

2021-2022 Rubrics for the Institute Student Learning Outcomes (ISLOs)

Click on a red icon below to direct to a particular outcome.

Rose-Hulman graduates will be technically competent in their domain and:

RH1

1. Critical Thinkers - develop evidence-based conclusions through a process of informed evaluation and judgment.

RH2

2. Creative Problem Solvers – develop and implement a strategy to answer an open-ended question or achieve a desired goal.

RH3

3. Effective Communicators - communicate effectively with a range of audiences through a variety of media.

RH4

4. Ethical Professionals - identify ethical and professional responsibilities, behave with integrity and responsibility, and make informed judgments.

RH5

5. Leaders and Collaborators - motivate and enable a team, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

RH6

6. Informed Global Citizens - engage with diverse beliefs, cultures, languages, or societies.

RH7

7. Self-Directed Learners - acquire, apply, and reflect upon new knowledge and skills for personal and professional growth using appropriate learning strategies.

8. Civically -Engaged Citizens – partner with a community to create positive change.

RH4: Ethical Professionals was updated on 1/12/2022 and approved by CASO.

Institute Student Learning Outcomes (RH1-8)

The Rose-Hulman Institute Student Learning Outcomes (ISLOs) articulate knowledge, skills, and behaviors that Rose-Hulman students are expected to demonstrate by the time of graduation. The outcomes are not dependent on a particular program of study, but rather they characterize generally what it means to be a graduate of Rose-Hulman.

Through an annual summer artifact collection and assessment process (RosEvaluation), the Commission on the Assessment of Student Outcomes (CASO)¹ determines student attainment of our outcomes, and the results help to support both institute and program continuous improvement efforts. Additionally, the ISLOs support critical institutional and programmatic accreditation practices for the Higher Learning Commission (HLC) and ABET.

Performance criteria (I, P, and E) and primary traits

For each learning outcome, Rose-Hulman has created introductory (I), proficient (P), and exemplary (E) criteria² and primary traits (i.e., rubrics) that describe specifically how the student work product should be evaluated. Crit

How did we revise the rubrics?

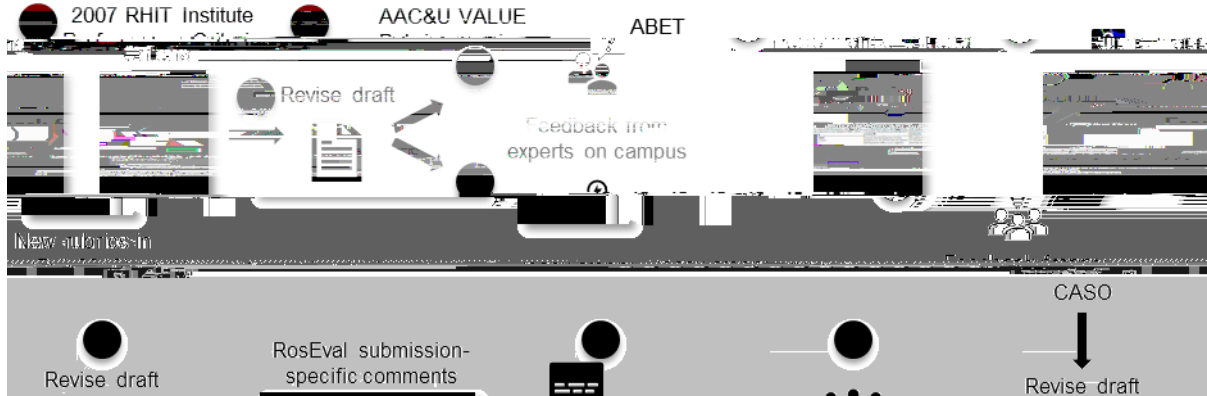


Figure 1: Flow chart illustrates revision process of rubrics for Institute Student Learning Outcomes, which are used for direct assessment of student learning during RosEvaluation.

