Building a Successful Co-Op Education Program

Playbook for Partner Employers

CSCR®
Center for Supply Chain Research®

PennState
Smeal College of Business

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PREFACE

The Center for Supply Chain Research® (CSCR®), along with the Supply Chain & Information Systems Department (SCIS), at the Smeal College of Business, Penn State University, have embraced the importance of firsthand experience when introducing students to potential careers in the supply chain and logistics. We actively engage in various work-integrated learning (WIL)—an overarching term used to describe a range of approaches and strategies that facilitate integration of theory with the practice of work—that has increasingly gained recognition as an instrument for advancing student learning outcomes and enhancing the work-readiness and employability of graduates (Bleakney 2019; Drysdale et al. 2016; Fleming and Haigh 2017; Stirling et al. 2016). Our WIL program engagement ranges from internships, cooperative education (co-op), to work-related projects. This playbook focuses on co-op programs and is prepared for industry partners who are interested in hosting our students.

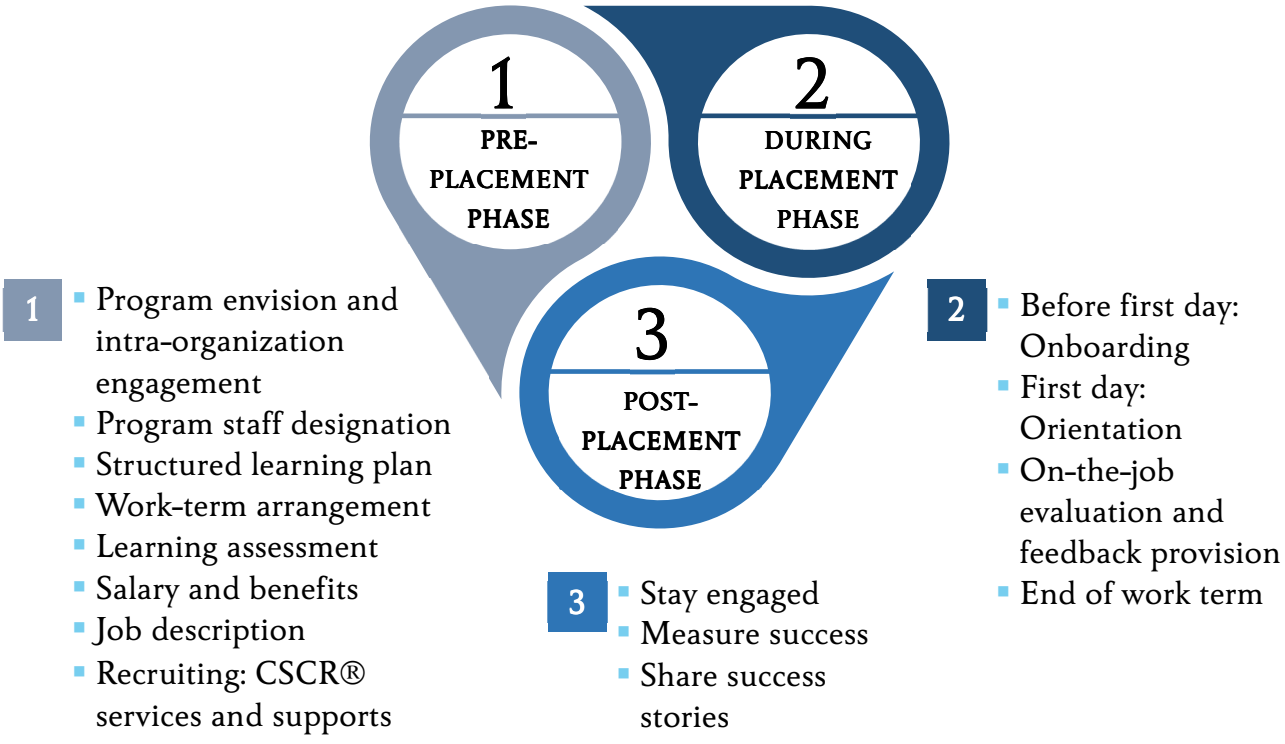
To an increase extent, leading companies consider co-op programs as a recruitment strategy and a fundamental part of their talent pipeline. These companies train students and groom candidates to their specific standards, creating a network of proven talent that they ultimately hire to fill permanent entry-level roles (Baharoon 2019; National Network 2015; Skrzypinski 2017). However, for a co-op program to be successful, it needs to be carefully structured as well as competently managed. Co-op is a complex and very structured WIL model, involving triadic employer-student-university partnerships and integration of classroom study with learning through work experiences. An effective co-op program is designed for full immersion of industry knowledge for the working learner, thus requires high engagement and resources from the employer (National Network 2015; Stirling et al. 2016).

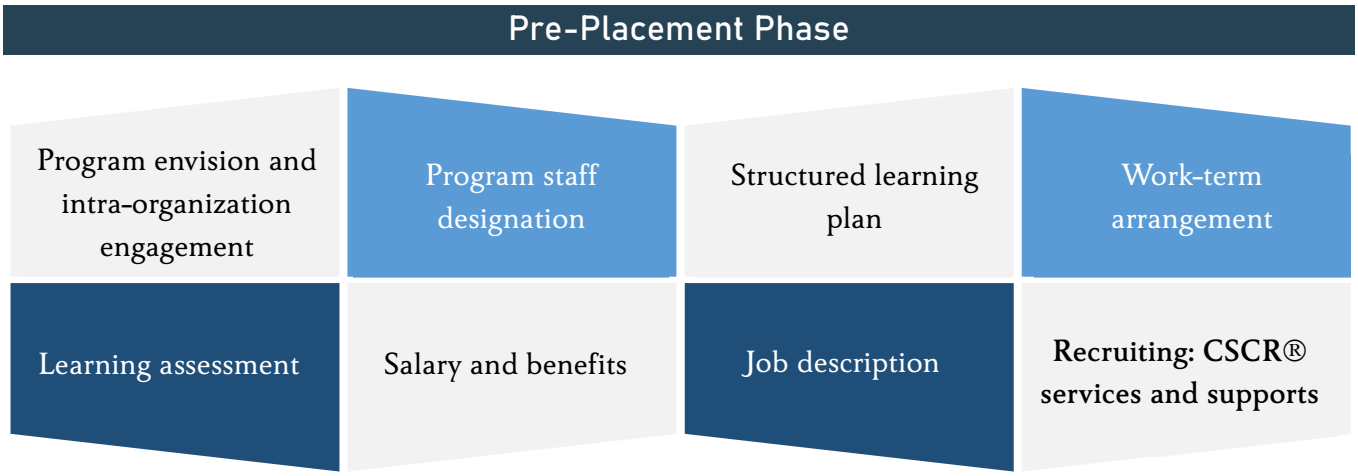
Given the exacting attributes and the fact that employers can vary in terms of company sizes, industry sectors, and co-op hiring experiences, the purpose of this playbook is to provide partner employers a general guideline with respect to expectations and key aspects that should be considered when designing and administering a co-op program. The playbook aims to help our partner employers build a quality co-op program that would contribute a positive impact on both the companies' talent needs and future workforce in the fields of supply chain and logistics.

