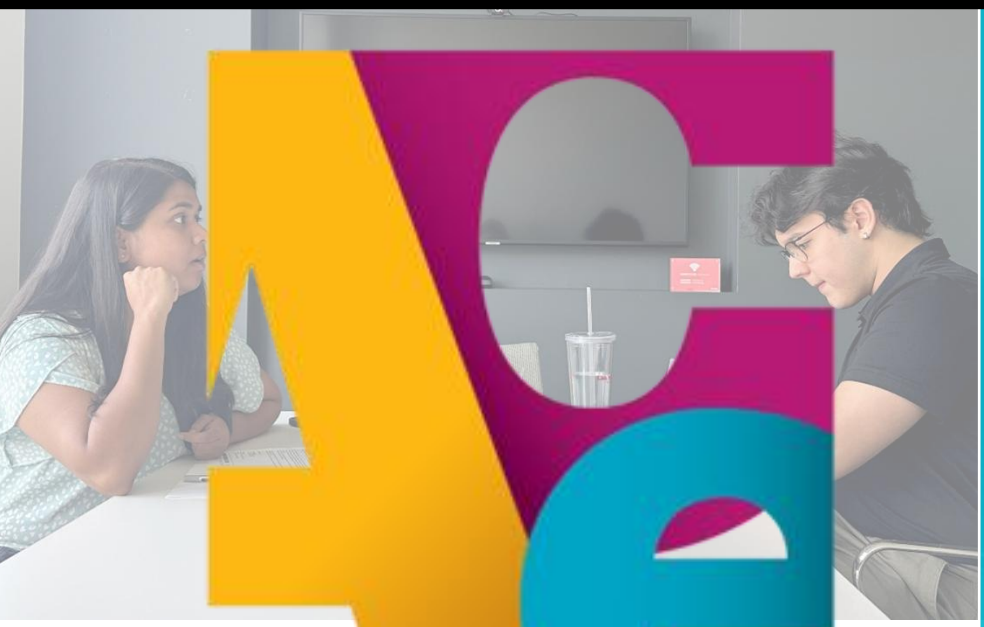
2025

SUMMER WORKPLACE EXPERIENCE HOST RESOURCE GUIDE



HOST GUIDE FOR HIGH SCHOOL EXTERNS

ACE MENTOR PROGRAM
ARCHITECTURE · CONSTRUCTION · ENGINEERING

CELEBRATING 30 YEARS

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OVERVIEW:

For many companies, summer workplace experiences (often referred to as externships) for high school students have become an integral part of workforce development alongside more traditional college internships.

These 80-hour summer programs are a proven way to build excitement and raise awareness about careers in architecture, engineering, and construction. Many of the young people who have participated in the ACE Mentor Program and had summer jobs in the industry have moved on to higher education and into the profession.

Often one of the challenges to hosting a Summer Workplace Experience is establishing a successful program that benefits both the students and the host firm. That is why we have developed the following Host Resource Guide, a compilation of the best practices drawn from the experiences of students and host firms over the years. The Guide provides ideas that range from onboarding actions to activities and assignments and is a resource to help your firm make the most of your summer workplace experience.

SECTION 1: PREPARATION

The Host Firm or Organization (Employer)

To have a successful externship program, preparing for the students' arrival is paramount. Below are several suggestions to help organize and prepare for hosting high school students.

