

Shop Safety Program

University of California Riverside

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For access to all sections of the [Shop Safety Program](#), please proceed to the [Table of Contents](#).

Review the [Shop Safety, Frequently asked Questions \(FAQ\)](#) to become familiar with shop hazards and their controls, as well as basic information about this Shop Safety Program.

Shop Safety Program Description: There are more than 20 shops on campus and at field stations that conduct work in support of research and maintenance activities. Work includes model-building, carpentry, machine building, electrical/electronics, concrete work, glass blowing, metal working, vehicle maintenance and more. The University of California, Riverside (UC Riverside) has developed this Shop Safety Program to manage the hazards associated with various shops and their work activities to comply with Cal-OSHA and other regulations concerning shops.



This program applies to any department on campus, at field stations, or on leased property where any type of shop-work activities are conducted by employees and other personnel using University shops. Included are work activities conducted by temporary employees and graduate students performing research at field stations and remote research facilities.

A department owning shop(s) is responsible for the integration of this program and its prescribed activities into their business operations. In addition, Owner Departments must provide training to their personnel as required by this program, must keep the records of training and authorization of personnel, and must perform annual shop self-assessments and correct unsafe conditions identified in any shop under their ownership.

Shop managers, shop personnel and other shop users are required to follow administrative and safe-work procedures as outlined in this program; to alert Owner Department management when unsafe conditions are discovered in a shop; to take action to control discovered hazards and to assist in the implementation of this program; to conduct a hazard assessment of the shop and assure proper PPE is available for shop users and visitors; and, to understand and follow the safe work practices developed by their department concerning shop safety.

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Purpose / Introduction

There are more than 30 Academic, Teaching and Research-Support Shops on UC Riverside Campus and satellite / field locations. Areas of shop activity include metal-working and machining, carpentry, electrical / electronic work, glass blowing / forming, scenery and set building, art and architecture building / modeling, research / device building, mechanics and vehicle building / maintenance, etc.

The University of California, Riverside EH&S/General Safety developed this Shop Safety Program to manage the hazards associated with various shops and their work activities to comply with Cal-OSHA and other regulations concerning shops.

This program integrates safe-work practices required by Cal-OSHA into the operations of Departments that own and/or manage Shops at UC Riverside. Among other things, this program outlines safe work practices and procedures, guides the contents of the “UC Shop Safety Manual”, and guides training and recordkeeping for safe-work conducted in “Shops”. All employees, students, visitors and contractors working in “Shops” located on property owned and/or leased by UC Riverside must be familiar with and follow the requirements of this program.

Applicability / Scope

This Program applies to any Department on campus, at field stations, or on leased property where one or more of the following operations are routinely conducted by UC Faculty, Staff, Students or Contractors in facilities owned / controlled by the Department:

- **Metal working** including sheet metal forming, machining, grinding, riveting, cutting, threading, casting, forging, heat-treating, quenching, welding, brazing, soldering, etc...
- **Carpentry** and woodworking including cutting, drilling, sanding, carving, routing, grinding, planing, gluing, bonding, fastening, etc...
- **Surface modification and coating** including sandblasting, painting, surface preparation, laminating, burning, etching, masking, etc....
- **Glass work** including glass blowing, glazing, annealing, tempering, bonding, grinding, drilling, hot-work with glass materials, etc...
- **Electrical / electronic** work including equipment building, circuit design / building, wiring, control system building/repair, etc.
- **Plastics** work including machining, bending, burning, bonding, cutting, drilling, gluing, melting, forming, etc...
- **Equipment Development / Model Building** work including machine building, hydraulics building / use, compressed air use, equipment building, research equipment repairs / maintenance, model building, etc...

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Roles and Responsibilities

Faculty, Staff and Students

All Faculty, Staff, Students and Contractors who work in or near a Shop must be “Authorized” by a Responsible Person in the Department to work in the “Shop” before they use shop equipment or enter a “Restricted Area” of any shop. Under no circumstances is anyone allowed to conduct work in a “Shop” without prior “Authorization”.

“Authorized Person”

- Any person who works with shop equipment and processes must be “authorized” by their PI/Instructor/Supervisor, as well as the “Shop Manager/Supervisor” prior to working unescorted in a shop. This is a documented process using [Attachment 1](#).
- They must be trained on, and remain current to, each Shop’s specific safe-work requirements as well as application of this program through documented training on the UCR Shop Safety Policy ([Attachment 2](#)).
- An “Authorized Person” may work on or with shop equipment and conduct shop processes that they have been ‘Authorized’ to do.
- An “Authorized Person” may enter and work unescorted in a shop’s “Restricted Area”.

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Principal Investigator / Instructor / “Supervisor” / Project Manager

(other than a “Shop Manager / Supervisor”)

The Principal Investigator / Instructor / “Supervisor” / Project Manager must, or may delegate in writing a qualified person to:

- Determine who under their direction must be an “Authorized Person” to work in a Department’s Shop(s).
- Assure that “Authorized Person(s)” under their direction have had documented training to qualify them as an “Authorized Person” prior to allowing them access to Shop equipment and work-processes.
- Complete the “Authorized Person” qualification form (top half of [Attachment 1](#)) and distribute copies of this form to the Shop Manager(s) and as required in the “[Record Keeping](#)” portion of this program. One form must be completed for each shop you are authorizing your direct report to work in unless multiple-shops are managed by the one Shop Manager.
- When hiring Contractors to conduct work in Department Shops, the PI / Instructor / Supervisor / Project Manager must assure every Contractor employee has been trained on the Department’s Shop Safety Program, been oriented to the shop and its equipment / processes, and reviews / documents each Contractor employee’s level of safe-work proficiency, area of work allowed and any work restrictions, prior to allowing any Contractor to work in the Shop’s “Restricted Area”. See “[Contractors and Joint Projects](#)” section for further information.
- Contact Facilities Services for any Contractor services requiring shut-down of utilities for safe work in Shops.

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Shop Manager / Shop Supervisor

- Assures requirements of this program are integrated into the operations of their Shops.
- Determines location and boundary of the “[Restricted Area](#)” within their shop and clearly marks this area using signage, paint-stripping, etc.
- Assures that only “[Authorized Persons](#)” are allowed to conduct work in the “Restricted Area” of their shop and documents this process by completing [Attachment 1](#) for each authorized person.
- Maintains the “[Shop Safety Manual](#)” customized for shop hazards and processes in their shop.

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- Assures that every “Authorized Person” who works in the shop has read, been given, and signed off receiving a copy of the UC Riverside Shop Safety Program using [Attachment 2](#) that has been customized to the specific shop they’re authorized to work in.
- Customizes and posts the [HAZCOM “Orange Flip Chart”](#) for their shop, and conducts orientation training for all “Authorized Persons” on the location / content of the “Orange Flip Chart”.
- Conducts a documented hazard assessment of hazards in their shop, and purchases / stocks Personal Protective Equipment for use by Authorized Personnel and Shop Visitors as identified hazards may dictate.
- Provides periodic training to “Shop Personnel” and “Authorized Persons” on their shop’s safety program, identified hazards and their controls.
- Regularly attends as a member, or designates a Shop Representative to be a member, of the [Campus Shop Safety Committee](#) if committee exists or is developed.
- Maintains [training records](#) of all Shop Staff, Contractor orientations and “Authorized Persons”.
- Oversees the conducting of the [annual shop safety self-assessments](#) administered by EH&S.
- Assures a hazard assessment / control review is conducted for any shop equipment / process purchased.
- Conducts and documents orientation trainings for every Contractor employee working in and using shop equipment by completing [Attachment 1](#) and [Attachment 2](#) for each contractor employee.
- Conduct “Joint Projects” meetings when contractor work is present as well as other responsibilities outlined in the [“Contractors and Joint Projects”](#) section below.

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Department Director, Chair, AVC, Upper Management, etc.

- May manage directly, or delegate the Department’s “Shop Manager / Supervisor” to, integration of the “Shop Safety Program” into Department operations.
- Assures Department participation in the “Campus Shop Safety Committee” if committee exists or is developed.
- Assures their Department’s DSC or Other Responsible Person is given authority to manage the Shop Safety Program requirements and training / recordkeeping tasks for the Department.
- Identifies, or delegates to PIs / Instructors and the Shop Manager the responsibility to identify, “Authorized Persons” within the Department who are trained on this Shop Safety Program and ‘authorized’ to work in the Department’s shop(s).

Department Safety Coordinator (DSC) or Other Responsible Person

- May conduct the annual shop self-assessment themselves, or may delegate the inspection to each shop manager for completion.
- Receives feedback on the completed self-assessment from each shop manager.
- Keeps a copy of every completed shop self-assessment on file within the department, and may share the result of the inspection with the department and/or EH&S.
- May initiate changes and improvements to the department’s safety program based upon the results of the shop self-assessment.

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- Has “[Training](#)” and “[Record-keeping](#)” responsibilities as outlined in those sections of this program.

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Contractors and Joint Projects in Shops

- Contractors follow their own Shop Safety Program and procedures when using their own equipment and shop processes and not working in conjunction with or around UCR personnel.
- Contractors must provide the University project manager and/or Shop Manager evidence of their Shop Safety Program upon request.
- Contractors provide all their own shop equipment, unless negotiated by contract with the University use of University facilities and equipment.
- For contractors using UCR owned shops and shop equipment, the same authorization / orientation process used for UCR employees is used for contractors by completing [Attachment 1](#) and [Attachment 2](#) for each contractor employee using a shop. The person hiring and overseeing the work conducted by the contractor must act as the “Supervisor” and document contractor authorization and orientation / training to the Shop Safety Program prior to allowing the contractor to work in any shop.
- Shop Managers must approve and authorize contractor employees to work in their shop prior to allowing Contractor-use of the shop by signing [Attachment 1](#) and [Attachment 2](#) for each authorized contract employee.
- Contractors must follow “Joint Project” requirements as outlined below when working in the area of or with UCR personnel.

