
	<p>NEW JERSEY INSTITUTE OF TECHNOLOGY University Heights, Newark, New Jersey 07102</p>
	<p>Document Control No.:</p>
	<p>Document Title: Chemical Hygiene Plan 29 CFR 1910.1450</p>

APPENDIX T: Pre-College Summer Programs

	<p>UNIVERSITY SAFETY ENVIRONMENTAL MANAGEMENT SYSTEM</p>	<p>USEMS SOP # June 2016 Version 1</p>
	<p>PRE-COLLEGE SUMMER PROGRAMS</p>	

Purpose and Scope

The New Jersey Institute of Technology (NJIT) is committed to providing a safe working environment for all employees, students, visitors, and guests. The purpose of the EHS Pre-College Summer Program SOP is to protect the health and safety of program participants and minimize the environmental risks potentially emanating from these programs. As minor aged students may be more susceptible to the health effects of certain potentially hazardous agents and are be less aware of potential risks and hazards present in laboratories and workshops, they therefore require heightened supervision and oversight by the Program Coordinators and Instructors.

Responsibilities

There are many departments that may be potentially involved in the Pre-College Summer Programs at NJIT; however, the implementation of this SOP is primarily the responsibility of the Environmental Health and Safety Department. Program Coordinators and Instructors have shared responsibility in the implementation of this SOP.

Primary Responsibility:

- **NJIT Environmental Health and Safety Department:** Determines compliance with regulations and policies concerning potentially hazardous materials, laboratory equipment, procedures and processes that will be utilized or encountered by participants in the Pre-College Summer Programs. Ensures that appropriate training, personal protective equipment, waste management guidance is provided to supervisors, counselors, instructors, and program participants as required by the particular program. Ensures that other potential environmental health and safety hazards or conditions are mitigated appropriately. Responds to and coordinates response to potential environmental health and safety questions, request for guidance and incidents that may occur during the course of a Pre-College Summer Program.

Affiliated Departments: In addition to the EHS Department, sponsoring NJIT departments will have second-tier responsibility for the implementation of this SOP, including:

- **NJIT Risk Management and Treasury:** Determines compliance with regulations and policies concerning minor aged students, volunteers, visitors and guests on the NJIT campus and ensures that appropriate health and safety procedures and insurance coverage is in place. Provides policy documents as required.



- **NJIT Public Safety:** Responds to and coordinates overall response to all incidents that may occur during the course of a Pre-College Summer Program.
- **NJIT Office of Research Compliance:** Assists with the implementation of certain organized PreCollege Summer Programs that are research-oriented. The Office of Research Compliance is responsible for maintaining up-to-date contact information and rosters of program participants, emergency contact information for parents and guardians, as well as instructions for emergency response.
- **Host Departments:** Host departments are to remain cognizant of ongoing activities within their departmental laboratories and classrooms throughout the summer programs. Host departments are to provide detailed academic program descriptions and assist EHS Department to identify potential hazardous activities and risks associate with their academic programs. Host departments may request training records, copies of approval forms, etc. for any of the summer programs taking place in their laboratory facilities. Host departments are to be notified of any incidents occurring as a result of the summer programs taking place in their departmental space.
- **NJIT Security, Identification, and Parking Systems:** Maintains roster of participating programs, departments and coordinators. Provides photo IDs to appropriate program participants, instructors, or counselors as required and arranges for guest parking when necessary.
- **Center for Pre-College Programs, Program Coordinators, Instructors, and Counselors:** Assists with the implementation of certain organized Pre-College Summer Programs that are non-research oriented. Program Coordinators, Instructors, and Counselors are to attend required health and safety training provided by the EHS Department and, in turn, are to provide a safety orientation to all program participants at the beginning of each program. Program Coordinators, Instructors, and Counselors are also responsible for maintaining up-to-date contact information and rosters of program participants, emergency contact information for parents and guardians, as well as instructions for emergency response. This is a joint responsibility managed in conjunction with EHS and Public Safety.
- **Program Participants:** Program Participants are required to attend necessary trainings and follow all written guidelines and policies supplied by the program hosts. Additionally, Program Participants are required to follow all written instructions provided by the Program Coordinators, as well as applicable regulations and guidelines described in this SOP.

