

# A Tool to Foster Transparency in Work-Based Learning

Karen Leung, PhD

NSF ATE Project: A Collaborative Approach to Work-Based Learning: Building Inclusive Labs  
(DUE # 2055735, 2055309)

City College of San Francisco Biotechnology Program

University of California, San Francisco - Office of Career Planning & Development



# CCSF-UCSF: A Collaborative Approach to Work-based Learning

Community  
College  
Biotechnology  
Program



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DUE #1801186, 2055309

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# Evolving Work-Based Learning Program



Technical Skills  
Training



Work-Based  
Learning  
(Internship)



Employability  
Skills & Support  
Course

# Evolving Work-Based Learning Program



Technical Skills Training

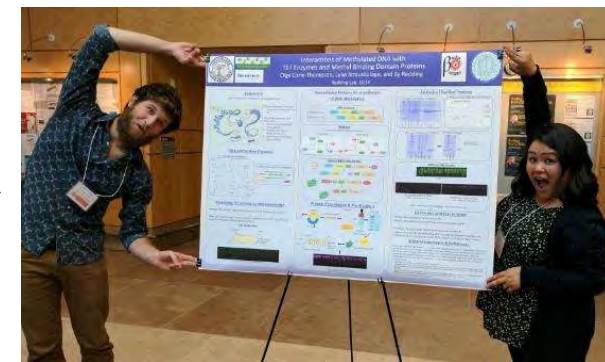


Work-Based Learning (Internship)



Employability Skills & Support Course

Work-based Learning Relationship  
Foundational to Student Success



CCSF-UCSF collaborative approach to work-based learning

We built parallel trainings and resources to support workplace success

**8 years. 2 NSF ATE projects.**

**1,500 scientists. 70+ biotech organizations & 40+ academic institutions**

**350+ students, alumni and faculty from 30+ community colleges**



Office of Career and  
Professional Development  
Student Academic Affairs

Mentor/  
Manager  
Training

A background image showing two scientists in white lab coats looking at something off-camera. The image is partially obscured by text and red lines.

**THE BIOTECHNOLOGY PROGRAM**

CITY COLLEGE OF SAN FRANCISCO

Workplace  
Navigation  
Training

# Workplace Navigation Skills

**Employer  
Centric**

Technical Skills

Employability Skills

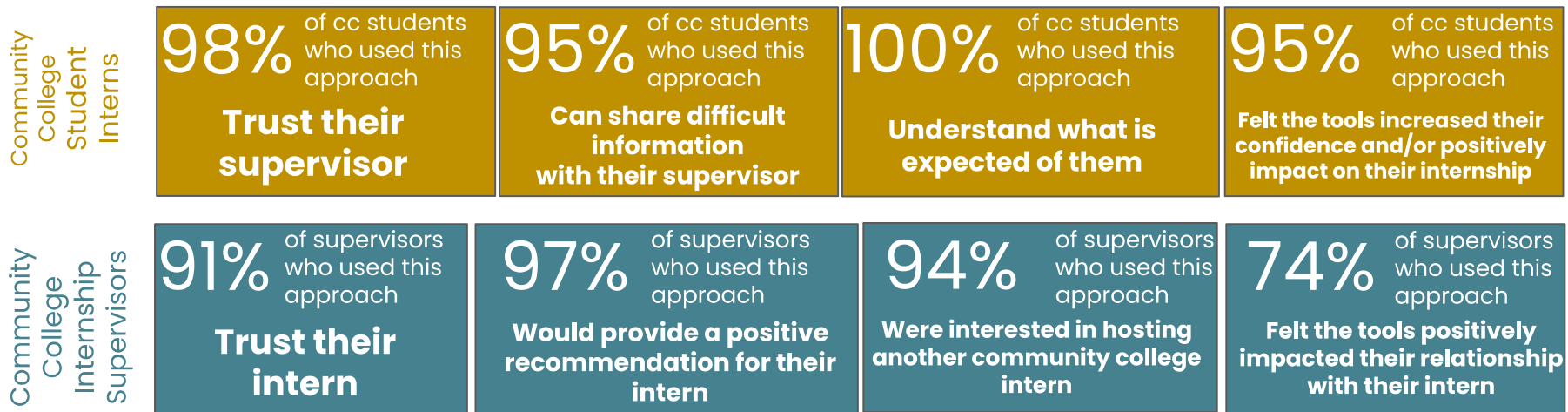
**Student/  
Employee  
Centric**

Workplace Navigation Skills

The skills students need to increase their odds of **succeeding**, **persisting**, and **progressing**, in the industry based on their individual **goals**, **priorities** and **values**.