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For Joint Projects where employees and/or students of the University and Contractor(s) are working in the same shop at the same time, the Shop Manager / Supervisor is the controlling person in the shop. Only the Shop Manager may authorize someone to work in the shop. In this situation, the Shop Manager / Supervisor must:

- Hold joint meetings with all personnel in attendance who will be working in the area to promote understanding of planned work, safe work practices and open lines of communication amongst workers regardless of employer.
- Contractors using University equipment and property follow University safe-work procedures and review JSAs and SOPs developed by the UCR shop as part of their training/orientation to the shop by the Shop Manager.
- Joint Project / Contractor orientation/training by the UCR Shop Manager is documented using a training roster ([Attachment 7](#)) and kept on file by the Shop Manager.

Campus Shop Safety Committee (CSSC) (If it exists or developed)

- Oversees application and operation of the Shop Safety Program
- Shares safety information among Shops across campus
- Meets at least three times a year (Fall Semester, Spring Semester and Summer Session)
- Identifies and manages shop safety training needs.
- Audits Shop Safety Program through visits and learning sessions to member Shops.
- May investigate shop incidents, author and distribute “Lessons Learned” information to Shops.

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- Alerts EH&S when the Shop Safety Program needs EH&S consultation / support

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Procurement Staff must:

Assure a hazard analysis of large shop equipment / contractor services purchases has been completed prior to issuing a purchase order. This analysis may be completed by a Department, EH&S Safety Engineering, or a consulting contractor as long as hazards associated with the equipment are identified and controls planned prior to purchase of the equipment. This is documented on [Attachment 6](#).

EH&S

- Authors and maintains this program to meet or exceed Cal-OSHA requirements,
- Informs Departments with Shops of this program's requirements,
- Provides general program awareness information across campus,
- Provides assistance and training for Shop Safety Committee, Departments and Shop Managers/Supervisors and "Authorized Person(s)" in implementation of this program,
- Provides and maintains a [JSA Library](#) that contains [JSAs specific to shop equipment](#) and safe-work practices
- Provides a forum and website for the Shop Safety Committee information to be documented and shared by and between Departments,
- May investigate shop incidents, author and distribute "Lessons Learned" information to Shops via the Shop Safety Committee website and e-distribution list.
- Recommends new Shop Safety equipment and processes as they are learned / developed,
- Provides assistance in development of Shop Safety procedures, and
- Updates this program periodically or as regulatory changes may dictate.

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Definitions

Authorized Person – A person who by reason of their need to work in the shop, and experience and knowledge of shop safe work practices, is "Authorized" to use shop equipment / processes and physically be present / work in shop areas defined as "Restricted Areas". A person who is not an "Authorized Person" may not enter or remain in "Restricted Areas" of any shop without the escort of an "Authorized Person".

Restricted Area – An area of a shop that has controlled access and in which only "Authorized Persons" are allowed to freely work without supervision or escort.

Shop – A location where any of the activities or operations described in the "[Applicability / Scope](#)" section of this program occur.

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Shop Safety Hazards and Controls

Every shop must identify hazards in the workplace, evaluate those hazards, implement hazard controls, and re-evaluate the controls to assure they are properly working. All hazard controls are applied by Shops according to the following Hierarchy of Controls:

Hierarchy of Hazard Controls Used at UC Riverside:

Eliminate the Hazard

The most effective means to improve safety is to eliminate hazards so they cannot cause injury / loss. Shops are encouraged to eliminate hazards if practicable. (An example: Replacing a caustic chemical cleaner such as “ammonia” with bio-degradable cleaner like “Simple Green” eliminates indoor air quality and skin exposure hazards.)

Engineering Controls

Engineering controls are used to reduce but not necessarily eliminate a hazard. Such controls may isolate the hazard from a person being exposed to it (e.g. – machine guard) or remove the hazard when exposure may happen (e.g. – fail-safe controls with interlocks on access door panels on a punch-press).

Administrative Controls

Administrative controls are used when engineered controls / hazard elimination are not practical. Such controls rely on behavior and administration to assure hazard control. (Examples: Developing and following a written Standard Operating Procedure or, isolation of energy following the campus “[Energy Isolation Program / Lock-out Tag-out](#)”.)

Personal Protective Equipment (PPE)

PPE is the least effective hazard control and is only used to supplement other hazard control measures. PPE endeavors to isolate the worker from the hazard, but does nothing to reduce or eliminate the hazard. Examples of PPE include gloves, protective eyewear, hair nets, aprons, long-sleeve shirts / pants, work boots, etc... When no other means to control identified hazards are available, the Shop Manager is responsible to purchase and stock PPE appropriate to control identified hazards and provide the PPE to all Authorized Shop Personnel and Shop Visitors entering the “Restricted Area” of their shop.

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Typical Shop Safety Hazards and their Controls at UC Riverside

Chemical Hazards	<ul style="list-style-type: none"> • Chemical replacement / hazard reduction • Separation of reactive chemicals • Labeled chemical containers • Secondary containment trays / double-walled tanks • Inventory of Chemicals • Hazard Communication Program (HAZCOM) “Orange Flip Chart” • Online MSDS • Managing Paint and Painting Supplies • Respiratory Protection Program enrollment • JSA Review / Writing / Training • PPE
Compressed Gases	<ul style="list-style-type: none"> • Seismic Bracing (Q-Brace Program) • Cylinder Rack / Chained Storage • Energy Isolation / LOTO Program • Compressed Gas Cylinder Safety Program • Respiratory Protection Program enrollment • JSA Review / Writing / Training • PPE
Electrical Hazards	<ul style="list-style-type: none"> • Engineered Controls / Fail-safe Equipment • Electrical Safety Program • Energy Isolation / LOTO Program • JSA Review / Writing / Training • Special Tools • PPE
Emergency Response	<ul style="list-style-type: none"> • Hazard Communication Program (HAZCOM) “Orange Flip Chart” • Define Egress Pathways, Clear Exits and Safe Muster Location
Ergonomics	<ul style="list-style-type: none"> • Hazard reduction through design • Fork lift / Industrial Lift / Aerial Lift Programs • Minimize repetitive work and odd postures / movements • Use / design of ergonomic tools • JSA Review / Writing / Training
Heat / Cold Hazards	<ul style="list-style-type: none"> • Permanent insulation • Insulation Blankets • Isolation equipment / chambers • Cooling or Heating equipment (as needed) • Warning signage and direct-read temperature gages • JSA Review / Writing / Training • PPE
Housekeeping	<ul style="list-style-type: none"> • Well-planned storage and material control • “Proper” cleaning tools and vacuum equipment • Ventilation and control of sprays, dusts and fumes • Routine and institutionalized periodic Shop cleaning • JSA Review / Writing / Training • PPE

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<p>Hot Work and Fire Safety</p>	<ul style="list-style-type: none"> • Fire Sprinkler System • Fire Extinguishers • Containment of flammables in fire-safe storage cabinets • Point-of-use or small-quantity dispensing of flammable fluids • Ventilation • Hot Work Permit / Program • Respiratory Protection Program enrollment • JSA Review / Writing / Training • PPE
<p>Hydraulics / Fluid under pressure</p>	<ul style="list-style-type: none"> • Hazard reduction through design • Energy Isolation / LOTO Program • Hydraulic Safety Program • JSA Review / Writing / Training • PPE
<p>Material Handling</p>	<ul style="list-style-type: none"> • Engineered controls and space layout for minimal material movement • Crane Safety Program • Fork lift / Industrial Lift Program / Aerial Lift Program • Minimize lifting / movement work • JSA Review / Writing / Training • PPE
<p>Mechanical Equipment Hazards</p>	<ul style="list-style-type: none"> • Hazard reduction through design • Machine Guards and Control Interlocks • Energy Isolation / LOTO Program • Blocks and Extension Tools • JSA Review / Writing / Training • PPE
<p>Noise Hazards</p>	<ul style="list-style-type: none"> • Mufflers and Isolation equipment / devices • Noise-cancellation devices • Lead sheeting and sound absorbing materials • Hearing Conservation Program • JSA Review / Writing / Training • PPE
<p>Vibration</p>	<ul style="list-style-type: none"> • Counter-weights and balance shafts • Cushioned / shock-proof equipment • Ergonomics Program • JSA Review / Writing / Training • PPE
<p>Unfamiliar Processes / New Operations</p>	<ul style="list-style-type: none"> • Research Proposal and Compliance Review Form • Hazard Identification, Evaluation and Control Program • JSA Writing / Training • PPE

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Program Requirements and Procedures

Administrative Requirements

CAMPUS SHOP SAFETY COMMITTEE (CSSC) (If it exists or developed)

Campus Shop Safety Committee (CSSC) is comprised of members from Departments impacted by this program and has the responsibility to oversee, review and maintain the UCR Shop Safety Program as it applies to campus need. The CSSC is supported by EH&S both technically and financially.

CSSC Charter

The CSSC is chartered to:

- Provide a forum for Shops to learn from each other and exchange safe work ideas and practices.
- Develop and review technical material in support of the Shop Safety Program.
- Assist Owner Department management and Shop Manager/Supervisors in the application of Shop Safety requirements.
- Assess the performance of the Shop Safety Program, including audits, inspections, and reviews of shop accidents and near misses, with development of lessons learned.
- Disseminate “Lessons Learned” to all shops at UCR.
- Conduct safety inspections of shops at UCR.
- Meet at least three times a year to discuss and guide Shop Safe-work Practices
- Provide EH&S with recommendations for improved training and program implementation throughout campus.
- Provide EH&S Shop Safety Program Manager with recommendations for Shop Safety Program improvements / changes.
- Provide EH&S with recommendations for funding of Shop Safety Committee initiatives.

