



UH IBC APPENDIX H: Minors in Laboratories

(effective 2019)

Purpose and Scope

UH provides educational opportunities to minors under the age of 18 and must ensure a safe environment for the students. Labs under the oversight of the UH IBC often come with risks and dangers that students and parents must understand and acknowledge. Restrictions are placed on minors in the labs.

Lab hazards may include chemicals, radioactive materials, biohazards, physical hazards, and hazardous equipment. Minors who are volunteering shall additionally comply with the UH policy A9.041 Utilization of Volunteer Services at UH. All minors performing work in a lab setting must be at least 16 years of age, officially approved, and part of an official sanctioned program. Official sanctioned programs include faculty sponsored, educational outreach tours, summer student internships, high school students working on science fair projects, volunteers seeking educational research experience.

Employees are not permitted to bring their children into a lab unless their children are participating in an officially sanctioned program or activity and meet requirements of this policy. Written consent of the minor's legal guardian is required as part of the approval process.

Under special circumstances, and only with written approval from the campus Dean, may a person under the age of 16 but over the age of 14, be allowed to work in the lab under the oversight of the UH IBC.

Visiting Minors

Visiting minors participating in a group tour shall have written consent of the responsible teacher and legal guardian, and each minor shall submit a completed UH Liability Release form.

Visiting minors must be under direct supervision of a UH adult employee who is trained and knowledgeable of all the area's hazards. A visiting minor may be present in a lab solely as an observer, unless the person has met high school or minor laboratory worker requirements as specified in this policy.

During lab visits or tours, activities with potential to expose students to hazards shall be suspended.

Prior to allowing minors to tour or observe in a lab, the supervising employee must conduct a basic safety orientation, including general safety information, hazards specific to the lab, and basic emergency response and evacuation.

Visiting minors will not be permitted into any animal facility, except with the specific written permission of the lab or animal facility director/designee.

High School or Minor Lab Workers

Before a high school student or minor may perform work in a lab overseen by the UH IBC:

The student must be sponsored by a UH faculty member. The sponsoring UH faculty member must complete the High School Student of Minor Lab Worker Agreement and Consent Form, describing the work the student will perform and obtaining signatures from the Principal Investigator, Department Chair or Lab Director, and the direct supervisor of the student. The completed form is kept on file with the PI and the Dean of the College/Unit. A separate form is required for each officially, sponsored program a minor participates in.

The student and his/her legal guardian must review and sign the UH Liability Release form, also kept on file with the PI and the Dean.

The completed forms should be submitted at least 2 weeks prior to the start date.

The high school student or minor completes a Lab Personnel/Student Safety Checklist with the direct supervisor before initial assignment to the lab. A copy of the completed checklist is kept on file with the PI.

The high school student or minor receives specific training specific to the tasks and areas that the student will be working in, provided by the direct supervisor. The training shall be documented and filed with the PI.

The student or minor complete the following trainings, at minimum:

- Initial Lab Safety Training (site specific)
- Initial Biosafety Training
- Initial Blood borne Pathogen and Sharps Hazard Prevention Training
- Hazardous Waste Generator Training (site specific)

The high school student or minor must be under direct supervision in the lab at all times and trained by a knowledgeable, UH, adult employee. Direct supervision generally means being physically present, or within an immediate distance, and available to respond to the needs of someone immediately.

Minors are restricted from working with specific materials and from working in specific areas. For example, minors may not work with/in:

- Labs designated Biosafety level 3 or higher
- Labs designated Biosafety level 2 with Biosafety level 3 practices
- Non-human primates
- Select Agents
- Human and non-human primate blood, body fluids, or tissues
- Human and non-human primate retroviruses

General rules for minors performing work in the UH lab include:

- Never work in the lab environment without direct supervision from the PU/Mentor or designated supervisor.
- Never work alone handling potentially dangerous materials/ performing hazardous operations.
- Complete all safety trainings

- Always follow and obey rules
- Always use the personal protective equipment (PPE) as trained and dispose of it appropriately (i.e.: eye/face protection, gloves, coats/gowns, closed toe shoes)
- Always keep your hands away from your face and wash them well with soap and water after removing PPE and after exiting the lab.
- Do not touch your cell phone or other personal items with your gloves on.
- Never eat, drink, chew gum, apply lip balm or touch contact lenses while in the lab.
- Do not store food/drink items in the lab.
- Always wear closed toe shoes in the lab.
- Always tie back long hair.
- Always wear clothing that reduces the amount of exposed skin.
- Always report incidents (regardless of severity) immediately to the PI or supervisor.
- If an exposure occurs, wash immediately as trained and then report the incident. Always ask questions if you do not understand the safety requirements.

Responsibilities

All UH employees have a continuing responsibility to ensure that a safe work environment exists for themselves, their co-workers, visitors and their guests.

Any employee who brings a minor to the lab must have necessary approvals as presented in this policy.