DESIGNING AND ADMINISTERING A CO-OP PROGRAM

The nuts and bolts of a co-op program can be structured in three phases, including pre-placement, during-the-placement, and post-placement phases as depicted in Figure 1.

Figure 1: Cooperative Education Program Framework





Program Envision and Intra-Organization Engagement

Effective co-op programs should start with a clearly defined missions and goals that define and articulate the following key questions:

- What does the company hope to accomplish by hiring co-ops?
- What are program's practices and policies required to achieve the goals?
- What are resources required to support the program?
- What does success look like?

Buy-in from the rest of the company and the support of executives will be key to the ensure the success of a co-op program. To enable team buy-in, good practices suggest emphasizing that the co-op placement is a means of becoming an employer of choice, and that supports are available to assist employees who will be managing and coordinating the placements. In all cases, executive-level supports would help to secure the resources necessary to carry out a successful co-op program.

Program Staff Designation

A highly effective co-op program recognizes the importance of having the right people administering the program and managing students. It is imperative that companies select a group of dedicated staff who embrace the duties of three major roles – namely coordinator, supervisor, and mentor – as described below:

- **Program coordinator** – It is recommended that a co-op program coordinator be designated whose responsibilities include development and implementation of the program, oversight and coordination of the program, assigning co-op students to various departments, and managing site supervisors. The coordinator also acts as the liaison between the host company and Penn State University by working directly with the CSCR® in all aspects of the program, from designing, recruiting, to exiting.
- **Tutors** – Best practices suggest assigning both a site supervisor and a mentor, each with different roles as described below, to increase students' on-the-job performance throughout the work term.
  - **Site supervisor** – The supervision of students is the most essential and critical part of the practical training process whose roles include overseeing the students' day-to-day work, providing guidance and support, evaluating performance and providing feedback. It is recommended that a list of guidelines for individuals who will supervise co-op participants be created to ensure a positive experience for both the supervisors and students.
  - **Mentor** – A mentor plays an important role as an advocate for the co-op student during his/her stay with the host company, and help to enhance the student transition into the new learning environment by addressing questions about company culture, workplace best practices, and personal and professional growth.

Structured Learning Plan

Establishing clear learning objectives and designing activities tied to the objectives for each work term are the foundational aspects in a structured learning plan. The objectives for practical experiences should describe specific knowledge and skills that are associated with activities or specific workplace tasks to be completed during the co-op work term. These learning objectives should be prioritized and be flexible for modification when and if necessary. Once established, the learning objectives provide the basis for developing a structured learning plan or outline that should consider the following key aspects:

- **Assign meaningful responsibilities.** Noting a major goal of preparing co-ops for the working world, they should be assigned with real work that is related to their major, is

challenging, and is recognized by the company as valuable. Examples of potential supply chain and logistics responsibilities can be found in Appendix 1.

- **Take into account students' academic level and co-op tenure.** Co-op student responsibilities should vary based on the student's academic preparation and co-op or other practical experience. In terms of academic preparation, we recommend students in the sophomore year, after the fourth semester in their undergraduate program. Moreover, if the co-op program involves multiple work-term arrangement, work assignments should not be the same throughout the entire learning experience. Taking into consideration the learning curve of a particular industry or company, responsibilities assigned for the subsequent work term(s) should build upon and exceed those of the previous one(s). For example, more complex duties requiring higher level of thinking, projects with more significant contributions to the department/team environment, or a new rotation in a different facet of the field can be assigned for subsequent work terms.
- **Combine day-to-day tasks and project-based assignments.** For day-to-day tasks, develop a way to incorporate tasks into daily routines, with supplementary work or extra tasks in the event of early completion. In addition to day-to-day assignments, co-op should be involved in project-based assignments. Project-based learning has been shown to be an effective way of engaging students in their work, providing them with opportunities to apply the theories they learn in class, and giving them a sense of ownership of their accomplishments. If it is a team-based project, it would also allow the company to evaluate the students' soft skills and observe how well the students work with the other employees. When possible, these assignments may involve rotations across departments to broaden their understanding of the discipline and general organizational knowledge.
- **Factor in training opportunities.** As part of learning plan, students should be provided with access to in-house training opportunities available to other employees, both in technical and personal development skills.
- **Factor in networking opportunities.** Integrating networking opportunities as part of the learning experience will not only help the co-op students fit in and feel like part of the team, but also help them build connection and gain personal value from the professional network. In this respect, host companies are encouraged to consider the following aspects:

- Inclusion of students in company's activities and traditions that are going on during the time of the work term, both in and out of the office (e.g. office sports teams, group lunches, parties or picnics).
- Designation of a peer/new-hire panel – The panel may include five or six people who were hired as new grads within the last three years, and/or prior co-ops to give the students opportunities for peer-to-peer connection or mentorships, which can be valuable since co-op students generally perceive new hires to be similar to themselves and credible sources of insights and information.

