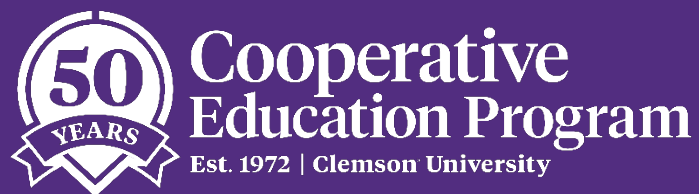


GUIDE FOR MENTORS/SITE SUPERVISORS OF CO-OP STUDENTS

COOPERATIVE EDUCATION PROGRAM



Clemson University
Suite 316 Hendrix Student Center
864-656-3150

A Guide for Best Practices

Clemson University and the Cooperative Education Program are grateful for your company's partnership in the education of our co-op students. Most people recognize the important role that experience plays in the learning process. Although experiential education and engaged-learning are terms that came into wider use beginning in the 20th century, the idea of learning and of gaining greater understanding through practical application or praxis is ancient. This was especially appreciated by the engineering faculty at the University of Cincinnati when they established the first Cooperative Engineering Education Program in 1906.

The program at Clemson, which has been a centralized academic program for all majors since its inception in 1972, continues to be one of the leading programs in the country because of our committed company partners and their dedicated mentors/site supervisors. As a mentor and experiential learning facilitator, you have the opportunity to become one of the most significant educators in the life of a student. We are grateful that you are willing to fulfill this role for the benefit of co-op students as well as for the benefit of your company.

The following is intended to be a guide for best practices in your role as a mentor and teacher. You will find practical advice that is grounded in the theory and practice of Experiential Education. Please know that the faculty and academic staff of the Cooperative Education Program are available as a resource for you and your work as an experiential educator.

The Cooperative Education Program is one of three units that make up the Center for Career and Professional Development and is an academic unit of the Division of Undergraduate Studies.

Dr. Jeffrey F. Neal, Director

Academic Staff:

Alison E. Fecher, M.A., M.Ed., Associate Director

Monique N. Elmore, MBA, Associate Director

Maria C. Torres, M.Ed., Assistant Director

Jeffrey T. Moore, M.Ed., Assistant Director

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Teaching and Learning in the Experiential Setting

Some pedagogical theory to support your role as a mentor/teacher.

While the co-op advisor is the educator at Clemson who is charged with monitoring the experience of the student for evidence of learning and development, the mentor is serving in the primary role of teacher of content and facilitator of learning.

The mentor and the business circumstances of the organization will determine what projects and daily responsibilities students will engage in. The nature of the projects and daily tasks will determine what new concepts will be learned, what previous learning will be reinforced, and what new discipline-specific skills and levels of competency will be achieved.

There is a vast amount of educational literature on experiential education and various models of experiential learning from David Kolb's (1984) four stage Experiential Learning Model to Pfeiffer and Jones' (1975) five stage Experiential Learning Cycle. Kolb's model supports the idea that students learn by incorporating material from classes into an applied experience. They then extend that knowledge and implement new knowledge as they utilize analytical skills through active involvement in the experience. Much of the literature emphasizes that the student must be able to reflect on the experience. The mentor can play a key role in helping the student reflect upon what they have experienced at various steps in project work and thus create "a scaffold for further learning" (Kompf & Bond, 2007).

In their model, Jacobson and Ruddy (2004) ask five questions and a few of these may be helpful to mentors as they guide students to reflect:

- Did you notice... ?
- Why did that happen?
- How can you use that?

References:

- Kolb, D. (1984). *Experiential Learning: experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.
- Pfeiffer, W. & Jones, J. E. (1975). *A Handbook of Structured Experiences for Human Relations Training*. La Jolla, CA: University Associates.
- Kompf, M. & Bond, R. (2001). Critical reflection in adult education. In T. Barer-Stein & M. Kompf (Eds.), *The craft of teaching adults* (p. 55). Toronto, ON: Irwin.
- Jacobson, M. & Ruddy, M. (2004) *Open to outcome* (p. 2). Oklahoma City, OK: Wood 'N' Barnes.

