

# Workplace Safety and Health Training

## (NTU/OHS/SOP/16.7)

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### 1. Purpose and Scope

1.1 This procedure defines the requirement for provision of safety training to faculty, staff and students at work to be in compliance with the Workplace Safety and Health Act.

1.2 The procedure applies to:

All faculty, staff and students<sup>1</sup> (working within laboratory and workplace in University) shall adhere to the training requirement specified in this SOP

### 2. Definitions

2.1 Terms used in this document are defined as follows:

- a) **Assumed Competency:** for the purpose of this document, refers to the attainment of the competency by virtue of being previously trained or by experience
- b) **Competency:** for the purpose of this document, refers to the state of being qualified in having the required safety knowledge, skill and aptitude to perform the task safely
- c) **Grading:** is the assignment of a training module required for the job assigned
- d) **Risk Assessment:** is the process of recognition, evaluation and control of hazards associated with a work by reviewing both the severity and likelihood of each hazard causing harm
- e) **Safety Training Management System (STMS):** is an online platform to facilitate registration and record attendance on completion of internal safety training courses for NTU students
- f) **Workday@NTU Learning:** is a centralised platform with end-to-end learning process for the University. It can be accessed by all NTU staff, managers, instructors, trainers and administrators. The platform allows users to do self-enrolment into the training courses and can monitor and track safety training history and course completion for NTU faculty and staff.

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<sup>1</sup> Students refer to those who are required to conduct independent laboratory work as part of their academic curricula, such as Final Year Project students or Graduate students. In-bound students such as attachment students who are required to conduct laboratory work under supervision or mentorship to complete relevant on-site safety training topics conducted by the School/Department.

- g) **Training:** for the purpose of this document, refers to any process (method) to either
- (i) provide awareness and knowledge; or
  - (ii) make competent by instruction and practice for the assigned work or response
- The person is thus aware of the safety obligations, or use the necessary control measures to ensure his/her safety at work.
- h) **Training Matrix:** refers to a template defining the safety training a person require to have in order to acquire the competency so as to accomplish his/her task safely.
- i) **Training Method:** refers to the different mediums that can be used to deliver the safety instructions

### 3. Training Needs Identification

All staff and student are required to attend various training courses to muster the desired competencies to do the work safely.

The PI/RO is responsible to identify training needs of personnel working for them. A detailed list of roles and responsibilities are outlined in the subsequent sections.

The training needs can be identified through the following:

- Job scope and the work activities of the position or role
- Risk associated with the conduct of work activities
- Legal and regulatory requirements
- Incident investigation

Training needs must be re-evaluated for personnel who have a change in job scope, i.e. transfer from one department to another; or from administrative to laboratory, or vice versa and whenever a new process, substances, technology or equipment has been incorporated. This is to be conducted by the new PI/RO that the personnel will be posted to. Safety Officer or safety representative to update the training matrix accordingly.

#### 4. Training Matrix

- 4.1 Base on the training needs identified in section 3 above, the School/Department is to develop a safety training matrix for their faculty, staff and students (see example in Figure 1).
- 4.2 The School/Department safety training matrix to meet the minimum requirements as stated in the NTU training matrix

	Basic Safety Training - OHS2B3T01	SOSECURE Prepared Citizen Training OHS2PCT01	Understanding Signage from SS 903 - OHS2B1001	Basic Biosafety Training Course : Module 1 - OHS2BBL01	Basic Biosafety Training Course : Module 2 - OHS2BSP01	Basic guide for handling Chemicals - OHS2HCC01	Understanding GHS - OHS2GHS02	Understanding Safety Data Sheet (SDS) - OHS2SDS01	Safe Handling of Compressed Gas Cylinders - OHS2CGC01	Safe Use of Hydrofluoric Acid - OHS2HFA01
Office Staff	C	C								
Lab Users	C	C	C							
Faculty / Principal Investigator	C	C								

Figure 1: Sample of Training Matrix

- 4.3 The University training matrix can be found at the link provided below:  
<https://ts.ntu.edu.sg/sites/intranet/dept/ohse/training/Pages/default.aspx>
- 4.4 Exclusion: Undergraduates are only required to take specified safety courses stated by their respective School, for projects as part of their academic curricula.

