help (from me, from other students).

Required Materials (these tools will also be used in your other classes)

Get this right away:

Construction Calculator

- The LBCC Campus store has them
- Construction Master Pro or similar app

Get these within the first couple of weeks:

25 ft retractable metal tape measure

- Look carefully at the different types of markings (I'll talk about this in class)

Framing square (not a speed square)

- Get one that measures at least to the 16th of an inch.
- A small square - 12x8 inch - will work for my class, but check with your welding instructors about whether you need a larger one for other classes.

18 inch steel ruler

- Get one that measures at least to the 16th of an inch.
- One WITHOUT the cork backing is probably better.

Grading:

Your grade will be based on the following things, with the majority of your points coming from the in-class projects.

Projects: This is our main focus on in the class. We will do math mostly by working through projects that are relevant to your welding program, including:

- Ladder rung spacing
- Pipe spool takeoff
- Handrail picket spacing
- Ring flange
- Tank layout
- Stairway
- Basic trig functions

Pre-project tests: One thing we may try this term is doing some short tests on the project procedures before each project. Last year, I had people who depended too much on their partners for the projects and got to the end of the term without understanding some of the material.

Professional work habits: Employers want you to be good at welding, but when they ask for a job reference for a student they also ask about these habits: attendance, work ethic, attitude, and working well with fellow students/workers. This will be worth as many points as one of the major in-class projects.

Final exam: This will cover the math from each of the projects that we do in class. If you work hard on the projects and make sure you understand them, the final exam should not be too hard for you. The final exam will be worth as many points as one of the major in-class projects.

Final grades are based on total points.

90% - 100% = **A**

80% - 89% = **B**

70% - 79% = **C**

60% - 69% = **D**

< 60% = **F**

Pass/No Pass is an option for this class. Check with your welding advisor before choosing this option. You may select this option by logging in to Webrunner. Once you've logged in, click the "Student" tab, then "Registration," then "Change Class Options." To receive a Pass, you must earn at least a C grade.

Standards of Conduct

A student at Linn-Benton Community College assumes an obligation to act in a manner compatible with our educational community. In order to maintain a positive learning environment, students at Linn-Benton Community College will adhere to the following standards of conduct.

Students at Linn-Benton Community College will:

- MAINTAIN HONESTY and integrity in all work, communication and interactions;
- TAKE RESPONSIBILITY to learn material, listen and participate appropriately in class activities designed for student learning by the instructor, advocate for personal needs, and know the rules and regulations governing the LBCC community;
- SUPPORT the teaching, learning and working environment by interacting with reasonable respect and civility within Non-Public Forum (all classrooms, student spaces, staff work spaces, and engagement areas) and by following communicated guidelines. In Open Public Forum, support the values of free expression by maintaining conduct within permitted community standards outlined in the Free Expression Time, Place, Manner Rule.
- FOLLOW the lawful direction and regulations of the college, faculty and staff, including but not limited to those posted in special labs, classrooms, parking lots, common areas, and online. Follow program rules of special admit or specific degree programs, as published. Follow city, state, and federal laws. Note: Rules include Board Policies and Administrative Rules and the Electronic Use Policies governing computers, wireless internet, and social media.
- USE COLLEGE EQUIPMENT AND FACILITIES Properly, (per their intended use), including return loaned equipment/materials timely; and
- MAINTAIN SAFE PRACTICES, including provide information and identification when requested by an identified LBCC employee who has proven their identification or employment status via an LBCC badge, uniform, or by verification of another identified employee.

(See [Administrative Rule 7030-01](#))

Center for Accessibility Resources statement

Students who may need accommodations due to documented disabilities, who have medical information which the instructor should know, or who need special arrangements in an emergency should speak with their instructor during the first week of class. If you believe you may need accommodations but are not yet registered with the Center for Accessibility Resources (CFAR), please visit the [CFAR Website](#) for steps on how to apply for services or call 541-917-4789.

LBCC Comprehensive Statement of Nondiscrimination

LBCC prohibits unlawful discrimination based on race, color, religion, ethnicity, use of native language, national origin, sex, sexual orientation, gender, gender identity, marital status, disability, veteran status, age, or any other status protected under applicable federal, state, or local laws. For further information see Board Policy BP1015 in our [Board Policies and Administrative Rules](#). Title II, IX, & Section 504: Scott Rolen, CC-108, 541-917-4425; Lynne Cox, T-107B, 541-917-4806, LBCC, Albany, Oregon. To report: linnbenton-advocate.symlicity.com/public_report

Changes to the Syllabus

I reserve the right to change the contents of this syllabus during the term. You will be given notice of relevant changes in class or through LBCC e-mail.