# REAL Detailed Assessment Plan Proposal (REAL Programs)

## Program Details

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| Department or School: | Enter dept/school name:­ | Date: | Enter date |

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| Degree type: | [x] **Major** [ ] **Minor** [ ] **Certificate** |
| Program: | Agricultural Science |

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| REAL Area Program Designation Sought (check all that apply): | [x]  **R** [ ]  **E** [ ]  **A** [x]  **L** |

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| Dept/School Assessment Contact:  | Professor Smiley (asmiley2@radford.edu) |

## Course and Learning Goal and Outcomes Documentation Identification

**General Information**

* An assessment plan must be submitted for each major/minor/certificate program
* The assessment plan must be fully developed
* Offering departments may collect REAL data at the course level or program level
* REAL-area assessment must be conducted and reported annually

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| **SCIENTIFIC AND QUANTITATIVE REASONING (R)** |

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| **Outcome 1 (SCIENTIFIC): Students apply scientific and quantitative information to test problems and draw conclusions.** |

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| **Scientific Measure 1**(There must be a direct measure of scientific reasoning for this outcome.)**Type of measure**[x]  Direct  | **Description of the scientific reasoning measure** (the description must be specific and describe how it is related to the learning outcome. It also should be articulated as a single, distinct measure – do NOT combine multiple measures with “and” or “or”)*Students’ abilities to apply scientific information to test problems and draw conclusions will be measured in AGR 350L (Laboratory in Sustainable Agriculture) using laboratory assignments in which students analyze soil samples and report the results. The four assignments will focus on several common problems in sustainable agriculture.* |
| **Where and when will the measure of scientific reasoning be assessed?** | **Provide the context of where and when the scientific reasoning measure will be assessed** (e.g., senior-year capstone course; second semester field experience)*This measure will take place in AGR 350L (Laboratory in Sustainable Agriculture) which takes place during the spring semester in the students’ junior year and is required for all students enrolled in the program.* |
| **Population being measured**[x]  All Program Students [ ]  Sample (Describe the sampling plan to the right) | **If sampling, please describe the sampling plan** (e.g., random sampling, sampling of course sections)*All students in AGR 350L will take part in the measurement.* |
| **Criteria and targets for success** | The REAL Council is responsible for establishing the benchmarks (targets) for students achieving competencies in the REAL Curriculum. The benchmark (target) for the REAL areas is 75%: At least 75% of students should achieve “Competent” or “Highly Competent” in each REAL area. Offering departments decide criteria or standards for determining whether students have successfully achieved learning outcomes for courses (including Foundational and Cornerstone courses), majors, minors, and certificates. For this measure describe the criteria for each of the following levels based on the targets set by the REAL Council (see examples on last page):**Highly Competent** – *Students who obtain at least 90% of all possible cumulative points for all four laboratory assignments will be considered highly competent.***Competent** – *Students who obtain at between 75% and 89% of all possible cumulative points for all four laboratory assignments will be considered competent.***Below Competent** – *Students who obtain less than 75% of all possible cumulative points for all four laboratory assignments will be considered below competent.* |
| **Relevant Documentation** | **Please attach documentation related to this measure** (e.g., exam questions, rubrics, survey questions)*See attached laboratory assignment descriptions and instructions* |
| **SCIENTIFIC AND QUANTITATIVE REASONING (R)** |
| **Outcome 2 (SCIENTIFIC): Students evaluate the quality of data, methods, or inferences used to generate scientific and quantitative knowledge.** |
| **Scientific Measure 2**(There must be a direct measure of scientific reasoning for this outcome.)**Type of measure**[x]  Direct  | **Description of the scientific reasoning measure** (the description must be specific and describe how it is related to the learning outcome. It also should be articulated as a single, distinct measure – do NOT combine multiple measures with “and” or “or”)*Students’ abilities to evaluate the quality of data, methods, or inferences used to generate scientific knowledge will be measured using the senior thesis requirement. As part of the senior thesis, students are required to conduct an independent study, analyze the data, and present the results in a scientific paper. A common rubric is used to evaluate the quality of each student thesis.* |
| **Where and when will the measure of scientific reasoning be assessed?** | **Provide the context of where and when the scientific reasoning measure will be assessed** (e.g., senior-year capstone course; second semester field experience)*The senior thesis is evaluated at the end of the students’ senior year.* |
| **Population being measured**[x]  All Program Students [ ]  Sample (Describe the sampling plan to the right) | **If sampling, please describe the sampling plan** (e.g., random sampling, sampling of course sections)*All senior theses will be used as a part of this measure.* |
| **Criteria and targets for success** | The REAL Council is responsible for establishing the benchmarks (targets) for students achieving competencies in the REAL Curriculum. The benchmark (target) for the REAL areas is 75%: At least 75% of students should achieve “Competent” or “Highly Competent” in each REAL area. Offering departments decide criteria or standards for determining whether students have successfully achieved learning outcomes for courses (including Foundational and Cornerstone courses), majors, minors, and certificates. For this measure describe the criteria for each of the following levels based on the targets set by the REAL Council (see examples on last page):**Highly Competent** – *Students who obtain at least 92% of possible points on the senior thesis rubric will be considered highly competent.***Competent** – *Students who obtain at between 75% and 91% of possible points on the senior thesis rubric will be considered competent.***Below Competent** – *Students who obtain less than 75% of possible points on the senior thesis rubric will be considered below competent.* |
| **Relevant Documentation** | **Please attach documentation related to this measure** (e.g., exam questions, rubrics, survey questions)*See the attached Senior Thesis instructions and the Senior Thesis Scoring Rubric* |