Work-Term Arrangement

While there is a wide variation of work-term arrangements, as summarized in Table 1, that differ in overall duration (e.g. two semesters, an entire academic year, more than one year) and the share of time spent at companies versus classrooms. We typically see and would recommend the hybrid format that typically lasts 12–15 weeks in fall or spring semesters and 10–12 week during the summer. Most co-op experiences include at least one fall or spring semester in addition to summer as shown below in which students work part time during fall and spring semesters, with the availability to work full time during summer.

- **Spring and Summer**: From mid-January to mid-August
- **Summer and Fall**: From mid-May to mid-December

It is noted that work-term arrangements for two long semesters back-to-back Fall through Spring is not encouraged as students need to make progress in their academic program. Moreover, to stay on track to graduate on-time, students need to either take more courses before or after a co-op placement; or take course remotely or locally while they are employed in a co-op.

Table 1: Co-Op Work-Term Arrangement Formats

Work-Term Formats	Description
Full-time alternating format	Students alternate full-time academic terms for classroom learning and full-time paid work terms (35+ hours a week) for workplace learning.
Part-time parallel format	Students concurrently participate in classroom instruction and part-time work employment (15–20 hours a week) during the semester.

Work-Term Formats	Description
Hybrid format	This arrangement would involve a combination of both part-time and full-time work employment to accommodate a student's academic schedule while allowing for the continuation of practical learning. For example, students work part time during fall and spring semesters, with the availability to work full time during summer and semester breaks.

Learning Assessment

The development of learning assessment is essential to reinforce learning outcomes and provide a foundation to ensure that all stakeholders (e.g. student, workplace supervisor, academic supervisor) share the same learning emphasis (Doolan et al. 2019; Richardson et al. 2009; Stirling et al. 2016). It is recommended that students, their site supervisors, and their academic supervisors collaborate in defining meaningful performance criteria that consider the following key questions:

- What evidence will demonstrate the learning?
- What criteria will ensure that this evidence is satisfactory?
- Do the criteria relate to the objectives?
- Are the criteria appropriate for the student's academic level and co-op time frame?

Both quantitative and qualitative methods should be used in assessing student learning experiences. Examples of tools available to aid in assessment are pre-and-post testing, interviews, critical reflection assignments, rating scales, and rubrics (Minnesota State 2017).

Salary and Benefits

Co-op is a paid program that is subject to many of the labor laws that apply to employees such as workers' compensation, health and safety, and workplace discrimination. Salary rates and other benefits are set at the employers' discretion; however, the following key considerations should be undertaken.

- **Salary.** Competitive pay is important for attracting top students. It is recommended that employers benchmark similar programs before setting compensation rates. Appendix 2 provides compensation information from the *2019–2020 Undergraduate Outcomes Report* by Penn State's Business Career Center. As a general guide, the following factors should be taken into account when setting a compensation rate:
  - Major / career field – Co-op salaries tend to resemble salaries of entry-level employees in the same field.
  - Position description, responsibilities, and skill requirements
  - Geographical location
  - Grade point average – Top students in any major may require higher salaries if the employer wishes to be competitive.
  - Academic level, thus the amount of education that the students have been completed.
  - Co-op tenure – Whether the work assignment is the student's first or returning work terms with the employer; most companies give students a raise each time they return for subsequent work assignments.
- **Housing and relocation assistance.** For students moving to a new area for their co-op work term, the employer's support in housing and relocation would be much appreciated. Employers can provide housing assistance in a variety of ways, such as providing lodging in an apartment, providing a housing allowance, matching students with other co-ops so that expenses can be shared, or, at a minimum, providing information about housing that provide short-term leases. The employers would also want to consider the issue of relocation, which is related to, but separate from housing. At Penn State, relocation assistance is the most popular benefit offered as part of the compensation packages, with roughly three out of five employers giving their interns/co-op something in terms of moving assistance or a housing stipend. Many companies reimburse their co-op students some or all of their relocation expenses at the beginning and end of each work term.
- **Other forms of benefits**. Consider the extent to which the companies provide other forms of benefits to co-op students such as sick days, paid holidays, vacation time, and tuition reimbursement. At Penn State, approximately half of employers offering interns/co-op holiday pays.

Job Description

Once the co-op program design and learning plan have been in place and the company is ready to recruit student participants, a co-op job description can be created. A well-written co-op job description is essential to recruiting the right individual, serving both in "initial screening" and "attracting" students who fit the specific needs and culture of the company.

Good practices suggest that though university co-op program job descriptions are similar to standard job descriptions, the former should also include learning-related components. As a general guide, the essential components of an effective description include the following:

The Basics

- Name of company – include company name and, if applicable, any parent companies or divisions that may impact the co-op recruits.
- Title of co-op positions
- Dates – clearly list the expected start and end date of the co-op, as well as work-school arrangement format. Employers can indicate if there is flexibility or include that listed dates are estimates. Please note most co-op dates should coincide with semester start and end dates.
- Location of work and compensation
- Requirements – outline necessary competencies and other required skills (e.g. language proficiency, knowledge of specific software)
- Eligibility requirements (e.g. appropriate undergraduate majors, preferred grade point average, preferred international student visa types). Please refer to Appendix 3 for further information regarding international students.
- Co-op supervisor/mentor – include co-op site supervisor, mentor, or a point of contact with contact details. Phone and email are best to include.
- To apply – set an application deadline and include instructions for interested candidates. Do they need to email materials to a contact or apply on a company website? List what materials are to be included in the application package such as resume, cover letter, or any other samples of work.

Co-op Specifics in Terms of Objectives and Requirements

- **Work assignment description** – describe the work or the specific project the student will perform.
- **Expected outcome** – clearly specify the expected outcome of the student's work term.
- **Mutual benefits** – talk about your company and clearly explain what your organization does. Include goals and describe the benefits the company will gain as an employer and benefits the student will receive from this opportunity.
- **Tie-ins with academic training -** specify how specific concepts are related to the co-op responsibilities to help the student understand the integration of theory and applications in the real-world situations.