Revision steps:

Spring 2019

1. Look at 2007 Institute Performance Criteria (rubrics)
2. Conduct VALUE rubric mapping with CASO members

Summer 2019

3. Interim Senior Director of IRPA and Director of Assessment develop drafts that integrate 2007 rubrics, VALUE rubric mapping, discipline-specific guidelines (ABET, ASEE, ASCE), peer-reviewed literature, and any recent revisions
4. IRPA gathers feedback from experts on campus
5. IRPA gathers feedback from CASO
6. IRPA tests rubrics during RosEvaluation. Director of Institutional Research identifies sample historical artifacts for testing
7. IRPA gathers feedback from RosEval raters on strengths and things to change. Use submission-specific comments to identify passing determination, potential comment tags, potential types of artifacts, and potential exemplary artifacts)

Fall 2019 and subsequent years

8. IRPA and CASO revise rubrics for next RosEvaluation period

Outcome RH1 – Critical Thinkers

Rose-Hulman graduates develop evidence-based conclusions through a process of informed evaluation and judgment.

Introductory Criterion 1.I1: Collects and evaluates relevant information to provide insight to well-formed questions and/or problems.

Primary Trait:

1. The artifact clearly identifies a specific question, problem, or issue.
2. The artifact identifies evidence related to the question, problem, or issue.
3. The artifact cites sources created by others both in the text and in a reference list using any style of documentation.

Proficient Criterion 1.P1: Formulates high-quality, evidence-based conclusions to questions,

Exemplary Criterion 1.E1: Provides substantive critique that includes recommendations for improvements.¹

Primary Traits

1. The artifact provides insightful commentary on strengths of the work.
2. The artifact provides specific, helpful, and constructive recommendations for improvement.
3. The artifact provides justification for that criticism or evaluation as it relates to curricular or professional standards or expectations.

Example artifacts:

Outcome RH2 – Creative Problem Solvers

Proficient Criterion 2.P3 Develops a plan, model, or experiment to test an approach or hypothesis.

Primary traits:

1. The artifact defines a model, hypothesis, or expected outcome.
2. If theoretical provides a series of logical, sequential steps with justification of how student arrived at the next step.
3. If experimental the artifact provides and justifies a procedure that tests the approach or hypothesis.

Example artifacts:

Research/lab projects, research/lab presentations, proposals, final reports

Proficient Criterion 2.P4:Evaluates results by interpreting data and/or information ^{4,3}

Primary traits:

1. The artifact evaluates results by doing one or more of (he)-102 (ti)4 (5io (s)4d2W .6 (r)7.2 (m)-



Outcome RH3 – Effective Communicators

Rose-Hulman Graduates communicate effectively with a range of audiences through a variety of media.

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Introductory Criterion 3.11: Presents a coherent argument supported by evidence.

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Proficient Criterion 3P2: Uses appropriate, relevant, truthful, and compelling visual content to illustrate proficiency of a subject. ^{1,9,12,13}

Primary Traits

1. Visuals provided are analytical or technical in some way, and are not merely decorative.
2. Visuals provided are contextualized and used to illustrate proficiency of a subject.

Outcome RH5 – Leaders and Collaborators

Rose-Hulman Graduates motivate and enable a team, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

Introductory Criterion 5.I1 Demonstrates awareness of one's personality type(s) and leadership style(s).

Primary traits:

1. The artifact identifies the individual's personality type(s) and describes its traits.
2. The artifact demonstrates awareness of their leadership style(s).
3. The artifact defines the strengths and weaknesses of being a leader with these personality type(s).

Example artifacts:

True Colors, Colorful Portrait, Myers Brigg, StrengthsFinder, CATME, LEAD workshops, and reflection

Introductory Criterion 5.I2: A team or collaboration appropriately divides tasks among its members.^{1,20-22}

Primary traits:

1. The artifact describes an awareness of each member's abilities and responsibilities.
2. The artifact describes how tasks were divided appropriately among its members.
3. The artifact provides a description of how each member's abilities contribute to task completion.