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| **Outcome 1 (QUANTITATIVE): Students apply scientific and quantitative information to test problems and draw conclusions.** |

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| **Quantitative Measure 1**(There must be a direct measure of quantitative reasoning for this outcome.)**Type of measure**[x]  Direct  | **Description of the quantitative reasoning measure** (the description must be specific and describe how it is related to the learning outcome. It also should be articulated as a single, distinct measure – do NOT combine multiple measures with “and” or “or”)*Students’ abilities to apply quantitative information to test problems and draw conclusions will be measured in AGR 375 (Agricultural Research and Statistics) using the AGR 375 final comprehensive exam. As part of the exam, students are required to complete a problem which requires that they analyze a data set, draw conclusions based on the results, and make recommendations on the best manner to address the problem.* |
| **Where and when will the measure be assessed?** | **Provide the context of where and when the measure will be assessed** (e.g., senior-year capstone course; second semester field experience)*Students complete the AGR 375 (Agricultural Research and Statistics) course during the first semester of their junior year.* |
| **Population being measured**[x]  All Program Students [ ]  Sample (Describe the sampling plan to the right) | **If sampling, please describe the sampling plan** (e.g., random sampling, sampling of course sections)*All exams will be used in the measure.* |
| **Criteria and targets for success** | The REAL Council is responsible for establishing the benchmarks (targets) for students achieving competencies in the REAL Curriculum. The benchmark (target) for the REAL areas is 75%: At least 75% of students should achieve “Competent” or “Highly Competent” in each REAL area. Offering departments decide criteria or standards for determining whether students have successfully achieved learning outcomes for courses (including Foundational and Cornerstone courses), majors, minors, and certificates. For this measure describe the criteria for each of the following levels based on the targets set by the REAL Council (see examples on last page):**Highly Competent** – *Students who obtain at least 90% of possible points on the final exam in AGR 375 will be considered highly competent.***Competent** – *Students who obtain at between 75% and 89% of possible points on the final exam in AGR 375 will be considered competent.***Below Competent** – *Students who obtain less than 75% of possible points on the final exam in AGR 375 will be considered below competent.* |
| **Relevant Documentation** | **Please attach documentation related to this measure** (e.g., exam questions, rubrics, survey questions)*See the final exam in AGR 375.* |

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| **Outcome 2 (QUANTITATIVE): Students evaluate the quality of data, methods, or inferences used to generate scientific and quantitative knowledge.** |

