Bioscience Lab Foundations



Youth Apprenticeship

BIOSCIENCE LAB FOUNDATIONS

Bioscience Lab Foundations youth apprentices use laboratory equipment and tools to perform biological laboratory procedures. Apprentices must adhere to industry safety and security standards.

Length of Apprenticeship: One year. This pathway is the prerequisite to second year Bioscience Applications program.

REQUIRED COMPETENCIES

Youth apprentices must become proficient in both general employability and occupation-specific competencies. All of these, and examples of how each can be demonstrated, are found in the following pages. A total of 10 occupational competencies must be learned for this occupation. Employers may substitute out one of these and should write in the competency they are adding. Youth apprentices must be evaluated on these competencies at least two times each year of their apprenticeship.

Competencies

- 1. Use aseptic technique
- 2. Prepare glassware and instruments
- 3. Prepare reagents, solutions, and/or buffers
- 4. Perform calculations and conversions
- 5. Weigh and measure substances
- 6. Operate lab equipment
- 7. Conduct testing according to protocol
- 8. Record testing results
- 9. Maintain testing records
- 10. Maintain lab inventory

REGISTERED APPRENTICESHIP BRIDGING OPPORTUNITIES

The following Registered Apprenticeship is available in this area:

• Biotechnology Lab Support Assistant

POST-SECONDARY PATHWAY OPPORTUNITIES

There are several post-secondary pathway opportunities in this area. The following is a partial list.

- Biotechnology Laboratory Technician
- Medical Laboratory Technician

WISCONSIN—YOUTH APPRENTICESHIP

Bioscience Lab Foundations

Youth Apprenticeship

ON-THE-JOB LEARNING PERFORMANCE STANDARDS GUIDE

YOUTH APPRENTICE INFORMATION

Youth Apprentice Name	
YA Coordinator	
YA Consortium	
School District	
SIGNATURES	
The On-the-Job Learning Performance Standa	ards Guide includes a list of competencies youth
apprentices learn through mentoring and trai	·
should be reviewed with the employer/mento	tors and School-Based or YA coordinators: This document or, school-based or YA coordinator on a regular basis with plan future steps to ensure completion of the required ordinator, and the apprentice sign below.
Em	ployer/Mentor
1 st Evaluation (Required)	2 nd Evaluation (Required)
Employer/Mentor Signature	Employer/Mentor Signature
Employer/Mentor	Employer/Mentor
Business/Company	Business/Company
Date Signed	Date Signed
3 rd Evaluation (Optional)	4th Evaluation (Optional)
Employer/Mentor Signature	Employer/Mentor Signature
Employer/Mentor	Employer/Mentor
Business/Company	Business/Company
Date Signed	Date Signed

School-Based and/or YA Coordinator

1st Evaluation (Required)

2nd Evaluation (Required)

School-Based and/or YA Coordinator Signature	School-Based and/or YA Coordinator Signature
School-Based and/or YA Coordinator	School-Based and/or YA Coordinator
School District or Organization	School District or Organization
Date Signed	Date Signed

3rd Evaluation (Optional)

4th Evaluation (Optional)

School-Based and/or YA Coordinator Signature	School-Based and/or YA Coordinator Signature
School-Based and/or YA Coordinator	School-Based and/or YA Coordinator
School District or Organization	School District or Organization
Date Signed	Date Signed

Youth Apprentice

1st Evaluation (Required)

2nd Evaluation (Required)

Youth Apprentice Signature	Youth Apprentice Signature
Youth Apprentice	Youth Apprentice
School District / High School	School District / High School
Date Signed	Date Signed

3rd Evaluation (Optional)

4th Evaluation (Optional)

Youth Apprentice Signature	Youth Apprentice Signature
Youth Apprentice	Youth Apprentice
School District / High School	School District / High School
Date Signed	Date Signed

EMPLOYABILITY SKILLS (TO BE COMPLETED BY YA EMPLOYER/MENTOR)

All youth apprentices must demonstrate the key employability skills listed below in order to complete the YA program. They do so by earning at least a "Meets Expectation" rating in each. **At least two evaluations are required each year of a youth apprenticeship.** More columns are included below for those who choose to conduct more frequent reviews.