Example artifacts:

Report of team responsibilities, memo, team meeting, reflection

Proficient criterion 5.P1: Demonstrates that the team or collaborative environment is supportive and inclusive.²³

Primary traits:^{24,25}

1. The artifact describes how the team or collaborative member frames mistakes or setbacks as learning opportunities.
2. The artifact illustrates how the team or collaborative member solicits perspectives from all members.

3. The artifact shows how a team or collaborative member supports others' contributions even in cases of dissent.

Example artifacts:

Team memo, document of team meeting, reflection, CATME evaluation, psychological safety checklist

Proficient criterion 5.P2 Demonstrates how the diversity among the team or collaboration supports their efforts to achieve a common or shared goal.^{1,20-22}

Primary traits:

1. The artifact identifies the diversity of background and/or skills of each member and how they relate to achieving the goal.
2. The artifact shows how different perspectives from multiple members were discussed for the solution of the problem.

Example artifacts:

Client emails, self-reflections, group evaluations, design reports, memos, lab reports, teamwork reflection, shared mental model checklist

Proficient criterion 5.P3 Collaboratively develops goals and evaluates their feasibility.²⁶⁻²⁸

Primary traits:

1. The artifact defines realistic and attainable goals that are agreed upon by all collaborators and/or team members.
2. The artifact shows how communication amongst participants results in goal development.
3. The artifact identifies potential challenges and/or resources for achieving the goals.
4. If appropriate, the artifact describes metrics for determining success of the team goals.

Proficient criterion 5.P4 Collaboratively works towards achievement of goals and evaluates the progress.

Primary Traits:

1. The artifact i

3. The artifact shows adjustment of any goals as necessary.

Proficient Criterion 5.P5: An individual, acting as a leader, motivates and enables a group to progress towards completion of goals towards an articulated vision.^{29–31}

Primary traits:

1. The artifact shows how the individual communicates the merits of the shared vision.
2. The artifact demonstrates how the individual leverages the strengths and manages around the weaknesses of the group to move toward achievement of their goals.
3. The artifact shows how the individual identifies resources and opportunities for team success.
4. The artifact demonstrates how the individual supports the members in their pursuit of these resources and opportunities.

Example artifacts:

Award nominations, videos of meetings, meeting minutes,

Exemplary-level criteria are currently under construction.

Proficient Criterion 6.P3:Identifies and reflects on strategies for effective intercultural communication. ³⁴

Primary Traits:

1. The artifact describes strategies for successful intercultural communication, including adapting examples, language, or other elements to be culturally relevant and inclusive.
2. The artifact reflects on factors that contribute to effective intercultural communication, such as empathy, awareness of differences in communication preferences, and self-awareness.

Outcome RH7 – Self-Directed Learners

Rose-Hulman Graduates acquire, apply, and reflect upon new knowledge and skills for personal and professional growth using appropriate learning strategies.

Introductory Criterion 7.1:1 Develops a plan to acquire new knowledge or skills to achieve a clear personal and/or professional goal ¹⁹.

Primary Traits:

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2. The artifact documents the strategy used to collect relevant information or resources.
3. The artifact identifies relevant and reliable information to address the problem or question.
4. The artifact demonstrates how the information was used to address the problem at hand.

Example artifacts:

Annotated bibliographies, research papers

Proficient Criterion 7.P2 Undertakes and manages a self-directed, complex, and sustained project ³⁷.

Primary traits:

1. Balancing competing demands on attention, time and effort was required.
2. The artifact describes the student's emotional management to persevere in the face of roadblocks and challenge.
3. The artifact describes organization/project management by autonomously managing a long-term project. Student selects what to read, when to read, and what to write about the reading.
4. The artifact provides a reflection on adaptability

Exemplary Criterion 7.E2: Analyses information/data and synthesizes to fully integrate components and fill knowledge gaps that are stated by others
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Primary traits:

1. The artifact represents a research, independent study, or other professional training experience.
2. The artifact creates something beyond expectation by providing new insight, contributing generalizable knowledge or expanding our current knowledge of a problem.
3. The artifact is published in a professional journal, conference proceeding, or other public-facing form.