# Why Workplace Navigation Skills

make a difference in community college student success



61 part-time semester long CCSF interns  
31 internship supervisors from 9 different organizations

- **97%** of students & **94%** of faculty/staff participants reported that **“there is a need for this training for community college students”**
- **93%** of student participants **plan to implement tools** from the training
- **100%** of faculty/staff wanted to **share the materials** with their students

153 student responses from 18 community colleges, 45% from a group historically excluded from the sciences,  
18 faculty responses from 9 community colleges

# Workplace Navigation Skills Checklist

Our goal is for all community college students to be equipped to:

<p><b>Workplace Selection</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Utilize the interview to recognize a potential 'Bad Fit' or 'Toxic Work Environment'</li> <li><input type="checkbox"/> Define the workplace environment and circle of support they need to succeed</li> <li><input type="checkbox"/> Design interview questions to determine whether a workplace is in alignment with their goals, priorities and values</li> </ul>	<p>Empower students to <b>assess workplace opportunities</b> based on their goals, priorities and values.</p>
<p><b>Workplace Transition</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Assess work styles and values (theirs, their supervisor's and their colleagues').</li> <li><input type="checkbox"/> Assess their supervisors' people manager abilities and identify where they may need to 'manage-up'</li> <li><input type="checkbox"/> Assess the functionality of their team and the organization.</li> <li><input type="checkbox"/> Identify gaps in their understanding of their supervisor's expectations.</li> <li><input type="checkbox"/> Proactively engage in strategies to clarify expectations, obtain actionable feedback, and promote actions that support their success.</li> <li><input type="checkbox"/> Effectively engage in challenging conversations with their supervisor.</li> <li><input type="checkbox"/> Build their professional circle of support.</li> </ul>	<p>Equip students to <b>identify and navigate barriers</b> in the workplace, improving their odds of success and retention.</p> <p>Approach workplace <b>challenges as opportunities</b> to apply navigation skills with support and community.</p>
<p><b>Workplace Progression</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Articulate their transferable competencies</li> <li><input type="checkbox"/> Develop a coherent story of their recent work experience and its role in the organization</li> <li><input type="checkbox"/> Utilize their recent work experience to identify workplace structures and practices that support and create barriers to their success in order to improve selection of future opportunities.</li> </ul>	<p>Empower students to take control of their career trajectory such that each work experience effectively builds on the next to ensure <b>alignment with their individual goals, priorities and values.</b></p>

Mark the  
checklist  
&  
Let us  
know!



[bit.ly/WNTChecklist](https://bit.ly/WNTChecklist)



# Workplace Navigation Skills Checklist

Do your students have access to training & tools...

Workplace Selection	Empower students to <b>assess workplace opportunities</b> based on their goals, priorities and values.
<ul style="list-style-type: none"><li><input type="checkbox"/> Utilize the interview to recognize a potential 'Bad Fit' or 'Toxic Work Environment'</li><li><input type="checkbox"/> Define the workplace environment and circle of support they need to succeed</li><li><input type="checkbox"/> Design interview questions to determine whether a workplace is in alignment with their goals, priorities and values</li></ul>	
Workplace Transition	Equip students to <b>identify and navigate barriers</b> in the workplace, improving their odds of success and retention.
<ul style="list-style-type: none"><li><input type="checkbox"/> Assess work styles and values (theirs, their supervisor's and their colleagues').</li><li><input type="checkbox"/> Assess their supervisors' people manager abilities and identify where they may need to 'manage-up'</li><li><input type="checkbox"/> Assess the functionality of their team and the organization.</li><li><input type="checkbox"/> <b>Identify gaps in their understanding of their supervisor's expectations.</b></li><li><input type="checkbox"/> Proactively engage in strategies to clarify expectations, obtain actionable feedback, and promote actions that support their success.</li><li><input type="checkbox"/> Effectively engage in challenging conversations with their supervisor.</li><li><input type="checkbox"/> Build their professional circle of support.</li></ul>	Approach workplace <b>challenges as opportunities</b> to apply navigational support and communication.
Workplace Progression	Empower students to <b>take control</b> of their career trajectory such that each work experience effectively <b>builds on the next to ensure alignment with their individual goals, priorities and values.</b>
<ul style="list-style-type: none"><li><input type="checkbox"/> Articulate their transferable competencies</li><li><input type="checkbox"/> Develop a coherent story of their recent work experience and its role in the organization</li><li><input type="checkbox"/> Utilize their recent work experience to identify workplace structures and practices that support and create barriers to their success in order to improve selection of future opportunities.</li></ul>	