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CSSC Composition and Function / Logistics

Permanent members of the CSSC include the Shop Safety Program Manager (EH&S), a campus Ergonomist (UHS), the Committee Chair, and a volunteer-member representative from each shop on campus who are knowledgeable in shop work practices and safe-work needs.

The CSSC is chaired by a voluntary member of the Shop Safety Committee. Committee Chair lasts for 6 meetings (two years). The Chair volunteers to be the Chair and is ratified by a simple-majority vote of Committee members in attendance at the Fall-semester meeting of the Committee every other year. The Chair plans the committee meeting agenda using [Attachment 4](#) and leads the meetings.

The EH&S Program Manager arranges for a meeting location, provides refreshments, documents committee meetings by keeping minutes, keeps attendance rosters using [Attachment 3](#), and may edit / amend the Shop Safety Program as directed by a Committee super-majority vote (66% or greater) during a meeting or if dictated by new compliance codes.

HAZCOM “ORANGE FLIP CHART”

The “[HAZCOM - Orange Flip Chart](#)” is a tool for shops to consolidate important safety information for shop personnel and emergency responders. The flip chart must be completed by the Shop Manager/Supervisor with ‘shop specific’ information and posted in a clear and accessible place for all shop personnel and emergency responders to reference as needed. Once the Orange Flip Chart has been completed for a specific shop location, this may be used / reviewed as part of a documented shop orientation for any personnel ‘authorized’ to work in the shop.

The template of the “[HAZCOM - Orange Flip Chart](#)” is available on the EH&S website for downloading and printing out by the Shop Manager / Supervisor, or may be ordered from the Shop Safety Program Manager at EH&S (642-3073).

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CREATION OF “RESTRICTED AREAS” and “AUTHORIZING” PERSONNEL

Only persons who are “Authorized” may work in “Restricted Areas” of shops on campus. Any person who is not “Authorized” may only enter “Restricted Areas” of shops with escort by an “Authorized Person” from that shop.

Restricted Areas

The Shop Manager / Supervisor must determine the physical space within the shop that is the “Restricted Area”, and take measures to clearly demarcate these areas as ‘separate’ from other “non-restricted” shop space.

Authorizing Personnel

A person must be “authorized” by their Supervisor and the Shop Manager before they may conduct work in a shop. An “Authorized Person” is an individual formally recognized as:

- Having requirements for working in the Shop documented by their PI / Instructor / Supervisor in the top-half of [Attachment 1](#), and
- Having completed required classroom, trades or other training, and
- Having sufficient understanding of Shop safe-work practices, equipment, and facilities to be able to recognize and positively control any hazards that may be present, and
- Possessing the work experience and formal training necessary to execute work according to recognized and accepted Shop safe-work practices, and
- Having completed orientation to a shop’s “Restricted Area(s)”, facility, equipment and apparatus as documented by the Shop Manager / Supervisor on the bottom-half of [Attachment 1](#) and through review and signing of [Attachment 2](#) and the shop’s [HAZCOM “Orange Flip Chart”](#) as it may apply to a specific shop.

A person may be considered “Authorized” with respect to certain equipment and safe-work methods in some safe-work activities or shop locations, but not ‘Authorized’ for another activity/location within the same shop. It is the responsibility of the Shop Manager to determine the degree of “Authorization” for each and every person working in that shop, and document this on the “Authorized Person’s” record by completing the bottom half of [Attachment 1](#).

Authorization to work in one shop does not allow a person to work in another shop. A person must be “authorized” in each and every shop to conduct work in that specific shop under the specific authorizing Shop Manager. Shop Managers who oversee multiple shops may authorize a person to work in more than one shop under their direction, but this must be clearly stated on the authorization documented on “[Attachment 1](#)” for that individual.

ANNUAL SHOP SAFETY SELF-ASSESSMENT

EH&S oversees the campus-wide annual “Shop Safety Self-assessment” process. During the Fall Semester, EH&S sends to each Department Safety Coordinator (DSC) a Shop Self-assessment Questionnaire customized each year to highlight new regulations, new shop safety program activities, or reinforcement of lessons learned and shop safety initiatives promoted by the CSSC. The DSC may conduct the inspection themselves, or delegate this task to the Shop Manager / Supervisor or another qualified individual.

Completed self-assessment forms must be returned to EH&S by a set date by each shop in each department that operates shops. EH&S will review these forms and determine trends, offer consultation and EH&S support services as results of the self-assessments may dictate. A sample of a recent ‘Shop Self-Assessment Questionnaire’ is in Attachment 5.

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SHOP SAFETY MANUAL [YELLOW BINDER] vs. ONLINE SAFETY PROGRAM

Historically, UCR Shops have been provided a “Shop Safety Manual” binder by EH&S into which Shop Managers would customize the contents for their shop based upon the hazards associated with shop activities and equipment. This is also known as the “Yellow Binder”. Included in the “Yellow Binder” may be copies of training records, copies of personnel authorization records, MSDS, JSAs, SOPs, past inspection reports, incident investigations, lessons learned, EH&S Fact Sheets, or any other shop safety program documentation as the Shop Manager may deem necessary to manage and demonstrate ongoing shop safety activities to shop personnel, EH&S or a visiting regulatory agency. If used, all shop personnel should have access to the “Yellow Binder” as part of their training and implementation of the shop safety program within the shop and should be informed of where it resides as part of their shop-safety orientation.

Much of the “Yellow Binder” contents is now available online, and regulatory as well as program documents are constantly being updated by EH&S and other campus units. Therefore, maintenance of the “Yellow Binder” with up-to-date information is a daunting and resource-consuming task. As an alternative, Shop Managers may move their training and other safety-program activities more ‘online’ as long as shop personnel have online access to shop-safety program documents and up-to-date information as they may apply to the shop. For example, [online access to MSDS](#) through the campus’ [MSDS website](#) precludes the need to maintain current MSDS for the shop in the “Yellow Binder”.

However, shop managers must maintain hard-copies of training records for content of training done, personnel authorization records, etc. Records must include a description of the content and location of the “Yellow Binder” for those parts of the safety-program that are kept ‘hard copy’ by the shop, and a description of the content and method of accessing electronic safety-program information by shop personnel for the parts of the program ‘online’.

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PROCUREMENT

Prior to issuing a purchase order for Shop Equipment or Contractor Services, Department Procurement staff ensures that a hazard analysis and control assessment is conducted and a copy of a completed [Attachment 6](#) is included with the Purchase Order documentation. When a Utility

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Shut-down is required for safe work in Shops, a copy of the [Work Order “Shut Down Request”](#) is included with the Purchase Order for any Contractor services requiring shut-down of utilities.

Procurement of Shop Equipment

The requester’s documentation includes identification of the hazards and their controls associated with procuring and installing this equipment. This hazard analysis process is completed by the requester and documented on [Attachment 6](#).

Procurement of Contract Services

UCR requester ensures that the RFP documentation for contractors performing work contains identification of the known hazards involved with the work, and the level of qualification(s) of the contractors being sought, or equivalent language approved by the EHS Safety Engineer and Facilities Services Electrical Shop. This hazard analysis process is completed by the requester and documented on [Attachment 6](#).

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Safe Work Policy and Procedures

SHOP SAFE WORK POLICY

It is the policy of UC Riverside and any department that owns / manages a shop that:

- Only persons who are “Authorized” by a Shop Manager / Supervisor may work in restricted areas of shops unescorted.
- A person becomes “Authorized” as indicated by need of their work duties, and approval from their immediate Supervisor, PI or Instructor **combined** with a Shop Manager’s agreement that they possess the training and qualifications for safe work in the shop. This is documented using [Attachment 1](#) and [Attachment 2](#) of the Shop Safety Program.
- Authorization is done for each and every shop. Authorized access to another shop is only given by that Shop Manager’s documented authorization.
- Shop Managers define and maintain a “Restricted Area” within their shop that only “Authorized Persons” may enter and work in unescorted.
- Shop Managers determine the appropriate safe-work training needs for their shop, and assure that all “Authorized Persons” in the shop have received the orientation and training to their shop. At minimum this includes reading and signing [Attachment 2](#) of this program.
- UCR has, and all Shops must support, a Stop Work Policy when unsafe work is witnessed. It is the responsibility of everyone to exercise this policy when observing unsafe work conditions or practices. If you see unsafe behavior or activities, don’t hesitate to use the Stop Work Policy and immediately speak up and stop unsafe work.
- UCR Shops comply with Cal/OSHA regulations, the California Electrical Code and other established safety standards by applying this and other EH&S Safe-work Programs / Policies as listed in the [“Typical Shop Hazards and their Controls”](#) section of the “UC Riverside Shop Safety Program” on the [EH&S website](#).
- All electrically energized shop equipment is used in a safe manner as intended by the manufacturer and within the equipment’s Nationally Recognized Testing Laboratory (NRTL) listing.
- All shop personnel must resist “hurry-up” pressure and work methodically and safely. Take the time, and get the help needed to do a job the ‘safe way’.