Projects & Daily Responsibilities

Create a plan for projects and daily responsibilities students will complete during each rotation.

- Although many projects arise as needed, planning ahead for project possibilities will set the co-op student up for success.
- Design your student's participation on projects in a way that maximizes their opportunity to develop competencies in their field of study. The same applies to daily tasks.

- Create opportunities for increased project responsibility over the course of rotation completion so students can develop leadership skills and utilize knowledge gained.
- Each student has varying interest in the projects they wish to complete. At the beginning and throughout the rotation, talk with them to ensure the projects they are completing are interesting and engaging. Typically, the more a student enjoys the rotation, the better the final product(s).
- Provide meaningful rainy-day projects so students have something to work on when waiting for another project to continue or when they complete all assigned tasks.
- Create a clear chain for obtaining and requesting projects/work.
- As the primary mentor, your co-op student will come to you first. But if you are not in the office or you do not have a specific project for them to complete, who should they go to next?

Academic Curriculum

It is helpful for mentors to be familiar with the curriculum and course descriptions for the majors they mentor. Please refer to the link below for access to the Academic Catalog.

Academic Catalog Link - <http://catalog.clemson.edu/>

Guidance & Feedback

Meet with your co-op student(s) frequently to provide guidance and feedback on their work/performance and their development of competencies and skills.

- Keep in mind that for first rotation co-op students, the plant or office setting may be a novel environment.
- Many first rotation students are seeking structure and clear direction, especially in the beginning of the rotation.
- First rotation students will likely need more guidance and direct teaching, so daily meetings or interactions are recommended.
- For second, third, or fourth rotation students, it is recommended that you meet with the student weekly or bi-weekly based on individual student need and also the stage of the project work.
- Every student is different and there are different styles of learning. Some need more guidance and value continuous feedback, while others desire more independence. Please talk about this topic with students at the beginning of each rotation and please keep in mind that all experiential learners need the directed reflection discussed above.
- Please meet with students at the beginning of each rotation to discuss the projects and daily tasks they will engage in that semester to the extent that you know what those will be.
- We understand that the needs of the organization sometimes change quickly, so it is okay if project plans change. We ask that you discuss this with the student.
- During meetings with students, we recommend you discuss any of the following:
 - Project feedback and reflection on what they have learned

- Performance review – strengths and areas in need of improvement
- Interest in potential projects
- What they are enjoying or not about the experience
- Non-work aspects of the rotation (e.g., housing, friends, family)
- General life discussion
- Create a structure to your meetings so students know if they need to prepare anything for the meeting.
- If you would like to discuss projects they have completed, give them notice to make a list of their works.
- If you would like for them to share what they are enjoying or not about the rotation, provide ample time for them to reflect prior to meeting.
- Mid-term evaluations are not required by the program but highly encouraged. This in-house review will provide an opportunity for your co-op student to address areas of concern before the rotation is over.
- Utilize some form of project tracking in order for your student to show transparency of the work they are completing.

Working Across Departments

Students often enjoy learning about other departments and areas as this allows students to get a more complete picture of the industry.

- Some co-op assignments have students rotate through different departments or there is a free flow of opportunities to work with other areas. However, if your co-op student is primarily set to one department for the duration of their rotations, it would be helpful to provide them with opportunities to engage with other departments in some appropriate way.
- Connect students with other engineers/employees to engage with.
- Find opportunities for inter-department project collaboration so the student can be involved with new perspectives and projects.
- Aid the student in seeking out a project from another department the student can be part of.
- Provide space/time for students to shadow or conduct informational interviews.

Characteristics of a Great Co-op Assignment

Companies are anxious to know that they are providing co-op experiences that are second to none. In addition to the sections above, the following delineates what the best co-op assignments involve.