Recruiting: CSCR® Services and Supports

Because academic calendars and timelines do not always align with those in industry, we encourage partner employers to think about planning for co-op recruiting at least **four to six months** prior to the period the companies plan to hire for. Suggested timelines are shown below.

For Employment to Begin	Start Recruiting
Spring Semester (mid-January to mid-May)	July–September
Summer Semester (mid-May to mid-August)	November–January
Fall Semester (mid-August to mid-December)	February–April

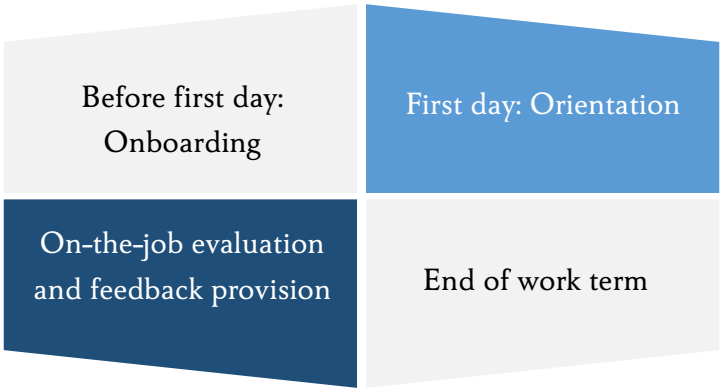
As an academic partner of employers' co-op programs, CSCR® commits to providing active support to the co-op programs, helping companies identify qualified students to participate in particular co-op assignments, providing administrative support in recruiting processes, and providing academic guidance to ensure that co-op assignments meet the needs of both employers and students. Our recruiting services and general guidelines are highlighted below.

- **Job posting** - It is recommended that co-op positions be posted early, taking into consideration the recruiting timeline recommended earlier. To post co-op positions, please use Nittany Lion Careers, accessible at https://nittanylioncareers.psu.edu/. Appendix 4 provides further information about creating an account on the Nittany Lion Careers recruiting platform.

- **The Supply Chain & Information Systems Career Fair** – We, along with SCIS Department, held the career fair during both fall and spring semesters in both in-person, on-site and virtual spaces.
- **Applicant verification** – We verify students' academic standing and eligibility for a co-op position before they are permitted to apply for open positions.
- **Student application management** – Applicants can submit their applications for the co-op opening through CSCR® if desired.

Once applications are submitted, the employers can arrange interview, and job offer and contract directly with the students.

During-Placement Phase



Before First Day: Onboarding

Proper onboarding for co-op students is essential and fundamental to a smooth start for the students. Good practices suggest that onboarding begin as soon as the offer is accepted and comprise the following key aspects:

- **Welcome package** - Shortly after the offer letter is signed, it is recommended that a welcome package, whether via post or email, be sent to the students. The package should contain necessary information prior to their first day of employment, such as general policies (e.g. dress expectations), program goals and expectations, where and when to report to work,

student's supervisors/mentors name and contact information, directions to the appropriate office, and parking availability.

- **Internal preparation** – The company should prepare internally to ensure that the work environment is welcoming. All employees should be informed of the student's time of arrival and brief biography, the expectations for the student, and the importance of making him/her feel welcome. Additionally, the student' workstation and items such as identification, email accounts, and computer passwords should be properly set up so that he/she can start working right away.

First Day: Orientation

An orientation or welcome session should be held on the first day of co-op job to formally introduce co-op students to appropriate personnel, notably their supervisor and mentor, program coordinator, and unit/department manager. In this respect, bringing in executive-level management is encouraged, not only to affirm the executives' support, but also to demonstrate that the company values the student's presence. The orientation should also include practical considerations and any applicable training just as a new employee would receive. The list of key aspects for planning an orientation is shown below:

- Overview of the organization, e.g. history, mission, vision, products/services, culture, code of conduct and professional ethics
- Organization chart and explanation of line of communication and reporting with the student's supervisor and other leaders within the work department
- Special industry jargon, specific work standards and procedures, safety regulations, and security and confidentiality issues, if relevant
- Housekeeping, e.g. Email, mail, and telephone systems; dress code; procedures for unscheduled time off; lunch and break times; and how/who they can access information about the company and its policies if they have questions
- Payroll, e.g. when, how, and what to expect in their paycheck after taxes
- Facility tour, e.g. workspace, break room, restrooms, cafeteria, office equipment, and parking
- Introduction to a new-hire panel (if one is established in the pre-placement phase)
- Access to supervisor (days, times, duration)

- Meeting with the supervisor to discuss goals and expectations
  - **Explain expectations** – Work term's planned activities should be discussed, with explicit explanations of the learning objectives the students are expected to accomplish, what they are going to perform (job description, role and responsibilities), timeline and process of how the student will be evaluated, and how the supervisor will facilitate the learning activities.
  - **Alignment and consensus** – Ask students to articulate what they hope to gain from the experience that the supervisor reviews and, if necessary, assists in revising to reach a consensus about the objectives, expectations, and learning plan. Consider waiting a few weeks to finalize them to allow the student to better understand the organization and their role, and the supervisor to determine what is realistic.

On-the-Job Evaluation and Feedback Provision

On-the-job evaluation and feedback provided by site supervisors is crucial for learning and professional development as it allows students to recognize whether their performance is meeting or exceeding the host company's expectations. Best practices suggest the uses of both formal and informal evaluation and feedback processes, including the followings:

- **Regular check-ins** – Routine check-in points for informal feedback (e.g. weekly or bi-weekly) should be scheduled with the purpose to keep students' experience under observations, allowing students to ask questions and supervisor to identify any adjustments needed for learning activities. When using informal feedback be clear with your intent. The more direct, the more likely the student will perceive this to be an area of focus.
- **Time-based formal evaluation** – Time-based techniques for formal evaluation should be employed, consisting of mid-point and final evaluation. Focusing on coaching for improvement, mid-point evaluation provides an opportunity to discuss experience, provide a formal feedback, and make adjustments (e.g. opportunities for more exposure or responsibility). The final evaluation, on the other hand, occurs at the end of the work term as a summative assessment.
- **Personal reflective assessment** – Elements of critical self-reflection should be incorporated into evaluation practices. A key feature of "critical" reflection is the clear linkage among the learning experience, theories, and learning objectives that would enable students to connect

experience with theoretical knowledge, as well as uncover learning milestone and areas for improvement. Examples of commonly used written reflective assessment activities within co-ops are a journal, reflective essays, newsletters, and position papers. However, oral reflection activities—such as one-on-one meetings, large group discussions, and presentation—are also used.

