A. Purpose

Training is a cornerstone of any successful health and safety program and is fundamental to Columbia University’s commitment to promoting and maintaining a safe workplace. Many activities that take place in the course of research, academia and/or clinical care require instruction on how these activities can be conducted safely and with minimal exposure to workplace hazards. This policy outlines Columbia University’s position on safety training and employee participation in safety training programs.

B. Applicability/scope

All personnel engaging in potentially hazardous operations in a Columbia University laboratory or laboratory support area are obligated to participate in the University’s safety training program. This obligation may be established by a regulatory agency, University policy, departmental requirement, condition of a granting organization or other entity, or a combination of these. It is also the policy of the University that all laboratory support staff, volunteers, and visitors who perform work at or for the University, receive the appropriate training necessary to protect their health and to perform their work in a safe and environmentally sound manner.

It is important to know, many other departments and programs at Columbia University require specific training outside of those required and offered by Environmental Health & Safety (EH&S). Please speak to your Principal Investigator (PI), supervisor, or departmental administrator for detailed information on additional training(s).

C. Responsibilities

1. Principal Investigators

   a) Attend all applicable University Safety Training programs in accordance with this policy.
   b) Ensure laboratory and support staff have received applicable training in accordance with this policy.
   c) Outline EH&S training requirements for new staff members based on their job descriptions and assigned tasks.
   d) Outline additional EH&S training requirements for current staff when roles change or when new laboratory procedures are adopted.
   e) Develop and provide task- and job-specific training for new staff members and current staff when job tasks/roles or laboratory procedures change.
EH&S encourages laboratories to maintain written documentation of such training. EH&S has developed a Standard Operating Procedure (SOP) template, which can be used as a training and documentation tool.

2. New Employees:

   a) Attend New Hire Orientation/Welcome Program.
   b) Discuss training requirements with PI or senior lab staff member.
   c) Attend and complete initial training at the time of hire or before involvement in laboratory activities based on one’s job description and assigned tasks. Please note initial trainings, for many safety courses, must be completed by attending a live training session. Please review to the EH&S Training Matrix for further guidance.

   Note: New employees can work in a laboratory or laboratory support area only under the direct supervision of trained personnel, until all pertinent safety and task/job specific training has been completed.

3. Current Employees and Students:

   a) Maintain required safety training through attendance at live classroom sessions, where applicable, or online training via RASCAL in accordance with the EH&S Training Matrix.
   b) Participate in task- and job-specific training when tasks or roles change and/or new procedures are introduced into the laboratory.

4. Environmental Health & Safety (EH&S)

   a) Determine safety training requirements by evaluating regulatory mandates, Columbia University policies, grant requirements, and best safety practices.
   b) Develop safety training courses based on regulatory requirements, Columbia University policies, grant requirements, and best safety practices.
   c) Offer safety training on a schedule that fits the needs of faculty, staff and students, and the University community.
   d) Evaluate the training requirements and history of all laboratory staff during the survey and auditing processes.
   e) Re-evaluate and enhance the training program regularly in order to keep pace with regulatory changes and safety enhancements.
   f) Maintain safety training records in accordance with regulatory requirements.
D. Definitions

1. **Blood borne Pathogens (BBP)** - Pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).

2. **Existing Employee** – For purposes of this policy one is considered an existing employee after 30 days of employment.

3. **New Employee** – For purposes of this policy one is considered a new employee until the 30th day of employment or the 30th day in a new position or role at Columbia University.

4. **RASCAL-Based Training** – RASCAL is a web-based application developed by Columbia University Information Technology (CUIT) to simplify the University's research compliance and research administration processes. It is designed to help researchers and administrators manage ongoing research projects and related compliance activities and to provide training. [https://www.rascal.columbia.edu/](https://www.rascal.columbia.edu/). A number of EH&S safety training modules are offered via rascal.

5. **Standard Operating Procedure (SOP)** - A Standard Operating Procedure is a written document that provides clear instructions on how a laboratory will handle a hazardous chemical or equipment and conduct a process safely. The information in a SOP includes, but is not limited to, the amounts and concentrations of a chemical used, how the working solution is obtained or created, and special handling procedures, engineering controls, and personal protective equipment.

6. **Student** – Individuals enrolled in any undergraduate or graduate program. For the purposes of this policy.

7. **Support Staff** – Employees, such as glass washers, custodial staff, and administrative staff etc., who work in or around a laboratory or laboratory support area, or are responsible for the oversight of laboratory research activities.

8. **Task/Job-Specific Training** - Additional safety training that is specific to operations, tasks, and the facility where an individual works. Training is designed to teach employees the specifics of a job function or operation and is a complement to general laboratory safety training. This level of training is provided by the PI, Lab Manager or senior laboratory staff member.
9. **Training Matrix** – A guide developed and maintained by EH&S designed to assist the research and academic community in determining which safety courses are required based on one’s job function(s), and the requirements for maintaining compliance.

10. **Volunteers and Visitors** – Include, but are not limited to, high school students, visiting undergraduates, post-baccalaureates, and other observers (who observe, but do not practice, research or clinical techniques or processes) or trainees (who receive training in research or clinical techniques or processes, including practice with appropriate supervision). Please see the EVPR’s Policy on Short-Term Visitors for more information.

