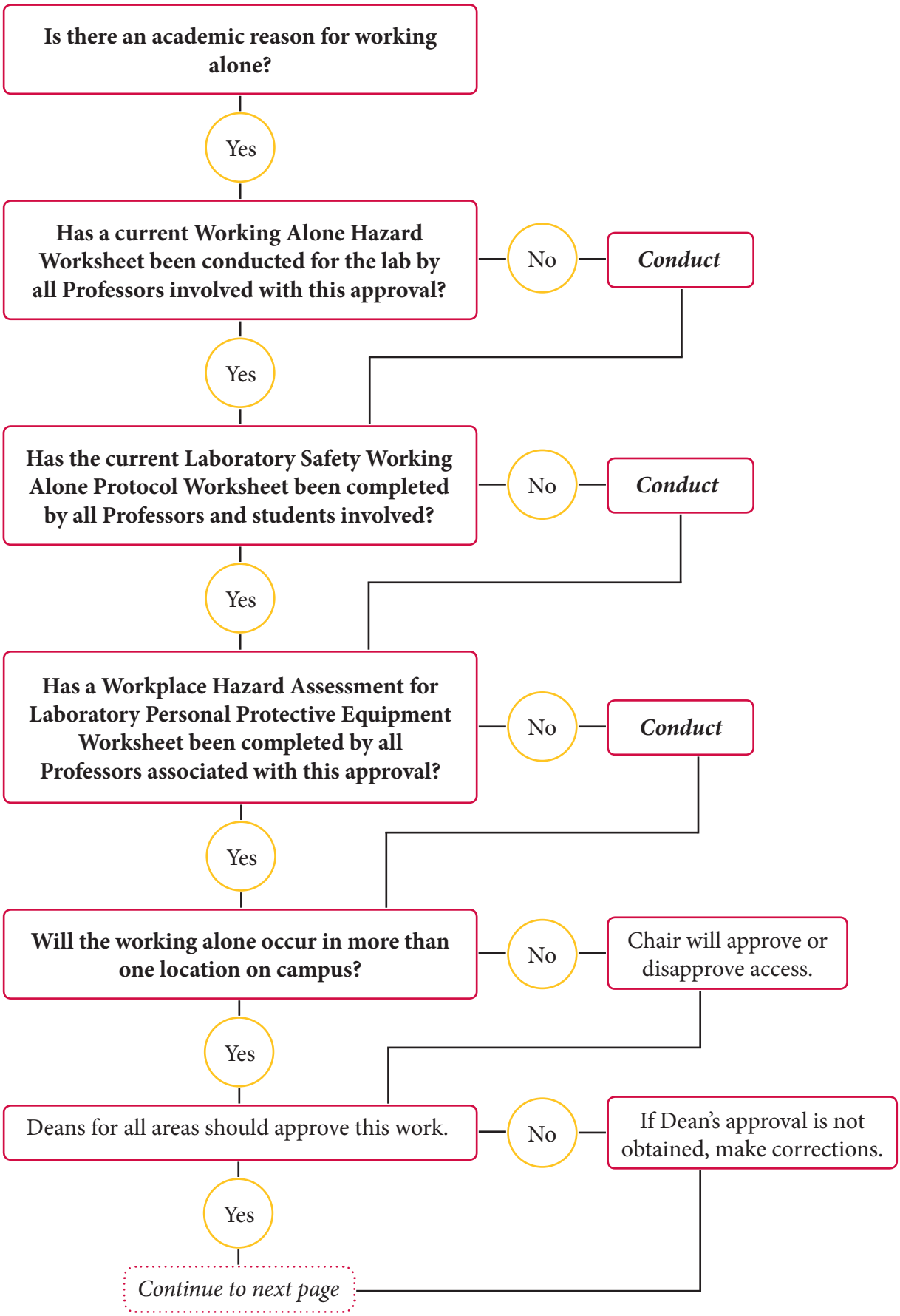
Ferris State University Academic Affairs Laboratory Safety
Working Alone