End of Work Term

Towards the end of the work term, host companies are encouraged to take the opportunity to recognize the co-op student's growth and contributions, and conduct a formal exit interview as highlighted in good practices below:

- **Capstone presentation** – End-of-term presentation to company leadership and the rest of the company is an effective way to provide tangible evidence of accomplishments that not only help inform the final evaluation, but also showcase the value of a co-op program to the company.
- **Exit interview** – A formal exit interview with co-op students provides an effective forum for "two-way" feedbacks and conversion about the potential of future opportunities. The host company gain feedback from students on their culture, placement arrangements, supervisory and mentoring arrangements that will help the company to measure how the experience met the students' expectations. Such insights will provide a valuable basis for continuous improvement of the company's program. Equally, an exit interview is an excellent opportunity for the company to share feedback and discuss what they have accomplished, along with areas of strengths and weaknesses.

Post-Placement Phase

After students return to campus upon the end of their placement, the followings are good practices to be considered.

- **Stay engaged** – Staying engaged with co-op students between academic-work terms can have a strong impact on their potential to return for another work term and facilitate re-integration when they return. Example approaches include invitations to company events (holiday party, company events, etc.) after the student returns to campus, and invitations to attend orientation sessions for co-op new comers.

- **Measure success** – Successful assessment should be based on consistent measurements of success across work terms that help identify program strengths and weaknesses, and describe actions required to improve the program. Examples of measurements are conversion rate (percentage of eligible co-ops that are hired in as full-time employees), return rate (percentage of co-op students that are invited back to complete another co-op education), and exit interview feedback from students.
- **Share success stories** – Sharing co-op success stories can be a great marketing tool for recruiting future co-op students or full-time employees from Penn State. Partner employers could share the success stories via CSCR® social media where they can make postings or videos to share with prospective students.

APPENDIX 1: COOPERATIVE EDUCATION JOB DESCRIPTION EXAMPLES

Company A: Transportation Operations, Supply Planning, Inventory Deployment, Procurement, Demand Planning, and Customer Supply Chain

Co-Op Opportunities	Responsibilities
Transportation operations	■ Tracking and tracing strategic customer shipments for company and Alliance partners. ■ Collaborate with company transportation partners to resolve any customer delivery issues. ■ Work with Logistics Operations Specialists, partnering with Customer Service and our Carrier partners. ■ Work with company transportation partners on service requirements and process improvements. ■ Assist transportation planners with planning activities. ■ Analyze volume and performance reporting and identify trends and opportunity areas. ■ Other duties as assigned.
Supply planning	■ Inventory Management – Manage/control finished goods inventories for assigned items. Product deployment from the producing plants ■ Inventory balancing within the distribution network Product age is monitored. ■ Disposition is provided on items that have reached a critical ship date. ■ Planning Software System Maintenance – Set up and maintain all DRP system settings for new and existing items and make necessary modifications to achieve desired business results. ■ Shipment Execution Support – Manage product flow using appropriate planning tools for assigned facilities. Work with the third-party operators to balance operational and shipping needs while understanding both the customer service needs for product as well as the third party's operational constraints. Inform the supply planners of issues and work with distribution management and the third party to resolve issues.

Co-Op Opportunities	Responsibilities
Inventory deployment	▪ Evaluate product needs for assigned co-packing facilities and build efficient and timely loads of intermediate product from Plants &/or DC's to support production schedules. ▪ Load Building – Support the building of loads in Blue Yonder either directly or in a backup role. Understand the load building tool, load capacities, item attributes and how they influence load building.
Procurement	▪ Identify Needs – Work with Category Managers, Packaging Development, Packaging Innovation, and Suppliers to provide visibility to supplier capabilities, technologies, items, and assets. ▪ Manage strategic projects – Act as project managers for strategic initiatives with our supplier base. Assist in developing and executing sourcing events for key categories. ▪ Perform analytics – Support the team with detailed analytics, specific to supplier costing models, spend, and continuous improvement opportunities. ▪ Identify Potential Suppliers – Match supplier capabilities with internal needs and innovation pipeline to define highest probability of success.
Demand planning	▪ Develop and maintain a 104-week forecast for assigned items, incorporating internal and external inputs. ▪ Generate daily reports, requiring analysis of retail Point-of-Sale insights and inventory levels that drive change recommendations with focus on short term forecast, replenishment and process improvement. ▪ Actively participate in Vendor Managed Inventory efforts focused on achieving inventory and service level goals, evaluating and recommending replenishment levels while creating efficient truck loads. ▪ Ad hoc project efforts focused on performance improvement, process enhancements and improved communication. ▪ Assessments of the business environment, competitors, customers, market trends and the implications to the particular area of responsibility.
Customer supply chain	▪ Customer Analytics – Role requires strong analytical skills, with the ability to effectively mine both external customer and

Co-Op Opportunities	Responsibilities
	internal company data. Experience with supply or demand planning will be helpful. Some examples: • On Time Delivery Analysis – Tracking and tracing customer shipment data to identify key focus areas for improvement. – Work with company transport partners and customer data to identify root cause and action plans to improve on time delivery. – Partner with customer service team to identify opportunities where order patterns can be improved to reduce complexity and improve service. – Identify improvement areas within the current processes. • Customer Order Pattern Behavioral Analysis – Evaluate customers' orders and identify trend and opportunity areas that will deliver increase rebates for them and drive efficiency for the company • Assist Customer Supply Chain Managers – Ad Hoc projects for various top 10 customers ranging from case fill improvement, seasonal service, reporting requirements, etc.