1	Working to Meet Expectations: Needs improvement; requires much assistance and supervision;
	rarely displays this behavior
2	Meets Expectations: Meets entry-level criteria; requires some supervision; often displays this
	behavior
3	Exceeds Expectations: Exceeds entry-level criteria; requires minimal supervision; consistently
	displays this behavior

Employability Skills	Rating			
	Year One Evaluation Rating			ting
Competency and Rating Criteria	Initial	Mid	Mid	Final
		Year 1	Year 2	
 Develops positive work relationships with others. Examples of qualities and habits that the employee might exhibit include Interacts with others with respect and in a non-judgmental manner Responds to others in an appropriate and non-offensive manner Helps co-workers and peers accomplish tasks or goals Applies problem-solving strategies to improve relations with others When managing others, shows traits such as compassion, listening, coaching, team development, and appreciation 	☐ 1 ☐ 2 ☐ 3	☐ 1 ☐ 2 ☐ 3	☐ 1 ☐ 2 ☐ 3	☐ 1 ☐ 2 ☐ 3
 Communicates effectively with others Examples of qualities and habits that the employee might exhibit include Adjusts the communication approach for the target audience, purpose, and situation to maximize impact Organizes messages/information in a logical and helpful manner Speaks clearly and writes legibly Models behaviors to show active listening Applies what was read to actual practice Asks appropriate questions for clarity 	□1 □2 □3	☐ 1 ☐ 2 ☐ 3	☐ 1 ☐ 2 ☐ 3	☐ 1 ☐ 2 ☐ 3
 Collaborates with others Examples of qualities and habits that the employee might exhibit include Works effectively in teams with people of diverse backgrounds regardless of sex, race, ethnicity, nationality, sexuality, religion, political views, and abilities Shares responsibility for collaborative work and decision making Uses the problem-solving process to work through differences of opinion in a constructive manner to achieve a reasonable compromise Avoids contributing to an unproductive group conflict Shares information and carries out responsibilities in a timely manner 	□1 □2 □3	□ 1 □ 2 □ 3	□ 1 □ 2 □ 3	☐ 1 ☐ 2 ☐ 3

	Employability Skills		Rat	ing	
		Year One Evaluation Rating			ating
	Competency and Rating Criteria	Initial	Mid	Mid	Final
			Year 1	Year 2	
4.	Maintains composure under pressure	□ 1	□ 1	□ 1	□ 1
	Examples of qualities and habits that the employee might exhibit include		☐ <u>2</u>	☐	□ - □ 2
	Uses critical thinking to determine the best options or outcomes when				
	faced with a challenging situation	∐ 3	∐3	□ 3	3
	 Carries out assigned duties while under pressure 				
	Acts in a respectful, professional, and non-offensive manner while under				
	pressure				
	Applies stress management techniques to cope under pressure				
5.	Demonstrates integrity	□ 1	□ 1	□1	□1
	Examples of qualities and habits that the employee might exhibit include	□ <u>-</u> □ 2	☐ -	☐ -	□ -
	Carries out responsibilities in an ethical, legal and confidential manner				
	Responds to situations in a timely manner	∐ 3	∐3	3	3
	Takes personal responsibility to correct problems				
	 Models behaviors that demonstrate self-discipline, reliability, and 				
	dependability				
_					
6.	Performs quality work	□ 1	□ 1	□ 1	□ 1
	Examples of qualities and habits that the employee might exhibit include	☐ 2	□ 2	□ 2	□ 2
	Carries out written and verbal directions accurately	□3	□ 3	□3	□3
	Completes work efficiently and effectivelyPerforms calculations accurately				_
	 Performs calculations accurately Conserves resources, supplies, and materials to minimize costs and 				
	environmental impact				
	Uses equipment, technology, and work strategies to improve workflow				
	Applies problem-solving strategies to improve productivity				
	Adheres to worksite regulations and practices				
	Maintains an organized work area				
7.	Provides quality goods or services (internal and external)				
/ .	Examples of qualities and habits that the employee might exhibit include	<u> </u>			
	Shows support for the organizational goals and principles by own personal	<u></u>	<u> </u> 2	<u></u>	2
	actions	3	□ □ 3	3	3
	Displays a respectful and professional image to customers				
	• Displays an enthusiastic attitude and desire to take care of customer needs				
	Seeks out ways to increase customer satisfaction				
	Produces goods to workplace specifications				
8.	Shows initiative and self-direction		□ 4		
0.	Examples of qualities and habits that the employee might exhibit include				
	 Prioritizes and carries out responsibilities without being told 	<u></u>	<u> </u>	<u></u>	<u> </u>
	Responds with enthusiasm and flexibility to handle tasks that need	□ 3	□ 3	□ 3	☐ 3
	immediate attention				
	Reflects on any unsatisfactory outcome as an opportunity to learn				
	• Improves personal performance by doing something different or differently				
	Analyzes how own actions impact the overall organization				
	Supports own action with sound reasoning and principles				
	Balances personal activities to minimize interference with work				
	responsibilities				