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| **Quantitative Measure 2**(There must be a direct measure of quantitative reasoning for this outcome.)**Type of measure**[x]  Direct  | **Description of the quantitative reasoning measure** (the description must be specific and describe how it is related to the learning outcome. It also should be articulated as a single, distinct measure – do NOT combine multiple measures with “and” or “or”)*Students’ abilities to quantitatively evaluate the quality of data, methods, or inferences used to generate quantitative knowledge will be measured with an assignment in AGR 420 (Advanced Animal Science). The assignment requires students to critique a scientific journal article’s statistical analysis and conclusions, making recommendations for revisions.* |
| **Where and when will the measure be assessed?** | **Provide the context of where and when the measure will be assessed** (e.g., senior-year capstone course; second semester field experience)*Students complete AGR 420 (Advanced Animal Science) during the fall semester during the senior year.* |
| **Population being measured**[x]  All Program Students [ ]  Sample (Describe the sampling plan to the right) | **If sampling, please describe the sampling plan** (e.g., random sampling, sampling of course sections)*All assignments will be included in this measure.* |
| **Criteria and targets for success** | The REAL Council is responsible for establishing the benchmarks (targets) for students achieving competencies in the REAL Curriculum. The benchmark (target) for the REAL areas is 75%: At least 75% of students should achieve “Competent” or “Highly Competent” in each REAL area. Offering departments decide criteria or standards for determining whether students have successfully achieved learning outcomes for courses (including Foundational and Cornerstone courses), majors, minors, and certificates. For this measure describe the criteria for each of the following levels based on the targets set by the REAL Council (see examples on last page):**Highly Competent** – *Students who obtain at least 90% of possible points on the assignment in AGR 420 will be considered highly competent.***Competent** – *Students who obtain at between 75% and 89% of possible points on the assignment in AGR 420 will be considered competent.***Below Competent** – *Students who obtain less than 75% of possible points on the assignment in AGR 420 will be considered below competent.* |
| **Relevant Documentation** | **Please attach documentation related to this measure** (e.g., exam questions, rubrics, survey questions)*See description and instructions of AGR 420 assignment.* |

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| **HUMANISTIC OR ARTISTIC EXPRESSION (E)** |

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| **Outcome 1: Students demonstrate understanding of diverse ideas, languages, products, or processes of humanistic inquiry or artistic expression** |

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| **Measure 1**(There must be at least two measures for each of the REAL outcomes)**Type of measure**[ ]  Direct [ ]  Indirect (At least one of the two measures must be direct) | **Description of the measure** (the description must be specific and describe how it is related to the learning outcome. It also should be articulated as a single, distinct measure – do NOT combine multiple measures with “and” or “or”) |
| **Where and when will the measure be assessed?** | **Provide the context of where and when the measure will be assessed** (e.g., senior-year capstone course; second semester field experience) |
| **Population being measured**[ ]  All Program Students [ ]  Sample (Describe the sampling plan to the right) | **If sampling, please describe the sampling plan** (e.g., random sampling, sampling of course sections) |
| **Criteria and targets for success** | The REAL Council is responsible for establishing the benchmarks (targets) for students achieving competencies in the REAL Curriculum. The benchmark (target) for the REAL areas is 75%: At least 75% of students should achieve “Competent” or “Highly Competent” in each REAL area. Offering departments decide criteria or standards for determining whether students have successfully achieved learning outcomes for courses (including Foundational and Cornerstone courses), majors, minors, and certificates. For this measure describe the criteria for each of the following levels based on the targets set by the REAL Council (see examples on last page):**Highly Competent****Competent****Below Competent** |
| **Relevant Documentation** | **Please attach documentation related to this measure** (e.g., exam questions, rubrics, survey questions) |
| **Measure 2**(There must be at least two measures for each of the REAL outcomes)**Type of measure**[ ]  Direct [ ]  Indirect (At least one of the two measures must be direct) | **Description of the measure** (the description must be specific and describe how it is related to the learning outcome. It also should be articulated as a single, distinct measure – do NOT combine multiple measures with “and” or “or”) |
| **Where and when will the measure be assessed?** | **Provide the context of where and when the measure will be assessed** (e.g., senior-year capstone course; second semester field experience) |
| **Population being measured**[ ]  All Program Students [ ]  Sample (Describe the sampling plan to the right) | **If sampling, please describe the sampling plan** (e.g., random sampling, sampling of course sections) |
| **Criteria and targets for success** | The REAL Council is responsible for establishing the benchmarks (targets) for students achieving competencies in the REAL areas, Foundation, and Cornerstone courses. Offering departments decide criteria or standards for determining whether students have successfully achieved learning outcomes for courses (including Foundational and Cornerstone courses), majors, minors, and certificates. For this measure describe the criteria for each of the following levels based on the targets set by the REAL Council (see examples on last page):**Highly Competent****Competent****Below Competent** |
| **Relevant Documentation** | **Please attach documentation related to this measure** (e.g., exam questions, rubrics, survey questions) |