Assessment, Prevention and Control Procedures

It is anticipated that participants in Pre-College Summer Programs hosted by NJIT will not handle hazardous materials. However, there may be occasions where program participants work in and share laboratory space where ongoing research involving the use of hazardous materials occurs. Also, more advanced researchoriented programs may involve the use of chemical reagents, laboratory equipment, and materials; adhering to the exclusions outlined in Attachment 1: NJIT Guidelines for Minors and Volunteers in Laboratory and Shops (Research-Oriented Programs). Please refer to Attachment 1, where specific hazardous materials are restricted for program participants and Diagram 1 which depicts the various steps involved in program assessment.



Non-Research programs are limited in scope and will not involve the use, storage, or disposal of hazardous materials. Because these programs are limited in scope and all participants will be engaged in identical projects, each program will complete one protocol review form. Please see Attachment 2: NJIT Guidelines for Minors and Volunteers in Laboratory and Shops (Non-Research-Oriented Programs).

Research Oriented and Non-Research Oriented Programs

Research Programs

- Research programs will be conducted in research laboratories where potentially hazardous materials are present
- Each participant in a research program is assigned a faculty mentor and graduate student supervisor; assigned a unique research project; and placed in an established research laboratory where existing mechanisms are in place for the storage, use, and disposal of potentially hazardous materials
- Each participant in a research program will attend a comprehensive laboratory safety training provided by EHS, and review all EHS handouts and Lab Safety Rules
- The faculty mentor will submit an EHS protocol review form for each program participant in a research-oriented program which will require the approval of the Director of EHS prior to allowing the participant to work in a laboratory or workshop.

Non-Research Programs

- Non-Research programs will be conducted in teaching laboratories that have been vacated and cleared by the host department for the summer months
- The EHS Department will ensure that each non-research program has clear instructions in terms of laboratory safety rules, appropriate laboratory attire and PPE, as well as waste disposal guidelines
- All participants in a non-research program will participate in a single project, follow the same protocol, that will not involve the use of any potentially hazardous materials
- Non-Research Program Directors, Program Coordinators, Instructors, and Counselors will attend health and safety training provided by the EHS Department, obtain EHS handouts and Lab Safety Rules, and, in turn, will provide a safety orientation to program participants at the beginning of each program
- Program Directors will submit a single EHS protocol review form for each summer program which must be approved by the Director of EHS

Regulatory Requirements

In terms of Environmental health and safety, the following regulations and guidelines may regulate the activities in NJIT research laboratories. Subsequently, these regulations and guidelines may influence PreCollege Summer Programs activities, especially those occurring in research laboratories:

- Employee Hazard Communication (29 CFR 1910.1200)
- NJ Worker and Community Right-to-Know (NJAC 8:59)



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- Exposure to Hazardous Chemicals in Laboratories - the Laboratory Standard (29 CFR 1910.1450)
- Emergency Action Plan (29 CFR 1910.38)
- Personal Protective Equipment (29 CFR 1910.132-138)
- Non Ionizing Radiation/LASERS (29 CFR 1926.54)
- Bloodborne Pathogen Standard (29 CFR 1910.1030)
- Biosafety in Microbiological and Biomedical Laboratories (BMBL) 5th Edition (HHS Publication (CDC) 21-1112, December 2009)
- The NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules (Department of Health and Human Services, National Institutes of Health, April, 2016)
- Standards for Protection Against Radiation (NRC 10 CFR Part 20) Program Specific Guidance About Academic Research and Development and Other Licenses of Limited Scope (NRC NUREG 1556 Vol 7)
- Solid, Hazardous, Universal, Medical waste regulations

