



ADMINISTRATIVE PROCEDURE	
<i>Approval Date</i> September 2019	<i>Replacing</i> All previous procedures
<i>Review Date</i> 2024	<i>Page</i> 1 of 13
<i>Contact Person/Department</i> Superintendent of Learning, Secondary School Improvement	<i>Identification</i> ES-5061

SAFETY IN TECHNOLOGICAL STUDIES

1.0 PURPOSE

Trillium Lakelands District School Board recognizes the importance of safety in technological studies with staff and students. The Board is committed to providing staff and students with the necessary guidelines, procedures, training and forms required to maintain a safe environment for student learning.

2.0 REFERENCES AND RELATED DOCUMENTS

- 2.1 [The Education Act and Regulations](#)
- 2.2 [Ontario School Boards Insurance Exchange \(OSBIE\)](#)
- 2.3 [Ontario Council for Technology Education](#)
- 2.4 [Occupational Health and Safety Act, R.S.O. 1990, Regulation 851
Industrial Establishments](#)
- 2.5 [Workplace Hazardous Materials Information Systems \(WHMIS\) 1988/2015](#)
- 2.6 [Ontario Council for Technology Education \(OCTE\)](#)

3.0 TERMS AND DEFINITIONS

- 3.1 WHMIS – Workplace Hazardous Materials Information Systems
- 3.2 Lock out Tag Out - specific practices and procedures to safeguard employees from the unexpected energization or start-up of machinery and equipment, or the release of hazardous energy during service or maintenance activities. Machinery or equipment has zero energy state
- 3.3 PPE – Personal Protective Equipment
- 3.4 Training Record – records to track relevant student training information
- 3.5 Makerspace - collaborative work space for making, learning, exploring and sharing, that uses high tech to no tech tools.

4.0 ADMINISTRATIVE PROCEDURE

- 4.1 This safety procedure is predicated on the application, belief and maintenance of the following principles:
 - 4.1.1 Defined operating instructions and safety rules are to be maintained by the individual operating the equipment.
 - 4.1.2 All use of power tools/machinery and attachments are only for their intended use as per the manufacturer’s guidelines. At no point should there be any modification to power tools/machinery or their accessories or attachments.
 - 4.1.3 Proof of student knowledge and understanding of safety rules and operating instructions exist at the site (in either a folder, binder, electronic)
 - 4.1.4 Prior to use, demonstration of competency to use equipment has been achieved.

4.1.5 A record of training and competency be retained for three (3) years.

4.2 RESPONSIBILITIES

4.2.1 The Principal shall ensure that all technology and Technology Studies teachers have reviewed this policy and procedure, ***Safety in Technological Studies ES – 5060*** and ***ES – 5061*** on the first PA day of the school year or prior to any new teaching assignment in the technology department or use of a Makerspace.

4.2.2 The Principal shall ensure, in consultation with the Department Head of Business and Technology Studies or lead teachers in elementary, that a yearly review of equipment is conducted for each technology classroom or Makerspace. The review will ensure the following:

- the equipment inventory is up to date;
- there are no handmade safety guards or modifications to equipment, machinery, tools and accessories;
- there is a current, item specific operator's manual for each power tool/machinery that is reviewed and followed.

4.2.3 Teachers will include this policy and procedure, including appendices, with supply teacher materials in technology classrooms. Supply teachers are expected to review it.

4.2.4 Teachers will train students in safety protocols and procedures relating to each specific tool available in the classroom.

4.2.5 Teachers will supervise students at all times to ensure tools are used with strict compliance to the manufacturer's specifications.

4.3 TRAINING

4.3.1 Student training will include:

- a demonstration;
- a review of written safety precautions;
- a testing environment through which students show proficiency and ability to use the tool appropriately and safely.

4.3.2 Documentation of the training and testing for each student must be completed prior to approving the student's use of the tool.

4.4 AVOIDANCE

If an activity does not take place, then injuries cannot occur. Table saws and jointer/planers in wood shops are identified as high risk. Instructors may perform difficult cuts or have students use alternative methods or tools that avoid the need to use this dangerous equipment. Avoidance will also take the form of locking out any piece of equipment that has missing or defective guards or any other mechanical defect until it is properly repaired.