**E. Procedures**

1. **EH&S**

   EH&S provides a wide range of safety training programs, presented in multiple formats and media. EH&S’ training program is dynamic, highlighting newly identified hazards, mitigation strategies and regulatory requirements.

   The Columbia University safety training program is implemented through a three-tier system consisting of general, hazard-specific, and task-specific training. General information regarding occupational hazards is presented in Tier 1 training, which is presented by EH&S. Tier 1 training focuses on information about the epidemiology, regulatory requirements, institutional policies and control measures for occupational hazards. Where applicable, this training is then enhanced by hazard-specific training, Tier 2, also presented by EH&S. Tier 3 is categorized as task/job-specific training provided to employees by the PI or a senior member of the laboratory staff.

**Tier 1**

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Rascal Course Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory Safety, Chemical Hygiene and Hazardous Waste</td>
<td>TC0950</td>
</tr>
<tr>
<td>Management &amp; Fire Safety Training</td>
<td></td>
</tr>
</tbody>
</table>
Tier 2 (Includes but is not limited to the following)

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Rascal Course Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological Safety &amp; Blood-borne Pathogens Training</td>
<td>TC0509</td>
</tr>
<tr>
<td>Formaldehyde &amp; Xylene Safety Training</td>
<td>TC0016</td>
</tr>
<tr>
<td>Radiation Safety Training</td>
<td>TC1750</td>
</tr>
<tr>
<td>Laser Safety Training</td>
<td>TC1600</td>
</tr>
<tr>
<td>Recombinant DNA Training</td>
<td>TC0508</td>
</tr>
<tr>
<td>Viral Vector Research – Handling and Biosafety</td>
<td>TC1150</td>
</tr>
<tr>
<td>Hydrofluoric Acid Training</td>
<td>TC1650</td>
</tr>
<tr>
<td>Cyanide Safety Training</td>
<td>TC0085</td>
</tr>
<tr>
<td>Pyrophoric Materials Training</td>
<td>TC1850</td>
</tr>
<tr>
<td>Shop Safety Training</td>
<td>TC0600</td>
</tr>
<tr>
<td>Shipping Biological (infectious and potentially infectious) Materials, Genetically Modified Microorganisms (GMMOs) and Exempt Specimens Training etc.</td>
<td>TC0507</td>
</tr>
<tr>
<td>Shipping with Dry Ice, Exempt Specimens and Excepted Quantities of Dangerous Goods</td>
<td>TC0076</td>
</tr>
<tr>
<td>Controlled Substances Use and Management in Research</td>
<td>TC0502</td>
</tr>
</tbody>
</table>

Tier 3 (Examples include, but are not limited to the following)

<table>
<thead>
<tr>
<th>Laboratory Task/Procedure</th>
<th>Rascal Course Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal Perfusions</td>
<td>N/A</td>
</tr>
<tr>
<td>Pyrophoric Reagent Transfer</td>
<td>N/A</td>
</tr>
<tr>
<td>Histology Slide Staining</td>
<td>N/A</td>
</tr>
<tr>
<td>HPLC Machine Use</td>
<td>N/A</td>
</tr>
</tbody>
</table>
1. PIs, Employees & Volunteers

PIs, Employees & Volunteers will use the EH&S Training Matrix to help navigate the University’s safety training requirements. Once required safety courses are identified, the monthly training schedule can be used to determine when and where live classroom sessions are held.

Please note, safety training classes do not require registration unless indicated on the Safety Training Schedule; simply sign-in when you arrive at the scheduled training session.

F. Emergency contacts

http://ehs.columbia.edu/Contact.html

G. Medical Surveillance

N/A

H. Recordkeeping

1. Live Training

EH&S will maintain general and hazard-specific training records in accordance with all applicable regulatory requirements. Sign-in mechanism will be provided during each live training session. All attendees are required to sign-in to receive credit for a course. All sign-in sheets are maintained by EH&S. Where applicable, attendees will receive credit for a training course in RASCAL.

PIs and departments are required to document and maintain records of task-specific training conducted with laboratory staff.

2. Online Training

Columbia University Information Technology (CUIT) hosts and maintains an online system “RASCAL” which serves as a primary option for refresher safety training, as well as a platform for several training courses that are offered exclusively online.

RASCAL automatically tracks records of all training completed on the system.
I. Appendices

N/A

J. Forms

1. Laboratory Task/Job-Specific Training Log
2. Standard Operating Procedures (SOP) Template

K. References

1. EH&S Training Matrix
2. Training Website http://www.ehs.columbia.edu/Training.html
5. EVPR’s Policy on Short-Term Visitors
   http://evpr.columbia.edu/files/evpr/imce_shared/Guidelines_for_Short-Term_Visitors_0.pdf
6. Standard Operation Procedures (SOP) -
7. OSHA Blood-Borne Pathogens Standard
8. OSHA Laboratory Standard
10. OSHA Formaldehyde Standard
    https://www.osha.gov/SLTC/formaldehyde/

L. Acknowledgements (optional)