## 5. Grading and Timeline for Completion

A grading level is assigned to each course against each workplace role or position in the training matrix. The grading and timeline for new staff/students to complete various courses are shown in table 1:

Grading	Denote	Specifications	Timeline for completion (weeks)
C	Compulsory	Basic Safety Training and other core courses training which are directly linked to the job function and hence such safety competency is required.	4
M	Mandatory	Required by law and personnel are to complete training from accredited training centres. No waiver can be given unless with specific approval from the regulators or the ministries.	Before assigned for such work.
D	Desired	Recommended trainings as these may be linked to the job function. School/ Department can replace training courses denoted with (D) in the training matrix to (C) should these training courses be deemed as compulsory for their faculty, staff and students.	N.A.

*Table 1: Grading and Timeline for Completion of Safety Courses*

## 6. Criteria for Completion of Training

The criteria for completion of safety training to be any one of the following:

- (a) attend the required safety training module (e-learning) and take a simple quiz with a score of at least 80%; or
- (b) assumption of previous acquired competency (see section 7)

## **7. Assumption of Competency**

Assumption of previous competency is acceptable only if there is an acknowledgement of exemption by the RO and approved by School Chair/HOD. The exemption to be documented for audit by OHSE. Both the School Chair/HOD and the RO are responsible for any subsequent accidents and incidents that arise due to the ignorance of the worker.

All HODs and faculty members are deemed to have the assumed competency for all the safety courses (except for core courses and mandatory training courses or as prescribed under the School/Department training matrix). However, they are encouraged to attend or review the safety material to refresh their safety knowledge and university safety procedures.

## **8. Training Cycle**

Retraining and review of safety requirement are conducted once every three years following mandatory review of risk assessment, or as required by legislative requirements. Retraining is required where there is a substantial change in content of the course or University procedures. Schools/departments reserve the rights to send their faculty, staff and students for retraining on a shorter interval, if needed.

## **9. Training Methods**

There are several ways of training depending on the complexity and depth. Training can be:

- (a) E-learning; or
- (b) Instructional or Class room delivery; or
- (c) Demonstration; or
- (d) Other resources or techniques essential to achieving skills and knowledge competency.

Any informal training, such as on-the-job training is to be documented with signed off record or attendance record by both the trainer and trainee.

Schools/departments can establish their own training topics similar to those from OHSE. However, schools/departments have to ensure that contents must be aligned to the job requirement.

## **10. NTU Safety Courses**

Based on the needs of the University, OHSE has developed a series of safety courses in the form of face-to-face classes or e-learning modules. The aim is to provide adequate safety information and training for the staff and students to perform their work safely.

The courses are listed in the NTU safety training matrix.

The face-to-face courses schedules are posted on Workday@NTU Learning (for staff) and on STMS (for student) (see section 11).

The e-learning courses are uploaded to the Workday@NTU Learning (for staff) and to NTULearn. (for student).

All users are required to attend the required safety training module and attempt a simple quiz with a score of at least 80% to be deemed as competent.

OHSE to regularly review the safety training materials to ensure the information meet the training needs and align to the NTU and legal requirements.

The detail of the NTU safety training information is available on OHSE website at <https://ts.ntu.edu.sg/sites/intranet/dept/ohse/training/Pages/default.aspx>

## **11. Safety Training Management System (STMS)/ Workday@NTU Learning**

NTU staff and students are to register for the face-to-face courses via the respective online portal, i.e. Workday@NTU Learning, GSlink or Studentlink.

The STMS can be used to monitor course completion for both the face-to-face courses and e-learning courses at NTULearn for student.

The Workday@NTU Learning platform monitors course completion for face-to-face courses and e-learning courses for all staff.

School/Departments may also administer their respective safety training courses using the STMS (for student) and the Workday@NTU Learning (for staff).

The Appointed Safety Training Administrator is to manage the safety training record for their respective school/department.

## **12. Training Records**

The training records of all staff and students are retained for a period of 6 years after leaving NTU. Returning staff will have to retake the safety training.

All documents are to be readily retrievable during audits or inspections.

### **13. Training Communications**

Training information can be communicated through the following means:

- First day on-board platform;
- School/Department safety induction course;
- Safety website;
- Email;
- Freshman orientation programme, etc.

### **14. Harmonised Safety Training Framework**

The Working Group on Safety and Health in Higher Education and Research Sector (WG HER) formed under the auspices of the Workplace Safety and Health Council (WSHC) comprises of representatives from Universities, Polytechnics, Research and Healthcare agencies, has developed a curriculum, training and assessment framework that is an initiative to minimise repetitive safety training and assessment arising from cross-organisational or institutes work attachment. Under this framework, researchers are required to show evidence of completion for chemical and biological safety courses.