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SAFE WORK PROCEDURES

USE OF PERSONAL PROTECTIVE EQUIPMENT (PPE)

All Shop Managers are required to conduct hazard assessments of operations in their shops and apply the "[Hierarchy of Hazard Controls](#)" to controlling hazards in their shops. When the use of PPE is required, PPE must be stocked and supplied by the Shop Manager to all "Authorized Personnel" and "visitors". Selection is based upon evaluation of hazards that are present, and must be worn by anyone when entering a "Restricted Area" as follows:

- Appropriate face and/or eye protection whenever powered equipment or flying / airborne particles or hazardous substances or injurious light sources are present.
- Hair-nets or caps when long hair could get wrapped into rotating or rolling equipment, or could be exposed to flames or other such hazards.
- Hard hats or bump caps when someone is working over your head, head-banger obstructions exist, or when a Shop Manager / Supervisor requires them.
- Dust masks may be used by anyone at any time for airborne dust, but use of other respirators is determined by indoor-air-quality hazard assessment and are distributed to individual personnel through their enrollment in the UCR [EH&S Respiratory Protection Program](#).
- Gloves and other hand protection must be selected and worn based upon hazards. Use [EH&S's Glove Selection Guideline](#) for ideas on what kinds of gloves should be worn based upon hazards.
- Full-cover shoes with non-slip soles and ankle support are required in all "Restricted Areas". Safety boots, optionally with steel / composite toes, are required during the movement of heavy equipment and work materials, or the use of industrial lift equipment or cranes.

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PERSONAL SAFETY and WORKING SOLO

- Long and medium length hair, including facial hair, must be tied back and put into a bun or inserted under a shirt-collar, or contained in a hair-net, when working near sparks, flames, or any rotating powered or other entangling equipment.
- Open-toed shoes, flip-flops, shorts, sandals, scarves and loose-fitting clothing ARE NEVER WORN in any shop's "Restricted Area".
- Shop access outside of supervised hours may be restricted to specific "Authorized Persons" based upon the Shop Manager's discretion. This access is not granted for regular on-going work. Routine working solo outside of 'supervised hours' is strictly forbidden and will result in an immediate revocation of shop privileges.
- "Authorized Person(s)" may work solo in a Shop during 'supervised hours' when communications means and / or other arrangements are made with the Shop Manager / Supervisor to assure the person's continuous safety and ability to communicate immediately with emergency responders prior to solo-work starting.

EQUIPMENT OPERATION

The operation of any and all shop equipment requires prior training and approval by the Shop Manager. Only persons authorized by the Shop Manager and trained in the safe operation of the shop equipment are permitted to work in a shop and operate shop equipment. A signed "Authorization Form" certifies this level of qualification and must be on file with the Shop Manager. Failure to adhere to this requirement will result in a loss of shop-use privileges.

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SHOP SAFE-WORK PRACTICES

COMPRESSED AIR: Compressed air or other gases in excess of 10 pounds per square inch are never used to blow dirt, chips or dust from clothing while it is being worn, or from any surface as part of routine shop cleaning. Use suction devices or other cleaning methods instead.

DRAIN DISPOSAL: Absolutely no carcinogenic, hazardous or biohazard waste is to be poured down the shop drain due to the campus' wastewater discharge permit limitations. A waste is considered hazardous if it is flammable, corrosive, reactive, toxic or contains heavy metals. All [hazardous and chemical wastes](#) must be disposed of by EH&S. Failure to comply with East Bay Municipal Utility District (EBMUD) permit requirements for campus drain disposal could lead to substantial fines and restrictions on shop water / drain use. For more information see the [EH&S Campus Drain Disposal Guidelines](#).

ELECTRICAL SAFETY: All work on and development of electrical equipment must be conducted according to guidelines and compliance requirements set by UCR's [Electrical Safety Program](#). Work that must be done on energized electrical circuits must be done in accordance with the "Hot Work Permit" procedure detailed in this program. Otherwise, work on electrical equipment must be done verified de-energized and locked / tagged out by all persons working on the equipment.

ENERGY ISOLATION – LOCK OUT TAG OUT: Know and apply the [UCR Energy Isolation / Lock Out - Tag Out Program](#) to all facility and equipment locations in the following conditions:

- Where hazardous energy release could cause unexpected movement of equipment,
- Where unexpected flow of energy could cause injury or equipment damage,
- Whenever a machine-guard or interlock is removed or bypassed, or
- Whenever there is more than one energy supply to a machine, and the energy source cannot be simply 'unplugged' so that energy-control is exclusive to the person working on/with the equipment.

EQUIPMENT, FACILITY, MATERIAL HAZARDS AND EMERGENCY RESPONSE:

- Always consider electrical equipment or compressed gas equipment "energized" until positively proven otherwise.
- Learn and know how to shut down equipment in an emergency BEFORE there's an emergency.
- Design and plan for safety by looking for hazards and anticipating problems.
- Whenever possible de-energize the equipment before testing or working on it.
- Positively ensure all hazards are identified before blocking, blinding, bleeding or conducting lock-out and tag-out.
- Lock-out and Tag-out broken, mothballed or unsafe equipment until it can be repaired or permanently removed.
- Refer to the shop's [Hazard Communication "Orange Flip Chart"](#) and Material Safety Data Sheets (MSDS) to understand material / chemical hazards, emergency contact information, and emergency response procedures.

FORKLIFTS / AERIAL LIFTS: Only drivers / operators authorized by the Shop Manager / Supervisor and enrolled in the Campus Industrial Lift Truck Safety Program and/or Aerial Lift Safety Program who hold a current operator's license issued by the EH&S Program Manager are permitted to operate such vehicles.

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HAND TOOLS: Only persons authorized by the Shop Manager / Supervisor and trained in the safe use of hand tools are permitted to use this equipment. Use hand tools and devices only as they were designed / intended to be used.

HOUSEKEEPING: The work and surrounding area in which you are working must be kept neat, clean and safe at all times. If you see a mess, spilled liquid or debris, whether you created it or not, take the time to clean it up.

HYDRAULICS: Only persons authorized by the Shop Manager / Supervisor and trained in the safe operation and/or development of hydraulic systems are permitted to assemble, qualify, and operate hydraulic equipment connected to any shop hydraulic system.

JEWELRY: Remove all jewelry before working in a “Restricted Area”.

OVERHEAD CRANES / HOISTS: Only persons authorized by the Shop Manager / Supervisor and trained on the Campus Crane Safety Program and who are deemed a “Qualified Crane Operator” according to the requirements of the program are permitted to operate such equipment.

WORK BRIEFING: Participate in a safe work briefing with all personnel in the area before commencing any shop work. Assure you discuss planned work with the Shop Manager / Supervisor, or their designee, to identify any hazards or other hazardous conditions nearby due to work being done by others. Know the Shop’s emergency procedures. Maintain the protection of covers, barriers and shielding of all electrical equipment, hot work, machine guards, chemical storage, etc. Never drill into a wall or floor slab without Shop Manager and Building Manager approval.

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Training Requirements

Faculty, Staff and Students

All Faculty, Staff, Students and Contractors must know that under no circumstances is anyone allowed to conduct work in a “Shop” without prior “Authorization” as defined in this program document. When anyone receives training associated with this Shop Safety Program, they must sign a training roster ([Attachment 7](#)) issued by the instructor / trainer / Shop Manager.

“Authorized Person”

PI / Instructor / Supervisor, and the Shop Manager / Supervisor must jointly assure the knowledge of any “Authorized Person” and provide them training as needed to assure safe work in the shop. The “Authorized Person” must be familiar with the contents of this program, be able to recognize hazards and know what control measures are to be implemented to control shop hazards. They must know the [UCR Shop Safe Work Policy](#) and [Procedures](#) and [Practices](#) as outlined in those sections of this program, and follow them.

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Principal Investigator / Instructor / “Supervisor”

(other than a “Shop Manager / Supervisor”)

The Principal Investigator / Instructor / “Supervisor” must know their [roles and responsibilities](#) in the application of this program to their work and people reporting to them, and assure compliance with this program by all who fall under their responsibility.

Shop Manager / Supervisor

The Shop Manager / Supervisor must know their [roles and responsibilities](#) in the application of this program to their work, be trained on Shop Management as may be appropriate, assure proper documented training of people reporting to them and other “Authorized Persons” working in the shop, and assure compliance with this program by all who fall under their responsibility.

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Department Director

The Department Director must know their [roles and responsibilities](#) in the application of this program to their work, and support the implementation of this program’s requirements into the business of their Department.

Department Safety Coordinator (DSC) or Other Responsible Person

The DSC or Other Responsible Person is trained on the contents of this program and how the Shop Manager / Supervisor applies it in each shop in the DSC’s Department. In addition, EH&S trains the DSC in proper Shop Safety Program “[Record-keeping](#)” responsibilities, management of the annual shop self-assessment program in their department, and other duties as outlined in the “[Roles and Responsibilities](#)” section.

Contractors and Joint Projects in Shops

Contractors follow their own Shop Safety Program and procedures and must train their personnel when using their own equipment and shop processes. The Contractor provides the University evidence of their Shop Safety Program upon request. The Contractor provides all their own shop equipment unless negotiated by contract with the University for use of University equipment.

For Joint Projects where employees of the University and Contractor(s) are working in the same shop at the same time, the Shop Manager / Supervisor is in control of the shop and must hold joint “tailgate” meetings with all personnel in attendance who will be working in the area to promote understanding of safe work practices, and open lines of communication amongst workers. Contractors using University equipment and property follow University safe-work procedures and review and follow JSAs and SOPs as developed by the University as part of their training. Contractor training conducted by UCR is documented by the Shop Manager / Supervisor using a training roster ([Attachment 7](#)).

Campus Shop Safety Committee member

CSSC members are trained on the [Committee Charter](#), the [Committee Roles and Responsibilities](#), the UCR [Shop Safe-work Policy](#) and [Procedures](#), and other [Shop Safety Program requirements](#). They receive this training by review of this program document and discussion with other Committee members.

Procurement Staff:

Are trained on the “[Procurement Staff](#)” requirements and procedures of this program including application of the Shop Equipment Procurement Hazard Assessment ([Attachment 6](#)).

EH&S

Provides training and guidance to the Shop Safety Committee as needed to keep program momentum moving forward, and the program current to compliance requirements and campus need.