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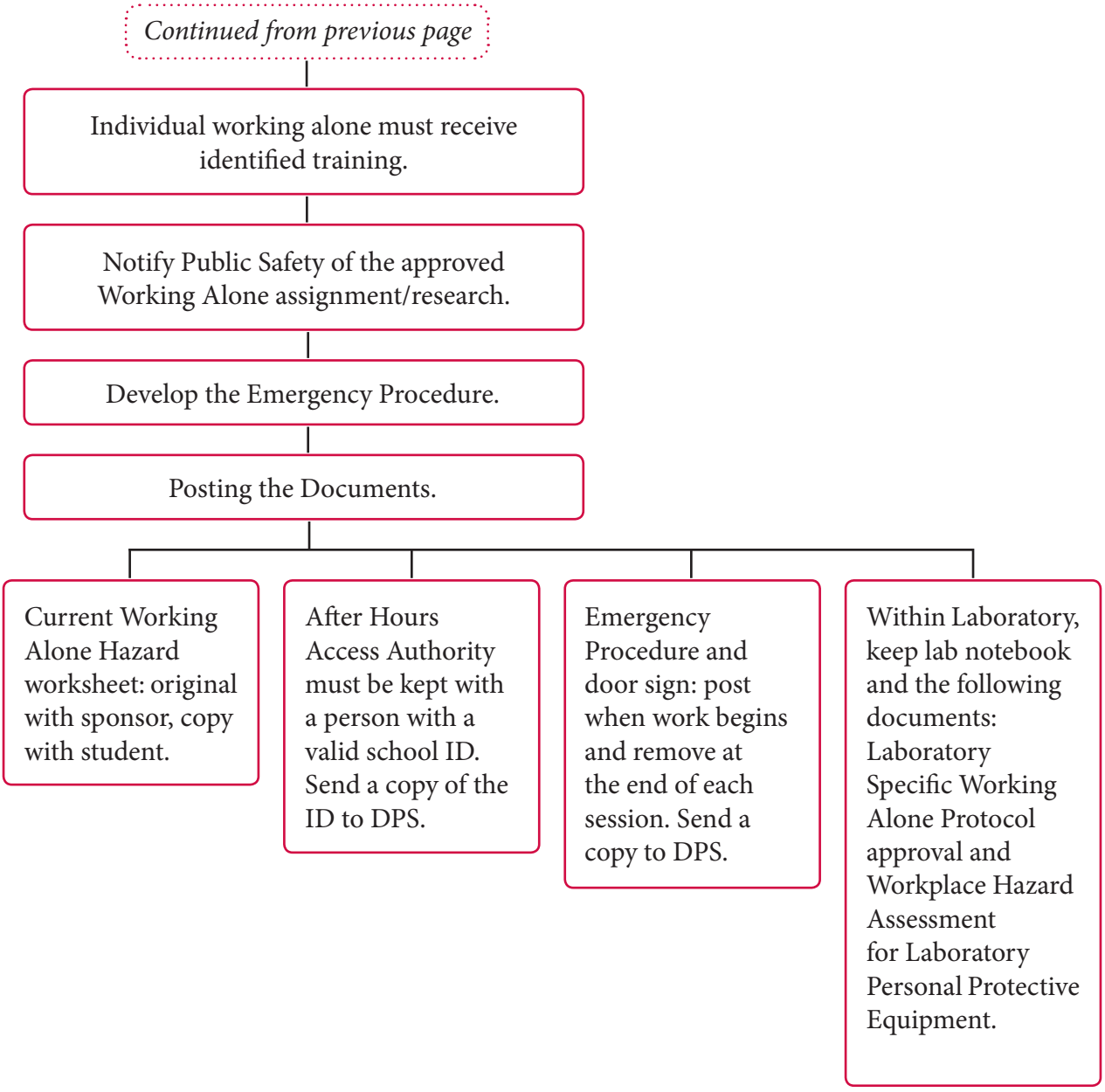

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Working Alone Hazard Worksheet

It is Ferris State University policy that faculty and supervisors assess their work areas and take preventative measures to eliminate or minimize risks to individuals working alone. *Working Alone* means an isolated individual working with an immediately hazardous material, equipment, or in an area that, if safety procedures fail, could reasonably result in incapacitation and serious life threatening injury for which immediate first aid assistance is not available.