For the list of chemical and biological safety courses at NTU that have been authenticated by the WG HER and the list of approved member institutions harmonised for chemical and biological safety training respectively, refer to the following link:

[Harmonised Safety Training Framework v2](#)

### **15. Roles and Responsibilities**

15.1 School Chair/Head of Department (HOD) shall ensure that:

- 15.1.1 the training matrix (see paragraph 3) is established for personnel in their area;
- 15.1.2 the personnel has the relevant competency to do the assigned work safely; and
- 15.1.3 adequate resources (including allocation of time and training budget) are provided for personnel to attend safety trainings.
- 15.1.4 safety training requirements and information are clearly communicated to faculty, staff and students.

15.2 Principal Investigator (PI)/Reporting Officer (RO) shall ensure that:

- 15.2.1 they identify training needs for the personnel working for them;
- 15.2.2 the personnel working for them attend and complete the trainings as identified; and
- 15.2.3 training records are readily available when requested.

15.3 Safety Officer/Safety Representative shall ensure that respective school/department:

- 15.3.1 training matrix are updated and reviewed;
  - 15.3.2 training matrix are being communicated; and
  - 15.3.3 progress of trainings are being monitored.
- 15.4 Safety Committee shall ensure that:
- 15.4.1 they approved the training matrix for their respective school/department. In the event that the school/department does not have a Safety Committee, the HOD shall be the approver; and
  - 15.4.2 a Safety Training Administrator is appointed to manage the training records documentation for the school/department.
- 15.5 Appointed Safety Training Administrator (Learning Partner (Health & Safety)/ Learning Officer (Health & Safety) shall:
- 15.5.1 liaise with OHSE to upload safety courses for registration for student at STMS; and
  - 15.5.2 create courses for health and safety topic for their respective school/centre at Workday@NTU Learning (for Learning Partner (Health & Safety) )
  - 15.5.3 schedule course runs for health and safety topic for their respective school/centre at Workday@NTU Learning (for Learning Partner or Learning Officer (Health & Safety) )
  - 15.5.4 track/update safety training records for faculty, staff and students.
- 15.6 Office of Health, Safety & Emergency (OHSE) shall:
- 15.6.1 establish the training framework stated in this SOP and conduct periodic review;
  - 15.6.2 assist schools/departments to implement this SOP;
  - 15.6.3 conduct audit to ensure the implementation of this SOP in schools/departments;
  - 15.6.4 maintain and review the NTU-OHSE safety training materials.
- 15.7 Persons-at-Work (Faculty, Staff or Students) shall:
- 15.7.1 co-operate with NTU and/or his school/department to comply with the legal requirements to maintain a safe workplace; and
  - 15.7.2 attend any training as informed
  - 15.7.3 attend training when receive notification from the Workday@NTU (applicable for Faculty and Staff only)



## 16. Consulted Parties

The following have been consulted in the drafting of this document:

Name	Designation	College/School/Department
OHSE safety team	Safety officers	Office of Health, Safety and Emergency
SHARP Cat 1 & Cat 2 safety committee members	Safety officers, safety reps and safety members	NTU community

## 17. Related Legislation, Policies, Procedures and Guidelines

Type	Document Title
Legislation	Workplace Safety and Health Act, Chapter 354A
SOP	NTU SOP Control of Records

## 18. Responsible Parties and Contacts

Procedure Owner: Chief Health, Safety and Emergency Officer

Responsible Office: Office of Health, Safety and Emergency

For clarification on this procedure, please contact:

Name	Designation	Email	Telephone
Christine Lim	Manager	hplim@ntu.edu.sg	65927732

## 19. Revision History

This Table below reflects the summary of changes made to the document. The full change information is indicated with yellow highlight in the document content.

Version	Approved By	Approval Date	Effective Date	Sections Modified	Details of Change
16.0	Dr Lee Kien Wah	20 Jul 2011	20 Jul 2011	N.A	Initial Release
16.1	Dr Lee Kien Wah	25 Jun 2013	25 Jun 2013	2	Reviewed of Scope
				4.1	Redefined Responsibility of School Chairs/Head of Departments
				4.2	Included Responsibility of PI/RO



				4.3	Included Responsibility of Safety Officer/Safety Representatives
				4.4	Included Responsibility Safety Committee
				4.5	Included Responsibility OHS
				5	Included the link to Training Matrix
				6	Reviewed of Grading
				-	Removed the entire Section on Training Structure
				7	Revised passing mark from 70% to 80%
				8	Reviewed of Assumption of Competency
				9	Included a new Section on Change in Job scope
				10	Reviewed of Training Cycle
				11	Included a statement
16.1a	Dr Lee Kien Wah	18 Sep 2013	18 Sep 2013	Header	Distinguish Faculty and Staff in Audience
				Footnote	Removed definition for "Staff"
				Footnote	Added definition for "Students"
				5, 6, 10, 12	Changed word from "staff" to "faculty and staff"
				6, 10	Changed word from "staffs" to "staff"
				11	Changed word from "established" to "establish"
16.1b	Dr Lee Kien Wah	18 Nov 2013	18 Nov 2013	N.A.	Changed words from "faculty and staff" to "faculty, staff and students"
16.1c	Dr Lee Kien Wah	22 Jul 2014	22 Jul 2014	N.A.	Amendment to the training matrix table
16.2	Dr Lee Kien Wah	1 Feb 2015	1 Feb 2015	5	Amendment to the training matrix table: Revision March 2015
				8	Inserted "except for safety induction courses"



				9	Inserted "or safety representative"
				11	Inserted "In such documentation of training, a copy of the slides or topics so discussed shall be appended with the training record to attest the scope of the training"
16.3	Dr Lee Kien Wah	14 Sep 2015	14 Sep 2015	N.A.	Combined "Guideline of Training Need Analysis - Safety Competency" into "SOP on WSH Training" and re-arranged the sections sequences.
				Title	Added footnote to define NTU includes NIE and other institutes and Centre bearing NTU UEN
				1	Minor rewording
				3.1	Added definition for "Assumed Competency"
				3.5	Added definition for "STMS"
				4	Added "Roles"
				4.5	Added "Appointed Safety Training Administrator"
				4.6 (d)	Added clause on OHS responsibilities
				5	Inserted Figure 1 and updated NTU training matrix
				6	Added "Timeline for Completion" and Table 1
				9	Added section on "Training Workflow" and Figure 2
				13	Rephrase clause on informal training
				14	Added section "NTU Safety Courses"
15	Added section on "STMS"				
16.3a	Dr Goh Chin Foo	20 Apr 2016	20 Apr 2016	-	Updated the Training Matrix



16.3b	Dr Goh Chin Foo	5 Sep 2016	5 Sep 2016	-	Updated the Training Matrix
16.4	Dr Goh Chin Foo	6 May 2019	6 May 2019	Whole document	Replaced SOP format to align to University document format from Plans Office. Renamed Office of Health and Safety (OHS) to Office of Health, Safety and Emergency (OHSE). Merged Safety Training and Communicative Directive to this SOP
				2e	Deleted wordings to include NIE to STMS
				3	Remove previous section 7 on Training Workflow and added new section on Training Needs Identification. Transfer previous section 8 Change of job scope here
				4	Rewording
				5	Review compulsory grading specification
				7	Rewording
				9	Added additional methods
				10	Rewording and remove "GeNIEus"
				11	Replace "Stafflink" with "ServiceNow@NTU" and rewordings
				13	Added section on Training Communication
				14	Added section on Harmonised Safety Training Framework
				15.1.3	Added "and training budget"
				15.1.4	Added additional responsibilities for School Chair/HOD
				15.7	Added additional section Person-at-Work
-	Updated the Training Matrix				



16.5	Dr Goh Chin Foo	26 Feb 2020	26 Feb 2020	2.1e	Delete "faculty and staff"
				2.1f	Added definition of Workday@NTU Learning
				9	Rewording
				10	Rewording to include Workday@NTU Learning
				11	Rewording to include Workday@NTU Learning
				15.2.3	Rewording
				15.5	Added Learning Partner (Health & Safety) and Learning Officer (Health & Safety) and their roles
				15.7	Added para on notification from Workday@NTU
-	Updated the NTU OHS Training Matrix 16.5				
16.6	Dr Goh Chin Foo	17 Jul 2020	17 Jul 2020	-	Updated the NTU OHS Training Matrix 16.6
16.7	Dr Goh Chin Foo	24 Feb 2021	24 Feb 2021	-	Updated the NTU OHS Training Matrix 16.7