Colorado State University – Pueblo Academic Program Assessment Report for AY 2015-2016 **Due: June 1, 2016**

Program: MSISE **Date:** 6**/11/16**

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Assessment contributors (other faculty involved in this program's assessment): Drs. Jaksic and Wollega.

I. Program student learning outcomes (SLOs) assessed in this cycle, processes, results, and recommendations.

A. Which of the program SLOs were assessed during this cycle? **Please include the outcome(s) verbatim from the assessment plan.**	B. When was this SLO last assessed?	C. What method was used for assessing the SLO? **Please include a copy of any rubrics used in the assessment process. (Attached)**	D. Who was assessed? Please fully describe the student group.	E. What is the expected achievement level and how many students should be at it?	F. What were the results of the assessment?	G. What were the department's conclusions about student performance?	H. What changes/improvements to the program are planned based on this assessment?
Apply industrial engineering knowledge in facility design, operations planning, operations research, and simulation	June 2016	**Methods**: EN 577 Operations Planning and Control Include Design Strategy, Solutions, and Tools. **Rubrics**: Design Strategy, Solutions, and Tools	Eight (8) MSISE graduate students were enrolled in Spring 2016.	80% or more of the students should meet or exceed expectations.	In the research project report, composed of a literature review, a detailed review and the replication and expansion of a current topic on IE, 100% of the students in EN	Since 100% of the students performed well we conclude that the goal was met.	No changes to the program are planned at this time. We are still working on developing indirect methods metrics for possible redesign to better fit the SLO's.

					577 were able to demonstrate their knowledge on IE when dealing with current problems.		
Apply engineering principles in the design and analysis of a system or process to meet specified needs	June 2016	**Methods:** EN 575 Facilities Planning and Design Research Project Reports. **Rubrics**: Design Strategy and Constraints and Variables	Five (5) MSISE graduate students who were enrolled in Fall 2015	80% or more of the students should meet or exceed expectations	100% of the students in EN 575 were able to solve complicated problems on facilities layout and location by using optimization and continuous improvement. Exit interviews were not successful since students didn't complete them.	All students (100%) performed well.	We will encourage the instructor to continue using real world projects.
Communicate effectively in writing and orally.	June 2016	**Methods:** Presentation Evaluation in EN 520. **Rubrics:** *written:* Articulation,	Three (3) MSISE graduate students who were enrolled in EN 520 in	80% or more of the students should meet or exceed expectations	In EN 520, 3 out of 3 students met and exceeded the expectation for the paper presentation.	Since 100% of the students performed well we conclude that the goal was met.	Still working on developing and administering short student satisfaction surveys. Use the Graduate Seminar EN 593 to stress

		organization, neatness, grammar and spelling, writing style, document formatting *Oral:* Delivery, length and detail, mechanics, dialect, visual aides, appearance, and listening and response to questions.	Spring 2016		Students in EN 520 wrote and presented a research project composed of a literature review, a detailed analysis and the replication and expansion of a current problem on IE solved by using simulation.		the importance of doing proper referencing in academia.

Comments:

B. Follow-up (closing the loop) on results and activities from previous assessment cycles. In this section, please describe actions taken during this cycle that were based on, or implemented to address, the results of assessment from previous cycles.

A. What SLO(s) did you address? Please include the outcome(s) verbatim from the assessment plan.	B. When was this SLO last assessed?	C. What were the recommendations for change from the previous assessment?	D. Were the recommendations for change acted upon? If not, why?	E. What were the results of the changes? If the changes were not effective, what are the next steps or the new recommendations?
Apply industrial engineering knowledge in facility design, operations planning, operations research, and simulation.	June 2016	A more precise assessment description (based on rubrics) seems to be needed. We will address indirect methods metrics for possible redesign to better fit the SLO's.	Yes. Rubrics were developed and implemented for this SLO. Indirect methods metrics were discussed without a conclusion. They are left for another assessment cycle.	Rubrics were effective. Since exit interviews were not effective, we are proposing to make them mandatory.
Apply engineering principles in the design and analysis of a system or process to meet specified needs.	June 2016	Encourage the instructor to continue using real world projects.	Yes. The instructor continued with using "real-world projects."	Using "real-world projects" engaged students.
Communicate effectively in writing and orally.	June 2016	Effective communication rubrics will be disseminated to the students. We will make sure that paper and presentation evaluations are done with strict	Yes/mostly The rubrics were developed and disseminated to the students. Papers and presentations	Dissemenation of rubrics and strict adherence to those rubrics when grading were effective in developing students' communication skills. Course-specific surveys were discussed. Since the rubrics were well developed

		adherence to all components of this rubric. Also, we will ensure that course specific surveys are developed and administered in the future.	were graded according to the rubrics. However, course specific surveys were not developed and administered	there was no indication that such surveys would be effective. Instead, we are still considering a general student satisfactory survey dealing with this SLO.