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Record Keeping Requirements

PIs / Instructors / Supervisors keep the following documentation:

- Completed top half of [Attachment 1](#) for each person they determine must become an “Authorized Person” to work in a shop. This must be kept for duration of employment, tenure or work-study term plus 3 years.
- Copies of any training rosters ([Attachment 7](#)) and training content. Keep for 3 years.
- Copies of any procedures / protocols developed for shop safety. Keep for as long as they are current.

Shop Manager / Supervisor keeps the following documentation:

- Completed bottom half of [Attachment 1](#) for each person who must become an “Authorized Person” to work in a shop. This must be kept for duration of employment, tenure or work-study term plus 3 years.
- A signed copy of page 3 of the “Shop Safety Policy” ([Attachment 2](#)) given to each and every “Authorized Person” working in their shop.
- Copies of any training rosters ([Attachment 7](#)) and training content. Keep for 3 years.
- Copies of any procedures / protocols developed for shop safety. Keep for as long as they are current.

DSCs keep the following documentation:

- Copies of authorization documents ([Attachment 1](#) and [Attachment 2](#)) for any department personnel for the duration of authorization plus 3 years.
- Copies of any training rosters ([Attachment 7](#)) for 3 years.
- Copies of any Department Safe-work Protocols / Procedures as long as they are current.
- Copies of JSAs that are developed by the Department to address Shop Safety concerns for as long as they are current.

- Copies of completed “Shop Self-Assessment” forms ([Example Attachment 5](#)) from every shop owned by the department for the previous two years.

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Procurement keeps the following documentation:

- Purchase orders for Shop Equipment or Contractor Services for the duration of University policy for these documents.
- When equipment / services being procured trigger a hazard analysis and control assessment as conducted following [Attachment 6](#), Procurement staff asks for a and a copy of the completed assessment which is kept with the Purchase Order documentation.
- When a Utility Shut-down is required for safe work in Shops, a copy of the [PP-CS “Shut Down Request Form”](#) is included with the Purchase Order for any Contractor services requiring shut-down of utilities.

EH&S keeps the following documentation:

- Master copy of the Shop Safety Program and maintains this program to meet or exceed Cal-OSHA requirements.
- CSSC meeting minutes and posts them on the CSSC website (maintained by EH&S)
- General program awareness and information dissemination across campus.
- Training content and rosters for any training completed by EH&S with copies provided to Campus Shop Safety Committee, Departments and Shop Managers/Supervisors as may be necessary.
- Provides and maintains a web-based [JSA Library](#) that contains JSAs specific to shop equipment and safe-work practices.
- Provides and maintains the [HAZCOM Orange Flip Chart](#) template that is customized and posted by Shop Managers for each shop.
- Any documents relating to shop incident investigations and “Lessons Learned” information to Shops via the Shop Safety Committee website and e-distribution list.
- A list of Hazards that trigger a Procurement Hazard Assessment.
- Any consultations / recommends for Shop Safety, and
- Program updates as need may dictate.

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References / Resources

UCR EH&S Resources:

- Aerial Lift Safety Program
- [Building Emergency Plan](#)
- [Chemical Inventory](#)
- [Compressed Gas Cylinder Program](#)
- [Confined Space Entry Program](#)
- Crane / Hoist Safety Program
- [Drain Disposal Guidelines](#)
- [Electrical Safety Program](#)
- [Energy Isolation and Lockout – Tag Out Program \(EI/LOTO\)](#)
- [Fire Extinguishers](#)
- [Forklift Safety Program](#)
- [Glove Selection Guideline](#)
- [Hazard Communication Program \[HAZCOM\] “Orange Flip Chart”](#)
- [Hazardous and Chemical Waste](#)

Shop Safety Program University of California Riverside

- [Hot Work Permit / Program](#)
- [Ladder Safety](#)
- [MSDS Online](#)
- [Paint and Paint Supplies](#)
- Procurement - Hazard Assessment Trigger - List
- [Respiratory Protection Program](#)
- Scaffold Safety
- [Shop and Industrial Safety Program Resources](#)
- [Shop-related JSAs available on EH&S website](#)
- Yellow Binder – Shop Safety Manual (2004 version contents)

California Title 8 – Cal-OSHA General Industry Code of Regulations

- **Compressed Gas and Air Equipment** <http://www.dir.ca.gov/Title8/sb7g9.html>
<http://www.dir.ca.gov/title8/3301.html>
<http://www.dir.ca.gov/title8/4650.html>
- **Cranes and Hoisting Equipment** <http://www.dir.ca.gov/Title8/sb7g13.html>
- **Ergonomics** <http://www.dir.ca.gov/Title8/5110.html>
- **Fire Safety** <http://www.dir.ca.gov/Title8/sb7g27.html>
- **Flammable Liquids, Gases and Vapors** <http://www.dir.ca.gov/Title8/sb7g20.html>
- **Hand and Portable Power Tools** <http://www.dir.ca.gov/Title8/sb7g3a20.html>
- **Hazardous Energy – Lock out Tag out** <http://www.dir.ca.gov/title8/3314.html>
<http://www.dir.ca.gov/dosh/etools/08-003/LockoutSteps.pdf>
<http://www.dir.ca.gov/dosh/etools/08-003/P08-00302.pdf>
- **Hazardous Materials** <http://www.dir.ca.gov/Title8/sb7g16.html>
- **Housekeeping / Work Area Conditions** <http://www.dir.ca.gov/Title8/sb7g1a4.html>
<http://www.dir.ca.gov/Title8/sb7g1.html>
- **Machine Guarding** <http://www.dir.ca.gov/Title8/sb7g8.html>
<http://www.dir.ca.gov/Title8/sb7g6a37.html>
<http://www.dir.ca.gov/Title8/sb7g6.html>
- **Noise** <http://www.dir.ca.gov/Title8/sb7g15a105.html>
- **Personal Protection (PPE) / Safeguards** <http://www.dir.ca.gov/Title8/sb7g2a10.html>
- **Safe Work Practices** <http://www.dir.ca.gov/Title8/sb7g2a7.html>
- **Vehicles and Shop Mobile Equipment** <http://www.dir.ca.gov/Title8/sb7g4.html>
- **Welding / Cutting Operations – Electric** <http://www.dir.ca.gov/Title8/sb7g11.html>
- **Welding / Cutting Operations - Gas** <http://www.dir.ca.gov/Title8/sb7g10.html>

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Federal OSHA:

- Machine Controls Interlocks and Fail-safe Design Guideline document:
http://www.osha.gov/OshDoc/Directive_pdf/CPL_02-00-147.pdf

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Issued By and Next Review Date

This program is issued / adopted on May 5, 2017 by Chidozie Nzom, Safety Engineer, EH&S, UC Riverside. This program is reviewed and updated every 3 years or as necessary by the EH&S Health and Safety Team, and the EH&S Shop Safety Program Manager.

Attachments:

- Attachment 1: ["Authorized Person" qualification for Shop Work – Template](#)
- Attachment 2: [UCR Shop Safety Policy Procedures and Practices - Template](#)
- Attachment 3: [Shop Safety Committee Attendance Roster](#)
- Attachment 4: [Shop Safety Committee Meeting Agenda Template](#)
- Attachment 5: [Shop Safety Self-assessment Template](#)
- Attachment 6: [Procurement Hazard Analysis – Shop Equipment](#)
- Attachment 7: [Shop Safety Training Roster – Template Form](#)
- Attachment 8: [FAQ / Fact Sheet – Shop Safety](#)
- Attachment 9: [Emergency Medical Response – Urgent Care Providers](#)

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Attachment 1: **“Authorized Person” qualification for Shop Work** Template
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To: Personnel File for _____
(Person’s name)
From: _____ Date: _____
(PI / Supervisor name)

TO BE COMPLETED BY THE PI / SUPERVISOR OF THE “AUTHORIZED PERSON”:

Re: This document confirms required qualification of the above named employee to perform:
(Check all that apply) (Attach additional pages if more space is needed)

Operations and work in the following Shops:

- Operate and work with the shop equipment listed (attach list)**
- Operate and conduct the following shop-work processes:**

Other (describe):

If, for any reason, as their supervisor, I think that this person is not performing shop work safely, this qualification will be revoked. Below are signature(s) of responsible person(s) verifying training, experience and/or providing instruction:

PI / Supervisor Signature: _____ **Date:** _____

TO BE COMPLETED BY THE SHOP MANAGER / SUPERVISOR:

This designation of “Authorized Person” is based on evidence of safe performance of all duties related to Shop Safety and verification by the “Shop Manager / Supervisor” through:

(Check all that apply)

- Training** – Appropriate training records¹ (including any skill checks or tests) are attached.
- Experience** – This person has been safely performing, and has demonstrated skill in safe operation of Shop equipment for _____ years.
- Instruction** – This person has received instruction from me or another shop employee who is qualified, and has observed this person’s work while performing shop operations, and confirms that the person has the knowledge to perform shop work safely.

Shop Manager/Supervisor: _____ **Date:** _____

Authorized Person’s Signature _____ **Date:** _____

CC: PI / Supervisor file
Shop Manager/Supervisor file

Authorized Person’s File

¹ If training is part of the evidence used to qualify this employee, attach records relevant to this qualification.