Training

As stated previously, it is anticipated that participants in Pre-College Summer Programs hosted by NJIT will not handle hazardous materials. Please see Attachment 1 for a list of prohibited materials. However, all program participants who will work or be present in an NJIT research laboratory will attend a laboratory safety training program that includes, at a minimum:

- Hazard Communication and Right-to-Know
- Chemical Hygiene
- Laboratory Waste Disposal
- Biosafety/Bloodborne Pathogens Awareness
- LASER Safety Awareness
- Radiation Safety Awareness
- Nanoparticle Safety Awareness
- Laboratory Emergency Response Procedures
- Shop Safety

Similarly, Program Directors, Program Coordinators, Instructors, and Counselors facilitating non-research programs, will attend a comprehensive health and safety training provided by the EHS Department that will include all the elements described above. Once trained, Program Directors, Program Coordinators, Instructors, and Counselors facilitating non-research programs, will provide a safety orientation to program participants at the beginning of each program session. Please see Attachment 3 for training outline and attachment 4 for the list of General Lab Safety Rules that are distributed at training.

Records and Documentation Retention

Documentation of training provided to the Pre-College Summer Programs as well as protocol review sheets and other records program-specific records will be maintained by the Environmental Health and Safety Department (EHS) for the duration of employment plus five



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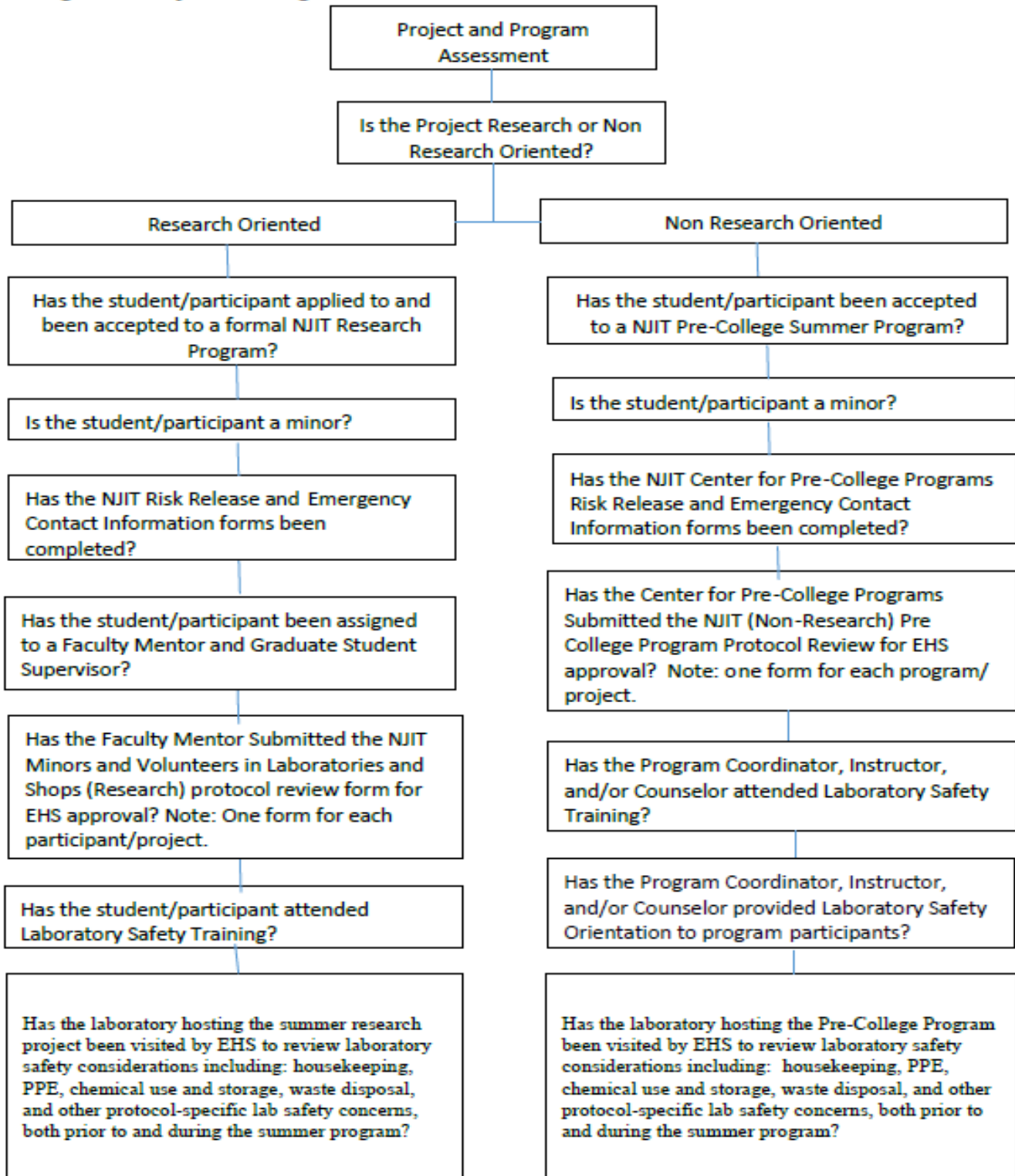
years. Similar records for those program participants, who are not NJIT employees, will be maintained for the same length of time as described above.