Comments:

Assessment Rubrics

Apply industrial engineering knowledge in facility design, operations planning, operations research, and simulation

	Exceeds expectations 5%	Meets expectations 75%	Does not meet expectations 20%
Design Strategy	Develops a design strategy, including a plan; decomposes work into subtasks, and develops a timetable.	Uses a design strategy with guidance.	No design strategy is attempted.
Solutions	Develops several potential designs and based on the analysis of those designs finds an optimal design solution using the system view approach.	Can develop and compare multiple solutions to a problem, but does not usually arrive at the best result; conducts optimization but neglects one or two key aspects. Does not use the system view approach.	Cannot design a system or individual component without significant amount of help. Only focuses on one solution to a problem; no optimization attempted.
Tools	Uses computer tools (e.g., LINDO, ARENA, MATLAB, @RISK, PLANTOP) effectively.	There is evidence of mostly correct use of computer tools and engineering resources	There is no evidence of use of computer tools and engineering resources.

Apply engineering principles in the design and analysis of a system or process to meet specified needs

	Exceeds expectations 5%	Meets expectations 75%	Does not meet expectations 20%
Design Strategy	Develops a design strategy, including a plan; decomposes work into subtasks, and develops a timetable.	Uses a design strategy with guidance.	No design strategy is attempted.
Constraints & Variables	Develops a solution that includes realistic constraints and stochastic variables when necessary	Develops a deterministic solution only that fails to include one or more minor realistic constraints and potential randomness in data.	There is no consideration of realistic constraints.

Communicate effectively in written form

	Exceeds expectations 5%	Meets expectations 75%	Does not meet expectations 20%
Articulation	Articulates ideas clearly and concisely using visual aids where appropriate.	Articulates ideas, but the idea flow is somewhat disjointed. Does not always use visual aids appropriately (e.g. a table and a graph representing the same information are used; a figure is not addressed in the narrative).	Does not develop/articulate Ideas well. Makes points that are hard to understand. Does not use visual aids.
Organization	Organizes the material in a logical sequence (paragraphs, subheading, etc.).	In general, organizes the material well, however, occasionally paragraphs combine multiple thoughts; sections and sub-sections are not identified clearly.	Imposes little or no structure or organization; does not use subheadings or proper paragraph structure.
Neatness	Presents material neatly and professionally	Occasionally, does not present material neatly.	Does not present material neatly.
Grammar and Spelling	Uses grammar and spelling correctly.	Makes one or two spelling/grammar errors per page.	Makes spelling/grammar errors throughout more than 1/3 of the paper.
Writing Style	Uses professional writing style.	Sometimes uses jargon, improper voice, improper tense, inappropriate style, etc.	Uses inappropriate writing style for the audience and for the assignment.
Document Formatting	Conforms to the prescribed format.	Conforms to the prescribed format in many portions of the assignment.	Does not follow the prescribed format.

Communicate effectively in oral form

	Exceeds expectations 5%	Meets expectations 75%	Does not meet expectations 20%
Delivery	Plans and delivers an oral presentation effectively; applies the principle of "tell them."	Presents key elements of an oral presentation adequately, but does not apply "tell them" clearly.	Organizes the presentation poorly (e.g. no clear introduction or summary is delivered).
Length and Detail	Presents technical content appropriate for the time allowed and the audience level.	Presents excessive or insufficient detail for time allowed and/or the audience level.	Presents for an inappropriately short or long time period; omits key results during presentation.
Mechanics	Makes eye contact; can be easily heard; speaks comfortably with minimal prompts; does not block the screen; doesn't show any distracting habits.	Exhibits minor difficulties (e.g. makes sporadic eye contact; occasionally is difficult to hear or understand; overuses prompts or does not use prompts enough; occasionally stumbles or loses place; occasionally blocks screen; occasionally exhibits some distracting habits (um, ah, clicking pointer, etc.)).	Exhibits major difficulties with the presentation (e.g. makes no eye contact; is difficult to hear or understand; reads from prepared script; blocks the screen; exhibits distracting habits (um, ah, clicking pointer, etc.)).
Dialect	Uses proper American English.	Occasionally uses an inappropriate style of English-too conversational; uses understandable English.	Uses poor English and/or poor pronunciation.
Visual Aides	Uses visual aides effectively.	Presents visual aides that have minor errors or are not always clearly visible.	Presents multiple slides that are unclear or incomprehensible.
Appearance	Exhibits professional appearance.	Appears too casual for a professional presentation.	Appears inappropriately dressed for the occasion (e.g. wears shorts, sandals, etc.)
Listening and Response to Questions	Listens carefully and responds to questions appropriately; is able to explain and interpret results for various audiences and purposes.	Sometimes misunderstands questions; does not respond appropriately to the audience, or has some trouble answering questions.	Does not listen carefully to questions; does not provide appropriate answers, or is unable to answer questions about the presentation material.

MSISE Exit Interview

Name: xxxxx xxxxxx

Date:

How did you hear about the MSISE at CSU-Pueblo?

What other schools and/or degrees did you consider?

What could be done to make the MSISE Program at CSU-Pueblo more attractive to potential students in the same circumstance you were when you began?

How was the experience of being a new (International) MSISE student?

What do you think of the degree and education you received at CSU-Pueblo?

What are your future plans?

How do you feel your degree and education have prepared you for your intended career?

How do you feel that your education could have been improved?

Any suggestions for changes in the program

What's the worst thing that happened to you since you got here?