Undergraduate Research and Inquiry Student Achievement Rubric[2]

The minimum number of Student Learning Outcomes (SLOs) assessed in a given course will vary with the level of research and inquiry assigned to it. **Exposure** courses must assess at least three SLOs; **Skill Building** courses must assess SLO 2 plus at least two more SLOs. **Intensive** courses must assess all six SLOs. Exposure, Skill Building and Intensive SLO rubric language is included for one indicator of each SLO. * Instructors choose which SLO indicator(s) they wish to assess.

SLO	indicators		*Exemplary*	*Competent*	*Developing*
1. Knowledge	**Vocab./ Basic Skills**	*Exposure*	Recognizes complex vocabulary or set of skills of the discipline.	Recognizes a working vocabulary or set of basic skills of the discipline	Recognizes limited and simplified vocabulary of the discipline.
		Skill Building	Demonstrates a complex or nuanced vocabulary or set of skills of the discipline that is used appropriately in the inquiry. May be used in novel or creative ways.	Demonstrates working vocabulary or set of basic skills of the discipline but it is not complex or nuanced and it is used appropriately.	Demonstrates limited and simplified vocabulary or basic skills of the discipline, or vocabulary is used inappropriately.
		Intensive	Constructs a complex or nuanced vocabulary or set of skills of the discipline that is used appropriately in the inquiry. May be used in novel or creative ways.	Constructs a working vocabulary or set of basic skills of the discipline but it is not complex or nuanced and it is used appropriately.	Constructs a limited and simplified vocabulary or basic skills of the discipline, or vocabulary is used inappropriately.
	Theoretical Frameworks or Genres		Recognizes and differentiates key theoretical frameworks, genres, or previous works within the discipline for the question or problem to be explored and is able to select, or adapt (to) them, or associate them with other disciplines	Recognizes key theoretical frameworks, genres, or previous works within the discipline for the question or problem to be explored but cannot differentiate, select, or adapt (to) them, nor associate them with other disciplines	Minimally recognizes key theoretical frameworks or previous works within the discipline for the question or problem to be explored. A lack of differentiation, selection, or adaption (to) them, nor associating them with other disciplines
	Information Literacy/ Sources		Differentiates scholarly resources from popular works and consistently uses them as appropriate for the discipline of inquiry. May also critically evaluate sources.	Differentiates the features of scholarly resources from those of popular works, but does not critically evaluate them nor consistently use discipline-appropriate sources in the inquiry	Minimally distinguishes nor critically evaluates scholarly resources from popular works; or uses inappropriate sources for the inquiry
2. Formulate Questions	**Relevant Issues/ Content**	*Exposure*	Identifies and consistently distinguishes questions, problems, or principles that are within the scope of the discipline from those that are not.	Identifies some questions, problems, or principles that are within the scope of the discipline of inquiry but does not generate new ones, nor distinguish these from those that are not within the scope of the discipline	Minimally identifies, distinguishes, or generates questions, problems, or principles that are within the scope of the discipline of inquiry
		Skill Building	Applies and consistently distinguishes questions, problems, or principles that are within the scope of the discipline from those that are not. May also generate new questions, problems, or principles.	Applies some questions, problems, or principles that are within the scope of the discipline of inquiry but does not generate new ones, nor distinguish these from those that are not within the scope of the discipline	Limited application, or generation of questions, problems, or principles that are within the scope of the discipline of inquiry
		Intensive	Constructs and consistently applies questions, problems, or principles that are within the scope of the discipline from those that are not. May also generate new questions, problems, or principles.	Constructs some questions, problems, or principles that are within the scope of the discipline of inquiry but does not generate new ones, nor distinguish these from those that are not within the scope of the discipline	Insufficient construction or generation of questions, problems, or principles that are within the scope of the discipline of inquiry
	Rationale		The logic or rationale for exploring the question or problem is embedded in a clear scholarly context and integrates seemingly contradictory frameworks and evidence, (e.g., confirmatory and contradictory evidence, canonical and unconventional theories, etc.)	The logic or rationale for exploring the question or problem is generally embedded within a scholarly context, and relies mostly on confirmatory evidence or frameworks. Contradictory evidence or frameworks are acknowledged but not integrated into the logic or rationale for the inquiry.	The logic or rationale for exploring the question or problem is incomplete, or relies solely on confirmatory evidence or frameworks.

