



# **PHYSICS COURSES**

***STUDENT SAFETY PACKET***

2014 - 2015



## PHYSICS

### REQUIREMENTS AND GUIDELINES

*Suffolk County Community College ("the College") requires that students behave in an appropriate and professional manner and comply with the following guidelines on safety at all times. A copy of this form MUST be retained by the student. An additional copy will be retained for the records of the Physics department.*

#### **General Rules**

1. You are not at home. Some practices that are safe at home are not safe in a laboratory setting.
2. **LEARN** the locations of:
  - a. ALL of the **exits**.
  - b. ALL of the **fire extinguishers**.
  - c. The **master switch for electricity** in the laboratory.
3. Smoking is prohibited in laboratories, classrooms, preparation rooms, and storage areas.
4. **DO NOT EAT or DRINK** anything (including, but not limited to water, chewing gum) in the laboratory.
5. **In case of a fire or accident, NOTIFY the instructor or professional assistant AT ONCE.**
6. **TURN OFF** all cell phones, beepers, pagers as they are distraction to you and others.
7. **THINK** about what you are doing. Plan ahead. If you give no thought to what you are doing, you predispose yourself and others to an accident.

#### **Housekeeping**

1. Keep your **work area CLEAN and NEAT** at all times. Materials not required for lab (books, purses, backpacks, etc) must be placed in the location specified by your instructor.
2. DO NOT collect waste at your bench.
3. **Return all your equipment to its original location** at the end of the laboratory session. Please use twist-ties to wind up wires and cables. You must leave all equipment in the same state you found, or better.
4. Before leaving the lab, make certain that all electronic equipment is **turned off** and properly stored.

#### **Protective Equipment**

1. Most experiments in physics at SCCC can be safely performed without gloves or goggles. If required, gloves or goggles will be provided and must be worn.
2. Cover any cuts or scrapes with a sterile, waterproof bandage before attending lab.

#### **Personal Safety**

1. If you have any special medical problems, please inform the laboratory instructor. This information will be kept confidential.
2. **Appropriate clothing MUST be worn in the laboratory.**
  - a. long pants (with no holes, no Capri pants nor shorts will be allowed)
  - b. shoes that completely cover the foot
3. **Confine** long hair, dangling jewelry and loose clothing in the laboratory. Note that hair spray is very flammable.
4. **Never leave lasers, hot plates, power supplies or other electrical equipment unattended.** Always turn these items off when not in use.



5. **Never work alone** in the laboratory.
6. **Report all injuries** to your instructor at once. Except for very superficial injuries, you will be required to get medical treatment for cuts, burns or fume inhalation. Your instructor will arrange for someone to accompany you to the college nurse.

### **Safe Laboratory Practices**

1. **Carefully read the experiment** before coming to the laboratory. An unprepared student is a hazard to everyone in the room.
2. **Follow the instructions carefully.** This includes using only the quantities instructed, no more. Consult your instructor if you have any doubts about the instructions in the laboratory manual. Perform no unauthorized experiments.
3. **DO NOT leave any laboratory operation unattended.**
4. **Electricity:**
  - a. Use properly **grounded** (3 prong – one constant ground) service outlets.
  - b. **Remove** all conductive or metallic jewelry before working with electricity.
  - c. **Prevent trip and fall hazards** by placing wires away from places where people walk.
  - d. Never plug damaged electrical equipment into a wall receptacle. This includes frayed wires, missing ground pin and bend plugs.
  - e. Never use water or have wet hands when dealing with cords, plugs or electrical equipment. Never run a cord near or over a sink. **Do not allow any liquid to come into contact with electrical cords.**
  - f. When unplugging cords, always pull cords from the plug at the electrical receptacle and never pull cords from the wire.
  - g. Do not attempt to disconnect electrical equipment that crackles, snaps, or smokes. If that ever happens, **turn off power at the master switch for electricity** in the laboratory.
  - h. Circuits:
    - i. Never touch electric circuit components when the power is on. **Only insulated tools** should be used to make checks.
    - ii. Ensure that all electrical equipment is **turned off** and unplugged **before adjusting any wiring.**
    - iii. Utility pipes such as water and gas are grounded. Do not touch an electrical circuit and utility pipes at the same time.
    - iv. **Never overload circuits** as they will overheat and cause power outages or fires.
    - v. When using an electrical current, you should **use only one hand at a time** to avoid bringing both hands in contact with live sections of the circuit.
  - i. Batteries:
    - i. When using batteries, always **inspect** them first for cracks, leaking, etc. Discard in an environmentally appropriate way if any of these conditions occur.
    - ii. **Never open a battery**, as the contents are corrosive and can be toxic or poisonous.
    - iii. When storing batteries, **never allow** the terminals to touch or **short circuit.**
5. **Mechanics:**
  - a. Always **use caution** when dealing with projectiles, falling objects, moving equipment, exposed belts, powerful permanent magnets, and springs.
  - b. In spinning apparatuses, make sure any weight is securely fastened before it is set in motion.
6. **Heat:**
  - a. Closed containers should never be heated.
  - b. When using hot plates in calorimetry experiments, note that there may be no visible sign that they are hot (such as a red glow). The small light means that the hot plate is on, it does not indicate temperature. **Always assume that hot plates are hot.**