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Attachment 2: SHOP SAFE-WORK POLICY, PROCEDURES AND PRACTICES

SHOP SAFE WORK POLICY: It is the policy of UC Riverside and any department that owns / manages a shop that:

- Only persons who are “Authorized” by a Shop Manager / Supervisor may work in restricted areas of shops unescorted.
- A person becomes “Authorized” as indicated by need of their work duties, and approval from their immediate Supervisor, PI or Instructor **combined** with a Shop Manager’s agreement that they possess the training and qualifications for safe work in the shop. This is documented using Attachments 1 and 2 of the Shop Safety Program. Authorization is done for each and every shop. Authorized access to another shop is only given by that Shop Manager’s documented authorization.
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- UCR has, and all Shops must support, a Stop Work Policy when unsafe work is witnessed. It is the responsibility of everyone to exercise this policy when observing unsafe work conditions or practices. If you see unsafe behavior or activities, don’t hesitate to use the Stop Work Policy and immediately speak up and stop unsafe work.
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- All electrically energized shop equipment is used in a safe manner as intended by the manufacturer and within the equipment’s Nationally Recognized Testing Laboratory (NRTL) listing.
- All shop personnel must resist “hurry-up” pressure and work methodically and safely. Take the time, and get the help needed to do a job the ‘safe way’.

SAFE WORK PROCEDURES: USE OF PERSONAL PROTECTIVE EQUIPMENT (PPE)

When the use of PPE is required, PPE must be stocked and supplied by the Shop Manager to all “Authorized Personnel” and “visitors”. Selection is based upon hazards that are present, and must be worn by anyone when entering a “Restricted Area” as follows:

- Appropriate face and/or eye protection whenever powered equipment or flying / airborne particles or hazardous substances or injurious light sources are present.
- Hair-nets or caps when long or medium length hair, including facial hair, could get wrapped into rotating or rolling equipment, or could be exposed to flames or other such hazards.
- Hard hats or bump caps when someone is working over your head, head-banger obstructions exist, or when a Shop Manager / Supervisor requires them.
- Dust masks may be used by anyone at any time for airborne dust, but use of other respirators is determined by indoor-air-quality hazard assessment and are distributed to individual personnel through their enrollment in the UCR [EH&S Respiratory Protection Program](#).
- Gloves and other hand protection must be selected and worn based upon hazards. Use [EH&S’s Glove Selection Guideline](#) for ideas on what kinds of gloves should be worn based upon hazards.
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SHOP SAFE-WORK PRACTICES

COMPRESSED AIR: Compressed air or other gases in excess of 10 pounds per square inch are never used to blow dirt, chips or dust from clothing while it is being worn, or from any surface as part of routine shop cleaning. Use suction devices or other cleaning methods instead.

DRAIN DISPOSAL: Absolutely no carcinogenic, hazardous or biohazard waste is to be poured down the shop drain due to the campus' wastewater discharge permit limitations. A waste is considered hazardous if it is flammable, corrosive, reactive, toxic or contains heavy metals. All [hazardous and chemical wastes](#) must be disposed of by EH&S. Failure to comply with East Bay Municipal Utility District (EBMUD) permit requirements for campus drain disposal could lead to substantial fines and restrictions on shop water / drain use. For more information see the EH&S [Campus Drain Disposal Guidelines](#).

ELECTRICAL SAFETY: All work on and development of electrical equipment must be conducted according to guidelines and compliance requirements set by UCR's [Electrical Safety Program](#). Work that must be done on energized electrical circuits must be done in accordance with the "Hot Work Permit" procedure detailed in this program. Otherwise, work on electrical equipment must be done verified de-energized and locked / tagged out by all persons working on the equipment.

ENERGY ISOLATION – LOCK OUT TAG OUT: Know and apply the [UCR Energy Isolation / Lock Out - Tag Out Program](#) to all facility and equipment locations in the following conditions:

- Where hazardous energy release could cause unexpected movement of equipment,
- Where unexpected flow of energy could cause injury or equipment damage,
- Whenever a machine-guard or interlock is removed or bypassed, or
- Whenever there is more than one energy supply to a machine, and the energy source cannot be simply 'unplugged' so that energy-control is exclusive to the person working on/with the equipment.

EQUIPMENT, FACILITY, MATERIAL HAZARDS AND EMERGENCY RESPONSE

- Always consider electrical equipment or compressed gas equipment "energized" until positively proven otherwise.
- Learn and know how to shut down equipment in an emergency BEFORE there's an emergency.
- Design and plan for safety by looking for hazards and anticipating problems.
- Whenever possible de-energize the equipment before testing or working on it.
- Positively ensure all hazards are identified before blocking, blinding, bleeding or conducting lockout and tagout.
- Lock out and Tag out broken, mothballed or unsafe equipment until it can be repaired or permanently removed.
- Refer to the shop's [Hazard Communication "Orange Flip Chart"](#) and Material Safety Data Sheets (MSDS) to understand material / chemical hazards, emergency contact information, and emergency response procedures.

FORKLIFTS / AERIAL LIFTS: Only drivers / operators authorized by the Shop Manager / Supervisor and enrolled in the Campus Industrial Lift Truck Safety Program and/or Aerial Lift Safety Program who hold a current operator's license issued by the EH&S Program Manager are permitted to operate such vehicles.

HAND TOOLS: Only persons authorized by the Shop Manager / Supervisor and trained in the safe use of hand tools are permitted to use this equipment. Use hand tools and devices only as they were designed / intended to be used.

HOUSEKEEPING: The work and surrounding area in which you are working must be kept neat, clean and safe at all times. If you see a mess, spilled liquid or debris, whether you created it or not, take the time to clean it up.

HYDRAULICS: Only persons authorized by the Shop Manager / Supervisor and trained in the safe operation and/or development of hydraulic systems are permitted to assemble, qualify, and operate hydraulic equipment connected to any shop hydraulic system.

JEWELRY: Remove all jewelry before working in a "Restricted Area".

OVERHEAD CRANES / HOISTS: Only persons authorized by the Shop Manager / Supervisor and trained on the Campus Crane Safety Program and who are deemed a "Qualified Crane Operator" according to the requirements of the program are permitted to operate such equipment.

WORK BRIEFING: Participate in a safe work briefing with all personnel in the area before commencing any shop work. Assure you discuss planned work with the Shop Manager / Supervisor, or their designee, to identify any hazards or other hazardous conditions nearby due to work being done by others. Know the Shop's emergency procedures. Maintain the protection of covers, barriers and shielding of all electrical equipment, hot work, machine guards, chemical storage, etc. Never drill into a wall or floor slab without Shop Manager **and** Building Manager approval.

University of California at Riverside – Shop Safety Policy

SHOP NAME: _____

LOCATION / DEPARTMENT: _____

I have read, had an opportunity to ask questions about, understand and been given a copy of UC Riverside’s “Shop Safety Policy, Procedures and Practices”. I pledge to only conduct work according to the safe policy, procedures and practices outlined within the contents of the document. I understand that failure to follow policy, procedures and practices outlined within the document may result in immediate expulsion and possibly permanent revocation of privileges to work in the shop noted above. In addition, other disciplinary action may be brought by the department and/or UCR management for failure to follow these policy, procedures and practices.

Signature: X _____
(Authorized Shop User)

Print name: _____

Date: _____

Signature: X _____
(Shop Supervisor / Manager)

Print name: _____

Date: _____

Instructions to the Shop Manager / Supervisor: Please separate the 2-page policy / procedure / practices document and provide it as a ‘hand-out’ copy to every ‘authorized person’ who will be working in your shop. Have each person sign / date this third page of the policy / procedure / practices document and keep their signed page in your file as evidence of basic safety training / orientation to your shop. To save resources, it’s suggested pages 1 and 2 be printed front and back on one sheet of paper.

Provide additional training as you may determine is needed based upon assessment of your shop’s hazards, equipment and operations. Include a checklist of training subjects and materials covered as evidence of your training efforts.

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Attachment 4: Shop Safety Committee Meeting Agenda Template

UC Riverside - Campus Shop Safety Committee
AGENDA

[ENTER TIME AND DATE OF MEETING HERE]

[ENTER LOCATION OF MEETING HERE – BUILDING NAME AND ROOM NUMBER]

1. **Welcome** [CSSC CHAIR PERSON]
2. **Review of last CSSC Meeting Notes** [CSSC SCRIBE / EH&S]
3. **Shop Safety – What’s New?** [EH&S CSSC PROGRAM MNGR.]
4. **Updates / Old Discussion Items** [CSSC CHAIR PERSON]
 - a. [BULLET]
 - b. [LIST]
 - c. [DISCUSSION]
 - d. [ITEMS]
 - e. [HERE]
5. **Review of recent Shop WC Injuries, Near Misses and Lessons Learned** [EH&S CSSC PROGRAM MNGR.]
6. **New Discussion Items** [CSSC CHAIR PERSON]
 - a. [BULLET]
 - b. [LIST]
 - c. [DISCUSSION]
 - d. [ITEMS]
 - e. [HERE]
7. **Services Offered / Services Needed / Networking Opportunities between shops** [GROUP DISCUSSION]
8. **Determination of Date / Time / Location of next CSSC meeting** [CSSC CHAIR PERSON]
9. **Announcements** [GROUP DISCUSSION]

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Attachment 5: Shop Safety Self-assessment - EXAMPLE

[To be updated annually, distributed and collected by EH&S with content input from the CSSC.]

ADMINISTRATIVE

1. Does your shop have a copy of last year's self-assessment form and have all needed safety corrections documented on the form been completed?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Appendix 3 of the Campus Shop Safety Manual is set aside for storing self-assessment forms upon completion. If necessary, contact EH&S for a Campus Shop Safety Manual.

2. Are personnel and visitors provided with eye, face, and hand protection such as safety glasses, face shields, and gloves where needed?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Ensure employees have appropriate safety equipment. Contact EH&S at 827-5118 with any questions.

3. Are personnel and visitors provided hearing protection, such as ear plugs or ear muffs while operating or when in proximity to noisy pieces of equipment? Are locations where hearing protection is required clearly marked with clear signage?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Employees exposed to excessive noise may need to be in the hearing conservation program. More information about this can be found in [EH&S website](#) or by calling EH&S Industrial Hygiene Manager at 827-2964.