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3. Plan of Action	**Methods of Exploration**	*Exposure*	Consistently recognizes and explains the research and inquiry tools of the discipline in appropriate contexts. May do so in novel or complex ways.	Recognizes the basic tools and methods of research and inquiry in the discipline but does not explain those tools consistently to appropriate contexts, nor in novel or complex ways	Recognizes limited basic tools and methods of research and inquiry in the discipline. Explanation of these tools is minimal.
		Skill Building	Consistently recognizes, selects, and applies the research and inquiry tools of the discipline in appropriate contexts. May do so in novel or complex ways.	Recognizes the basic tools and methods of research and inquiry in the discipline but does not select or apply those tools consistently to appropriate contexts, nor in novel or complex ways	Limited recognition, selection or application of the basic tools and methods of research and inquiry in the discipline
		Intensive	Consistently recognizes, selects, applies, and critically evaluates the research and inquiry tools of the discipline in appropriate contexts. May do so in novel or complex ways.	Recognizes, selects and applies the basic tools and methods of research and inquiry in the discipline, but does not critically evaluate those tools consistently to appropriate contexts, nor in novel or complex ways	Limited recognition, selection, application, or critical evaluation of the basic tools and methods of research and inquiry in the discipline
	Design		Design is logical, relevant, comprehensive, and appropriate for discipline. Potential sources of influence or threats to soundness have been identified and effectively controlled	Design is logical, relevant, comprehensive, and appropriate for the discipline. Potential threats to soundness have been identified, but efforts to control or minimize these influences or threats are not fully adequate.	Design is incomplete, illogical, irrelevant, or inappropriate for the question/ problem being explored. Does not acknowledge possible threats to the soundness of the work
	Implementation		Implementation is complete and consistent with accepted practices of the discipline; most problems and unexpected events occurring during the implementation are identified and/or corrected	Implementation is attempted but minor aspects are incomplete or do not follow acceptable practices of the discipline; only significant problems or unexpected events during implementation are identified and corrected	Implementation does not follow the planned design, or it is incomplete. No acknowledgement of unexpected issues or events that arose during implementation.
	Observation/ Data Collection		Data, observations, collected works are clearly relevant to—or sufficiently focused on—the question or problem without extraneous material; identifies and explains procedures to gather, store, use collected observations	Data, observations, collected works are mostly relevant to or sufficiently focused on the question or problem; some extraneous material present; information about data/observations procedures is missing	Data, observations, collected works are not relevant to—or insufficiently focused on—the question or problem; extensive extraneous information
	Technical Skills		Technical skills are applied appropriately and consistently throughout the project design with no errors following established convention	Technical skills are generally sufficient to appropriately utilize materials, instrumentation, devices, or props in the project design with only a few errors	Technical skills are insufficient to utilize materials, instrumentation, devices, or props appropriately to effectively implement the project.
4. Critical Thinking	**Analysis**	*Exposure*	Defines accurate and complete assembly and analysis of information, data, and observations.	Defines mostly accurate (with some minor errors) and mostly complete (with only a few minor omissions assembly and analysis of information, data, and observations.	Definition of analysis of information, data, observations, work is largely inaccurate or incomplete
		Skill Building	Conducts accurate and complete assembly and analysis of information, data, observations, work follows canonical or standard approaches.	Analysis of information, data, observations, work is mostly accurate (with some minor errors) and mostly complete (with only a few minor omissions)	Analysis of information, data, observations, work is performed largely inaccurately or incompletely
		Intensive	Evaluates accurate and complete assembly and analysis of information, data, observations, work follows canonical or standard approaches.	Evaluation of information, data, observations, work is mostly accurate (with some minor errors) and mostly complete (with only a few minor omissions)	Evaluation of information, data, observations, work is performed largely inaccurately or incompletely

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	Interpretation		Interpretation is thorough and accurate without errors. Interpretation addresses what had been anticipated as well as any unexpected results that were obtained.	Interpretation is generally accurate with some errors. Results are only evaluated in the context of what was anticipated.	Interpretation is not based on the actual results of inquiry, or is inaccurate or inadequate with respect to the context of the inquiry.
	Sources of Error		There is a clear effort to both identify and control bias or other sources of systematic error in interpretation of the current inquiry.	There is some effort to identify sources of systematic error or bias in interpretation of the results of the current inquiry, but efforts are not undertaken to minimize/control those identified	Interpretation is clearly influenced by one or more sources of systematic error. The interpretation is biased.
	Conclusions		Conclusions, predictions, generalizations, recommendations, or future plans are stated and focused on the expected results consistent with the original hypotheses, questions, or problems that motivated the inquiry. Information that is inconsistent with these is noted, though it may not be integrated. Some critique of the design or implementation of the inquiry is included but it may be limited.	Conclusions, predictions, generalizations, recommendations, or future plans are stated but are focused solely on the expected results or information that is consistent with the original hypotheses, questions, or problems. Some issues affecting how the design was implemented are included, but are ill-explained or not integrated into solutions for those issues.	Conclusions merely restate the findings/results; no attempt is made to make generalizations, predictions, recommendations, or plans for future inquiry. Neither weaknesses in the design, nor problems in implementation are mentioned or explained.

