



UNC CHARLOTTE

Department of Engineering Technology

# LABORATORY SAFETY ANALYSIS

## OPERATING THE INSTRON 5582 UNIVERSAL TESTING MACHINE


Location: Smith 126

Required Training: The Instron 5582 is designed and intended for use by properly trained and experienced operators. If you are not familiar with the proper and safe operation of this device, do not use until proper training and knowledge have been obtained.

Required Personal

Protective Equipment (PPE): Safety glasses, closed toed shoes

Reference Materials: Manufacturer's safety rules and operating instructions

PHOTOS	TASK	HAZARDS	CONTROLS
	Wear clear safety glasses with side shields.	Flying debris	<ul style="list-style-type: none"> <li>Students are required to provide their own safety glasses.</li> <li>See laboratory instructor or laboratory manager if you do not have safety glasses before proceeding to use equipment.</li> </ul>
	Inspect safety glasses for cracks, scratches or other damage. Ensure the ANSI standard Z87.1 is stamped into the side of glasses. If necessary inspect dust mask or face mask.	Flying debris	<ul style="list-style-type: none"> <li>If defects are found report this to your lab instructor before using.</li> </ul>
	Put on PPE	Flying debris and heavy objects	<ul style="list-style-type: none"> <li>Always wear safety glasses.</li> <li>Always wear closed toed shoes when handling jaws or other heavy attachments.</li> </ul>
	Inspect work area, walk around Instron looking for debris and ensure proper lighting.	Slips, trips & falls	<ul style="list-style-type: none"> <li>Keep the work area around the Instron free from scraps, dust, oil and grease.</li> </ul>
	Check manual controls	Injury, pinch points	<ul style="list-style-type: none"> <li>Check for proper functioning of manual controls used to position crosshead.</li> <li>Check for proper functioning of Emergency Stop Switch.</li> <li>Always keep hands/fingers away from jaws or platens when adjusting crosshead</li> </ul>

	Insert sample specimen	Injury, pinch points	<ul style="list-style-type: none"> <li>• Use proper jaw type and size for respective tensile specimen configuration.</li> <li>• Keep fingers away from jaws when tightening.</li> <li>• Ensure that jaws are tight before beginning test</li> <li>• When using platens for compression testing, keep fingers from being in between specimen and platen</li> </ul>
	Run automated test	Flying debris	<ul style="list-style-type: none"> <li>• Always wear safety glasses throughout the test.</li> <li>• For specimens which may splinter or fragment, place secondary shield in front of the specimen.</li> </ul>
	Remove specimen	Cuts	<ul style="list-style-type: none"> <li>• Return crosshead to starting position to insure adequate workspace.</li> <li>• Broken specimens can have sharp edges, sharp points, or splinters; handle with caution when removing.</li> </ul>
	Turn machine off	Injury	<ul style="list-style-type: none"> <li>• When all testing is completed, turn the machine off, as crosshead may be activated whenever power is on.</li> </ul>
	Clean work area and return all PPE to a clean, dry storage area.	Injury	<ul style="list-style-type: none"> <li>• Ensure adequate housekeeping measures to prevent accidents.</li> <li>• Remove broken/used specimens to a safe storage area.</li> </ul>

For more information about this LSA, contact the *Department of Engineering Technology* at UNC Charlotte (704) 687-2305  
 Please visit our website at: <http://www.et.uncc.edu>

***The development of Laboratory Safety Analyses is a very effective means of helping reduce incidents, accidents, and injuries in the workplace. It is an excellent tool to use for training purposes and can also be used to investigate "near misses" and accidents.***