4. Are 'visitor' spaces versus work areas clearly defined in the shop? And, are only 'authorized' personnel wearing proper PPE, and their escorted visitors, allowed in shop 'work areas'?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Determine where visitors to the shop must stay beyond which they must be escorted when entering into a shop work area. Assure that visitors only enter shop work areas with an escort, and provide and require that all people entering shop work areas wear appropriate PPE. Provide PPE to visitors as shop hazards may dictate.

Completion Date:

5. Does the shop have a process to 'authorize' personnel to work unescorted in shop work areas?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Determine what hazards are present in the shop and what locations are 'safe' for unescorted visitors to stay in. Determine what personnel must know about the shop to 'work safe' and then implement training and other processes to "authorize" shop personnel to work unescorted, and to escort visitors if needed.

Completion Date: .

HOUSEKEEPING

6. Do all work areas have adequate ventilation, particularly for hazardous operations (e.g., welding, soldering, spray coating, solvent use)?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Contact the EH&S Industrial Hygiene Manager at 827-2964 to have ventilation evaluated if there is a concern. Provide additional exhaust ventilation for operations that create dust, fumes, mists, or vapors.

Completion Date: .

7. Are exit/egress pathways maintained clear and all exits clearly marked?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Clearly define egress pathways and enforce keeping these pathways clear at all times. Assure that exit signs are visible from all shop locations.

Completion Date: .

FIRE/EMERGENCY SAFETY

8. Are fire alarm pull boxes clearly identified and unobstructed?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Ensure that all fire alarm pull boxes are clearly labeled. Clear any obstructions in front of fire alarm pull boxes.

Completion Date: .

9. Are portable fire extinguishers tagged with current annual inspections?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Contact Facilities Services (827-1012) and/or EH&S Fire Department (827-5121) to have fire extinguishers inspected if they have not been inspected within the last 12 months.

Shop Safety Program University of California Riverside

Completion Date: .

10. Are the emergency eyewashes for your shop tested (flushed) monthly, with the tests documented?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Assign a shop occupant to test all emergency eyewashes monthly. Document each test in a logbook or on an attached tag. Contact Facilities Services for repairs. Call EH&S for a tag (827-5118), if one is needed.

Completion Date: .

11. Are all eyewash and emergency shower stations free of obstructions that would prevent quick access by someone temporarily blinded?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Remove all obstructions from emergency eyewashes and showers.

Completion Date: .

12. Are flammable gas cylinders and oxygen cylinders separated by a fire-rated wall or at least 20 feet?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Separate flammable gases from oxygen by a fire wall or a distance greater than 20 feet. Temporary storage of welding carts with oxygen and acetylene is permitted.

Completion Date: _____

13. Are covered metal containers used for oily, solvent, paint-soaked waste?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Ensure that covered metal containers are provided and used for the disposal of oily and paint soaked rags.

Completion Date: .

ELECTRICAL SAFETY and ENERGY ISOLATION

14. Are electrical panels accessible, with at least 36" clearance at the front of the panel?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Ensure that there is a minimum of 36 inches of clearance in front of all electrical panels, and a 32" wide pathway to access the panel area.

Completion Date: .

15. Is there a procedure for removing or isolating dangerous (damaged, broken, unguarded) power-tools or equipment from service?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Establish a procedure such as using "out of service" tags to identify and prevent the use of dangerous items.

Completion Date: .

16. Is your lab familiar with the UC Riverside Energy Isolation - Lock out Tag out (UC LOTO App) program? If your lab builds, repairs, modifies or otherwise works with or on equipment that is 'hard wired' or 'hard plumbed' to a facility, utility or other energy source you are required to follow the EI-LOTO Program. If no, EH&S will contact you with information on UC Riverside's Energy Isolation - Lock out Tag out (EI-LOTO) Program.

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable – we don't do this kind of work)

Corrective Action: Contact EH&S for the requirements of the EI-LOTO Program at 827-5118. EH&S will contact you after the close of the self-assessment cycle.

Completion Date: .

HAND TOOLS and POWERED HAND TOOLS

17. Are all hand-operated tools free of defects (such as cracked handles, frayed or damaged cords, missing pieces, missing guards, etc.) that make them unsafe?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Remove defective tools from service.

Completion Date: .

POWERED MACHINERY

18. Do all powered machines have manufacturer-supplied, or otherwise appropriate, machine guards on all pinch points, crush points, rotating parts, blades, tooling, chucks, etc.?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Install and use manufacturer-supplied machine guards on all powered equipment. For equipment that is too old for manufacturer-supplied guards, assure that all areas of the equipment have a 'home-made' guard to prevent accidental access to powered parts.

Contact EH&S 827-5118 for assistance with machine guarding assessment, design and use.

19. Does the shop have a policy to change out and / or sharpen tooling and drill bits when they become dull or damaged?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Sharp tooling allows powered equipment to perform safely and predictably, run without excessive heat buildup and machine workable materials more quickly. Shops should have a policy to change out dull or broken tooling routinely.

Completion Date: .

20. Does the shop prohibit personnel from wearing hand/wrist jewelry, neck and other body jewelry, loose fitting clothing, and require that long hair is tied or worn under a hat or cap while operating powered equipment?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: All machine shops should prohibit personnel from wearing hand / wrist, loose neck and other body jewelry, when working with powered equipment. Jewelry contacting powered equipment has been the cause of numerous injuries and accidents in shops throughout history. Hair should always be under control and kept away from powered equipment.

Completion Date: .

MATERIAL HANDLING / CRANES / HOISTS

21. Are materials in excess of 50 lbs routinely handled with the assistance of material handling devices such as pallet jacks, pump trucks?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Ensure proper lifting techniques and equipment are used. For questions about manual material handling devices, contact EH&S at 827-5118.

22. Are materials in excess of 50 lbs handled with the assistance of material handling devices such as cranes, chain-falls, hoists, come-alongs, winches, etc..., and this equipment has been load tested / inspected by a certifying inspection agent?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Cal-OSHA requires cranes, hoists, slings, hooks and other lifting gear be inspected and load tested. EH&S can arrange for and provide training for safe operation / load testing / rigging inspections. For questions about cranes, hoists or rigging devices, contact EH&S at 827-5118.

23. Are materials in excess of 50 lbs. handled with the assistance of forklift or other type of industrial lift truck, and are operators 'licensed' to operate these truck(s) through the EH&S Industrial Lift Truck Safety / Training program?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Cal-OSHA requires forklifts, pallet stackers and other industrial lift truck operators are trained and licensed by their employer. EH&S provides classroom and hands-on training for safe operation and licensing for using Industrial Lift Trucks. For questions about

Industrial Lift Truck Safety, or to enroll shop personnel for training / licensing, contact EH&S at 827-5118.

SHOP SAFETY MANUAL

24. Does the shop have Job Safety Analyses, Standard Operating Procedures, or Operations Manuals that address hazards for all power tools and hazardous processes?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Obtain operator's manuals from the manufacturer or write and/or adapt an existing job safety analysis for each power tool, piece of equipment or shop process. Ensure that the JSAs are kept in the "Shop Safety Manual" and that shop personnel are familiar with the manual. (The EH&S JSA Library is available at <http://ehs.Riverside.edu/jsa/topiclibrary.html> scan down to "Shop Safety".)

Completion Date: .

25. Is there a file or binder of Material Safety Data Sheets (MSDS) for each chemical stored or used in the shop? Or, are all shop personnel trained on how to access and use the online campus MSDS access system?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: A fact sheet regarding MSDSs should be made available at <http://www.ehs.ucr.edu/services/msds.html> . Obtain missing MSDSs from the product vendor and populate a hard-copy of the Shop Safety Manual with MSDS. Or, post clear information on how to access the campus' online MSDS system, and train all shop personnel on how to access/use the online system. Contact EH&S at 827-5118 for further information / support as needed.

Completion Date: .

HAZARDOUS MATERIALS and HAZARDOUS COMMUNICATIONS (HAZCOM)

26. Are emergency telephone numbers clearly posted separately or as part of the "Orange Hazard Communication Flip Chart"?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Post emergency telephone numbers (police, fire, ambulance) near the telephone(s).

Completion Date: .

27. Is a Shop Hazard Communication Program template (orange flip chart) completely filled out, posted in the shop, and signed by all workers? Does a 'shop safety orientation' for personnel include reference to the "Orange Flip Chart".

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Orange Hazard Communication flip charts are available from EH&S (642-3073).

Shop Safety Program University of California Riverside

Completion Date: .

28. Are all containers of chemicals labeled with the contents and primary hazard(s)?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Properly label all chemical containers, including stored and temporary containers.

Completion Date: .

29. Are incompatible chemicals stored separately (e.g., acids separate from bases, oxidizers separate from flammables)?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Contact EH&S 827-5118 for assistance with chemical storage and segregation, or go to <http://ehs.ucr.edu/hazardousmaterials/> and consult the Chemical Inventory Team at 827-5528.

Completion Date: .

30. Are all compressed gas cylinders adequately secured with non-combustible restraints to keep the cylinder(s) from falling during an earthquake? (If chains are used, two should be present for each cylinder.)

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Contact EH&S for advice on how to properly secure cylinders. Bench clamps may not be used for securing cylinders. Train shop personnel to cap compressed gas cylinders when not in use.

Completion Date: _____

31. Has a current chemical inventory materials door sign (provided by EH&S) been posted at the shop entrance following your most recent chemical inventory update (within last 12 months)?

Yes (Satisfactory) No (Needs Correction) N/A (Not Applicable)

Corrective Action: Locate and post the updated door sign at the shop entrance or contact EH&S at 827-5118 for another copy.