1. **Extern(s)**[1] – decide how many students you can host. This number should be based on the size and time restrictions of your company. For example, a larger firm may be able to host multiple students, while a smaller firm hosts one student.
2. **Externship Lead(s)** – determine which employee(s) should be the main contact for the externship program. The employee(s) will help organize the students' agenda.
3. **Vetting Students** – interview students to help the externship be a good fit and beneficial for both the students and the host.[2] Interviewing the extern candidates is also a great way to figure out student's areas of interest. *Be sure to work with the area affiliate Team Lead to determine how interviews will be conducted.*
4. **Agenda** – design a program for the students to follow.[3] Determine how long the students work each day and for how many weeks, including what the externs will do each day.
    a. **Job shadows** – utilize the different departments at your firm/organization (e.g., virtual, safety, logistics, mechanical, structural, construction, etc.)
    b. **Tours or Site Visit** – tour active site
    c. **Hands-on Activities** – utilize industry specific software, innovation labs, survey equipment, etc.
    d. **Projects or presentations** – assign students a project or presentation
5. **Communication** – make sure the students have the necessary information to get started. Email detailed and exact directions to the externship location including a contact name and phone number that the student can call if they need guidance. Give a meeting time and directions on how to enter the site or office. Clearly define any item that the students need to bring with them.[4]
6. **Internal Employee** – prepare the internal employees the students will be shadowing or interviewing[5]. Provide information you would like the employees to cover while working with the students.[6] Send a calendar invite to participating employees. Make the students responsible for establishing interview times.

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[1] The booklet references hosting multiple students at one time. If your company only hosts one student, this information is still applicable.
[2] See Appendix 1: Sample Interview Questions – page 14
[3] See Appendix 2: Sample Agenda – page 15
[4] See Appendix 3: Sample Email – page 16
[5] See Section 3: Recommended Assignments & Assessments Informational Interview – page 6
[6] See Appendix 4: Discussion Ideas – page 17

SECTION 2: RECOMMENDED DAILY ACTIVITIES

Collaborating with their primary mentor, students should set learning goals for the summer. With these goals in mind, students will complete daily assignments structured around meeting the students' needs while exposing them to the wide variety of professions in the industry.

Daily Journal

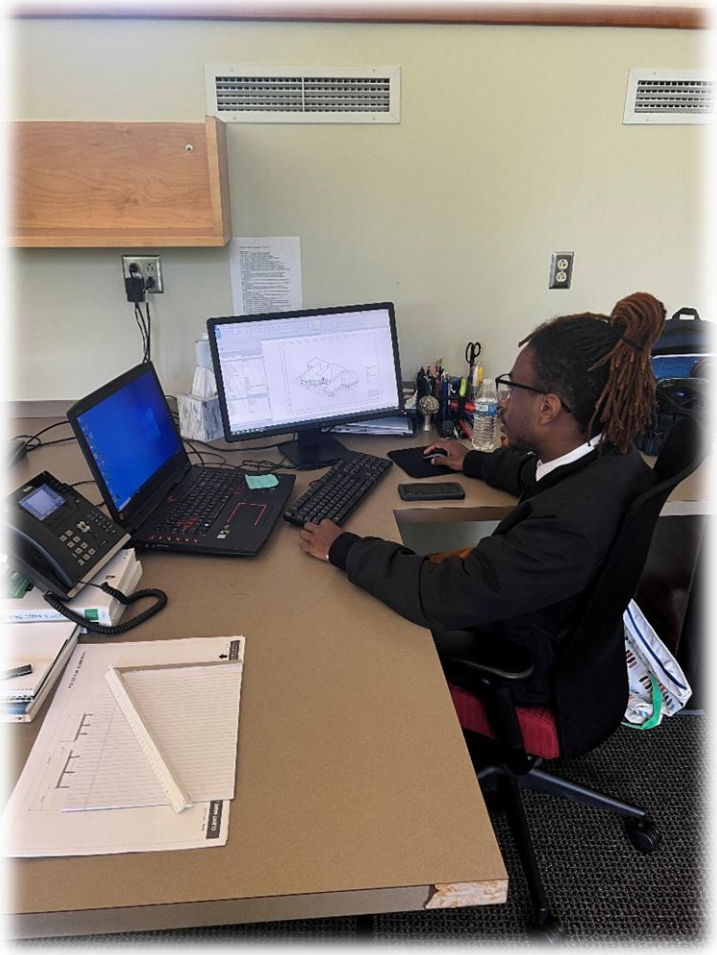
- Students create a daily log of activities.
- Students include photos of activities when applicable (may need access to a digital camera).
- Students take notes over tours/site visits, activities, and job shadow discussions, including the scope of the job description.