Employability Skills Rating				
	Year One Evaluation Rating			iting
Competency and Rating Criteria	Initial	Mid	Mid	Final
		Year 1	Year 2	
9. Adapts to change	□1	□1	□1	□1
Examples of qualities and habits that the employee might exhibit include			 2	 2
 Shows flexibility and willingness to learn new skills for various job roles 				
 Uses problem-solving and critical-thinking skills to cope with changing 		3	∐ 3	∐3
circumstances				
 Modifies own work behavior based on feedback, unsatisfactory outcomes, 				
efficiency, and effectiveness				
Displays a "can do" attitude				
10. Demonstrates safety and security regulations and practices				
Examples of qualities and habits that the employee might exhibit include			☐ 1	
Follows personal safety requirements	2	<u></u>	<u></u> 2	∐ 2
Maintains a safe work environment	□ 3	□ 3	3	 3
Demonstrates professional role in an emergency				
Follows security procedures				
Maintains confidentiality				
,				
11. Applies job-related technology, information, and media	□ 1	□ 1	□ 1	□ 1
Examples of qualities and habits that the employee might exhibit include	2	□ 2	□ 2	_ 2
Applies technology effectively in the workplace		☐ 3	□ -	□ 3
 Assesses and evaluates information on the job 	🗆 🤊			
Assesses training manuals, website, and other media related to the job				
12. Fulfills training or certification requirements for employment	□1	□ 1	□1	
Examples of this requirement may include				
Participation in required career-related training and/or educational	<u> </u> 2	<u> </u> 2	<u></u>	□ 2
programs	3	3	∐ 3	∐ 3
 Passing certification tests to qualify for licensure and/or certification 				
Participation in company training or orientation				
12. Cots personal goals for improvement				
13. Sets personal goals for improvement Examples of this requirement may include		<u> </u>	□1	
 Setting goals that are specific and measurable 	2	□ 2	2	2
Setting goals that are specific and measurable Setting work-related goals that align with the organization's mission	☐ 3	□ 3	☐ 3	☐ 3
Identifying strategies to reach goals				
Reflecting on goal progress to regularly evaluate and modify goals				
The state of the s				

OCCUPATIONAL COMPETENCIES (TO BE COMPLETED BY YA EMPLOYER/MENTOR)

Youth apprentices must earn a rating of at least "MEETS EXPECTATIONS" in each competency by the conclusion of the apprenticeship. A total of 10 competencies, 9 must be from the list below. If necessary, employers can substitute one competency with another occupationally appropriate skill. That skill should be added to the competency list for assessment. At least two evaluations are required each year of a youth apprenticeship. More columns are included below for those who choose to conduct more frequent reviews.

1	Working to Meet Expectations: Needs improvement; requires much assistance and supervision;
	rarely displays this behavior
2	Meets Expectations: Meets entry-level criteria; requires some supervision; often displays this
	behavior
3	Exceeds Expectations: Exceeds entry-level criteria; requires minimal supervision; consistently
	displays this behavior

Occupational Competencies		Rati		
Competency and Rating Criteria		Evaluation Minimum Rating of 2 EACH Check Rating		
. , ,	Initial	Mid Year 1	Mid Year 2	Final
 1. Use aseptic technique follow safety protocols and precautions wear the appropriate Personal Protective Equipment (PPE) disinfect surfaces before and after use gather all materials prior to beginning procedure prevent unwanted air current flow from doors and windows sterilize equipment, reagents and/or supplies hold caps or tops when removing them prevent unwanted exposure to uncontrolled environment keep lids on as much as possible avoid talking, sneezing, coughing when working with exposed analytes discard contaminated materials properly 	☐ 1 ☐ 2 ☐ 3	□ 1 □ 2 □ 3	□ 1 □ 2 □ 3	☐ 1 ☐ 2 ☐ 3
 Prepare glassware and instruments follow safety protocols and precautions wear the appropriate Personal Protective Equipment (PPE) disinfect glassware and instruments before and after use use proper solution of detergent remove all residual matter place cleaned and dried items in sterilization pouches or wraps label and seals items properly document cleaning procedure return clean glassware and instruments to proper storage locations 	☐ 1 ☐ 2 ☐ 3	☐ 1 ☐ 2 ☐ 3	☐ 1 ☐ 2 ☐ 3	☐ 1 ☐ 2 ☐ 3