Tips and Tools  
Month YYYY Volume XX Issue XX e00204-23

## A tool for clarifying expectations in undergraduate research experiences

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# Challenge: Unclear Expectations

## Students-Trainees:

- Frequently lack clarity around what knowledge and/or skills they needed to acquire
- Often expected to “absorb” what they need to learn by watching others speak about science & reading papers
- Minimal actionable feedback on their progress
- Can lead to poor recommendations or dismissal.



## Mentors-Supervisors:

Unstated expectations often lead to misunderstandings and reduced productivity when trainees didn't understand:

- What they're expected to prioritize
- What resources and training they're supposed to utilize
- What behaviors they're expected to demonstrate.



## Work-based learning (WBL) coordinators/faculty:

Lack of clarity around student-trainee expectations leads to confusion around how to help support students during WBL experiences when issues arise.



## Expectation Clarity Tool



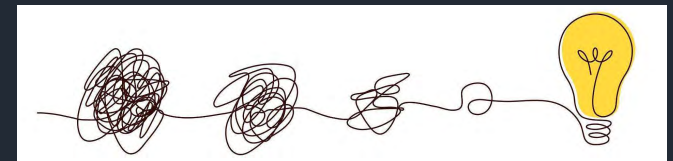
Outlining & sharing:

Goals/Expectations

Evaluation Criteria (Success Metrics)

Baseline Assessment

Training Plan: Training, Resources & Support to be provided



# Building Clarity: Backward Design from Expectations

Teaching/Training

Baseline Assessment

Evaluation

Expectation/Goal



Does the student understand:

- What goals/expectations their mentor-manager/supervisor would like them to reach?
- How they will be evaluated to determine if they have met each goal/expectation?
- How their mentor-manager/supervisor will initially assess their baseline knowledge/skill level for each goal/expectation?
- How they will be taught/trained/supported to attain each goal/expectation?

# Expectation Clarity Tool – For Mentor-Managers to Complete

	Conceptual Knowledge	Technical Skills	Performance	Professional Skills and Attitudes

# Expectation Clarity Tool – For Mentor-Managers to Complete

	Conceptual Knowledge	Technical Skills	Performance	Professional Skills and Attitudes
<b>Goal/Expectation:</b> What final goal would you like your trainee to reach? Start the sentence with "Be able to..."				Be able to create & give a 10-15 min presentation on their internship work
<b>Evaluation Criteria:</b> (Measure of success) How will you and your trainee know they have attained this goal?				Present a logical presentation that includes: <ul style="list-style-type: none"> <li>• An intro contextualizing their work to the goals of lab/organization</li> <li>• Methods, data and analysis</li> <li>• Future work/next steps</li> <li>• Appropriate references</li> </ul>
<b>Baseline Assessment:</b> How will you directly assess the trainee's initial level of competency/skill for this goal before they start?				Have the intern outline their previous experience presenting, including experience with science presentations. (Have them create and give a short presentation on a science concept or technique they already know well)
<b>Training/Resources/Support plan:</b> What training, support and/or resources will you provide the trainee to help them reach this goal?				Based on the intern's baseline, have them: <ol style="list-style-type: none"> <li>1. Review example presentations from the lab and/or previous interns</li> <li>2. Watch a video on how to create a science presentation</li> <li>3. Attend other's presentations at lab meeting &amp; outline strategies for a successful presentation</li> <li>4. Create, present, get feedback &amp; iterate on their presentation with support from me, classmates or other lab members</li> </ol>

