

14. Regulation on Research Room (laboratory) Safety Management

Department in charge: Facilities Services Team 1192-4 ♥

Established on Oct. 25, 2007 Regulation No.102

Amended on Dec. 31, 2014 Regulation No.203

| ADDENDUM | Attachment |

Article 1 (Purpose)

This regulation seeks to manage effectively research resources used in research activities and ensure the safety of such research activities by preventing accidents that may occur at the research room (laboratory) of Handong Global University (hereinafter referred to as "University") during tests, experiments, and studies. (Amended on Dec. 31, 2014)

Article 2 (Scope)

This regulation shall apply to faculty members and persons engaging in research activities and working at the undergraduate (graduate) school, affiliated research institute, and/or affiliated institutions operating research rooms (laboratories) at the university.

Article 3 (Definitions)

The terms used in this regulation shall have the following definitions:

1. "Research room (laboratory)" pertains to the research facilities, equipment, laboratories, and research materials available at the university for the R&D activities in the science and technology sector.
2. "Research room (laboratory) manager" refers to the person with the authority to command and supervise directly those persons engaging in research activities and working at the research room (laboratory).
3. "Safety manager" pertains to a person who assists the research room (laboratory) manager at the research room (laboratory) and performs his/her duties.
4. "Persons engaging in research activities" refer to undergraduate (graduate) students, experiment assistants, researchers (including assistants), and school staff engaged in research, experiments, and practices.
5. "Safety inspection" pertains to an inspection performed by a qualified and experienced person with the naked eye or using testing equipment to check the existing risk factors at the research room

(laboratory).

6. "Research room (laboratory) safety environment manager" refers to a staff member in charge of tasks related to research room (laboratory) environment who possess the qualifications defined in the Act on the Establishment of Safe Laboratory Environment. (Newly established on Dec. 31, 2014)

Article 4 (Research Room Safety Management Committee)

1. To discuss important matters related to the safety of the campus research room (laboratory), the university may operate a Research Room Safety Management Committee (hereinafter referred to as "Committee"); if necessary, the committee may have a Safety Management Working Committee for each institution (hereinafter referred to as "Working Committee") under its control.
2. The committee shall handle the following matters:
 - (1) Matters related to the establishment and amendment of safety management regulations
 - (2) Matters related to the establishment of safety inspection plans
 - (3) Matters related to the investigation of accidents occurring at the research room (laboratory), establishment of preventive measures, and handling of accidents
 - (4) Important matters related to the promotion of a safe environment for the research room (laboratory)
 - (5) Matters related to the safety of the research room (laboratory) as prescribed by laws, Minister of Education, Science, and Technology, or Minister of Education and Human Resources Development
3. The committee shall consist of not more than 9 members including the chairman. The dean of general affairs shall serve as chairman, with the head of the undergraduate school which has research rooms (laboratory), the Team manager of the Future Technology and Industry-University Collaboration, and the Team manager of the Facilities Services Team, Research room (laboratory) safety environment manager, Electricity safety manager, Gas safety manager, and Fire safety manager as key members; non-key members shall be appointed by the president at the recommendation of the chairman. (Amended on Dec. 31, 2014)
4. The assistant manager of the Facilities Services Team shall serve as the committee coordinator who shall assist the chairman in committee affairs.
5. During the committee meeting, a quorum shall be declared when majority of the registered committee members are present. Resolutions voted by majority of the attending members shall be examined and adopted.
6. The chairman shall promptly notify the related department of the results of the meeting including the details decided during the meeting using the bulletin board or other appropriate means.
7. Other matters required for the operation of the committee shall be decided by the chairman based on the resolutions of the committee.

Article 5 (Countermeasure Committee on Accident)

1. In case a serious accident occurs at the university, the chairman shall convert the committee into a Countermeasure Committee on Accident, investigate detailed matters including the cause of the accident and the responsible parties, and establish appropriate countermeasures.
2. The head of an institution belonging to the department involved in the accident shall serve as a member of the Countermeasure Committee on Accident.

Article 6 (Duties of the Research Room Manager)

1. The research room (laboratory) manager shall oversee the safety of the research room (laboratory) and perform the following works:
 - (1) Prevent accidents at the research room (laboratory) and oversee the establishment of countermeasures.
 - (2) Assume primary responsibility for accidents occurring at the research room (laboratory) as per the enacted 「Act on Safe Environment Promotion of Research Laboratory」 and manage the overall research activities.
2. The research room (laboratory) manager shall appoint a safety manager to perform duties related to the management of the research room (laboratory).

Article 7 (Duties of the Safety Manager)

The safety manager shall perform the following duties:

1. Assist the research room (laboratory) manager.
2. Appropriately handle and maintain facilities, equipment, reagents, and other dangerous materials used in the research room (laboratory).
3. Provide safety training and guidance to persons engaging in research activities.
4. Provide information on the establishment and amendment of this regulation to persons engaging in research activities.
5. Conduct a routine inspection of the research room (laboratory) and prepare inspection journals.
6. Prevent accidents and report their occurrence if applicable.
7. Perform other duties prescribed by other related laws.