Qualifications:

- Currently enrolled as a sophomore or above status with a minimum 3.2 GPA
- Supply Chain Management, Mathematics or Business majors preferred
- Superior strategic thinking and planning
- Outstanding analytical abilities
- Proficiency with Microsoft Office software such as Word, Excel, etc.
- Ability to nurture and contribute to innovation and creative solutions
- Strong verbal and written communicator to wide breadth of audiences including senior management

Company B: Customer Service, Planning, Logistics, and Manufacturing

Co-Op Opportunities	Responsibilities
Customer service	▪ Company's key player in managing flow of orders and determines team ability to add value to local business.
Planning (Custom Manufacturing, Demand Planning, S&OP)	▪ Control tower of Supply Services. ▪ Serve as point of contact between company Commercial and company Manufacturing.
Logistics (Transportation, Warehousing, Corporate Logistics)	▪ This is where "the rubber hits the road" in terms of managing not only the key operational aspect of the Supply Services team but also the most significant costs within Supply Services.
Manufacturing	▪ Takes place in each factory; where raw and packaging materials are transformed into packaged ready products. Responsibilities may include, but are not limited to: ✖ Provide suggestions on new processes, opportunities, and initiatives that deliver savings or service improvements. ✖ Manage projects to successful completion; define scope, stakeholders, and milestones. ✖ Facilitate continuous improvement by evaluation of operations considering new technology, team needs, and cost/benefit opportunities. ✖ Internally coordinating with all necessary departments to ensure optimal customer service delivery. ✖ Reporting and managing orders in EDI, JDE, LMS and 3PL systems, facilitating, tracking, and optimizing company operations with planners and recommending strategies to improve fill rate, order frequency, lead-time variability, and inventory levels/issues. ✖ Analyzing, recommending, and optimizing logistics process within targeted business assignment and the greater supply services business. ✖ Contributing to the development of the process and systems architecture by incorporating information available in the

Co-Op Opportunities	Responsibilities
	CRM (customer relationship management, Siebel) planning systems. ✖ Working on projects related to inventory and replenishment management. ✖ Developing reporting to track and influence team performance and perform weekly analytics. ✖ Facilitating, tracking and optimizing company operations with planners, project managers and operations teams to improve fill rate, lead time variability, inventory levels/ issues, productivity, cost and operational process through various productivity tools and methods.

Qualifications:

- Pursuing an undergraduate degree in Supply Chain Management, Logistics, Business Administration or Engineering and graduating after May 2021 or later.
- Ability to work well under pressure.
- Knowledge of Lean Six Sigma and other continuous improvement methodology a plus.
- Project management skills including planning, scheduling, budgeting, and implementing.
- Strong analytical and excellent communication skills; ability to organize and analyze cost/spend/ data and present summaries of findings.
- Independent thinker capable of self-starting and problem-solving skills is a must.
- Demonstrated entrepreneurial and leadership qualities to take charge and initiate action.
- Advanced proficiency in Microsoft Office (Word, Excel, PowerPoint, Outlook, and Access).
- Must be domestically and internationally mobile for future career growth within the supply chain organization

Company C: Supply Chain Analyst

Our co-op will offer you a chance to explore the breadth of opportunities available in the supply chain while working on real projects such as process improvements in flow planning for finished products, raw materials and finishing supplies, space utilization and optimization analysis, or warehouse operations systems analysis. You will be provided meaningful work experiences that

contribute to the overall strategic business goals of the company. You'll be treated and respected as a valuable contributor and given your own responsibilities and accountabilities. Your experience will include performance evaluations that provide you with valuable professional feedback to gauge your strengths and measure areas of improvement.

At our company, Supply Chain co-op experiences are a valued part of our culture. Our company considers its pool of co-ops and interns to be a great source of future full-time employees. We've structured our logistics organization in a way that enables you to achieve a comprehensive understanding of the supply chain and a rewarding work experience. Whether beginning your supply chain career or seeking a new challenge as an experienced professional, our team environment will allow you to contribute to your fullest potential.

Functional Overview

Functions	Responsibilities
Procurement	■ Negotiate with suppliers on matters of quality, service price and other areas of value. ■ Per company's "Strategic Category Management" process, create and develop sourcing plans and conduct industry analysis. ■ Participate in project teams and meet objectives by providing procurement expertise through acquiring assigned goods, equipment and/or services that provide the best total cost of ownership to the corporation. ■ Key customers are business units, suppliers and product development.
Supply planning	■ Review and analyze material demand and strategically collaborate with vendors to support production schedules. ■ Develop, control, and manage operating schedules in the company's production facilities using sales forecasts developed with marketing. ■ Utilizing knowledge of mill capabilities, SAP tools are used to establish mill production levels and inventory targets to meet demand needs. ■ Perform short and long-term analysis of equipment capacity and material needs.

Functions	Responsibilities
	■ Key customers are marketing, mill operations, customer service, and suppliers.
Logistics capabilities	■ Provide continuous improvement solutions for order management and distribution to improve supply chain performance and to reduce costs. Activities include communicating and resolving order issues, assisting with DC and inventory constraint management, and report generation. ■ Key customers are deployment, distribution, and customer solutions.
Distribution operations	■ Team members manage the flow of product from the case packer through shipment loading at both mills and distribution centers. ■ Drive performance of third-party DC operations, problem solve across functional supply chain groups to deliver service to retail customer, support distribution initiatives (new DC start-ups, automation), and monitor supply chain cost. ■ Key customers are business units, retail customers, mill operations, third party operators and transportation.
Distribution process and systems	■ Team members are responsible for the Warehouse Management System (WMS) that directs work activity within a DC related to unloading, storage, replenishment, case picking and outbound loading, as well as the standard processes and warehouse layouts that govern the network of DCs. ■ Analysis of lift-truck operator productivity, industrial engineering of productivity standards, participation in expansion of e-commerce fulfillment processes, support of transformational order pick processes and opportunity to travel to mills and DCs for on-site engagement. ■ Key customers are business units, retail customers, mill operations, third party operators and transportation.
Customer logistics strategies and service	■ Provide efficient, cost-effective solutions for order management and aggressively work to improve supply chain performance. Build relationships with internal and external customers. Work proactively with customer and sales to reduce cost to serve. Communicate and resolve order issues with customers and

Functions	Responsibilities
	sales. Key customers are retail customers, sales, transportation, distributors and planning.
Transportation	■ Negotiate with carriers for price, service and equipment to achieve delivery of materials and product at minimum distribution costs. ■ Analyze and perform mode/carrier selection, shipment tracking, and measurement of customer service and carrier performance. ■ Key customers are distribution, retail customers and transportation providers.