4.5 LOSS REDUCTION

This strategy essentially translates into having an emergency procedure, if, in spite of the best efforts under the Avoidance strategy and training, an injury still occurs. It may include, but not be limited to:

4.5.1 First Aid Procedures;

4.5.2 Emergency notification procedures, and;

4.5.3 Automatic lock-out procedures for all equipment if an emergency situation occurs.

4.6 IMPLEMENTATION AND MONITORING

The following process is important in that it ensures the best practices outlined in your board's policies and procedures are being followed. The following documentation should be used to monitor compliance:

- 4.6.1 Copies of signed Shop Safety Agreements should be retained by the teacher or school administration for each student;
- 4.6.2 Copies of completed Training Records should be retained by the teacher or school administration for each student;
- 4.6.3 Student attendance records should be cross checked with lesson plans to ensure students were in attendance during safety training lessons, and to document students who were not in attendance and/or received subsequent training.
- 4.6.4 Schools will retain yearly documentation of the equipment review and will have available to submit upon request.

5.0 APPENDICES

- 5.1 Shop Safety Agreement
- 5.2 Technological Studies Practice Agreement
- 5.3 Guidelines for Technical Studies: Department Heads
- 5.4 Guidelines for Technical Studies: Principals
- 5.5 Guidelines for Technical Studies: Teachers
- 5.6 Safety Procedures
- 5.7 TLDSB Technological Student Safety Passport



TECHNOLOGICAL STUDIES SAFETY AGREEMENT

As a student in this shop, there are a few safety rules you must observe. Rules will be kept to a minimum, but those we do keep are for a definite reason. Knowing the reason for each rule should make it a lot easier to remember and observe that rule.

1. Students must never enter the shop unless the teacher is present.
2. Tools and equipment must never be operated unless a teacher is in the shop.
3. Do not run in the shop, including during fire drills or an actual emergency.
4. Rough, boisterous play, feats of strength, or pranks will not be tolerated in the shop.
5. Use care and common sense when using any sharp tool – always keep hands and fingers behind the tool's cutting edge.
6. Protective equipment, such as (goggles, etc.) MUST be worn at all times when either performing or observing practical work.
7. Long hair, loose clothing and jewellery must be restrained or removed. Open-toed shoes or sandals are not permitted in a shop or worksite.
8. Appropriate and safe usage of technology, including personal devices, to ensure no distractions.
9. Never use any machine until you personally have been given instruction by the teacher about the use of that machine. Tools and equipment may only be used for their intended purpose and in accordance with your training.
10. Students must never modify or alter any tool or piece of equipment.
11. Report any damaged/defective/modified or altered tools or machines to the teacher immediately.
12. If you injure yourself, including cuts and scratches, report it to the teacher immediately and receive treatment.
13. Keep benches and floors clean, replace tools as soon as you are finished and place scrap in proper bins.
14. When finished with oil or paint soaked rags, dispose of in specially marked safety bins.
15. Appropriate protective equipment for welding procedure is required, (e.g. eyewear, protective clothing) and must be worn during any welding, cutting or forging process.
16. Use compressed air with caution – wear eye protection, direct air away from eyes, skin and any opening in the body. Beware of flying particles. Do not use compressed air to blow dust from clothing.

I (print name), _____ have read this Shop Safety Agreement. I understand and will obey these rules.