Article 8 (Duties of Persons Engaging in Research Activities)

Persons engaging in research activities shall comply with the instructions given by the research room (laboratory) manager or safety manager.

Article 9 (Duties of the Safety Environment Manager)

The Research room (laboratory) safety environment manager shall and perform the following:

1. Manage the safety inspections of the research room, establish and execute plans for close safety

inspection. (Amended on Dec. 31, 2014)

2. Establish and execute plans for safety education and training of the research room. (Amended on Dec. 31, 2014)
3. Inquire into the cause of research room (laboratory) accident and provide technical guidance·advice to prevent the recurrence of accidents. (Amended on Dec. 31, 2014)
4. Maintain·manage statistics on research room (laboratory) safety environment and safety management status. (Amended on Dec. 31, 2014)
5. Suggest measures for persons engaging in research activities who violate the Act, legal orders, or safety management regulation of Clause 1, Article 6 of the Act. (Amended on Dec. 31, 2014)

Article 10 (Registration of Research Room)

1. A newly opened research room (laboratory) shall be registered with the Safety Management Department. The application for registration shall include the names of attached institutions and research room (laboratory), risk rating, contact points, and safety manager.
2. After registration, the laboratory shall post safety management rules as well as the actions to be taken in case of emergency, maintain safety management guidelines, and record related matters in the environment and safety inspection journals.

Article 11 (Safety Inspections)

1. The research room (laboratory) manager shall conduct daily inspections, regular inspections, and special safety inspections according to related laws.
2. If necessary, the manager shall conduct a safety checkup after performing a safety inspection pursuant to related laws at the research room (laboratory) to prevent accidents at the research room (laboratory) and to ensure safety and shall report the results to the president immediately and to the relevant institutions.
3. The safety manager shall inspect the research room (laboratory) on a daily basis prior to starting research activities.
4. The safety manager shall record the results of the daily inspection in Attached Form No. 1, and the results of the regular inspections, in Attached Form No. 2 and store the records for 2 years.

Article 12 (Training, etc.)

1. Research room (laboratory) manager (the person in charge of a research) shall conduct the training mentioned in Clause 1, Article 9 of the Enforcement Rule of the Act on the Establishment of Safe Laboratory Environment and submit its results to Safety environment manager. (Amended on Dec. 31, 2014)
2. Research room (laboratory) manger (the person in charge of a research) can limit access of trainees who did not complete the training to research rooms (laboratories). (Amended on Dec. 31, 2014)

3. Persons engaging in research activities shall be educated and trained on accident prevention and environment pollution prevention. (Newly established on Dec. 31, 2014)

Article 13 (Storing Experimental Waste Liquid and Toxic Materials)

1. The safety manager shall classify the experimental waste liquid generated from the research room (laboratory) and keep it in the designated place.
2. The collected experimental waste liquids shall be disposed of appropriately by the person in charge of the environment management. (Amended on Dec. 31, 2014)

Article 14 (Accident Reports, etc.)

1. If an accident occurs, the research room (laboratory) manager shall immediately prepare an accident report (Attached Form No. 3) for submission to the dean of general affairs.
2. The dean of general affairs shall report the details of the accident to the president.

Article 15 (Posting, etc. the Rules of Conduct During an Emergency)

1. To minimize damage in case of an accident, the safety manager shall prepare and maintain the research room (laboratory) accident response manual at the entrance of the research room (laboratory) or other conspicuous places. (Amended on Dec. 31, 2014)
2. The research room (laboratory) accident response manual must specify the telephone numbers of the research room (laboratory) manager, safety manager, nearby fire stations, and hospital emergency rooms. (Amended on Dec. 31, 2014)
3. In case an accident occurs at the research room (laboratory), or there is such possibility, the research room (laboratory) user shall take appropriate actions according to the research room (laboratory) accident response manual. (Amended on Dec. 31, 2014)

Article 16 (Posting, etc. Safety Rules at the Research Room)

1. To prevent accidents at the research room (laboratory), the safety manager shall post safety rules at the research room (laboratory) and rules on using experimental and practice equipment and materials inside the research room (laboratory). Persons engaging in research activities shall observe such rules. (Amended on Dec. 31, 2014)
2. Notwithstanding the provisions of Clause 1, the safety manager may establish safety rules at the research room (laboratory) and rules on using experimental and practice equipment and materials considering the characteristics of each individual research room (laboratory) and post them inside the research room (laboratory).

Article 17 (Safety Management Expenses)

The university shall earmark the necessary budgets for the safety management expenses of the

research room (laboratory) on an annual basis. The earmarked budget for safety management expenses shall be used according to related laws and reported to the Minister of Education, Science, and Technology.