The best co-op experience is...

- One in which the mentor/site supervisor sees themselves as a teacher.
- One in which the mentor has some sense of the student's curriculum as it relates to the work/projects in the mentor's department.

- One in which the mentor takes a genuine interest in the student and designs the co-op assignment to assist the student's development as a professional in their field.
- One in which the mentor is intentional about designing the assignment so that the student is applying knowledge (theories/concepts) from classes – where thought is given to this endeavor before the student arrives.
- One in which the mentor teaches concepts that haven't been covered yet in class or new concepts that are perhaps not covered in the curriculum.
- One in which the student is challenged to think critically and to solve problems creatively.
- One that keeps students busy with projects that are meaningful and that add value to the work of the company; students want to be productive – they want to be challenged.
- One in which there are open lines of communication between mentor and student – where both positive and negative feedback are offered in a constructive way.
- One where there is some flexibility in terms of moving from one department to another department or from one type of work to another or from one mentor to another.

Getting Off to a Good Start

Familiarize your co-op student with the company, work site, and the culture of your organization.

It is very important that co-ops be warmly welcomed and introduced throughout your organization, just as you would welcome a new full-time employee. Not only are co-ops new to your organization, in many cases, they are new to the professional world of work.

The sooner your co-op student understands your organization and how it operates, the sooner they can assume assigned responsibilities and contribute. Expectations can vary based on your organization, but in general, be sure to review:

- Overall responsibilities
- Work week expectations (e.g., flexible schedule, overtime required or restricted, possibility of working remotely, etc.)
- Hours (e.g., start time, leave time)
- Dress code
- Safety regulations and requirements
- Lunch break policy
- Absenteeism policy (e.g., attendance requirements, who to inform if ill, if leave is paid/unpaid)
- Cell phone/social media policies
- Confidentiality and proprietary information
- How you prefer to be reached/communication preferences (e.g., email, phone)

Connecting Co-op Students To Each Other

If your company hosts more than one student, here are some ideas the company can consider implementing if not done already.

- Lunch & Learn Events – These provide opportunities to share insights on a topic related to the industry. These can be led by engineers/professionals on an important industry concept OR rotated around the co-op students so each week a student presents on a chosen topic.
- Team Projects – Allows students to work together on certain projects and build relationships.
- Co-op Committees – The committee would be made up of co-op students with the purpose of organizing events for other co-op students. Events could include:
 - Lunch & Learns
 - Networking
 - Social outings
 - Birthday or other celebrations
 - Group volunteering

Academic Calendar

Please refer to these links for access to the academic calendar.

Academic Calendar Link - <https://www.clemson.edu/registrar/academic-calendars/>

Rotation Expectations & Advisor Approval

Co-op students are expected to complete a minimum number of rotations based on their major to complete the program and earn a certificate. Additionally, any experience with the host company beyond the initially set rotations counts as a co-op rotation and students must get approval from their co-op advisor and register for the proper COOP course.

Minimum Rotation Expectations:

- Engineering majors – 3 rotations
 - 2 regular semesters and 1 summer
 - 3 regular semesters
- Non-Engineering majors – 2 rotations
 - 1 regular semester and 1 summer
 - 2 regular semesters

Any additional experience a student completes with their host company is considered part their co-op assignment and must receive approval from their co-op advisor. This includes additional/extra full-time rotations (whether in the same department or not) as well as part-time rotations.

Please remind students they must get approval to change their rotation sequence to ensure they will still complete the Co-op Program and for any additional experiences whether part or full-time.

Mentor Evaluation of Student Form

We ask mentors to complete the following Mentor Evaluation of Student form at the end of each rotation. You will see that we are asking you, as a teacher, to provide us with valuable information about the student's abilities to learn and to develop competencies and skills in various areas of their discipline.

Mentor Name

Mentor Email Address

Mentor Department

Company Name

Student

Has this report been discussed with the student?