Salary and benefits: $20/hr + relocation

Qualifications

- Students must have completed 2-3 years toward a four-year college degree; preferably in Business, Logistics Management, Manufacturing Operations, Industrial Engineering or related field.
- Minimum 3.0 out of 4.0 overall GPA is preferred (transcripts will be requested).
- A high degree of analytical skill is required.
- Students must be authorized to work indefinitely in the United States on a regular full-time basis.

Company D: Supply Chain

At our company, we use technology and the power of teamwork to discover new ways to prevent and overcome the world's the most significant healthcare challenges. Our Corporate, Consumer Health, Medical Devices, and Pharmaceutical teams leverage data, real-world insights, and creative minds to make life-changing healthcare products and medicines. We're disrupting outdated healthcare ecosystems and infusing them with transformative ideas to help people thrive throughout every stage of their lives. With a reach of more than a billion people every day, there's no limit to the impact you can make here. Are you ready to reimagine healthcare?

Here, your career breakthroughs will change the future of health, in all the best ways. And you'll change, too. You'll be inspired, and you'll inspire people across the world to change how they care for themselves and those they love. Amplify your impact. Join us!

Supply Chain encompasses supply chain and engineering organizations across the company. This model enables strategic supply chain decision-making across our companies, while keeping supply chain organizations embedded in our sectors and connected to our businesses, close to our respective markets and customers. All functions that "plan, source, make and deliver" our products – are part of Supply Chain. Process begins at raw component sourcing to end-product distribution with high quality, compliance and service performance. Our technologically advanced corporate environment focuses on developing individual engineering, business and scientific skills.

Life as a Supply Chain Co-Op

Our University hires play an important role in enhancing our business and we need YOU! The Co-op program provides each student with real-life hands-on experience, coaching and mentoring, networking opportunities, as well as the opportunity to meet people from various schools throughout the country. When you join our family, you will work on projects that improve your leadership, analytical, and project management skills. Cross-functional teamwork provides an opportunity to partner with a variety of people in the organization across all our sectors; Pharmaceutical, Medical Device, Consumer and Corporate/Enterprise. We offer an interactive team environment, where your capabilities and skills will be developed to build a strong career foundation.

Spring co-op typical term is January 4, 2021–July 16, 2021. Some teams may offer an extended co-op term. Assignment may be virtual/remote, while other business critical roles will be onsite and may require relocation. Career mentorship is available with endless networking opportunities within assigned team and beyond. Assignment area and work-site location will be matched to business needs. Some roles may offer housing assistance if you live more than 50 miles from the work-site location. Housing assistance includes a stipend for students to use at their discretion

For roles that require you to work on site, transportation is the student's responsibility.

Co-Op Specifics

Salary	Available Co-Op Areas	Locations
Full time availability (40 hours per week) ■ Senior: $24.50 ■ Junior: $23.00 ■ Sophomore: $21.00	■ Product/Demand Planning ■ Project Management ■ Advanced/Manufacturing Technologies ■ Supply Chain Planning/Management ■ Warehouse and Distribution ■ Systems Delivery and Trade ■ Customer Logistics ■ Procurement and Sourcing	■ Available Locations: New Jersey, Pennsylvania, Massachusetts ■ Alternative Locations: Arkansas, California, Colorado, Florida, Illinois, Indiana, Kentucky, Minnesota, New Mexico, Ohio, Rhode Island, Tennessee, Texas, Wisconsin

Qualifications

- Desired majors: Supply Chain
- Candidates must be legally authorized to work in the U.S. and must not require sponsorship for employment visa status now, or in the future (ex. H1-B, F-1).
- Candidate must be actively enrolled in an accredited University for the duration of a co-op assignment pursuing a Bachelor's, Master's and/or MBA.
- Minimum GPA of 2.8 is required.
- Ability to demonstrate strong analytical and quantitative skills is required.
- Excellent communication, presentation skills and leadership skills are preferred.
- Ability to balance multiple projects and initiatives while executing results.
- Must be a self-starter who works independently while contributing to the team goals.
- Proven leadership/participation with campus programs and/or community service activities is desired.

Company E: Continuous Improvement

The Continuous Improvement Group offers support to the network of various warehouses across the country. This includes training, development and support of our WMS, customer analysis, value stream mapping, process improvement and system implementation.

Job Overview

The candidate chosen for this position will become a valued member of our Continuous Improvement Group and will be given specific and significant job responsibilities. The job will expose the student to all functions of the business and provide a well-rounded experience. This is a unique opportunity to gain real world supply chain experience from one of the top 3PL companies in the frozen food industry.