Signature: _____ Date: _____



TECHNOLOGICAL STUDIES PRACTICE AGREEMENT

Technological Education students are reminded that a technical program is participatory in nature and more closely related to the workplace. Shop work is intended to train students not only in the knowledge and care of tools and machines and in the skills of their use, but also in forming desirable work habits which will assist them in many types of work. These work habits include the following topics:

1. The understanding that if you (the student) has not successfully completed the training on a piece of equipment that you (the student) will not operate that equipment.
2. Tool Care – handling tools carefully, keeping them properly adjusted avoiding such practices as dropping them or laying them down carelessly; not modifying or altering them from their intended purpose; using machinery carefully and safely. Checking your bench tools and equipment, reporting to the teacher any damaged, modified, altered, or defective tools, breakages and errors in your work.
3. Active participation - students agree to participate in all daily activities and attempt all assigned tasks, without distraction.
4. Technique – neatness and accuracy, avoiding awkward and careless methods of working.
5. Effort – nothing but your best is good enough.
6. Concentration – avoid distractions to yourself or others at all times.
7. Cooperation – sharing tools and machines, taking your turn, planning your activities, avoiding waste, arriving for class on time, and cleaning up when signal is given.
8. Dependability – being reliable in carrying out shop duties assigned to you; Safety Practices – keeping in mind safe practices and rules, a healthy respect for power machinery and respect for other students' safety.
9. Resourcefulness – learning to think for yourself, following instructions and avoiding unnecessary questions.
10. Focus – being attentive during lessons and focussing on your own tasks; distractions such as horseplay, social media, pranks and yelling have no place in the shop.
11. Courtesy – politeness and good manners is a requirement in getting along with people.
12. Attitude – make the best of every task or job and be positive and pleasant about it.
13. Health Problems – inform the teacher of any specific medical problems that may be aggravated by the shop environment.

I AGREE TO ADHERE TO THESE PRACTICE EXPECTATIONS.

I (print name), _____ have read this Shop Safety Agreement. I understand and will obey these rules.

Signature: _____ Date: _____

GUIDELINES FOR TECHNICAL STUDIES: DEPARTMENT HEADS

1. Have available the Policy and Procedure and direct staff to OCTE website and documents for general and specific safety requirements for each of the different subject areas in the department and ensure that the document is followed.
2. Discuss these safety requirements with all members of the technical department and ensure that they understand and implement them to the best of their ability.
3. Inform the principal, in writing, of the safety program for the technical areas in the school.
4. Inform the principal, in writing, when the number of students, physical arrangement of room or attitude of students is inappropriate to safe instruction.
5. Inform the principal, where in the Technical Teacher's opinion, a student's dress, grooming and/or attitude does not conform to the particular safety requirements and constitutes a hazard to the student or others.
6. Inform the principal and/or any Joint Occupational Health and Safety Committee, in writing, of any known or potential safety hazard.
7. Incorporate some form of Student Safety Awareness Program for all technical students as part of their technical program, e.g. - OCTE
8. Post and follow the Emergency Response Protocol 6.6 "First Aid/Staff or Student Injury" in each technical area.
9. Inform all occasional teachers of the standard accident and emergency procedures.
10. Post in each technical area a floor plan in a strategic place to show the locations of items such as:
 - 10.1 Fire extinguishers
 - 10.2 Emergency power "stop" buttons
 - 10.3 First aid kit
 - 10.4 Eye wash station(s)
 - 10.5 Emergency exits
 - 10.6 Special shut-off valves (gas, etc.)
 - 10.7 Nearest fire-pull station
11. Make a first aid kit available in each technical area.
12. Encourage the use of safety posters, literature and audio-visual aids.
13. Advise the technological studies staff that all student projects must be able to be completed with all designed safety guards in place.
14. Advise the technological studies staff that each student is to be instructed in the use of personal safety equipment.
15. Direct technological studies staff that any equipment deemed to be unsafe must be taken out of service immediately, tagged, locked out and reported to the Head and Principal.
16. Advise the technological studies staff that, unless otherwise authorized by the Principal, only book work that shall take place during their absence or when an occasional teacher is in class.

17. Recommend that a qualified occasional technological studies teacher for a specific subject area assign book work until he/she has had an opportunity to provide a safe working environment.
18. Implement and incorporate other safety procedures or equipment as may be deemed necessary by the principal, Head and/or teacher.
19. Encourage the technological staff to receive instruction in approved first aid training.
20. Advise the technological studies staff that all incidents, whether serious injury and/or property damage resulted or not, are recorded and reported on an OSBIE Incident Report Form.
21. Conduct a follow-up analysis of all incidents, whether serious injury and/or property damage resulted or not.