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| **Outcome 2: Students critically evaluate, synthesize, or create forms of human expression or inquiry** |

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| **Measure 1**(There must be at least two measures for each of the REAL outcomes)**Type of measure**[ ]  Direct [ ]  Indirect (At least one of the two measures must be direct) | **Description of the measure** (the description must be specific and describe how it is related to the learning outcome. It also should be articulated as a single, distinct measure – do NOT combine multiple measures with “and” or “or”) |
| **Where and when will the measure be assessed?** | **Provide the context of where and when the measure will be assessed** (e.g., senior-year capstone course; second semester field experience) |
| **Population being measured**[ ]  All Program Students [ ]  Sample (Describe the sampling plan to the right) | **If sampling, please describe the sampling plan** (e.g., random sampling, sampling of course sections) |
| **Criteria and targets for success** | The REAL Council is responsible for establishing the benchmarks (targets) for students achieving competencies in the REAL areas, Foundation, and Cornerstone courses. Offering departments decide criteria or standards for determining whether students have successfully achieved learning outcomes for courses (including Foundational and Cornerstone courses), majors, minors, and certificates. For this measure describe the criteria for each of the following levels based on the targets set by the REAL Council (see examples on last page):**Highly Competent****Competent****Below Competent** |
| **Relevant Documentation** | **Please attach documentation related to this measure** (e.g., exam questions, rubrics, survey questions) |
| **Measure 2**(There must be at least two measures for each of the REAL outcomes)**Type of measure**[ ]  Direct [ ]  Indirect (At least one of the two measures must be direct) | **Description of the measure** (the description must be specific and describe how it is related to the learning outcome. It also should be articulated as a single, distinct measure – do NOT combine multiple measures with “and” or “or”) |
| **Where and when will the measure be assessed?** | **Provide the context of where and when the measure will be assessed** (e.g., senior-year capstone course; second semester field experience) |
| **Population being measured**[ ]  All Program Students [ ]  Sample (Describe the sampling plan to the right) | **If sampling, please describe the sampling plan** (e.g., random sampling, sampling of course sections) |
| **Criteria and targets for success** | The REAL Council is responsible for establishing the benchmarks (targets) for students achieving competencies in the REAL areas, Foundation, and Cornerstone courses. Offering departments decide criteria or standards for determining whether students have successfully achieved learning outcomes for courses (including Foundational and Cornerstone courses), majors, minors, and certificates. For this measure describe the criteria for each of the following levels based on the targets set by the REAL Council (see examples on last page):**Highly Competent****Competent****Below Competent** |
| **Relevant Documentation** | **Please attach documentation related to this measure** (e.g., exam questions, rubrics, survey questions) |

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| **CULTURAL OR BEHAVIORAL ANALYSIS (A)** |

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| **Outcome 1: Students describe behaviors, beliefs, cultures, social institutions, and/or environments** |