Use this document along with the *Working Alone* flowchart to assist in determining whether a *Working Alone* situation exists.

Area of Concern	Hazard Addressed		
Answer each of the questions with a "Yes", "No", or "Not Applicable" to assist in determining the Working Alone status of the area/activity.	Yes	No	N/A
Preparation			
1. Does the area have a current Workplace Hazard Assessment (WHA) in place?			
2. Have students been briefed on the WHA and have appropriate safety training per Academic Affairs Laboratory Safety Training Checklist?			
3. Are there nearby means of emergency contact? (Phone, fire alarm, etc.)			
Environment			
4. Are there other students/personnel nearby? (Within sight and/or hearing distance.)			
5. Is this an easily accessible (non-restricted) area? (No locked doors.)			
6. Is this a remote location?			
Consult with Academic Affairs Laboratory Safety for any "Yes" answers below.			
Activities (Supervisor must answer each question for time that a student will be working in isolation)			
7. Will student work with compressed gas, pressurized, or vacuum systems under high vacuum?			
8. Will student work with hazardous chemicals? (Corrosive, reactive, or toxic.)			
9. Will student work with flammable materials or potential ignition sources?			
10. Will student work on or near thermal hazards? (Hot or cold.)			
11. Will student be involved in installation, fabrication, or assembly work?			
12. Will student be potentially exposed to electrical hazards? (>50 volts.)			
13. Will student be involved in excavation work or concrete wall penetration?			
14. Will student be involved in material handling? (E.g., forklifts, cranes, etc.)			
15. Will student be exposed to operational hazards?			
16. Will student need to wear Personal Protective Equipment? (PPE.)			
17. Will student work with or near running hazardous machinery? (Saws, lathes, mechanical equipment.)			
18. Will student be in an area with possible oxygen deficiency hazards or need respiratory protection?			
19. Will student be exposed to potentially hazardous stored energy sources?			
20. Will student be in adverse working environments? (E.g., heights, noise, confined spaces, ventilation, low lighting, clutter, etc.)			
21. Will student be exposed to any other workplace hazards?			

Supervisor/ designee completing worksheet	Date	Safety Monitor Required?	Reason

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Laboratory Safety Working Alone Protocol Approval*

Lab Worker: _____

Lab Location: _____ Date: _____

- This procedure does not involve any highly hazardous materials or processes. "Working Alone" is allowed.
- This procedure involves work with highly hazardous materials or processes. Check the appropriate category:
  Chemical Hazards: *Working with any materials in these hazard classes requires a "buddy system"*