GUIDELINES FOR TECHNICAL STUDIES: PRINCIPALS

1. Have available the Policy and Procedure and direct staff to OCTE website and documents for general and specific safety requirements for each of the different subject areas in the department and ensure that the document is followed.
2. Discuss these safety requirements with the heads of technical departments and ensure that they understand and implement them to the best of their ability.
3. Keep on file, the safety program for the technical areas in the school.
4. Keep on file, when the number of students, physical arrangement of room or attitude of students is inappropriate to safe instruction.
5. Keep on file, where in the Technical Teacher's opinion, a student's dress, grooming and/or attitude does not conform to the particular safety requirements and constitutes a hazard to the student or others.
6. Keep on file any known or potential safety hazard and the steps taken to correct the hazard.
7. Ensure that a standard accident emergency procedure is posted in each technical area.
8. Inform all occasional teachers of the standard accident and emergency procedures.
9. Ensure that in each technical area a floor plan is posted in a strategic place to show the locations of items such as:
 - 9.1 Fire extinguishers
 - 9.2 Emergency power "stop" buttons
 - 9.3 First aid kit
 - 9.4 Eye wash station(s)
 - 9.5 Emergency exits
 - 9.6 Special shut-off valves (gas, etc.)
 - 9.7 Nearest fire-pull station
10. Advise the technological studies staff that all student projects must be able to be completed with all designed safety guards in place.
11. Advise the technological studies staff that each student is to be instructed in the use of personal safety equipment.
12. Direct technological studies staff that any equipment deemed not to be safe must be taken out of service immediately, tagged and locked out until repaired or replaced. Ultimately they are the supervisor of the building who is responsible for the concern under the Health and Safety Act.
13. Advise the technological studies staff that, unless otherwise authorized by the Principal, only book work shall take place during their absence or when an occasional teacher is in class.
14. Ensure that a qualified occasional technological studies teacher for a specific subject area assign book work until he/she has had an opportunity to provide a safe working environment.
15. Where a dual credit teacher from an affiliated college is instructing in a classroom, or at a site, with TLDSB students the safety protocol herein shall apply to that teacher.
16. Implement and incorporate other safety procedures or equipment as may be deemed necessary.

17. Encourage the technological staff to receive instruction in approved first aid training.
18. Advise the technological studies staff that all incidents, whether serious injury and/or property damage resulted or not, are recorded and reported on an OSBIE Incident Report Form.
19. Conduct a follow-up analysis of all incidents, whether or not serious injury and/or property damage resulted.
20. Ensure WHMIS 1988/2015 legislation will be followed in the department and kept on file.

GUIDELINES FOR TECHNOLOGICAL STUDIES: TEACHERS

1. Teach and develop a safe, positive working attitude in the technical environment throughout any technological studies course.
2. Set a good example by observing all safety rules and wearing all personal and protective safety equipment.
3. Make sure that safety instruction is an integral part of the course of study and that students keep up-to-date notes on these lessons.
4. Follow WHMIS 1988/2015 legislation for the safe handling and proper disposal of hazardous chemicals and other waste materials which are used in the technical area.
5. Make sure that any unsafe behaviour in the technical area is addressed with students.
6. Make sure that all safety equipment and signs are clearly visible and identified within each technical area. Some examples are:
 - 6.1 Fire extinguishers
 - 6.2 Emergency power “stop” buttons
 - 6.3 First aid kit
 - 6.4 Eye wash station(s)
 - 6.5 Emergency exits
 - 6.6 Special shut-off valves (gas, etc.)
 - 6.7 Nearest fire-pull stations
 - 6.8 Fire exit routes
7. Discuss and use appropriate safety posters or pictures at strategic points around the room and to change them regularly to avoid complacency on the part of the students.
8. Discuss the importance of safety awareness in industry and around the home as well as at school. Refer to current OCTE student information as an example of what is available. There is quite a bit of good information that can be used.
9. Ensure that students have sufficient time for complete clean-up before the end of the period(s).
10. Report any defective lighting that may occur in the shop area to the Department Head and Principal.
11. Broken glass should be packaged and identified before disposing in the garbage in order to prevent injury to the custodial staff and any other person.
12. Supply each student with a set of student safety requirements relevant to the specific shop and to review and ensure that each student understands these requirements and signs a TLDSB Technological Student Safety Passport.
13. Arrange that, during a technical teacher’s absence, only activities authorized by the Principal occur.
14. Complete accurate records (OSBIE Incident Report Form) of all incidents whether serious injury and/or property damage resulted or not.
15. Keep accurate records of first aid treatment administered in the technical area with a copy supplied to the Principal in conjunction with school policy.
16. At the beginning of the year/semester review any student medical condition which could become a safety problem, e.g., by consulting with the student, or Student Services.

