1. PURPOSE

1.1 The purpose of this safety procedure is to provide safety guidelines while operating a metal lathe while on Thompson Rivers University campus.

2. SCOPE

2.1. These procedures apply to all Trades instructors and students when working at TRU.

3. PRECAUTIONS

POTENTIAL HEALTH & SAFETY HAZARDS

HAZARD		TO PROTECT YOURSELF
PINCH POINTS **There are gears and exposed moving parts on machinery.**		**Use LOCK-OUT procedures when performing maintenance or conducting any work within 12" of an exposed pinch point.** **NEVER put your hands or feet near an exposed pinch point or gears!**
ELECTRICAL HAZARD		**Ensure all switches, wires, and plugs are in good condition.**
HIGH SOUND LEVELS **Sound levels exceed 85 dB**		**HEARING PROTECTION is required when working in designated areas.**
FOOT INJURY		**Approved protective footwear is needed when there is the risk of foot injury due to slipping, uneven terrain, abrasion, crushing potential, temperature extremes, corrosive substances, puncture hazards, electrical shock and any other recognizable hazard**
Rings and Dangling jewelry		**Rings and any loose or dangling jewelry must not be worn while operating any equipment or machines**

4. PERSONAL PROTECTIVE EQUIPMENT

	**Safety glasses must be worn at all times in work area! Face shield can be used over the glasses if there is a presence of a lot of flying debris.**
	**Long and Loose hair must be contained by a hat or hairnet to prevent contact with moving parts on equipment and machines**
	**Work Boots must be worn at all times when working in an area where there is risk of serious foot injury due materials falling onto the foot.**

5. PROCEDURES

5.1. Safety Procedures for working on a metal lathe.

- Wear appropriate safety glasses while working with the metal lathe. Others work within the area must wear safety glasses as well due to possible flying debris.
- Ensure entanglement hazards are removed (e.g. loose clothing, jewelry, etc.)
- Keep the floor free from obstructions or slipping hazards. Maintain good housekeeping.
- Ensure that the lathe has a stop/start button within easy reach of the operator.
- Follow job specifications for the speed, feed and depth of the cut for materials being turned. Make sure all work runs true and centered.
- Centre-drill work deeply enough to provide support for the piece while it is turning.
- Secure and clamp the piece being worked.
- Adjust tool and tool rest so that they are slightly above the centre of the work.
- Use a lifting device to handle heavy chucks or work.

- Inspect chucks for wear or damage. Flying pieces can be very dangerous.
- Remove chuck wrench immediately after adjusting chuck.
- Dogs that extend beyond the circumference of a lathe chuck must be safeguarded from contact by the operator
- Use a barrier guard when operating the lathe in semi-automatic or automatic mode.
- Guard all power transmission parts.
- Cuttings, cooling fluid, metal chips or turnings from machine tool work must be contained.
- Remove all tools, measuring instruments and other objects from saddle or lathe bed before starting machine.
- Keep all lathe cutting tools sharp.
- Ensure that the chip and coolant shields are in place.
- Shut off the power supply to the motor and lock out before mounting or removing accessories.
- Stop lathe before taking measurements of any kind.
- Use a vacuum, brush or rake to remove metal cuttings only after the lathe has stopped moving and power has been disconnected.
- Keep working surface clean of scraps, tools and materials.
- Keep floor around the lathe clean and free of oil and grease.

5.2 Safety steps to be followed while filing on a metal lathe.

This procedure is done by hand. Take extra care because it involves reaching over rotating work.

- Cover lathe bed with paper.
- Set lathe at twice the speed used in turning.
- Adjust work freely between centres. If available, use a rotating dead centre.

- Disengage lead screw by placing the reverse lever in a neutral position.
- Select a suitable long-handled lather or mill file with a properly fitted handle.
- Grip file handle in left hand and use fingers of the right hand to balance and guide file at the point. This method ensures that arms and hands will be clear of the head stock.

- Move file along work after each stroke so that each cut overlaps approximately on half the width of the file.
- Use long strokes, applying pressure only on forward stokes.
- Use approximately 40 strokes per minute.
- Clean loaded file with file brush and rub file teeth with a little chalk.

5.3 Things to avoid while working on a metal lathe.

- Do not wear gloves, rings, watches or loose clothing. Confine long hair.
- Do not lean on machine. Stand erect; keep face and eyes away from flying chips.
- Do not make adjustments while the machine is operating. Wait until the machine has come to a complete stop and the power is disconnected.
- Do not place hands on work turning in the lathe.

- Do not use calipers or gauges on a work-piece while the machine is moving.
- Do not leave lathe unattended while it is running.

6. RECORDS/VERIFICATION OF UNDERSTANDING

6.1. Records

6.1.1 – Records are to be kept by the Instructor and the Chairperson for the department on all students who have been oriented in the safe operation of the metal lathe.

6.2. Verification of Understanding

7. A training master log will be maintained by Chairperson of the Trades departments and the Dean of Trades.

8. SUMMARY OF CHANGES

Revision #	Date	Change (include section #)	Issued By
1	06/30/2014	NEW	OHS Officer