Pyrophoric Chemicals (ex.: Lithium Reagents: RLi (R=alkyls, aryls, vinyls); Metal carbonyls: Lithum carbonyl, Nickel tetracarbonyl; Metal hydrides: Potassium hydride, Sodium hydride, Lithium Aluminum hydride; Nonmetal hydrides: Arsine, Boranes, Diethylarsine, Diethylphosphine, Germane, Phosphine, Phenylphosphine, Silane; Elements: Phosphorus, Cesium, Lithium, Potassium, Sodium, Sodium Potassium Alloy (NaK)), or listed as OSHA hazard Class Pyrophoric
Water Reactive Chemicals (ex.: Aluminum Carbide, Calcium, Calcium carbide, Litium aluminum hydride, Potassium, Sodium), or listed as OSHA Hazard Class "substances which in contact with water, emit flammable gases"
Potentially Explosive Chemicals (ex.: Azide metal (M-N3), Nitrate (-ONO2), Nitro (-NO2), Notrite (-ONO), Peroxide (-O-O-), Ammonium nitrate, Ammonium perchlorate, Benzoyl peroxide, Dinitrophenol, Nitrocellulose, Piric acid (trinitrophenol), Urea nitrate), or listed as OSHA Hazard Class Explosive or Self-reactive
Explosive Salts (ex.: Perchlorate salts (ClO4-)), or listed as OSHA Hazard Class Explosive or Self-reactive
Acutely Toxic Chemicals (ex.: Carbon Monoxide, Cyanide Salts, Digoxin, 2,4-Dintrophenol, Methyl mercaptan, Nitric oxide, Phosgene, Potassium cyanide, Sodium azide, Sodium cyanide, any chemical with LD50 (oral)< 50 mg/kg), or listed as OSHA Hazard Class Acutely Toxic Category 1 or 2
Peroxide Forming Chemicals (ex.: Isopropyl Ether, Methyl Isobutyl Ketone, Tetrahydrofuran, Acrylonitrile, Methyl Methacrylate, Styrene), or listed as OSHA Hazard Class Peroxide
Strong Corrosives (ex.: Hydrochloric acid, Hydrofluoric acid, Nitric acid, Perchloric acid, Phenol, Sulfuric acid, Potassium hydroxide, Sodium hydroxide), or listed as OSHA Hazard Class Corrosive
Strong Oxidizing Agents (ex.: Ammonium perchlorate, Ammonium permanganate, Bromine, Calcium chlorate, Calcium hypochlorite, Chromic acid, Hydrogen peroxide, Oxygen), or listed as OSHA Hazard Class Oxidizer
Strong Reducing Agents (ex.: Lithium, Lithium Aluminum hydride, Magnesium, Potassium, Sodium, Sodium borohydride)
Regulated Carcinogens (ex.: Acrylonitrile, Benzene, Formaldehyde, Gallium Arsenide, Inorganic Arsenic, Paraformaldehyde), or listed as OSHA Hazard Class Carcinogen
Other:
Biological Hazards: *Working with any materials in this hazard class requires a "buddy system"*
Use of a Bunsen burner
Other:
Process Hazards: *Working with any materials in these hazard classes requires a "buddy system"*
Use of machine shop or lathes [identify specific equipment]
Procedures involving high-pressure equipment [identify specific equipment]
Transferring large quantities [e.g., 10 liters or more] of hazardous materials
Handling animals that could cause serious injury
High voltage, high current
Other:
Health and Safety Requirements:
Can the person rescue themselves in case of an emergency? Yes No
Identify the "buddy" and confirm they are available before beginning to work:
The Laboratory Emergency Plan is posted near the lab phone. The names and phone numbers for the lab and building contacts are up to date.

Principle Investigator Approval:

I have reviewed the Hazard Assessment for this procedure, the tasks and hazards involved in the work, the consequences resulting for a worst-case scenario, the possibility of accident or incident that would prevent the laboratory personnel from calling for help, the laboratory personnel's training and experience, and the time the work is to be conducted (during normal business hours versus at night or on weekends/holidays). This lab worker has permission to work alone on this procedure. PI Signature: Date:

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Emergency Procedure for Working Alone

Emergency Procedure

Actions: (These should be determined by both the person undertaking the task and their responsible manager)

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Workplace Hazard Assessment for Laboratory Personal Protective Equipment

Principal Investigator:	Department:
Building:	Lab Room Number:
Lab Functions/Activities:	