17. Arrange furniture and/or equipment to maximize ease of movement and safety.
18. Make sure that students are not permitted to work unsupervised in a technical area at any time.
19. Make sure that all student projects are completed with all designed safety guards in place and in working order.
20. Make sure that all tools are in proper working condition and that the correct tool is used for each job.
21. Report any defects in technical equipment, in writing, to the Head and to have any equipment deemed unsafe taken out of service immediately, tagged, locked out in a zero energy state and reported to the Department Head.
22. Instruct students to report to the technological studies teacher any tool or equipment that is unsafe or damaged.
23. Instruct the students that long hair and loose clothing must be adjusted or contained and jewellery removed when working in a technical area.
24. Instruct the students when safe usage of technology is appropriate, including personal devices, to ensure no distractions.
25. Make sure that appropriate protective apparel is available and worn, where applicable, while working in the technical environment.
26. Instruct students in recognition and understanding of hazardous products, safety symbols and frames.
27. Make sure that ventilation is adequate to provide a safe working environment and that all ventilation controls are easily visible.
28. Make sure good housekeeping practices are observed by keeping all areas clean, dry and uncluttered and to encourage students to develop neat, orderly work habits.
29. Anyone (including visitors) in a shop environment will wear proper safety protection.
30. Make sure that approved protective hearing equipment is worn whenever noise exceeds the recommended levels. (See Occupational Health and Safety Act – O.H.S.A.)
31. Post specific machine regulations on or near that machine where possible.
32. Be alert for and discuss unsafe practices and habits with all concerned individuals such as students, teachers, the Department Head and School Administration.
33. Advise students that butane lighters are not allowed in the shops.
34. During school evacuations (i.e. fire drill) all technical teachers must shut off all power and gas (if applicable), direct class to proper exit, close classroom doors, accompany students outside to designated area and account for all students

SAFETY PROCEDURES

Safety procedures for specific equipment, materials or shop areas are referenced in this part of the document. The intent is to focus on safety issues and facilities rather than specific shops. In teaching areas of higher risk (Tech, Science, PE) that Health and Safety inspections occur monthly.

In addition, and as per Industrial Regulations and Manufacturing Specifications, all stationary equipment will be connected to the electrical switching layout of the shop.

The OCTE website (www.octe.on.ca) lists the safety procedures for all equipment under “Health and Safety” in the toolbar. These specific machine and tool procedures are to be in place in all technical classrooms and sites.

The OCTE website is to be the source of information that is relevant to the various areas of Technological Studies. Teachers are to use the information that is applicable to their particular curriculum.

It is important that students be instructed in the safety procedures outlined in all areas of Technological Studies. In general, individual or group instruction is more effective than whole class instruction.



TLDSB Technological Student Safety Passport

(Teacher will retain safety records as indicated in Procedure ES-5061)

Student Name (first/last): _____

Semester and Year: _____

Teacher (first/last): _____

Course: _____

School: _____

Enter DATE (DD/MM/YR) of successful completion for EACH of the following:	By SIGNING below, it indicates all components of training have been completed successfully and student is approved to use that piece of equipment. (Sign in pen only)
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Machine Description	Lesson	Teacher Demo	Written Test	Practical Student Demo	Student signature	Teacher signature	Date:

NOTES: