

**Exhibit A: The Rucks Group Statement of Work
Evaluation Plan for Operations Technicians in Supply Chain Management**

Background

Below is a general outline of the formative and summative evaluation approach that will be utilized. At project initiation, The Rucks Group will meet with the project PI/Co-PI(s) and other key individuals to fully detail the evaluation questions, plan, and over all work plan.

Evaluation Plan

The evaluation is framed by five evaluative questions which reflect both *formative evaluation*, accountability factors and project implementation; and *summative evaluation*, the impact or the difference the project is making on students, industry and the overall region.

Table 1 presents an overview of the interrelationship between the project’s objectives-evaluation questions, and data sources. The five evaluation questions are expected to yield credible evidence during the three year life cycle of the ATE grant.

Table1. Evaluation Overview

Relevant Objectives	Questions	Sources of Data
Objectives #1 – #6	How effectively is the project being implemented? What obstacles are being experienced? (Formative)	<ul style="list-style-type: none"> -- comparison against project timeline -- interviews with key project staff individuals -- institutional and high school enrollment data -- enrollment in high school summer camp -- participation of faculty -- workshop satisfaction surveys (faculty, students, parents)
Objectives #1 & #2	How is the curriculum meeting the needs of industry? What is the quality of the curriculum? (Summative)	<ul style="list-style-type: none"> -- peer reviews -- industry surveys -- interviews (e.g., project leaders, industry representatives)
Objectives #1 – #4	How are the various modalities affecting student learning (e.g., curriculum and the summer camp)? (Summative)	<ul style="list-style-type: none"> -- teacher surveys/interviews -- student surveys/interviews -- student assessment of learning gains -- classroom observations (e.g., Reformed Teaching Observation Protocol (RTOP))
Objective #5	What difference is the project having on overall student enrollment and retention? What difference is the project having on underrepresented groups? (Summative)	<ul style="list-style-type: none"> -- institutional and high school enrollment data -- student surveys (e.g., changes in self-efficacy, perceptions of the

		future self, etc.) -- interviews -- student assessments (e.g., Student Assessment of Learning Gains (SALG))
Objective #6	What difference is the project having on industry/relationships with industry? (Summative)	-- industry surveys -- interviews (e.g., project leaders, industry representatives)

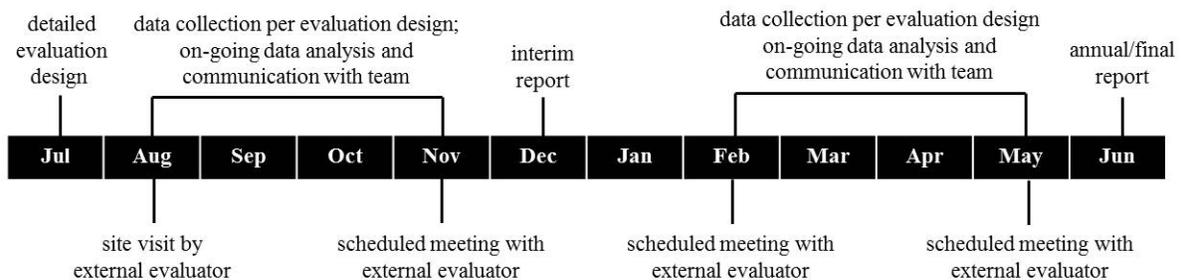
The evaluation activities are guided by the project’s theory of change (see logic model in original proposal for pictorial representation). Essentially, the theory of change posits that if a quality curriculum in Industrial Engineering Operations Technology is established for high school and Columbus State Community College students, the number of Industrial Engineering Operations Technicians will increase. Data collection efforts will seek to obtain evidence of implementation of the deliverables (e.g., an implementation analysis) and the project’s outcomes. The strength of the evidence supporting the outcomes will provide answers to the evaluation questions.

The evaluation will follow appropriate evaluation standards set forth by the American Evaluation Association, NSF, Columbus State Community College Institutional Review Board (IRB) policies, and other relevant policies.

Because of the credibility associated with data collected through experimental and quasi-experimental (Donaldson, Christie, & Mark, 2009¹) evaluative approaches, these methods will be utilized as allowable given the boundaries of the project to gather credible evidence of the difference the project is making. In situations in which experimental and quasi-experimental methods are not feasible, use of pre-/post-surveys, case studies, interviews, and document reviews will be incorporated into the evaluation design.

By gathering both quantitative and qualitative data, obtained through various sources, the evaluation seeks to obtain evidence to inform the evaluation questions. Analytical approaches for quantitative data include comparison of means (e.g., t-test/ANOVA) and multiple regression analysis, where appropriate; while analytical approaches for qualitative data will focus on content analysis.

Evaluation activities will adhere to the following annual timeline:



Each year of the project, the External Evaluator will develop and submit an annual evaluation report. A comprehensive summative evaluation report will be created during the final year of the project.

¹ Donaldson, S.I., Christie, C.A., & Mark, M.M. (2008). *What counts as credible evidence in applied research and evaluation practice?* Newbury Park, CA: Sage.