Pertinent USEMS SOP

References

- Hazard Communication and Right-to-Know
- Chemical Hygiene
- Laboratory Waste Disposal
- Biosafety/Bloodborne Pathogens Awareness
- LASER Safety Awareness
- Radiation Safety Awareness
- Nanoparticle Safety Awareness
- Laboratory Emergency Response Procedures
- Shop Safety

Diagram 1: Project and Program Assessment





Laboratory-Specific SOPs

There will be several laboratories involved in the various Pre-College Summer Programs hosted at NJIT. Program participants will adhere to the written Laboratory-Specific SOP developed by the host laboratory and supervising Principal Investigator.

Regardless of host-laboratory particulars, each Research-Oriented Laboratory-Specific SOP will contain the following minimum elements:

- Hazard Evaluation ○ Review of chemical labels and SDSs to understand the nature of potential chemical, physical, biological or radiological hazards
- Engineering Controls ○ Review of the proper use of chemical fume hoods and other engineering controls
- Administrative and Work Practice Controls ○ Review of safe laboratory work practices
- Personal Protective Equipment (PPE) and Appropriate Laboratory Attire ○ Review of proper selection and use of protective eyewear, gloves and lab coat/aprons ○ In addition to PPE appropriate laboratory attire will be emphasized for summer programs,
e.g., safety glasses; gloves; no open toe shoes, shorts; etc.
- Waste Disposal ○ Generally Pre-College Summer Program participants will not be responsible for waste disposal. Rather, this function will be handled by their Principal Investigator, or the host laboratory's designated safety coordinator. EHS will ensure that proper waste disposal guidelines, containers, labels, etc. will be provided to each program
- Emergency Response Procedures and Contact Information ○ Review of proper emergency response procedures and who to contact in the event of an emergency

Implementation

Administrative aspects of the summer programs are implemented by the various host departments, the Vice Provost for Research office, and the Center for Pre-College Programs. Once arrangements and start dates are confirmed, Program Coordinators contact the EHS Department to arrange for and schedule safety training. Prior to initiation of safety training, the EHS Department reviews program protocols and develops program appropriate training program. EHS Department then provides appropriate training for each group, individually or combined, as appropriate. During the course of the summer program, EHS staff will periodically visit the summer program locations to ensure compliance with SOPs and other program requirements.

Attachments:

- I. NJIT Guidelines for Minors and Volunteers in Laboratory and Shops (Research Programs)
- II. NJIT Guidelines for Minors and Volunteers in Laboratory and Shops (Non-Research Programs)
- III. Safety Training Outline
- IV. NJIT General Lab Safety Rules