When notified that a minor will be in an area that a PI is responsible for, the PI shall conduct a risk assessment to determine if it is appropriate for the minor to enter. The PI shall inform the Lab Director or Chair of the assessment and if any safety concerns exist. PIs are responsible to ensure that employees who bring minors to the workplace are aware of the requirements of this policy and that proper approvals have been received.

PIs are responsible for adding any minors to IBC and/or IACUC protocols, as appropriate, and the minor's status must be disclosed.

Lab Directors and Department Chairs are responsible for determining if an area is safe for a minor to enter. He/She must provide written approval to the employee(s) requesting admittance of a minor to the lab or otherwise hazardous area. If the Lab Director/Department Chair has any safety concerns, the/she should contact the IBC.

**MINOR & HIGH SCHOOL STUDENT LABORATORY WORKER
AGREEMENT AND CONSENT FORM**

- *This completed form should be turned in to the Department Chair or Laboratory Director at least two weeks prior to the start date or as soon as possible.*
- *A copy of the completed form will be kept on file with the Principal Investigator, HR, and the student.*

Name of the University of Hawaii Sponsored Program: _____

Principal Investigator _____

Email & Phone Number: _____

Faculty or Staff providing direct supervision: _____

Email & Phone Number: _____

Department/Unit: _____

Lab Location: _____

Name of the High School Student and/or Minor: _____

Birth Year: _____ : Start Date: _____ End Date: _____

The student or minor is a:

Student Intern Volunteer Other (specify): _____

Project title and description of role of minor (attach a separate sheet if necessary):

Description of work activities, including materials and equipment that will be used (attach a separate sheet if necessary):

**This form is not applicable to UH students registered for a course*

Chemicals – Check all categories to be used.

Category	
Flammable	<input type="checkbox"/>
Reactive	<input type="checkbox"/>
Carcinogenic	<input type="checkbox"/>
Toxic	<input type="checkbox"/>
Corrosive	<input type="checkbox"/>
Oxidizer	<input type="checkbox"/>
Cryogenic	<input type="checkbox"/>
Pharmaceuticals	<input type="checkbox"/>
Gases	<input type="checkbox"/>
Other	<input type="checkbox"/> Specify:

Biological Material – Check all categories to be used.

Category	
Recombinant DNA	<input type="checkbox"/>
Bacteria	<input type="checkbox"/>
Viruses	<input type="checkbox"/>
Fungi	<input type="checkbox"/>
Parasites	<input type="checkbox"/>
Human Source Material	<input type="checkbox"/>
Insects	<input type="checkbox"/>
Plants	<input type="checkbox"/>
Animals	<input type="checkbox"/>

Equipment – Check all equipment or processes to be used or encountered.

Category	
Fume Hood	<input type="checkbox"/>
Biosafety Cabinet	<input type="checkbox"/>
Laminar Clean Bench	<input type="checkbox"/>
Autoclave	<input type="checkbox"/>
Centrifuge	<input type="checkbox"/>
Analytical Instruments	<input type="checkbox"/>
Industrial Equipment	<input type="checkbox"/>
Noise Producing Equipment	<input type="checkbox"/>
Microtome or Other Histology Equipment	<input type="checkbox"/>
Other	<input type="checkbox"/> Specify:

Training Required:

4. Initial Laboratory Safety Training (site specific)
5. Initial Biosafety Training
6. Initial Bloodborne Pathogen Standards and Sharps Hazard Prevention Training
7. Hazardous Waste Generator Training (site specific)
8. Task and Site-Specific Training (provided by the PI and/or Direct Supervisor)
9. Other Trainings (specify):

Potential Hazard Information

Professional Research Laboratories have inherent risks and hazards. When deciding to allow your child to participate in research conducted at a University of Hawaii Laboratory, it is important that you are aware of the potential hazards he or she may encounter. The following information is intended to provide an overview of what may be encountered, but is by no means intended to identify all potential hazards. You are encouraged to discuss any questions or concerns with your child's sponsor.

Your child's research activities may involve one or more of the following potential hazards.