Questions for the students to consider:

- Did the day's activities support your goals for the program?
- Do you understand how your day-to-day activities fit into the big picture of successful project completion?
- Is there anything you would like to learn more about?

Daily Mentor Meeting

- A 10–15-minute touchpoint meeting is helpful especially during the first few weeks.
- Review journal entries and answer questions.
- Preview the day's upcoming activities and how students will contribute.
- Discuss the students' strengths and weaknesses through coaching.

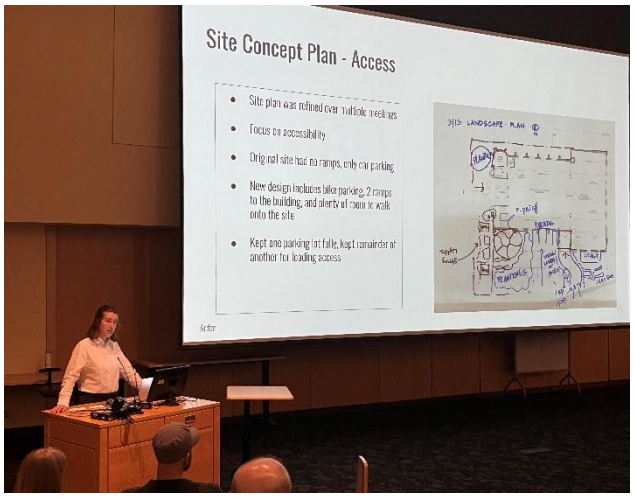


SECTION 3: RECOMMENDED ASSIGNMENTS & ASSESSMENTS

Monitoring the students' progress during the externship and requiring specific projects or assignments to complete is helpful in maintaining a successful externship program. Giving the students work engages the students and requires them to be accountable for all assignments.

Informational Interview

- The students interview one person working in the office or on a project every week.
- The project team will select interviewees in advance and prepare them in advance, and the interviewees should include a wide range of roles.
- The students will schedule and conduct interviews. The students will write a summary of the interview in their daily journal.



Project/Presentation

- Summaries of informational interviews.
- Summary of daily journal entries.
- Summary of skills learned.
- Which activities did you like most?
- Reflections on what was learned.

Pre- and Post-Program Assessment Survey

ACE National sends surveys to all students who accept an externship to gauge knowledge of and interest at the start of the program and again at the end.

SECTION 4: INDUSTRY SPECIFIC ACTIVITIES

The ideal assignments have an impact on the project and allow the students to experience various aspects of the job or project. Avoid simple administrative tasks. **Students are not allowed to drive or work with tools!**

ARCHITECTURE

Research A Building Style
Choose a building style (i.e., Modern, Classical, Byzantine, Gothic, etc.) to research. The students create a report over the name, location, year of construction, information about the architect(s), construction materials, elements of the building style, and why they selected that building. The students include images and sources in their report.

Organize
Have the students organize the architectural library.

Design a Treehouse
Sketch the exterior of the treehouse and create a floor plan for the interior of the treehouse. Include design elements.

Energy Expertise
Learn energy design through window-to-wall calculations to create an energy efficient building.

Landscape Architecture
Create a landscape site plan, including a list of plants.

Sketching to Scale
Provide the students with the dimensions of a building or floor plan. Have the students practice drawing, measuring, and sketching the building to scale. Teach the students about an architecture scale.

RFI Response
Show the students how an architect would respond to requests for information.

CONSTRUCTION

Quality Walk or Inspections
Have the students walk the project with a team. Learn to look for and record quality issues.

Select a Trade/Material Vendor
Have the students research and select a vendor by supplying the students with specific parameters to look for and complete a checklist (i.e., budget, time, etc.).

Preconstruction Estimating
Work through a preconstruction estimate with student.

Schedule
Review how the contractor puts together the schedule for a project.

Subcontractor/Vendor Engagement
Have the students meet key subcontractor personnel to develop a relationship and ask them specific questions to obtain technical knowledge.

Safety Walk
Have the students walk through the project with the Safety Professional to look for potential safety hazards.

Time Lapse
Have the students take photos of the work in progress during the 80 hours and compile the images.

Construction Contract
Show the students the ins and outs of a construction contract.

ENGINEERING

Extreme Weather
Learn how the structure and materials can help buildings resist extreme weather (e.g., hurricanes, tornados/high winds, earthquakes, etc.). Consider the weather in your area to determine criteria for students to research.

Traffic Jam
Show the students an area in town that needs to be redesigned due to traffic flow problems because of population growth. Ask the students to create a plan of action for redesigning this area.

Build a Paper Roller Coaster
Explain potential and kinetic energy to the students, then have the students build a paper roller coaster, adding a loop, which allows a marble to successfully go from the start of the track to the end.

Shapes & Structure
Show the students how domes, arches, and triangles can distribute forces to make structures stronger. Have the students research buildings that utilize these shapes.

Air Flow Diagram
Show students how an airflow or cooling tower works, and then have the students put together an air flow diagram on a hypothetical building.

Problem Solved
Walk the student through the structural aspects of a building and explain how the design developed solving the initial project problems or concerns.

Wind Maze
Have the students design a wind maze, a device that can direct the wind along a specific path and investigate how to guide wind where you want it to go by creating curves and bends in the maze.

Zero-Energy Housing
Explain passive solar heating and how variables like insulation, window placement, thermal mass, and surface colors contribute to the effectiveness of passive solar heating as an alternative to non-renewable energy for heating. Have the students create a list of materials needed for an energy efficient home in their area.

SECTION 5: OTHER ACTIVITIES FOR STUDENTS

The following activities help engage students and can be adapted to fit any firm or organization. Select activities that will encourage problem solving and critical thinking skills, so the students are challenged.

Innovation and Technology
Students are tech savvy and enjoy learning about the technological side of jobs. Provide opportunities to show industry level software, including hands-on activities. For example, the students can shadow CAD technicians, BIM engineers, drone pilots, etc., or a small Revit training model project can engage students.

Pop Quiz!
The students walk an active job site or project with a mentor who points out objects and asks “What is that? What does it do? Why is it there?”

Third Party Inspection Reports
The students keep records of reports. Mentors teach how to read them and the significance of items not meeting requirements.

Meeting Minutes
Show the students examples of meeting minutes and ask them to take minutes for an upcoming meeting.

Updating Record Documents
Show the students how to read plans and how they are organized. Update the plans with RFI’s and revisions to maintain accuracy.

Money, Money, Money
Show the students a sample budget and have them determine the expected cost of windows or lighting, etc. for a project.

Requests For Information
Show the students how to write RFI’s and have them help issue them.

Updating Site/Floor Plans
Create a scavenger hunt for items on a jobsite or on a blueprint.

Administrative Tasks
Have the students log daily reports, create Excel files, or log time.

Enhance the RFP. Use the project the students worked on throughout the ACE program year and deepen the learning. For example, if the students’ RFP for the program year was to design a movie theater, have the students talk with multiple people on how to design just the concession stand. As the students meet with various individuals in the firm/organization, the students learn how the individual’s job helps “build” the concession stand.

Attend Trainings
Facilitate the students’ ability to attend any company training provided during their externship.

Mock Scenarios
Develop mock scenarios so the students can use their critical thinking skills to plan tasks and understand the industry. For example, have the students learn the process of pouring a concrete deck, putting a simple schedule together with resources, budget, and an action plan to accomplish the task.

