

SPU27.1x Recommended Laboratory Equipment and Food List

Here we list most of the foods and other equipment that will be used in the labs. Please note that this equipment list is only recommended; you can complete the class without it. If you don't have access to the equipment, then you can find other ways to illustrate the scientific concept we are aiming for with the labs. As examples:

1. The first experiment asks you to weigh a cup of flour. This is simple with a balance. However, if you do not have a balance, you can build one. You are also free to invent another way to make the measurement—please then share it with us on the discussion forum. We would love to learn from you!
2. Sometimes the recipes we recommend will have ingredients that are not easily obtainable in your region. If this happens, please make another recipe that illustrates the scientific theme, and then share it with all of us!
3. If you can't think of a substitute, then just ask on the discussion forum—and we (or other students in the class) will help you find one.

Food Requirements for the semester:

- Eggs
- Milk, Heavy Cream
- Sugar
- Flour
- Clean water
- Ice
- Salt
- Soy Sauce (or water with food coloring)
- Chocolate (dark recommended)
- Butter (can substitute oil)
- Oil
- Vinegar (white wine preferred, a few teaspoons only)
- Tea or coffee
- Various fats, for example olive oil, butter, cocoa butter, coconut oil, walnut oil, etc.

Equipment Requirements for the semester:

- Thermometer (ideal range is standard meat probe range, somewhere from -20 to 220 degrees F)
- Scale (1g resolution or better) – instructions will be provided for home construction of a basic scale for students who are unable to purchase a commercial scale
- Measuring cups and spoons
- 2 medium or large pots, one with a lid
- At least one small bowl

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- Drinking glasses
- 1 ruler
- 1 fork or whisk
- 1 towel
- 6 mugs or ramekins or 1 roll of aluminum foil
- A heat safe, flat-bottomed dish (pyrex, metal, ceramic, etc.)
- 1 cutting board
- 1 knife
- 1 oven mitt or tongs

Equipment list (by lab):

Lab 1

- Oven
- Measuring cups
- 1 cup volume or equivalent measuring cup
- 1 measuring teaspoon
- Thermometer
- Aluminum foil or oven proof dish
- 3 Drinking glasses
- Scale (commercial is highly recommended, but instructions for making your own will be provided)

Lab 2

- Stove or hot plate
- Thermometer
- 4 mugs or drinking glasses
- Measuring cups and spoons

Lab 3

- Thermometer
- Scale
- Aluminum foil
- Heat-safe, flat-bottomed dish

Lab 4

- A flat-bottomed, rigid plate or container
- Ruler
- Knife

Lab 5

- 1 pot and metal bowl OR 1 microwave-safe bowl
- 1 medium bowl
- 1 small bowl
- 1 scale
- 1 fork or whisk
- 1 lidded pot
- 1 towel
- 6 mugs/ramekins OR aluminum foil
- 1 cutting board
- 1 knife
- 1 ruler
- 1 oven mitt or tongs
- 1 thermometer

Final Projects

- It's up to you!