	Definition	Hazards	Examples
Chemicals	<p>Can be in the form of a solid, liquid or gas. These may or may not be hazardous. Some may have numerous hazard classifications (e.g. flammable, corrosive, and carcinogen).</p> <p>Potential injuries includeskin and eye burns, respiratory problems, allergic reactions, skin, eye and mucous membrane irritation andillnesses.</p>	Flammable: will burn or explode	Ethanol, Acetone, Xylene, Methanol
		Reactive: unstable and will self-react under certain conditions	Peroxides
		Carcinogenic: may cause some sort of cancer with long-term exposure	10% Formalin
		Toxic: may cause illness or death	Sodium Azide
		Corrosive: will cause tissue damage with contact through direct skin contact, eye contact, ingestion, inhalation	Acids and Bases
		Mutagenic: causes changes to DNA and RNA and can be inherited by offspring	Ethidium Bromide
		Cryogenic: extremely cold and can cause instant severe frostbite/burns	Liquid Nitrogen or DryIce
Biological Materials Biohazards Human Sourced Materials (Blood, tissues, cells, etc.) Recombinant DNA	<p>Living organisms or products of living organisms such as viruses, bacterial, fungi, parasites.</p> <p>Hazards from infections with these materials are organism specific and can range from mild and treatable to severe and untreatable.</p> <p>Labs are assigned biosafety levels (BSL) 1,2, or 3.</p>	BSL1 - organisms are not known to consistently cause disease in healthy adults and present minimal potential hazard to researchers and the environment	Non-pathogenic strains of <i>E. coli</i>
		BSL2 – organisms pose moderate hazards to researchers and the environment. The organisms are typically indigenous and associated with diseases of varying severity.	<i>Staphylococcus aureus</i>
		BSL3 - organisms can be either indigenous or exotic, and they can cause serious or potentially lethal disease through respiratory transmission. Respiratory transmission is the inhalation route of exposure.	<i>Mycobacterium tuberculosis</i> , the bacteria that causes tuberculosis
Compressed Gases	High pressure cylinders that contain gases. Cylinders are usually large and heavy. Gases may be harmless, toxic, flammable, or corrosive.	Physical hazard - potentially explosive or a projectile hazard Asphyxiant – gas may displace oxygen in the atmosphere	Nitrogen, oxygen, carbon dioxide

Radioactive Materials	Certain labs are approved for small scale work with radioisotopes but <i>minors are generally prohibited from working with these materials or in areas approved for this type of work.</i>	Tissue and organ damage with high doses.	Phosphorous 32 (P32)
Other Hazards	Exposure to noise, machinery, sharps, heat, cold, trip and slip hazards, etc.	Tissue damage, hearing loss, cuts, burns, scrapes, slips, trips, and falls.	Autoclaves, centrifuges, sonicators, blades/scalpels, wet floors, glass and plastic sharp items, etc.

General Rules for High School Students or Minors Performing Work in a Laboratory

- Never work in any laboratory environment without direct supervision from the Principal Investigator (PI)/Mentor or designated Supervisor. Direct supervision generally means to be physically present, or within an immediate distance, such as on the same floor and wing within the building, and available to respond to the needs of something or someone immediately.
- Never work alone when handling hazardous materials or performing hazardous operations. A trained and knowledgeable, UH, adult employee must be physically present in the lab during these operations.
- Complete all safety trainings.
- Always follow the instructions and obey rules.
- Always use the personal protective equipment (PPE) as trained and dispose of it appropriately. Personal protective equipment includes, but is not limited to, eye and/or face protection, gloves, coats/gowns, closed toe shoes.
- Always keep your hands away from your face and wash them well with soap and water after removing your PPE and before leaving any laboratory area.
- Do not touch your cell phone or other personal items with your gloves on. Remove your gloves and wash your hands before touching personal items.
- Never eat, drink, chew gum, apply lip balm, or touch contact lenses while in any laboratory environment.
- Do not store food/drink items in the laboratory.
- Always wear closed-toe shoes while in any laboratory.
- Always tie back long hair.
- Always wear clothing that reduces the amount of exposed skin.
- Always report any accident (regardless of severity) immediately to the PI or Supervisor.
- If an exposure occurs, wash immediately as trained and then report the incident to your PI/Supervisor.
- Always ask questions if you don't understand the safety requirements.

Principal Investigator's or Sponsor's Assurance

I have read, understand, and will adhere to the MINORS & HIGH SCHOOL STUDENTS IN LABORATORIES Guidelines. The information provided above is accurate. The activities involved in the proposed work or learning activities are activities permitted under these Guidelines. I will ensure that the above-named student/minor receives task and site-specific training, in addition to the other trainings listed above, and training completions are documented.

Personal protective equipment appropriate for and specific to the laboratory hazards will be provided. The above-named student/minor will also be trained in the proper use of personal protective equipment, as well as any other equipment the student/minor will work with. While in the laboratory, the above name student/minor will be supervised at all times by a UH, adult employee who is trained and knowledgeable in the operations and hazards of the laboratory. My laboratory is in full compliance with all applicable University of Hawaii safety programs and regulations.

Printed Name of PI/Sponsor	Date	Signature of PI/Sponsor	Date
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Student's/Minor's Assurance

I have read, understand, and will adhere to the MINORS & HIGH SCHOOL STUDENTS IN UH LABORATORIES Guidelines. Attached is the completed Assumption of Risk Form.

Printed Name of Student/Minor	Date	Signature of Student/Minor	Date
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Parent's/Legal Guardian's Assurance

I have read, understand, and will adhere to the MINORS & HIGH SCHOOL STUDENTS IN UH LABORATORIES Guidelines. Attached is the completed Assumption of Risk Form.

Printed Name of Parent/Legal Guardian Date	Signature of Parent/Legal Guardian Date
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Authorization

Dean of the College / Unit Signature	Date
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