Build Professional Profile
Teach students how to create a LinkedIn Profile. Have the students connect with mentors that they have worked with and add externship experience to profile.
Note: Students must be 16 years old to start a LinkedIn account.

Learning the Players
Teach the students who the team is: the architects, subcontractors, clients, consultants, engineers, etc. Have the students read the scope of work and what is required of each team member. Have the students put together a diagram to show they understand the relationship between everyone or company.

Excel Functions
Teach the students how to use the more advanced features in Excel, showing them how this is used for calculations or other functions specific to your job. Further the learning, teaching the students how different departments use Excel in their day-to-day work.

SECTION 6: TIPS TO PROMOTE LEARNING

The workplace offers a unique environment for students to learn skills that they may not be able to learn at school — skills that will be critical for their long-term success. Here are some tips for fostering the development of these skills in the students you are supervising.

- **Connecting school and your externship.** Encourage the students to relate their externship experiences back to their classwork, asking questions such as:
    - Compare the reading, writing, and math do you do at school to the reading, writing, and math of your externship. How are they similar or different?
    - What skills do you need for your externship that you can also work on at school?
    - What things are you good at, or what do you like that you can explore further in school?
    - What could you learn in college that would enable you to pursue a good-paying career in our organization or another organization like ours?
- **Applying math skills.** Encourage the students to use any type of math during the externship (e.g., measurements, counting change, budgets, or completing accounting ledgers).
- **Applying reading and writing skills.** Encourage the students to read manuals and write memos. Do not hesitate to require students to complete tasks to the expected standards.
- **Learning about careers.** Provide opportunities for the students to be exposed to various departments and functions, including technical departments, marketing teams, human resources, finance/accounting personnel, etc. Encourage the students to visit and conduct interviews and/or shadow staff throughout the organization.
- **Learning about the workplace, understanding teamwork, and building relationships.** Provide opportunities for the students to participate in staff meetings, project meetings, and other formal and informal exchanges among staff. Introduce the students to staff and encourage staff to welcome students to join them at lunch or during breaks. Informal exchanges are often the best way to learn about an organization's culture.
- **Fostering initiative, critical thinking, and creativity.** If possible, allow students the opportunity to solve problems on their own. Have the students tackle small organizational issues or take on tasks requiring novel solutions. In addition to carrying out everyday responsibilities, problem solving will help students develop and demonstrate initiative, critical thinking, creativity — skills that they will need in future careers.

- **Encouraging productivity, accountability, and collaboration.** If possible, provide a project for the students—one that would enable the student to plan his/her time, organize tasks, and interact with others, in addition to performing basic workplace tasks.
- **Practicing communication.** If possible, ask the students to present the project to their teammates and supervisors to practice oral communication and presentation skills.
- **Providing feedback to teachers as well as students.** Provide input to the teacher or ACE Coordinator during supervisory visits to the externship site. Provide specific suggestions regarding the students' knowledge and skills that could benefit both the extern and other students.

Additional Resources:
Recorded Lessons, Recorded Field Trips, and Activities

Virtual Curriculum	https://acementortools.org/virtual/curriculum/
Virtual Fieldtrips	https://acementortools.org/ace-ventures/
ACE @ Home	https://acementortools.org/athome/

SECTION 7 : FAQS

Q: Who supervises the students?
A: The participating Host firm will designate a main mentor to oversee the student externship. This mentor must have a background check on file with their employer or through their regular ACE Mentor Program participation.

Q: Are the students compensated for their job shadow experience?
A: Externs who are being paid by the ACE national stipend program will receive a stipend of $1600. They will receive $800 when they start and $800 when they complete the externship.
B: Externs that are being hired as independent contractors directly with their host firm will negotiate details with the student. The expectation is 80 hours at $20/hour, but this is up to the hosting firm.

Q: How will I know what to do once students are here?
A: Students want to hear the story of YOU. How did you arrive at your current position? What did it take to get there? You will assist students in developing specific skills and knowledge that will enhance their professional and personal growth.
B: ACE Mentor provides this Host Resource Guide with helpful schedules and activities.