Is the student scheduled to return for another co-op rotation?

Please answer the following questions for All Majors:

Strengths of the Student

Areas for Improvement

Respond to the following using the Likert Scale (Substantially Exceeds Expectations; Exceeds Expectations; Meets Expectations; Needs Some Improvement; Needs Significant Improvement):

- Ability to acquire and apply new knowledge, using appropriate learning strategies
- Demonstrates initiative to learn and to develop as a professional
- Quality of work produced
- Ability to communicate effectively with a range of audiences
- Demonstrates sound judgement when making decisions
- Relations with others
- Ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- Dependability, attendance, punctuality

Please answer the following questions for Engineering, Packaging Science, Computer Science and other STEM majors

Respond to the following using the same Likert Scale as above:

- Ability to identify, formulate, and solve complex engineering/technical problems by applying principles of engineering, science, and/or mathematics
- Ability to use techniques, skills, and modern tools necessary in engineering/technical practice
- Ability to design a process, system or component
- Ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering or technical judgement to draw conclusions
- Ability to produce engineering/technical solutions that meet specified needs with consideration of public health, safety and welfare
- Ability to produce engineering/technical solutions while considering global, cultural, social, environmental and economic factors
- Ability to recognize ethical and professional responsibilities in generating solutions and making informed judgements, which must consider the impact of such solutions in global, economic, environmental and societal contexts

Student Evaluation of Co-op Assignment

This is what students submit to us at the end of each rotation.

Employer – Company name

Rotations Completed

- Including this one, how many co-op rotations have you completed?

Pros

- What are the best features of this co-op assignment?

Cons

- What are the most unattractive aspects of this co-op assignment?

Ideas for Improvement

- What specifically could be done by your company to improve this assignment? (Please provide your company with this same feedback)

Respond to the following using the Likert Scale (Substantially Exceeds Expectations; Exceeds Expectations; Meets Expectations; Needs Some Improvement; Needs Significant Improvement)

- Challenge Level of Assignment
- Interest Level in Assignment
- Degree of Responsibility
- Practical Value Gained
- Relationship and Communication with Mentor
- Relationship and Communication with other Employees
- Overall Evaluation of Co-op Assignment for this Rotation

Value of Assignment

- From a co-op student's viewpoint, is this co-op assignment of significant enough value to remain in the program? Why or why not?

Awards/Recognition

- Have you received any awards or other professional recognition while on this assignment? If so, please list and describe them.

Global Engagement

- Please describe your interaction with people from other countries during your co-op assignment. This may include communications with people throughout the world as well as working with people from other countries who are in the U.S. (e.g., student interns from abroad, immigrants working at your company, etc.)

Student Co-op Assignment Report (1st Rotation)

Host Company Information

- What does the company do? If applicable, what does this location do?
- State the name of the department where you were assigned and the subgroup (i.e., TEF7 Technical Design Group)
- Share information about the role your department has within the organization.

Work Environment

- Describe any formal or informal orientation you received upon your arrival
- Describe the general work environment within the company and department
- Explain your day-to-day and/or week-to-week routine
- Were there other co-op students on site or on your team?

Learning and Development

- What was the training or learning process like?
- What did you find the biggest learning curve to be?
- What new concepts did you learn and/or what new skills did you develop?

Long- and Short-Term Projects

- Describe the types of projects you managed or assisted with
- Give examples and a short description of long-term projects you were assigned or of your main project
- Give examples and a short description of short-term projects you were assigned
- Describe what you felt was your greatest accomplishment/contributions to your team or describe which project was the most challenging and engaging

Travel Experience and/or International Engagement

- If you traveled for your company (within the United States or abroad) during this rotation, please describe where you traveled and why
- If you worked under a mentor from another country or with a team of people from other countries, please share your experience
- If you collaborated with organizations/people in another country/state, please share your experience (i.e., vendors, clients, etc.)