# Expectation Clarity Tool – For Students/Trainees to Complete

	Conceptual Knowledge	Technical Skills	Performance	Professional Skills and Attitudes
<p><b>Goal/Expectation:</b>            What final goals does your mentor/supervisor want you to reach?</p> <p>Start the sentence with “I should be able to...”</p>				
<p><b>Evaluation Criteria:</b>            (Measure of success)</p> <p>How will you and your mentor/supervisor know you have attained this goal?</p>				
<p><b>Baseline Assessment:</b></p> <p>How will your mentor/supervisor assess your initial level of competency for this goal?</p>				
<p><b>Training/Resources/Support plan:</b></p> <p>What training, support and/or resources will be provided to you to reach this goal?</p>				

# Implementation Timeline

TIMELINE	MENTOR-MANAGER SUPERVISOR	MENTEE-TRAINEE STUDENT
5-10% into the internship	Blank spreadsheet with instructions & examples provided separately to Mentors & Mentees	
10-20% into the internship	<p><b>Mentor &amp; Mentee Complete the Spreadsheet</b></p> <p><b>Assignment:</b> Complete spreadsheet for 5+ goals/expectations based on their expectations for their mentee over the course of the WBL experience</p> <p><b>Focus:</b> Clarify what goals/expectations must be met for a solid letter of recommendation</p>	<p><b>Assignment:</b> Complete spreadsheet for goals/expectations based on their own knowledge of their mentor's expectations</p> <p><b>Focus:</b> Identify gaps in understanding - areas of the spreadsheet they can't fill out</p>
15-20% into the internship	<b>Mentor's completed spreadsheet provided to mentees for review</b>	
		<p><b>Reflection:</b> Review mentor's completed spreadsheet, compare to what they had outlined (Supported Cohort Discussion)</p> <p><b>Focus:</b> Identify any points of confusion and possible clarifying questions to ask</p>
15-25% into the internship	<b>Discuss Mentor's completed spreadsheet</b>	
	<p><b>Activity:</b> Set-up a time to review their completed spreadsheet with their mentee</p> <p><b>Focus:</b> Clarify any points of confusion</p>	<p><b>Activity:</b> Discuss their mentor's completed spreadsheet with their mentor</p> <p><b>Focus:</b> Identify any points of confusion and ask clarifying questions</p>
Through the remainder of the internship	<b>Revisit/Revise/Discuss</b>	
	Mentor and mentee use the mentor's completed spreadsheet for regular check-in meetings, update progress, revise expectations throughout the internship experience	

	Personalized Knowledge	Technical Skills	Knowledge of Industry	Knowledge of Self
What are your goals for this internship?				
What are your expectations for your supervisor/mentor?				
What are your expectations for your colleagues/peers?				
What are your expectations for your own performance?				
What are your expectations for your learning experience?				
What are your expectations for your career path?				
What are your expectations for your overall experience?				

	Personalized Knowledge	Technical Skills	Knowledge of Industry	Knowledge of Self
What are your goals for this internship?	I want to learn more about the industry and gain hands-on experience.	I have experience with Excel and PowerPoint.	I know the company is a leader in the field.	I am a hard worker and a team player.
What are your expectations for your supervisor/mentor?	I expect to receive regular feedback and guidance.	I expect to be assigned meaningful tasks.	I expect to be treated as a professional.	I expect to have a supportive and encouraging supervisor.
What are your expectations for your colleagues/peers?	I expect to work with a diverse and talented team.	I expect to have a good working relationship with my colleagues.	I expect to be able to learn from my colleagues.	I expect to be able to contribute to the team.
What are your expectations for your own performance?	I expect to meet all deadlines and produce high-quality work.	I expect to continue to learn and grow in my technical skills.	I expect to be able to apply my knowledge to the work.	I expect to be able to take on more responsibility.
What are your expectations for your learning experience?	I expect to learn a lot from my supervisor and colleagues.	I expect to be able to apply what I learn to my current work.	I expect to be able to gain a better understanding of the industry.	I expect to be able to develop my own skills.
What are your expectations for your career path?	I expect to be able to gain valuable experience that will help me in my career.	I expect to be able to develop my technical skills.	I expect to be able to gain a better understanding of the industry.	I expect to be able to take on more responsibility.
What are your expectations for your overall experience?	I expect to have a positive and productive experience.	I expect to be able to learn and grow in my technical skills.	I expect to be able to gain a better understanding of the industry.	I expect to be able to develop my own skills.