Q: How do students get to their externship and site visits?
A: Students must arrange for their daily transportation to/from the office and job site.

Q: Confidentiality is extremely important in my business. How can I be assured its importance will be understood by the students?
A: Confidentiality is critical in many occupations and an important lesson. The required student agreement meets this expectation and is signed by the student.

Q: Can I terminate a student if he or she is not meeting satisfactory standards?
A: Yes. Students are expected to abide by the host firm rules and regulations. Failure to do so may be reflected in the host firm's evaluation of the students. Please inform your local or national ACE Mentor leader of this situation.

Q: How many hours is the internship?
A: 80 hours for the ACE stipend program. This time can be scheduled according to the host and student schedule requirements.
B: Externs that are being hired as independent contractors directly with the host firm will negotiate details with the host firm.

APPENDIX 1: SAMPLE INTERVIEW QUESTIONS

Standard Questions:

- Can you tell me a little about yourself?
- How did you hear about the position?
- What do you know about the company?
- Why do you want this externship?
- What are your greatest personal strengths?
- What do you consider to be your weaknesses?
- Where do you see yourself in five years?
- What's your dream job?
- What are you looking to learn?
- What type of work environment do you prefer?
- How would your boss (mentor) and friends (peers) describe you?
- How do you deal with pressure or stressful situations?
- What do you like to do outside of work?
- What is/has been your favorite class in high school?
- If a teacher were to describe you in three words, what would they say?
- What is something that you accomplished during high school that you are proud of?

Highly Suggested Questions:

- Tell me about a challenge or conflict you've faced and how you dealt with it.
- Describe a time you exercised leadership?
- Describe a time you disagreed with a decision that was made at work or school?
- Do you have any questions for us?

APPENDIX 2: SAMPLE AGENDA

Externship – 80 Total Hours, 4 hours per day (20 hours per week) for 4 weeks

Day 1:

- Monday
    - 8:00AM – 9:00AM Orientation[7] & Overview
        - Present history of the company/firm
        - Review Expectations (hours and schedule)
        - Review Dress Code, including PPE, if applicable
        - Review Contact Information, including emergency contact for students
        - Answer Students Questions
    - 9:00AM – 10:00AM Tour
        - Introductions – primary mentor, secondary mentors, and other team personnel.
    - 10:00AM – 11:00AM Goal Setting
        - Work with students to set goals for the experience.[8]
        - Review Student-Mentor Agreement
        - Provide students with prepared discussion questions for the job shadows.[9]
    - 11:00AM – 12:00PM Job Shadow with Structural Engineer

Day 2:

- Tuesday
    - 8:00AM – 8:15AM (Daily Mentor Meeting/Touchpoint) Review yesterday's job shadow & today's agenda
    - 8:30AM – 9:30AM Job Shadow with Architect
    - 9:30AM – 10:30AM Revit Model Practice
    - 10:30AM – 12:00PM Job Shadow with Mechanical Engineer

Day 3:

- Wednesday
    - 8:00AM – 8:15AM (Daily Mentor Meeting/Touchpoint) Review yesterday's job shadow & today's agenda
    - 8:15AM – 12:00PM Tour of Active Construction Site

[7] See Appendix 5: Host/Extern Orientation Checklist page 18
[8] See Appendix 6: Goal Setting Handout page 19
[9] See Appendix 4: Discussion Ideas page 17

APPENDIX 3: SAMPLE PREPARATION EMAIL

Hi _____, I hope your summer is going well. We are looking forward to hosting you and providing you with the learning experience that you are seeking. We know that beginning new experiences can be overwhelming so below you'll find a few things to help you prepare and hopefully be more at ease on your first day.