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5. Ethical Conduct	**Academic Integrity**	**Exposure**	Student describes FAU's Code of Academic Integrity with little correction. Student may summarize the intellectual or social value of doing so.	Student describes FAU's Code of Academic Integrity with reminders, feedback, and instructions to do so, but does not recognize nor articulate the intellectual value of doing so	Student does not describe FAU's Code of Academic Integrity (e.g., citation of sources, completing own work, plagiarism, etc.).
		Skill Building	Student consistently applies FAU's Code of Academic Integrity with little correction, reminding, or feedback; may recognize the intellectual value of doing so, but does not articulate it.	Student acknowledges and generally applies to FAU's Code of Academic Integrity with reminders, feedback, and instructions to do so.	Any aspect of the inquiry violates expectations of FAU's Code of Academic Integrity (e.g., citation of sources, completing own work, plagiarism, etc.).
		Intensive	Student consistently and independently evaluates the appropriate application of FAU's Code of Academic Integrity without correction, reminding, or feedback; supports the intellectual value of doing so. Student is able to defend the intellectual or social value of academic integrity applied in their research.	Student independently evaluates appropriate application of FAU's Code of Academic Integrity with limited reminders, feedback, and instructions to do so; with some evidence of support of the intellectual value of doing so.	Any aspect of the inquiry violates expectations of FAU's Code of Academic Integrity (e.g., citation of sources, completing own work, plagiarism, etc.).
	Safety		Student articulates and/or practices all safety protocols fully in the work. Student may articulate the intellectual or social value of doing so.	The student articulates most appropriate safety protocols; if inquiry is conducted it is generally done so in a safe manner, but some safety practices are not addressed	Student has limited articulation of the safety protocols for inquiry; if inquiry is conducted, it is done so in an unsafe manner
	Ethical Treatment		Inquiry fully considers and implements appropriate and ethical practices with all necessary permissions and documentation. Student may articulate the intellectual or social value of doing so.	Inquiry appears to generally consider and implement appropriate and ethical practices (humans and animals), but some guidelines are not followed or documentation is missing	Inquiry is conducted with limited consideration or practice of ethical treatment of animals and/or humans (as the objects of inquiry or the audience thereof)

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	Ethical Issues		Student identifies ethical questions, problems, or issues that are within the scope of inquiry, distinguishes them from those that are not relevant,	Student identifies ethical questions, problems, or issues that are within the scope of inquiry and distinguishes them from those that are not relevant, but does not present ways to addressing them	Student does not identify relevant ethical questions, problems, or issues within the scope of inquiry and describes potential methodologies for ameliorating or addressing ethical issues.

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6: Communication.	**Clarity, Organization**	**Exposure**	Student selects written communication that is completely focused, organized, and clear with no errors affecting comprehension.	Student selects written communication that is generally focused, organized, and clear with only a few errors that do not detract from comprehension	Communication is disorganized, incoherent, vague, or inappropriate
		Skill Building	Oral and written communication is completely focused, organized, and clear with no errors affecting comprehension	Oral and written communication is generally focused, organized, and clear with only a few errors that do not detract from comprehension.	Communication is disorganized, incoherent, vague, or inappropriate; or student demonstrates competency in oral OR written communication but fails to demonstrate competency in both.
		Intensive	The design and application of multiple communication styles (oral, written and graphic) is completely focused, organized, and clear with no errors affecting comprehension	The design and application of multiple communication styles (oral, written and graphic) is generally focused, organized, and clear with only a few errors that do not detract from comprehension	Communication fails to be designed and applied with focused, organized and clear consistency across oral, written and graphic styles.
	Quotation, Attribution, Citation		Quotation, attribution, and/or citation are handled fully, appropriately, and accurately according to the preferred methods or formats	Student articulates working knowledge of the preferred methods or formats for quotation, attribution, and/or citation, but does not consistently follow those practices in the inquiry	Quotation, attribution, and/or citation fail to follow preferred methods or formats
	Format, Level		The communication fully follows the correct formatting and is presented at an appropriate level, targets the appropriate audience, and uses an appropriate (scholarly) tone without errors.	Generally, the communication follows the correct formatting and is presented at an appropriate level, targets the appropriate audience, and uses an appropriate (scholarly) tone with only a few errors.	Communication employs incorrect, irrelevant, or inappropriate formatting; it targets the wrong level(s) or audience; or it uses the wrong (scholarly) tone.

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