# Expectation Clarity Tool: Implementation Assessment

<b>Mentors reported that completing the tool/spreadsheet:</b>	
Increased my confidence as an inclusive mentor	59% (16 of 27)
Taught me a new inclusive mentoring skill	85% (23 of 27)
Changed how I will mentor trainees moving forward	85% (23 of 27)
Impacted my relationship with my trainee positively	63% (17 of 27)

<b>Interns reported that...</b>	<b>obtaining the completed tool/spreadsheet from their mentor:</b>	<b>doing a self assessment of their mentor's expectations (completing the tool/spreadsheet on their own) (2021 only):</b>
Increased my confidence as an intern	57% (16 of 28)	50% (8 of 16)
Taught me something	46% (13 of 28)	63% (10 of 16)
Changed my behavior as an intern	46% (13 of 28)	25% (4 of 16)
Positively impacted the success of my internship	64% (18 of 28)	56% (9 of 16)

\*Data collected from 2 mentor-intern cohorts (Spring 2020 and 2021)





# Expectation Clarity Tool - Example

	Conceptual Knowledge	Technical Skills	Performance	Professional Skills & Attitudes
<b>Goals/Expectations:</b> What final goal would you like your trainee to reach?	Be able to interpret results from an Immunoprecipitation (IP) and Western Blot of the insulin receptor.	Be able to independently run a Western Blot from a given protein sample and antibody, with a given protocol.	Be able to produce IP + Western Blot results that are at the quality standard required for publication.	Be able to describe how the experience they have acquired in the internship can help them attain their career goals.
<b>Evaluation: (Measure of success)</b> How will you and the trainee know they have attained this goal?	When asked to analyze the results of a Western Blot after IP, the intern can describe how the results relate to changes in the insulin receptor signaling pathway.	When given a protocol, protein sample, and antibody, the intern can perform the experiment independently. If given a new protocol/protein/antibody, the intern will take the initiative to review the protocol with the mentor first and ask questions as needed.	When asked to perform a technique for which the intern has been trained, the intern can produce results that are of the following quality [provide an example of the type of result expected here, provide an example of a result that is of poor quality]	When asked how this research experience makes them a good candidate for a position in an interview, the candidate can describe the skills they have learned, the quality of their work and results, and how they contributed to the advancement of the lab's goals.
<b>Assessing baseline level:</b> How will you directly assess the trainee's level of competency before they start?	Ask the intern to describe the insulin receptor signaling pathway, the principles of immunoprecipitation and Western Blot (WB). Ask the intern to interpret IP/WB results.	Ask the intern to explain the principles of the Western Blot and describe the main steps of experiment. If they have performed the technique before in a lab setting, ask them to describe its general steps of the experiments and the protein and antibody samples they used. If possible, have them perform a short experiment during the interview as a job simulation.	Show examples of appropriate quality vs. poor	Ask the intern to describe their career goals,
<b>Teaching Strategy/Support:</b> What will the you do to help the trainee reach the goals/expectations from their baseline level?	Tailor teaching to the intern's current knowledge and preferred learning medium: 1. Provide slides from a cell signaling seminar or lecture. 2. Provide a section of a review paper relating to the insulin receptor signaling pathway. 3. Assign iBiology or Khan Academy videos on the insulin signaling pathway. Set up a meeting in 2 weeks to have the intern describe or diagram the concepts back to the mentor. 4. Assign educational materials on IP/WB. 5. Talk through the analysis of IP/WB results with the intern, then ask them to analyze new results with feedback.	Tailor training to the intern's current skills level: 1. Review or teach the principles of western blotting. 2. Read through the protocol with the intern, explaining each step. 3. Demo the experiment slowly while the intern takes notes and asks questions, allow the intern to perform the protocol on their own and schedule a meeting to discuss new questions. 4. Perform a new demo in front of the intern, at a normal pace. Let the intern ask questions afterwards. 5. Let the intern practice the technique in front of the mentor twice with thorough, constructive feedback. 6. Let the intern do it without the mentor while the mentor is accessible for support.		position. 4. Have the intern practice explaining how their experience serves this position.