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| **Measure 1**(There must be at least two measures for each of the REAL outcomes)**Type of measure**[ ]  Direct [ ]  Indirect (At least one of the two measures must be direct) | **Description of the measure** (the description must be specific and describe how it is related to the learning outcome. It also should be articulated as a single, distinct measure – do NOT combine multiple measures with “and” or “or”) |
| **Where and when will the measure be assessed?** | **Provide the context of where and when the measure will be assessed** (e.g., senior-year capstone course; second semester field experience) |
| **Population being measured**[ ]  All Program Students [ ]  Sample (Describe the sampling plan to the right) | **If sampling, please describe the sampling plan** (e.g., random sampling, sampling of course sections) |
| **Criteria and targets for success** | The REAL Council is responsible for establishing the benchmarks (targets) for students achieving competencies in the REAL Curriculum. The benchmark (target) for the REAL areas is 75%: At least 75% of students should achieve “Competent” or “Highly Competent” in each REAL area. Offering departments decide criteria or standards for determining whether students have successfully achieved learning outcomes for courses (including Foundational and Cornerstone courses), majors, minors, and certificates. For this measure describe the criteria for each of the following levels based on the targets set by the REAL Council (see examples on last page):**Highly Competent****Competent****Below Competent** |
| **Relevant Documentation** | **Please attach documentation related to this measure** (e.g., exam questions, rubrics, survey questions) |
| **Measure 2**(There must be at least two measures for each of the REAL outcomes)**Type of measure**[ ]  Direct [ ]  Indirect (At least one of the two measures must be direct) | **Description of the measure** (the description must be specific and describe how it is related to the learning outcome. It also should be articulated as a single, distinct measure – do NOT combine multiple measures with “and” or “or”) |
| **Where and when will the measure be assessed?** | **Provide the context of where and when the measure will be assessed** (e.g., senior-year capstone course; second semester field experience) |
| **Population being measured**[ ]  All Program Students [ ]  Sample (Describe the sampling plan to the right) | **If sampling, please describe the sampling plan** (e.g., random sampling, sampling of course sections) |
| **Criteria and targets for success** | The REAL Council is responsible for establishing the benchmarks (targets) for students achieving competencies in the REAL Curriculum. The benchmark (target) for the REAL areas is 75%: At least 75% of students should achieve “Competent” or “Highly Competent” in each REAL area. Offering departments decide criteria or standards for determining whether students have successfully achieved learning outcomes for courses (including Foundational and Cornerstone courses), majors, minors, and certificates. For this measure describe the criteria for each of the following levels based on the targets set by the REAL Council (see examples on last page):**Highly Competent****Competent****Below Competent** |
| **Relevant Documentation** | **Please attach documentation related to this measure** (e.g., exam questions, rubrics, survey questions) |

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| **Outcome 2: Students analyze the interactions of behaviors, beliefs, cultures, social institutions, and/or environments**: |

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| **Measure 1**(There must be at least two measures for each of the REAL outcomes)**Type of measure**[ ]  Direct [ ]  Indirect (At least one of the two measures must be direct) | **Description of the measure** (the description must be specific and describe how it is related to the learning outcome. It also should be articulated as a single, distinct measure – do NOT combine multiple measures with “and” or “or”) |
| **Where and when will the measure be assessed?** | **Provide the context of where and when the measure will be assessed** (e.g., senior-year capstone course; second semester field experience) |
| **Population being measured**[ ]  All Program Students [ ]  Sample (Describe the sampling plan to the right) | **If sampling, please describe the sampling plan** (e.g., random sampling, sampling of course sections) |
| **Criteria and targets for success** | The REAL Council is responsible for establishing the benchmarks (targets) for students achieving competencies in the REAL areas, Foundation, and Cornerstone courses. Offering departments decide criteria or standards for determining whether students have successfully achieved learning outcomes for courses (including Foundational and Cornerstone courses), majors, minors, and certificates. For this measure describe the criteria for each of the following levels based on the targets set by the REAL Council (see examples on last page):**Highly Competent****Competent****Below Competent** |
| **Relevant Documentation** | **Please attach documentation related to this measure** (e.g., exam questions, rubrics, survey questions) |
| **Measure 2**(There must be at least two measures for each of the REAL outcomes)**Type of measure**[ ]  Direct [ ]  Indirect (At least one of the two measures must be direct) | **Description of the measure** (the description must be specific and describe how it is related to the learning outcome. It also should be articulated as a single, distinct measure – do NOT combine multiple measures with “and” or “or”) |
| **Where and when will the measure be assessed?** | **Provide the context of where and when the measure will be assessed** (e.g., senior-year capstone course; second semester field experience) |
| **Population being measured**[ ]  All Program Students [ ]  Sample (Describe the sampling plan to the right) | **If sampling, please describe the sampling plan** (e.g., random sampling, sampling of course sections) |
| **Criteria and targets for success** | The REAL Council is responsible for establishing the benchmarks (targets) for students achieving competencies in the REAL areas, Foundation, and Cornerstone courses. Offering departments decide criteria or standards for determining whether students have successfully achieved learning outcomes for courses (including Foundational and Cornerstone courses), majors, minors, and certificates. For this measure describe the criteria for each of the following levels based on the targets set by the REAL Council (see examples on last page):**Highly Competent****Competent****Below Competent** |
| **Relevant Documentation** | **Please attach documentation related to this measure** (e.g., exam questions, rubrics, survey questions) |