Occupational Competencies		Rati	ngs		
		Evalu			
Commenter and Detire Criteria		Minimum Rating of 2 EACH Check Rating			
Competency and Rating Criteria		Mid	Rating Mid		
	Initial	Year 1	Year 2	Final	
3. Prepare reagents, solutions, and/or buffers	□ 1		1	□ 1	
 follow safety protocols and precautions 			 ☐ 2		
 wear the appropriate Personal Protective Equipment (PPE) 		□ -	□ - □ 3	□ -	
 determine the concentration and amount required 					
 calculate the amount of solute and solvent 					
verify calculation accuracy					
 measure the solute and solvent 					
 combine solute and solvent appropriately 					
 return solute and solvent to proper storage area 					
label and store prepared item					
clean work area					
4. Perform calculations and conversions	<u> </u>	1	1	□ 1	
identify unknown values	□ 2	□ 2	□ 2	□ 2	
 determine the calculations or conversions and formulas 	<u> </u>	 □3	 3		
 verify calculations or conversions with worksite professional 					
record calculations or conversions					
5. Weigh and measure substances	1	1	1	1	
 follow safety protocols and precautions 	□ 2	□ 2	□ 2	□2	
 wear the appropriate Personal Protective Equipment (PPE) 	<u> </u>	 3	 3	 3	
 verify equipment is usable and current for calibration 					
select appropriate unit for measurement					
 record measurements in appropriate units 					
clean work area					
convert measurements					
6. Operate lab equipment	1	□ 1	□ 1	□ 1	
follow safety protocols and precautions	□ 2	☐ 2	□ 2	□ 2	
wear the appropriate Personal Protective Equipment (PPE)	□ 3	□ 3	□ 3	□ 3	
Choose correct equipment for the task					
Verify equipment is available for use and in working order					
 Verify safety requirements and any Personal Protective Equipment (PPE) needed for equipment use 					
Inspect equipment and work area for safety considerations					
Prepare equipment for safe operation					
Monitor equipment for safe operation while operating					
Follow shut down procedures					
Label equipment not operating as expected					
Report abnormal equipment conditions					
Document use					
Clean work area					

Occupational Competencies		Ratings			
		Evaluation			
Commentation and Destine City is		Minimum Rating of 2 EACH			
Competency and Rating Criteria		Check Rating			
	Initial	Mid Year 1	Mid Year 2	Final	
7. Conduct testing according to protocol	<u> </u>			□ 1	
Follow safety protocols and precautions		☐ 2	□ - □ 2		
Wear the appropriate Personal Protective Equipment (PPE)					
choose correct equipment for the task	∐3	3	∐ 3	3	
 prepare reagents, solutions, and/or buffers 					
prepare controls					
 identify the sample(s) to be tested 					
 prepare samples for testing 					
• test sample(s)					
use aseptic lab technique and standard/universal precautions					
records results					
clean glassware and instruments					
dispose of chemical, biohazardous, or infectious waste					
8. Record testing results	□ 1	□ 1	□ 1	□ 1	
select appropriate forms/records	□ 2	□ 2	☐ 2	□ 2	
 use appropriate note-taking methods 	□ 3	□3	□ 3	□ 3	
record results, readings, measurements, calculations, times, etc. with					
appropriate scientific units					
record your identification					
report discrepancies or unexpected results					
document final testing data					
9. Maintain testing records		□1	□1	□1	
follow data security procedures		☐ 2	□ - □ 2		
select appropriate forms/records			□ -		
label and/or code documents		🗆 🤊			
file forms/records in appropriate location					
 use appropriate computer codes, formatting, macros, charts, 					
spreadsheets, etc.					
 verify data prior to entry/storage 					
update data in files					
10. Maintain lab inventory		□ 1	□1	□ 1	
check incoming containers for damage or contamination	□¹ □2		□ <u>1</u> □ 2		
verify items ordered match the purchase order and description					
identify defective items			∐ 3	3	
process defective items					
perform inventory checks					
maintain proper storage levels					
rotate items to minimize old and outdated inventory					
monitor temperature and atmospheric controlled spaces					

Occupational Competencies	Ratings			
	Evaluation			
	Minimum Rating of 2 EACH			
Competency and Rating Criteria	Check Rating			
	Initial	Mid	Mid	Final
	IIIICiai	Year 1	Year 2	Tillai
Competency Substitute (if you replaced a competency above, note the	□ 1	□ 1	1	□ 1
competency and rating)	□ 2	□ 2	□ 2	□ 2
	_ 3	 3	_ 	_ 3
Comments:				

No part of this document may be altered, duplicated, or extracted without written consent from the Wisconsin Department of Workforce Development (DWD).

DWD is an equal opportunity employer and service provider. If you have a disability and need assistance with this information, please dial 7-1-1 for Wisconsin Relay Service. Please contact the Division of Employment and Training at 888-258-9966 and press 6 to request information in an alternate format, including translated to another language.