Overall Impression and Advice to New Students

- Tell us what you liked the most about this assignment and what you liked the least
- Give advice to a student considering this company
- Give advice to a student beginning their first rotation with this company
- If relocated – what was it like finding housing?
- Use this space to discuss any other exciting experiences, activities, and opportunities you have not yet described

Student Co-op Assignment Report (2nd Rotation)

Host Company Information

- What does your company do? If applicable, what does this location do?
- State the name of the department where you were assigned and the subgroup (i.e., TEF7 Technical Design Group)
- Please share if your location, department, or mentor has changed.
- Share information about the role your department has within the organization.

Work Environment

- Describe any formal or informal orientation you received upon your arrival this rotation, if different from previous rotation.
- Describe the general work environment within the company and department
- Explain your day-to-day and/or week-to-week routine and describe how it changed since your first rotation, if it had changed.
- Were there other co-op students on site or on your team?

Learning and Development

- What are you capable of now that you were not in your first rotation?
- Describe how your technical skills have developed over the first two rotations. (technical majors only)
- Tell us about a soft skill that has improved from your first two rotations. (Communication, time management, etc.)
- Describe an instance where you applied something from your co-op assignment to your coursework, or vice versa.

Long- and Short-Term Projects

- Describe the types of projects you managed or assisted with
- Give examples and a short description of long-term projects you were assigned or of your main project
- Give examples and a short description of short-term projects you were assigned
- Describe what you felt was your greatest accomplishment/contributions to your team or describe which project was the most challenging and engaging

Travel Experience and/or International Engagement

- If you traveled for your company (within the United States or abroad) during this rotation, please describe where you traveled and why
- If you worked under a mentor from another country or with a team of people from other countries, please share your experience
- If you collaborated with organizations in another country/state, please share your experience

Overall Impression and Advice to New Students

- Tell us what you liked the most about this assignment and what you liked the least
- How would you describe this rotation compared to your first rotation?
- Give advice to a student considering this company or their co-op site.
- Give advice to a student beginning their first rotation with this company
- Use this space to discuss any other exciting experiences, activities, and opportunities you have not yet described.

Student Co-op Assignment Report (3rd Rotation)

Host Company Information

- What does your company do? If applicable, what does this location do?
- State the name of the department where you were assigned and the subgroup (i.e., TEF7 Technical Design Group)
- Please share if your location, department or mentor has changed.
- Share information about the role your department has within the organization.

Work Environment

- Describe any formal or informal orientation you received upon your arrival this rotation, if different from previous rotation.
- Describe the general work environment within the company and department
- Explain your day-to-day and/or week-to-week routine and describe how it changed since your first rotation, if it had changed.
- Were there other co-op students on site or on your team?

Long- and Short-Term Projects

- Describe the types of projects you managed or assisted with
- Give examples and a short description of long-term projects you were assigned or of your main project
- Give examples and a short description of short-term projects you were assigned
- Describe what you felt was your greatest accomplishment/contributions to your team or describe which project was the most challenging and engaging

Learning and Development

- Tell us about a technical skill(s) that you have developed during this rotation
- Describe how your understanding of course material was enriched as a result of your co-op experience
- Describe an instance where you applied something from your co-op assignment to your coursework, or vice versa
- Choose 2 of the competencies (Communication, Collaboration, Leadership, Adaptability, Analytical Skills, Technology, Self-Awareness, Integrity and Ethics, Brand) and describe how your co-op participation has helped you to develop professionally or helped you to prepare for a career
- Describe how this multi-rotational experience has helped you to develop as a professional

Travel Experience and/or International Engagement

- If you traveled for your company (within the United States or abroad) during this rotation, please describe where you traveled and why
- If you worked under a mentor from another country or with a team of people from other countries, please share your experience
- If you collaborated with organizations in another country/state, please share your experience

Overall Impression and Advice to New Students

- How would you sum up your co-op experience and sell it to students considering this company?