Example artifacts:

Independent study reflection; research paper; senior thesis presentation, poster, or paper; reflection on LinkedIn learning experience from RosePod

Exemplary Criterion 7.E 3: Self-

Outcome RH8 – Civically-Engaged Citizens

Rose-Hulman Graduates partner with a community to create positive change.

Introductory Criterion 8.1(assessed through Student Affairs)At an

4. [Interpersonal Reactivity Index](#) ⁴⁷

Example artifacts:

Electronic personal development plan (<https://pdp.iupui.edu/>) developed with Student Academic Success, Interviews with Project SELECT or Catapult counselors, [journal or notebook](#) about personal experiences at a service-related event

Proficient Criterion 8.P2 Demonstrates a personal contribution to a community challenge that reflects on skills used, relationships made, and actions taken to solve that community challenge.

Primary traits: ⁸

1. The artifact describes a community challenge.
2. The artifact demonstrates an understanding of and empathy for the community being served.
3. The artifact describes the personal contribution.
4. The artifact describes that the student has reflected about whether their actions were appropriate and sufficient for the community challenge (culturally, economically, socially, and/or environmentally appropriate).
5. If applicable, the artifact identifies alternative actions that may better serve the community in the future.

Indirect assessment:

1. Emotional Intelligence (EQ) assessment (self-awareness/mindfulness, self-regulation/accountability/stress and anger management, motivation/goal-setting/self-discipline, empathy/active listening, social skills/trust-building/dealing with conflict)
2. [Civic-Min](#)

Proficient Criterion 8.P3: Proposes or implements a project to benefit a community outside of Rose-Hulman

Primary traits:

1. The artifact meets a need for a community or organization outside of Rose-Hulman.
2. The artifact demonstrates knowledge of that community's or organization's needs, values, challenges, or resources.
3. The artifact is of professional quality and could be used by a community or organization without major changes.

Exemplary Criterion 8E1: Leads a project or effort that directly results in positive change at a policy, organizational, community, national, or global level.

Primary traits:

1. The artifact articulates why change is appropriate due to cultural, economic, social, and/or environmental reasons.
2. The artifact describes the student's role in leading the change.
3. The artifact describes any outcomes as a result of the student's leadership.
4. The artifact demonstrates how the student has reflected upon and analyzed how their actions appropriately addressed the community challenge (culturally, economically, socially, and/or environmentally appropriate).
5. The artifact identifies if there were any unintended consequences of their actions and identifies alternative actions that may better serve the community in the future.
6. The artifact describes steps taken or a mechanism to ensure that the project is maintained after the student discontinues their participation.

Glossary

Based on feedback from internal and external experts, CASO developed a glossary to clarify the following terms:

Term	Definition	References
Civic identity	“Those fully engaged, fully human citizens of their communities. They see their role in life as contributing to the long-term greater good. And perhaps most importantly, they have the courage to act.”	48
Civic knowledge/ literacy	“Any learning that contributes to student preparation for public involvement in a diverse democratic society. The knowledge, skills, and values that make an explicitly direct and purposeful contribution to the preparation of students for active participation.”	sth 9 50 y-n BT -0.001mn>373. 69 r6 6.5Tw 6.8.9 (i)3.1 (c 5(i)-8.9 (j ET EMC /P <

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Term

Definition

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Rubric revisions

Revisions to RH1: Critical Thinkers

Rose-Hulman graduates develop evidence-based conclusions through a process of informed evaluation and judgment.

Approved by CASO on 02/02/2021

Previous Text

New Text

Exemplary Criterion

Revisions to RH4: Ethical Professionals

Rose-Hulman Graduates identify ethical and professional responsibilities, behave with integrity and responsibility, and make informed judgments.

Approved by CASO on 01/12/2022

Previous Text

New Text

None. The following criterion