Completion Date: .

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*Attachment 6: **Procurement Hazard Analysis – Shop Equipment***

**[INSERT VISIO FLOW CHART / HAZARD ANALYSIS DOCUMENT HERE BASED UPON
DISCUSSIONS WITH PROCUREMENT GROUP]**

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Attachment 8: **FAQ – Shop Safety**



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Why is the Shop Safety Program needed?

Besides PP-CS and RSSP shops, there are more than 50 Academic, Teaching and Research-Support Shops on UC Riverside Campus and satellite / field locations. Areas of shop activity include metal-working and machining, carpentry, electrical / electronic work, glass blowing / forming, scenery and set building, art and architecture building / modeling, research / device building, mechanics and vehicle building / maintenance, etc...

This program integrates safe-work practices required by Cal-OSHA into the operations of Departments that own and/or manage Shops at UC Riverside.

Does this program apply to my department?

This Program applies to any Department that owns/operates locations where one or more of the following operations are routinely conducted by the Department's Faculty, Staff, Students or hired Contractors in facilities owned / controlled by the Department:

- Metal working,
- Carpentry
- Surface modification, painting and coating
- Glass work
- Electrical / electronic development / repair / maintenance
- Fiberglass / Plastics working
- Equipment Development / Building / Maintenance
- Model Building
- Vehicle Maintenance / Repair / Fabrication

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Our department has one or more shops. What do we have to do?

1. Designate a ["Shop Manager" or "Supervisor"](#) of each "Shop"
2. Understand the Roles and Responsibilities of the Shop Safety Program, and assure that each affected person in your Department is assigned / trained accordingly.
3. Clearly identify ["Restricted Areas"](#) in the "Shop" where only ["Authorized Persons"](#) are allowed to work unescorted.
4. ["Authorize"](#) specific persons who are allowed to work in shops 'unescorted'.
5. Train all "Authorized Persons" on the contents of this Shop Safety Program and UC Riverside's [Shop Safety Work Policy and Shop Safe Work Procedures](#).
6. Encourage each shop to send a participant to the [Campus Shop Safety Committee](#).
7. Based upon a hazard analysis of shop operations, provide [PPE](#) and other safe-work equipment to every "Authorized Person" and visitor as hazards in the shop dictate.
8. Conduct annual [Shop Self-assessments](#).
9. Customize a [HAZCOM Orange Flip Chart](#) and post it prominently in each Shop.
10. Use [JSAs](#) or other training tools / materials to address specific shop hazards and train personnel as need may dictate.
11. Document all training and maintain [Shop Safety Program records](#) of safety activities.

What's the Campus Shop Safety Committee (CSSC)?

[Campus Shop Safety Committee \(CSSC\)](#) is comprised of members from Departments impacted by this program and has the responsibility to oversee, review and maintain the UCR Shop Safety Program as it applies to campus need. The CSSC is supported by EH&S both technically and financially. The CSSC is chartered and its functioning is governed by this program.

I'm interested in being a member of the CSSC. What do I have to do to participate on the committee?

Permanent members of the CSSC include the Shop Safety Program Manager (EH&S), campus Ergonomist (UHS), the Committee Chair, and a volunteer-member representative from each shop on campus who are knowledgeable in shop work practices and safe-work needs. If you want to be a participant on the committee, please see your Shop Manager / Supervisor and let them know of your interest. Also, please contact the EH&S Shop Safety Program Manager at 2-3073 to get included on email distribution and other communications list(s).

I manage or supervise people who work in a shop. What do I have to do?

1. Understand the Roles and Responsibilities of the Shop Safety Program, and assure that each affected person in your shop is assigned / trained accordingly.
2. Clearly identify "Restricted Areas" in the "Shop" where only "Authorized Persons" are allowed to work unescorted.
3. "Authorize" specific persons who are allowed to work in your shop 'unescorted' by completing "[Attachment 1](#)" for each authorized person who works in your shop.
4. Train all "Authorized Persons" on the contents of this Shop Safety Program and UC Riverside's Shop Safety Work Policy and Shop Safe Work Procedures as applied to your shop by having them read and sign "[Attachment 2](#)".
5. Send a participant to the [Campus Shop Safety Committee](#).
6. Based upon a hazard analysis of shop operations, provide [PPE](#) and other safe-work equipment to every "Authorized Person" and visitor as hazards in the shop dictate.
7. Conduct annual Shop Self-assessments.
8. Customize a [HAZCOM Orange Flip Chart](#) and post it prominently in your Shop.
9. Use JSAs or other training tools / materials to address specific shop hazards and train personnel as need may dictate.
10. Document all training and maintain Shop Safety Program records of safety activities in a customized "Shop Safety Manual" developed for your shop.

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Who's responsible for conducting annual shop safety self-assessments?

EH&S oversees the campus-wide annual "Shop Safety Self-assessment" process. EH&S sends to each Department Safety Coordinator (DSC) a Shop Self-assessment questionnaire customized each year to highlight new regulations, new shop safety program activities, or reinforcement of lessons learned and shop safety initiatives promoted by the CSSC. The DSC may conduct the inspection themselves, or delegate this task to the Shop Manager / Supervisor or another qualified individual.

Completed self-assessment forms must be returned to EH&S by a set date for each shop in each department that operates shops. EH&S will review these forms and determine trends, offer consultation and EH&S support as results of the inspection may dictate.

I work in a shop. What do I need to know to work safely?

1. Understand your [Roles and Responsibilities](#) as outlined in the Shop Safety Program, and conduct safe-work activities accordingly.
2. Understand where "[Restricted Areas](#)" are in your Shop.
3. Become an "[Authorized Person](#)" in your shop, and offer to escort "unauthorized persons" whenever you see them enter your shop.
4. Review and understand the contents of this Shop Safety Program including the UC Riverside [Shop Safety Work Policy](#) and [Shop Safe Work Procedures](#) outlined in the program.
5. Volunteer as a representative for your shop on the [Campus Shop Safety Committee](#).
6. Use provided [PPE](#) and other safe-work equipment as hazards in the shop may dictate.
7. Participate in the annual [Shop Self-assessments](#).
8. Review and be familiar with your shop's [HAZCOM Orange Flip Chart](#).
9. Review and/or write JSAs or other training tools / materials to address specific shop hazards and learn about safe-work practices as need may dictate.

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What is the University's policy for conducting safe work in shops?

It is the policy of UCR that:

- Only persons who are "Authorized" by a Shop Manager / Supervisor may work in restricted areas of shops unescorted.
- A person becomes "Authorized" as indicated by need of their work duties, and approval from their immediate Supervisor, PI or Instructor **combined** with a Shop Manager's agreement that they possess the training and qualifications for safe work in the shop.
- Shop Managers define and maintain a "Restricted Area" within their shop that only "Authorized Persons" may enter and work in unescorted.
- Shop Managers determine the appropriate safe-work training needs for their shop, and assure that all "Authorized Persons" in the shop have received the orientation and training to their shop.
- UCR has, and all Shops must support, a Stop Work Policy when unsafe work is witnessed. It is the responsibility of everyone to exercise this policy when observing unsafe work

conditions or practices. If you see unsafe behavior or activities, don't hesitate to use the Stop Work Policy and immediately speak up and stop unsafe work.

- UCR Shops comply with Cal/OSHA regulations, the California Electrical Code and other established safety standards by applying this and other EH&S Safe-work Programs / Policies as listed in the "[Typical Shop Hazards and their Controls](#)" section of the "UC Riverside Shop Safety Program" on the [EH&S website](#).
- All electrically energized shop equipment is used in a safe manner as intended by the manufacturer and within the equipment's Nationally Recognized Testing Laboratory (NRTL) listing.
- All shop personnel must resist "hurry-up" pressure and work methodically and safely. Take the time, and get the help needed to do a job the 'safe way'.

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Are there "Safe Work Practices" for shop users to follow?

Yes. These are detailed in the "[Safe Work Procedures](#)" section of the Shop Safety Program.

Do we have to use Fall Protection Equipment?

In some cases you may have to use fall protection equipment depending upon the set-up and work requirements / activities / projects in your shop. If you suspect you may need Fall Protection, please refer to the EH&S Ladder Safety Program and the EH&S Fall Protection Program on the EH&S website. You may also call EH&S at 2-3073 for further assistance.

Who should be trained, and how do we get training?

Anyone who has some '[Role and / or Responsibility](#)' outlined in this program should receive at minimum the training needed to be affective and understand their part in, and safe-work practices required, to meet their [roles / responsibilities](#) as detailed in the program.

Who keeps the records of inspections, inventories and training?

The program clearly spells out what records are kept, who keeps them and for how long in the '[Recordkeeping](#)' section of the program.

What are the regulations that govern shop safety and where can I get more information?

There are numerous Cal-OSHA regulations, California Electrical Code, California Fire Code and other governing codes that dictate safe work activities and practices in shops. In addition, EH&S has many programs and tools for Shop Managers / Supervisor to use to quickly and easily adapt shop processes into safe-work activities. Please see the "[References](#)" section of the program for links to specific EH&S programs and regulatory areas that impact shop management and safety.

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Attachment 9 – Emergency Medical Response – Urgent Care Providers

Since many UCR shops have personnel working in them who are employed by various entities, for non-serious injuries such as first-aid injuries, personnel should go to their health-care provider based upon who they are employed by as follows:

Emergency / Urgent Care for Shop Workplace Injuries

~ For serious injuries, call 911 (desk phone), or 951-827-4255 (Emergency Response) ~

~ For non-serious / first-aid injuries, call Urgent Care as follows ~

UC Riverside Employees

University Student Health Services 951-827-3031

Note: For employees with joint appointment, the employer for whom work was being done at the time the injury occurred determines which urgent care facility to choose.