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| **APPLIED LEARNING (L)** |

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| **Outcome 1: Students apply acquired knowledge and skills to develop professional identity or professional practice** |

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| **Measure 1**(There must be at least two measures for each of the REAL outcomes)**Type of measure**[x]  Direct [ ]  Indirect (At least one of the two measures must be direct) | **Description of the measure** (the description must be specific and describe how it is related to the learning outcome. It also should be articulated as a single, distinct measure – do NOT combine multiple measures with “and” or “or”)*Students’ abilities to apply acquired knowledge and skills to develop professional identity or professional practice will be measured in AGR 487 (Internship in Agricultural Science) using the Internship Supervisor Field Experience Survey. The survey requires field supervisors to rate students on 10 attributes necessary for the profession.* |
| **Where and when will the measure be assessed?** | **Provide the context of where and when the measure will be assessed** (e.g., senior-year capstone course; second semester field experience)*The internship is completed during the summer semester prior to the students’ final academic year.* |
| **Population being measured**[x]  All Program Students [ ]  Sample (Describe the sampling plan to the right) | **If sampling, please describe the sampling plan** (e.g., random sampling, sampling of course sections)*All responses to the Internship Supervisor Field Experience Survey will be included in the measure.* |
| **Criteria and targets for success** | The REAL Council is responsible for establishing the benchmarks (targets) for students achieving competencies in the REAL Curriculum. The benchmark (target) for the REAL areas is 75%: At least 75% of students should achieve “Competent” or “Highly Competent” in each REAL area. Offering departments decide criteria or standards for determining whether students have successfully achieved learning outcomes for courses (including Foundational and Cornerstone courses), majors, minors, and certificates. For this measure describe the criteria for each of the following levels based on the targets set by the REAL Council (see examples on last page):**Highly Competent** – *Students who obtain at least 90% of possible points on the Internship Supervisor Field Experience Survey will be considered highly competent.***Competent** – *Students who obtain at between 75% and 89% of possible points on the Internship Supervisor Field Experience Survey will be considered competent.***Below Competent** – *Students who obtain less than 75% of possible points on the Internship Supervisor Field Experience Survey will be considered below competent.* |
| **Relevant Documentation** | **Please attach documentation related to this measure** (e.g., exam questions, rubrics, survey questions)*See the Internship Supervisor Field Experience Survey.* |
| **Measure 2**(There must be at least two measures for each of the REAL outcomes)**Type of measure**[ ]  Direct [x]  Indirect (At least one of the two measures must be direct) | **Description of the measure** (the description must be specific and describe how it is related to the learning outcome. It also should be articulated as a single, distinct measure – do NOT combine multiple measures with “and” or “or”)*Students’ abilities to apply acquired knowledge and skills to develop professional identity or professional practice will be indirectly measured using the Agricultural Science Alumni Survey. The survey asks students to rate how well the program prepared them to be successful professionals in the discipline.* |
| **Where and when will the measure be assessed?** | **Provide the context of where and when the measure will be assessed** (e.g., senior-year capstone course; second semester field experience)*The alumni survey is administered to alumni one-year after graduation. Student-graduates will be sent five reminder messages to complete the survey to ensure substantial response/participation.*  |
| **Population being measured**[x]  All Program Students [ ]  Sample (Describe the sampling plan to the right) | **If sampling, please describe the sampling plan** (e.g., random sampling, sampling of course sections)*All responses to the Agricultural Science Alumni Survey will be included in the measure.* |
| **Criteria and targets for success** | The REAL Council is responsible for establishing the benchmarks (targets) for students achieving competencies in the REAL Curriculum. The benchmark (target) for the REAL areas is 75%: At least 75% of students should achieve “Competent” or “Highly Competent” in each REAL area. Offering departments decide criteria or standards for determining whether students have successfully achieved learning outcomes for courses (including Foundational and Cornerstone courses), majors, minors, and certificates. For this measure describe the criteria for each of the following levels based on the targets set by the REAL Council (see examples on last page):**Highly Competent** – *Students who respond that the Agricultural Science program “helped them extremely well or very much” to be prepared to be successful professionals in the discipline will be considered highly competent.***Competent** – *Students who respond that the Agricultural Science program “moderately helped them” to be prepared to be successful professionals in the discipline will be considered competent.***Below Competent** – S*tudents who respond that the Agricultural Science program “did little or did not” prepare them to be successful professionals in the discipline will be considered below competent.* |
| **Relevant Documentation** | **Please attach documentation related to this measure** (e.g., exam questions, rubrics, survey questions*See question from the Agricultural Science Alumni Survey.* |