**Tips and Tools**  
Month YYYY Volume XX Issue XX e00204-23

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# Interested in our training & tools?

Mark the checklist  
&  
Let us know!



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- ★ Try out our tools, training and resources
- ★ Partner with us to empower your students
- ★ Get support for your work-based learning program

Contact us!

[karen.leung@mail.ccsf.edu](mailto:karen.leung@mail.ccsf.edu)

Check out our website

[bit.ly/BuildingInclusiveLabs](http://bit.ly/BuildingInclusiveLabs)

## Published Tools & Examples

**IMBE** Institute of Management & Business Education  
Tip and Tools  
A tool for clarifying expectations in undergraduate research experiences

Identify "gaps" in understanding - Fill out the spreadsheet!

Expectation	Understood	Not Understood
1. Research topic		
2. Research methods		
3. Research goals		
4. Research timeline		
5. Research budget		
6. Research location		
7. Research equipment		
8. Research safety		
9. Research ethics		
10. Research communication		

## Frameworks

**Activity 3: Think of a previous boss. Evaluate their ability!**

**Point System:**  
 ● Skillful  
 ● Neutral  
 ● Unskillful

Meeting expectations? → Not meeting expectations?

Handle Conflict & Manage Change

Provide Appropriate Support & Protection

**7 Supervisory Responsibilities:**

1. Set expectations & take final assessment
2. Teach/Train & manage effectively
3. Give notes, corrective & evaluative feedback continuously
4. Recognize progress & reward achievement fairly
5. Articulate measured responses & apply consequences
6. Handle conflict & manage change
7. Provide appropriate support & protection

## Training

**Strategy 1: Building Expectation Clarity:**  
**Tactic 1: How to have a discussion about general expectations:**

**Possible Language:**

1. **Open:** I was wondering if you have time to talk about expectations for me during my internship?
2. **Explanation:** I want to ensure I'm clear on all my work tasks and that I'm meeting your expectations. My understanding was that your expectations of me are (list them clearly).
3. **Ask:** Is that correct? Is there anything I'm missing?  
 "If there are additional expectations make sure you are very clear about what they mean & how you will achieve them."  
 Example: I want you to become independent in doing X.  
 Really Great! I would love to be able to achieve that goal so well. Can you please explain what independence would look like?  
 How will I know I am sufficiently independent performing X?
4. **Close with Appreciation:** Thank you so much for your feedback and time. Going forward I will... (repeat that expectation) and how you plan to achieve it.

## Assessment Tools

**Example Student-Mentor Pulse Survey**

Question	Response/Choices
1. Do you agree or disagree with the following statements: a. I understand what needs to be done this past week to meet my mentor's expectations. b. I know whether or not my mentor's expectations this week. c. I met my mentor's expectations this week (even blank if you don't know). d. I received corrective feedback in the past week, telling me what I should be doing differently. e. I received positive feedback in the past week, telling me what I should keep doing according to my job. f. I understand what I need to do to meet my mentor's expectations next week. g. My mentor is accurately assessing my knowledge and skill level. They have a good sense of where I'm at.	Strongly agree, agree, somewhat agree, somewhat disagree, disagree, strongly disagree
2. Briefly list your mentor's goals for you when it comes to the technical skills, scientific knowledge, professional development you should develop during the internship.	One technical skill you need to master by the end of your internship. One scientific knowledge you need to have. One performance standard you need to meet. One professional skill you need to develop.
3. Please indicate how well the following expectations were communicated to you: a. Your work responsibilities on projects (as you have been brought on to work on it and if not) b. Your work responsibilities on specific tasks (as you will maintain these) c. If you have OR you will be in charge of maintaining this piece of equipment. d. Your performance milestones (as set up 2 previous, quality of the lab/performance)	Very clear, clearly, somewhat, poorly, very poorly/not communicated