Type of Hazard Present	Describe Hazards	Personal Protective Equipment (check all applicable and describe specific PPE required e.g., goggles, face shields, nitrile gloves, etc.)
Impact (e.g., flying objects, sand, dirt, dust, particulate, etc.)		☐ Eye/Face
		☐ Hand
		☐ Head
		☐ Clothing
		☐ Foot/Leg
	Do hazards prohibit working alone? ☐Y ☐N	☐ Other
Cuts/Penetration (e.g., cuts, punctures, lacerations, etc.)		☐ Eye/Face
		☐ Hand
		☐ Head
		☐ Clothing
		☐ Foot/Leg
	Do hazards prohibit working alone? ☐Y ☐N	☐ Other
Pinch/Crush/Roll Over (e.g., moving machine parts, falling/rolling heavy equipment, etc.)		☐ Eye/Face
		☐ Hand
		☐ Head
		☐ Clothing
		☐ Foot/Leg
	Do hazards prohibit working alone? ☐Y ☐N	☐ Other
Chemical (e.g., pouring, mixing, splash hazards, washing/ cleaning, etc.)		☐ Eye/Face
		☐ Hand
		☐ Head
		☐ Clothing
		☐ Foot/Leg
	Do hazards prohibit working alone? ☐Y ☐N	☐ Other
Biological (e.g., infectious materials, human or animal tissue, blood or bodily fluids, biological toxins, etc.)		☐ Eye/Face
		☐ Hand
		☐ Head
		☐ Clothing
		☐ Foot/Leg
	Do hazards prohibit working alone? ☐Y ☐N	☐ Other

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Workplace Hazard Assessment for Laboratory Personal Protective Equipment *(continued)*

Thermal (Hot/Cold) (e.g., torching, hot sparks, working with cryogenic gases, etc.)		☐ Eye/Face
		☐ Hand
		☐ Head
		☐ Clothing
		☐ Foot/Leg
	Do hazards prohibit working alone? ☐Y ☐N	☐ Other
Electrical (e.g., exposed electrical conductors, energized parts, electrical switch, gear, etc.)		☐ Eye/Face
		☐ Hand
		☐ Head
		☐ Clothing
		☐ Foot/Leg
	Do hazards prohibit working alone? ☐Y ☐N	☐ Other
Harmful Dust/Mites/ Fumes/Vapors (e.g., grinding, drilling, sanding, welding, soldering, working with silica dust, animal bedding, allergens, nanomaterials, etc.)		☐ Eye/Face
		☐ Hand
		☐ Head
		☐ Clothing
		☐ Foot/Leg
	Do hazards prohibit working alone? ☐Y ☐N	☐ Other
Light (Optical) Radiation (e.g., laser, UV light, welding, etc.)		☐ Eye/Face
	Do hazards prohibit working alone? ☐Y ☐N	☐ Other
Ionizing Radiation (e.g., radioisotopes, X-rays, etc.)		☐ Eye/Face
		☐ Hand
		☐ Head
		☐ Clothing
		☐ Foot/Leg
	Do hazards prohibit working alone? ☐Y ☐N	☐ Other
Noise (e.g., continuous noise, impact noise, etc.)		☐ Hearing (Contact EH&S) for direction)
	Do hazards prohibit working alone? ☐Y ☐N	

Assignment Completed By:		**Title:**
Signature:		**Date:**
Unit:	**Email:**	**Phone:**

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After Hours Access Authority (Issued without Alteration)

Permission to use Equipment

This is to certify that _____ _____

has permission to access Building: _____
Workspaces: _____

For the period Commencement Date: ____ / ____ / ____
Completion Date: ____ / ____ / ____

____ After hours between 5:30 pm to 8:00 am weekdays

____ Weekends

Permission ceases to apply after completion date

Permission to use Equipment

Authorization of equipment to be used After Hours will depend upon the Risk Rating of the equipment and level of competency required to operate the equipment.

This authority, granted by the PI/Professor who oversees the equipment to be used after hours, permits the user to operate the following equipment After Hours

Equipment	Risk Rating		
_____	Low	Medium	High
_____	Low	Medium	High
_____	Low	Medium	High

Acknowledgment of Authorization

Students and Staff, working after hours, should be reminded that they should carry with them their staff or student identification card, or else this authority will have no effect. Any authorized person should contact DPS, at extension 5000, to organize removal of any person who is not authorized to enter the premises.

I have read and understand all the above conditions.

Signature: _____ Student/Staff # _____ Date: ____ / ____ / ____

Authorizing Officer (Academic Supervisor)

Name: _____ Signature: _____ Date: ____ / ____ / ____