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| **Outcome 2: Students critically reflect on their learning, abilities, experiences, or role within professional contexts** |

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| **Measure 1**(There must be at least two measures for each of the REAL outcomes)**Type of measure**[x]  Direct [ ]  Indirect (At least one of the two measures must be direct) | **Description of the measure** (the description must be specific and describe how it is related to the learning outcome. It also should be articulated as a single, distinct measure – do NOT combine multiple measures with “and” or “or”)*Students’ abilities to critically reflect on their learning, abilities, experiences, or roles within professional contexts will be measured in AGR 490 (Capstone in Agricultural Science) using a critical reflection assignment. The critical reflection is scored using a standard scoring rubric.* |
| **Where and when will the measure be assessed?** | **Provide the context of where and when the measure will be assessed** (e.g., senior-year capstone course; second semester field experience)*The measure will take place during the final semester of the program.* |
| **Population being measured**[ ]  All Program Students [x]  Sample (Describe the sampling plan to the right) | **If sampling, please describe the sampling plan** (e.g., random sampling, sampling of course sections)*25% of all critical reflections completed during an academic year will be randomly selected for inclusion in the measure.* |
| **Criteria and targets for success** | The REAL Council is responsible for establishing the benchmarks (targets) for students achieving competencies in the REAL Curriculum. The benchmark (target) for the REAL areas is 75%: At least 75% of students should achieve “Competent” or “Highly Competent” in each REAL area. Offering departments decide criteria or standards for determining whether students have successfully achieved learning outcomes for courses (including Foundational and Cornerstone courses), majors, minors, and certificates. For this measure describe the criteria for each of the following levels based on the targets set by the REAL Council (see examples on last page):**Highly Competent** – *Students who obtain at least 90% of possible points on the Critical Reflection rubric will be considered highly competent.***Competent** – *Students who obtain at between 75% and 89% of possible points on the Critical Reflection rubric will be considered competent.***Below Competent** – *Students who obtain less than 75% of possible points on the Critical Reflection rubric will be considered below competent.* |
| **Relevant Documentation** | **Please attach documentation related to this measure** (e.g., exam questions, rubrics, survey questions)*See Critical Reflection assignment instructions and scoring rubric* |
| **Measure 2**(There must be at least two measures for each of the REAL outcomes)**Type of measure**[ ]  Direct [x]  Indirect (At least one of the two measures must be direct) | **Description of the measure** (the description must be specific and describe how it is related to the learning outcome. It also should be articulated as a single, distinct measure – do NOT combine multiple measures with “and” or “or”)*Students’ abilities to critically reflect on their learning, abilities, experiences, or roles within professional contexts will be measured using the Senior Exit Face-to-Face Interview. All graduating majors will be interviewed by their senior advisor regarding their views of preparedness to enter the field.* |
| **Where and when will the measure be assessed?** | **Provide the context of where and when the measure will be assessed** (e.g., senior-year capstone course; second semester field experience)*The Senior Exit Interview takes place during the final exam week during the students’ final semester.* |
| **Population being measured**[ ]  All Program Students [x]  Sample (Describe the sampling plan to the right) | **If sampling, please describe the sampling plan** (e.g., random sampling, sampling of course sections)*50% of all Senior Exit Interviews during an academic year will be randomly selected to be included in this measure.* |
| **Criteria and targets for success** | The REAL Council is responsible for establishing the benchmarks (targets) for students achieving competencies in the REAL Curriculum. The benchmark (target) for the REAL areas is 75%: At least 75% of students should achieve “Competent” or “Highly Competent” in each REAL area. Offering departments decide criteria or standards for determining whether students have successfully achieved learning outcomes for courses (including Foundational and Cornerstone courses), majors, minors, and certificates. For this measure describe the criteria for each of the following levels based on the targets set by the REAL Council (see examples on last page):**Highly Competent** – *Students who respond that the Agricultural Science program “helped them extremely well or very much” to be prepared to be successful professionals in the discipline will be considered highly competent.***Competent** – *Students who respond that the Agricultural Science program “moderately helped them” to be prepared to be successful professionals in the discipline will be considered competent.***Below Competent** – S*tudents who respond that the Agricultural Science program “did little or did not” prepare them to be successful professionals in the discipline will be considered below competent.* |
| **Relevant Documentation** | **Please attach documentation related to this measure** (e.g., exam questions, rubrics, survey questions)*See the interview questions from the Senior Exit Interview.* |