Responsibilities	Skills and Qualifications
■ Prepare crucial daily, weekly and monthly reports for senior management. ■ Rotation in warehouse operations, LMS, customer service and transportation ■ Learn how to use our business intelligence tool. ■ Work with Corporate Development as needed on special projects for customer reviews. ■ Assist in and provide training during new customer startups at facilities as well as new facility startups. ■ Assist in warehouse assessment and develop corrective action presentations. ■ Development of online training program ■ Prepare training and user documentation for our various applications including manuals and videos. ■ Assist in the development of course material for our company University. ■ Perform CIT assessments at various locations throughout the year. ■ Participate in testing sessions for and assist in training for eWM. (All aspects: testing, development, implementation.)	■ Education: Enrolled in Supply Chain or Operations undergraduate program, Junior Year Preferred. ■ Ability to analyze problems and formulate logical conclusions ■ Excellent computer skills – Microsoft Office Suite with strong knowledge of excel and power point ■ Excellent work record (attendance and attitude) ■ Ability to establish a positive working relationship ■ Ability to handle and prioritize multiple tasks ■ Ability and willingness to travel

APPENDIX 2: PENN STATE 2019–2020 UNDERGRADUATE PLACEMENT OUTCOMES

Data

Data was collected through an optional student survey distributed prior to Summer 2019, Fall 2019, and Spring 2020 commencements. Penn State's Business Career Center received 472 of 1,684 graduating student responses prior to graduation. Within three months of the graduating semester, 487 new records and 32 updates were added for a total knowledge rate of 56.9 percent. Knowledge rate is significantly down from the 18/19 year due to the lack of ability to survey on campus during Spring 2020 as a result of the COVID-19 pandemic.

Supply Chain and Information Systems Placement Overview

	Outcomes
Placement Rate	95%
■ **Full-Time Offers**	89%
■ **Further Education/Fellowship**	5%
■ **Military**	1%
Average Salary	
■ **Full Time**	$65,490 yearly
■ **Intern** [1], [2]	$28.58 hourly
Signing Bonuses	
■ **Average Signing Bonus**	$6,240
■ **Percentage Receiving Signing Bonus**	56%
Relocation Bonuses	
■ **Average Relocation Bonus**	$4,843
■ **Percentage Receiving Relocation Bonus**	43%

Note: Based on knowledge rate 199/315 (63%) of supply chain and information systems major.

[1] Internship and co-op data are compiled together, and are not separated out.

[2] 97% of junior year internships were paid.

Top Hiring Companies

Internships	Full-Time Employment
■ Amazon	■ ALDI
■ The Boeing Company	■ Amazon
■ Campbell Soup Company	■ The Boeing Company
■ Church & Dwight	■ Burlington
■ Clemens Food Group	■ Deloitte
■ Dell	■ Dick's Sporting Goods
■ DHL	■ Grant Thornton International
■ The Estee Lauder Companies	■ IBM
■ Hasbro	■ KPMG
■ The Hershey Company	■ Lockheed Martin
■ Ingersoll Rand	■ Procter & Gamble
■ Johnson & Johnson	■ Ross Stores
■ Penske	■ Textron
■ PepsiCo	■ Walmart
■ Prudential Financial	
■ PwC	
■ SAP	
■ Target	
■ Textron	
■ TJX Companies	
■ Universal Health Services	
■ UPS	
■ Walmart	

APPENDIX 3: INTERNATIONAL STUDENTS

The most common visa types employers will see on college campuses when recruiting international undergraduate or graduate students for either full-time, internship, or co-op positions are the F-1 and J-1 visas. An F-1 visa is granted to a person coming to the United States to attend a college, university, seminary, conservatory, academic high school, elementary school, or other academic institution or language training program approved by the U.S. Attorney General for study by foreign students. The visa holder plans to return home after completing studies. This is the most common non-immigrant visa for an international student attending undergraduate and graduate school. Students are granted F-1 status until the completion of the academic program and 12 months of post-program practical training.

Further Resources

- **National Association of Colleges and Employers:** www.naceweb.org
- **U.S. Citizenship and Immigration Services:** www.uscis.gov
- **Immigration Support Services:** immigrationsupport.com

The purpose of the F-1 visa is to provide an opportunity for study in the United States. Anything outside of study, including employment, is an exception to the visa. Authorization for employment is strictly limited to certain situations. The student holding F-1 status for a full academic year and in good academic standing may work off campus. Such work authorization is granted when the student has sustained unforeseen economic hardship. In addition, the student may not work for more than 20 hours per week when school is in session, but may work full time during holidays and vacations, including breaks between terms, provided the student intends to register for the next school term.

Curricular Practical Training

An F-1 student may perform curricular practical training prior to the completion of the educational program as part of his or her educational experience. The Immigration and Naturalization Service (INS) define this type of training as 'alternate work/study, internship, cooperative education, or any other type of required internship or practicum that is offered by sponsoring employers through agreements with the school.'

Optional Practical Training

This is temporary employment directly related to the student's major area of study that takes place after the student completes a full course of study. Authorization for this training may be granted for a maximum of 12 months of full-time or part-time work. Those on a student visa can only gain authorization once for this type of training.

APPENDIX 4: NITTANY LION CAREERS RECRUITING PLATFORM

Penn State offers Nittany Lion Careers, a single-system recruiting platform for all students, alumni, and employers. Nittany Lion Careers offers employers the ability to post jobs and internships, register for career fairs, schedule interviews with students, and more.

Creating a free account within Nittany Lion Careers gives you access to over 80,000 current Penn State students as well as Penn State alumni.

Create an Account

Creating an account within Nittany Lion Careers is free for employers and provides the best avenue for accessing a wide pool of Penn State talent.

1. Visit nittanylioncareers.psu.edu
2. Click the 'Employers' button to access the system and submit an account registration.
3. Our employer relations team vets all employer accounts prior to allowing system access. Once your account has been approved you will receive a welcome email with steps on posting positions.
4. All jobs and internships posted are reviewed by the employer relations team and approved within 3 business days.
5. Receive customized account support and assistance by contacting a Penn State career office. Visit studentaffairs.psu.edu/career/career-offices

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Three decades ago, the Pennsylvania State University recognized the need for a forum where industry leaders and academics could exchange ideas and advance knowledge in business logistics. In 1989, as the logistics profession was just gaining prominence, the Center for Logistics Research, renamed the Center for Supply Chain Research®, was founded to serve the needs of this growing community.

Our promise is to serve as an unmatched, distinguished center of excellence, bridging higher learning with industry and building the pillars of supply chain research, innovation and world-class knowledge for the mutual benefit of students, alumni, partners and faculty. Today, the Center for Supply Chain Research (CSCR®) is member strong and intellectually active in many facets of supply chain management and the enabling technologies used for collaboration, visibility, and integration.

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