Article 18 (Insurance)

In preparation against any possible accident at the research room (laboratory) during the process of research activities involving persons engaging in research activities, the university shall purchase insurance policies with the persons engaging in research activities as the insured and beneficiary in accordance with the criteria prescribed by related laws.

Article 19 (Medical Checkup)

Every year, the research room (laboratory) manager shall conduct medical checkups on persons engaged in research activities and possibly exposed to deadly chemical substances or viruses.

Article 20 (Application)

Matters other than those stipulated in this regulation shall be governed by the enacted Act on Safe Environment Promotion of Research Laboratory and related Enforcement Decree and Enforcement Regulation.

ADDENDUM

This regulation shall enter into force as of October 25, 2007.

ADDENDUM

This regulation shall enter into force as of December 31, 2014.

[Attached Form No.1]

Research room (laboratory) safety checklist (daily inspection)

Date (MM/DD/YYYY)

Items Checked	Results	Remarks
Operation of mechanical safety devices used to prevent leaks from gas tank joints and piping		
Tidying up the place, checking the condition of passageways and stacked materials		
Appropriateness of electric load, earthing, and condition of electric wiring		
State of hood ventilation and operation of exhaust fans		
Storage and management of waste liquids		
Mixture, storage, and distribution of chemicals, labels, and collection, storage, and management of waste chemicals, etc.		
Whether foods are brought in and stored in refrigerators		
Management of emergency exits and marking of entrances		
Whether research room (laboratory) safety rules and emergency contact directory are posted		
Whether training is provided to persons engaging in research activities		
Details of training (participants: ____ persons)		
Written by: _____ (Sign)	Safety manager: _____ (Sign)	

※ Notes

1. Mark O if the results of the inspection are satisfactory and X if the results are unsatisfactory. Enter the reasons in the Remarks column.
2. If there are no applicable items, indicate "Not Applicable" in the Remarks column.

[Attached Form No.2]

Research room (laboratory) safety checklist (regular inspection)

Name of department		Date of inspection	MM/DD/YYYY
Building and room number		Inspector	(Sign)
Name of research room (laboratory)		Safety manager	(Sign)
Division	Items checked	Inspection results	Remarks
Protective equipment	- Availability of protective equipment for the face (goggles)		
	- Availability of respiratory equipment (gas and other masks)		
	- Availability of protective equipment for the hands (insulating and vinyl gloves)		
Chemicals	- Management of reagents		
	- Whether reagents are stored according to their properties		
	- Storage status etc., of flammable reagents		
Gas	- Whether gas leaks		
	- Whether gas tanks are fixed		
	- Appropriateness of the place used as flammable gas tank storage		
Machines	- Appropriateness of using and managing the hood		
	- Availability of blower fans and operating condition		
	- Availability, etc. of fire extinguishers		
Electricity	- Appropriateness of electric load and earthing		
	- Arrangement of electric wiring		
	- Whether electric heaters are used		
Wastes	- Storing and managing, etc. experimental waste liquids		
Miscellaneous	- Arrangement of research room (laboratory)		
	- Availability of safety rules at the research room (laboratory) and emergency contact directory		
	- Whether the research room (laboratory) is inspected on a daily basis		
	- Whether safety training is provided prior to starting experiments, etc.		

※ Notes

1. Mark O if the results of the inspection are satisfactory and X if the results are unsatisfactory. Enter the reasons in the Remarks column.
2. If there are no applicable items, indicate "Not Applicable" in the Remarks column.

연구실(실험실) 안전사고 보고서 Report on research room (laboratory) accidents		
사 고 내 용 Details of the accident	일 시 Date and time	년 월 일 시 분 Date(MM/DD/YYYY) and time/minutes
	장 소 Place	대학 실 (호실) Office of () (Toom no.), School of ()
	사고자 인적사항 Personal information of persons involved	
	종 류 Types	(화재, 폭발, 약품중독, 감전, 기타) (Tire, explosions, drug intoxication, electric shock, or other types of accident)
	내 용 (서 술) Details (Describe)	
조 치 내 용 Actions taken	응급조치 사항 Emergency measures taken	
	후송 시 치료병원 등 현재 환자상태 Hospitalization and current condition of patient(s)	
Date (MM/DD/YYYY)		
안전관리 담당자 : (서명) Safety manager: (Sign)		
연구실 책임자 : (서명) Research room (laboratory) manager: (Sign)		
학 부 장 : (서명) Chairman of undergraduate school: (Sign)		

[Attached Form No.4] <Deleted> (Amended on Dec. 31, 2014)

[Attached Form No.5] <Deleted> (Amended on Dec. 31, 2014)

[Attached Form No.6] <Deleted> (Amended on Dec. 31, 2014)