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| **Department Action Plan** |

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| **Action Plan** | Action plans detail the departmental process for reviewing and acting on REAL assessment data results. This is a full departmental process – i.e. should not just be the assessment coordinator’s responsibility – for determining what the assessment data means and what to do moving forward. Departments should be meeting at the beginning of each academic year to discuss and interpret the findings of the previous year’s assessment and strategize ways to make improvements, if necessary. Please describe the process your department will use to review the assessment data and also include the process you will take if students do not achieve the learning outcome targets.*All instructional staff (full-time faculty, part-time instructors, graduate teaching assistants and fellows) in the department of Agricultural Science will meet during the first week of the fall semester to review the program assessment results of the previous academic year. After the results are shared, instructional staff will examine the assessment results and reassess student progress as a result of the previous year’s implemented action plan, if applicable. If targets have been met, progress/improvements will be documented. If target(s) have not been met, modifications to action plans will be made or new action plans will be developed. The instructional staff will be divided into four groups (containing representatives from each of the above categories of instructors) to brainstorm action plans for areas where targets have not been met. The full group will reconvene to discuss the potential action plans and to decide on which plans will proceed. New or revised action plans adopted by the department will become a part of the academic program assessment plan to ensure the results are monitored and collected.*  |

**Example Criteria for Success**

1. **Example One – Rubric used to score a written assignment**

**Highly Competent** – To score highly competent a student must score “Excellent” on the writing assignment rubric.

**Competent** – To score competent a student must score “Acceptable” on the writing assignment rubric.

**Below Competent –** To score below competent a student must score “Unacceptable” on the writing assignment rubric.

1. **Example Two – Exam questions used to measure student knowledge of a subject**

**Highly Competent** – To score highly competent a student must correctly answer at least 90% of the exam questions.

**Competent** – To score competent a student must correctly answer between 70% and 89% of the exam questions.

**Below Competent –** To score below competent a student must correctly answer less than 69% of the exam questions.

1. **Example Three – Survey question used to measure a student’s perceived knowledge of a subject**

**Highly Competent** – To score highly competent a student must indicate that “after completing this course, I feel highly confident in my knowledge of \_\_\_\_\_.”

**Competent** – To score competent, a student must indicate that “after completing this course, I feel confident in my knowledge of \_\_\_\_\_.”

**Below Competent –** To score below competent a student must indicate that “after completing this course, I do not feel confident in my knowledge of \_\_\_\_\_.”