## **Equipment**

### **1. Electrostatic Generators (Van de Graaff)**

- a. The generator should only be operated by and under the direction of the instructor.
- b. Electronic circuit or devices such as cell phones, computers and cameras can be permanently damaged by the machine's sparks. Keep them at least 3 feet (1 meter) away.
- c. Never operate the generator near flammable or combustible material.
- d. Never leave the machine operating unattended.

### **2. Hot Plate**

- a. DO NOT use the maximum settings. NEVER touch the heating surface, it may be very hot.
- b. If you turn the hot plate on, make sure that it gets turned off and unplugged.

### **3. Lasers**

- a. Set up laser so that the beam is not at normal eye level.
- b. Do not at any time look into the direct or reflected beam of a laser.
- c. Do not aim laser with the eye, as direct reflection can cause eye damage.

## **General Laboratory Procedures and Practices**

1. Equipment cannot be removed from laboratory for any reason without prior permission from the faculty in charge.
2. The laboratory is only for use of the students authorized to work there. Guests will not be entertained.
3. When the fire alarm sounds, you must evacuate the building via the nearest exit. Turn off any hazardous equipment, as appropriate, before leaving.

**\*\*\*WE MUST ALL ADHERE TO THE LABORATORY SAFETY RULES IN ORDER TO PROVIDE A SAFE WORKING AND LEARNING ENVIRONMENT\*\*\***



**PHYSICS**  
**ACKNOWLEDGEMENT OF STUDENT RESPONSIBILITIES**  
STUDENT COPY

*I have carefully read and reviewed the foregoing form and hereby affirm that, should any of the preceding be unclear or beyond my understanding, I have sought clarification and/or additional information from appropriate Physics faculty. By signing below, I hereby affirm that I have received and reviewed a copy of the Student Safety Packet, and I acknowledge my understanding and acceptance of all instructions and indications contained in that document and do commit myself to full compliance thereof.*

X \_\_\_\_\_  
*Name of Student {Print}* *Date*

X \_\_\_\_\_  
*Signature of Student* *Date*

X \_\_\_\_\_  
*Signature of Instructor* *Date*



## ASSUMPTION OF RISK & RELEASE FORM

THIS IS A RELEASE OF LEGAL RIGHTS - READ AND UNDERSTAND BEFORE SIGNING

Student Name: \_\_\_\_\_

Date: \_\_\_\_\_

Parent/ Legal Guardian Name: \_\_\_\_\_  
(If Participant is under 18 years old)

Date of Birth: \_\_\_\_\_  
(If Participant is under 18 years old)

If student is under 18 years of age, a parent or legal guardian must also read and sign this form

Program: **“PHYSICS”**

I hereby agree as follows:

- Risks of Participation.** I understand and accept that participation in the above program (the “Program”) offered through Suffolk County Community College (the “College”) involves certain inherent risks. These include, but are not limited to: illnesses, injuries, and deaths that may occur resultant from, while participating in, or related to the Program; any losses or claims that occur resultant from, while participating in, or related to the performance of activities, duties or undertakings related to the Program; and/or other matters that may or may not be able to be anticipated. I acknowledge that I have received, and fully reviewed, the *Student Safety Packet*, and I hereby affirm that I have made my own investigation into, and am willing to accept, these risks.
- Assumption of Risk & Release of Claims.** Knowing, understanding and accepting all the risks described above, and in consideration of being permitted to participate in the Program, I agree, on behalf of myself, my heir(s), my executor(s), assignee(s) and personal representative(s), to assume all risks and responsibilities surrounding my participation in the Program. To the maximum extent permitted by law, I release and indemnify the College and the County of Suffolk, its officers, employees and agents, from and against any present or future claim, loss or liability for injury to person or property which I may suffer, or for which I may be liable to any other person, during my participation in the Program.

**I have carefully read this Release Form before signing it. No representations, statements, or inducements, oral or written, apart from the foregoing written statement, have been made.** By signing below I acknowledge this agreement shall become effective only upon execution and shall be governed by the laws of the State of New York, which shall be the forum for any lawsuits filed under or incident to this agreement or to the Program.

X \_\_\_\_\_  
*Signature of Student (Parent / Legal Guardian – check below)*

\_\_\_\_\_  
*Date*

I (A) am the parent/legal guardian of the above Student, (B) have read the foregoing Release Form, (C) am and will be legally responsible to the obligations and acts of the Student as described in this Release Form, and (D) agree, for myself and for the Student, to be bound by all of its terms.