Externship Details

- **Date/Time** – Mon, June 17th - Fri, June 21st / 8:00 am – 12:00 pm
- **Monday – Thursday's Location** – company address
- **Friday's Location** – site address (if applicable)
- **Parking** –You are welcome to park in any available spot in front of the building except for visitor parking.
- **What to Wear** – Business Casual is fine. *Define business casual for your company*. On Friday, jeans are permitted.
- **What to Bring –** No need to bring anything specific but you are welcome bring a snack or drink(s). You may want to bring a reusable water bottle. We have refrigerators and water refill stations available. Also please let me know if you have any food allergies.

What to Expect

- **Introduction to_____** a brief time to hear an overview of _____, learn how we are structured, and get acquainted with the office.
- **Time with _____Teams –** this externship is organized to give you an opportunity to spend an hour or more with each discipline here at _____. This way, you get to learn about each of the fields and see how they all work together to accomplish a project. Upon your arrival, you will be provided with a detailed agenda. We have the following disciplines represented here at _____:
    - Architecture
    - Architectural Engineering
        - Mechanical
        - Structural
        - Electrical
    - BIMM/CADD (Building Information Modeling/Computer Aided Design & Drafting)
    - Civil Engineering
        - Site Civil/Land Development
        - Bridge Engineering
        - Transportation Engineering
    - Survey
    - Geotechnical and Construction Material Testing
    - Construction Inspection

If you have any questions don't hesitate to reach out. We're here to help!

APPENDIX 4: DISCUSSION IDEAS

Employee to Student

- ☐ How does your role fit in with the rest of the organization/engineering process/architecture process?
- ☐ How did you decide on your career path and what steps you've taken to get to where you are today?
- ☐ Explain the schooling/certifications required for the position you currently hold, or you can describe past or future positions.
- ☐ Demonstrate the software programs you utilize in your work.
- ☐ Describe what your typical day-to-day looks like.

Student to Employee

- ☐ Where did you go to school?
- ☐ What was the hardest class or certification you had to take/obtain?
- ☐ What classes should I focus on as a high school student?
- ☐ What other jobs/positions can you do with your certification/degree?
- ☐ Who do you work with the most?
- ☐ What is the hardest part of your job?
- ☐ What is the best part of your job?
- ☐ Do you have to travel with your job? If so, how often?

APPENDIX 5: HOST/EXTERNSHIP ORIENTATION CHECKLIST

Welcome and Introduction

- ☐ What it means to have an externship at this company

Workplace Tour

- ☐ Overall tour of facility
- ☐ Tour of externship area
- ☐ Fire extinguishers, fire escapes, exits, evacuation routes
- ☐ Introduction to staff

Tour of Facilities

- ☐ Rest Rooms
- ☐ Parking
- ☐ Lunchrooms
- ☐ Telephones
- ☐ Storage for personal belongings

About the Company

- ☐ Discussion of company structure
- ☐ Key people in the company
- ☐ Type of business, products, services
- ☐ Who are our customers
- ☐ Other branches or divisions

Department Specifics

- ☐ Telephone Number and address
- ☐ Explanation of work schedule
- ☐ Location of time clock / sign-in

Attendance requirements

- ☐ Interacting with other departments/employees
- ☐ Hours/Break times/Lunch time

Job Specific Issues

- ☐ Location of necessary supplies
- ☐ How to use phone/office equipment
- ☐ Externship description
- ☐ Training plan
- ☐ Evaluation procedures

Safety Training

- ☐ Stairwell/fire exits
- ☐ Fire extinguishers
- ☐ Special hazards
- ☐ Accident prevention
- ☐ Safety Training Log, updated as needed

Supervisor's Expectations

- ☐ Dress code (hair, clothing, jewelry, etc.)
- ☐ Performance expectations
- ☐ Company culture (teamwork, service, values, etc.)

Materials

- ☐ Personnel handbook
- ☐ Organization chart
- ☐ Telephone directory

APPENDIX 6: GOAL SETTING HANDOUT