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| ESI SAE for All Crosswalk |

To review the CASE Environmental Science Issues (ESI) course concept crosswalk for each of the following types of SAE, click on the appropriate links below.

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| [Foundational SAE (Advanced Level)](#FoundationSAEPlan) | [Research Immersion SAE](#ResearchPlan) |

Advanced Foundational SAE Independent Learning Plan

|  | **Instruction****(Concept)** | **Hands on Activity****Performance Objective (APP)** | **Recommended Extension** | **Assessment** |
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| **Career Exploration and Planning** |  |  | Review and revise prioritized list of five career areas of interest and complete at least one college or employment application. (SAE for All A1) | Advanced Foundational SAE Evaluation Grading Rubric |
| **Employability Skills for College and Career Readiness** | Solving environmental problems requires research, planning, and communication skills. | Investigate an environmental problem that may occur locally. (Activity 1.1.1) | Select a career mentor and seek feedback on employability skill readiness. (SAE for All A2) | Advanced Foundational SAE Evaluation Grading Rubric |
| Organization and record keeping are important to success in environmental science. | Set up the ESI Notebook and Laboratory Notebook. (Activity 1.1.2) |
| Effective communication and conflict resolution foster a working relationship when differing viewpoints exist. | Analyze effective communication behaviors. (Activity 1.2.3) |
| Identify effective conflict resolution behaviors and develop classroom conflict guidelines. (Activity 1.2.3) |
| **Personal Financial Management** |  |  | Complete the FAFSA, at least one scholarship application, and prepare a personal financial plan that includes postsecondary education and training. (SAE for All A3) | Advanced Foundational SAE Evaluation Grading Rubric |
| **Workplace Safety** |  |  | Create an agricultural workplace safety presentation or demonstration for elementary or middle school students. (SAE for All A4) | Advanced Foundational SAE Evaluation Grading Rubric |
| **Agricultural Literacy** | Government policies and regulations are enacted to manage resources. | Explain how federal regulations affect local communities, agriculture, and the environment. (Project 5.3.1) | Analyze a recent change in state or federal agricultural policy and evaluate its positive or negative effects on their career pathway of interest. (SAE for All A5) | Project 5.3.1 Evaluation Rubric / Advanced Foundational SAE Evaluation Grading Rubric |
| Identify local facilities not in compliance with environmental laws. (Project 5.3.1) |
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| **Authentic Experience** |  |  | Complete 40 hours of research experience during the ESI course. (modified SAE for All AE) | Advanced Foundational SAE Evaluation Grading Rubric |
| **Final Product** | Environmental questions are studied using research, the scientific method, critical thinking, and problem solving techniques. | Write a research proposal outlining the background and need for their research as well as a plan for conducting the research. (Project 6.1.2) | Update career plan using information compiled in app activities and projects listed. (SAE for All AFP) | Project 6.1.2 Evaluation Rubric / Advanced Foundational SAE Evaluation Grading Rubric |
| Conduct a self-designed research project and collect data for results and analysis. (Project 6.1.2) |
| Results of research experiments include interpretation of data in the form of posters, papers, or oral presentations. | Write a research paper summarizing the findings of their research. (Project 6.1.2) |
| Prepare a research poster to present to the class and at local science fairs. (Project 6.1.2) |

Research Immersion SAE Independent Learning Plan

|  | **Instruction****(Concept)** | **Hands on Activity****Performance Objective (APP)** | **Recommended Extension** | **Assessment** |
| --- | --- | --- | --- | --- |
| **Opportunity Identification – What to Study** | Research is driven by questions and supported by literature reviews, experimentation, and communication of results. | Brainstorm ideas for research projects and define a question and hypothesis to study in order to frame research. (Activity 6.1.1) | Identify research topics of interest and start drafting questions to research. (modified SAE for All R1) | Research SAE Evaluation Grading Rubric |
| **Opportunity Identification – Identifying My Research** | Background research is conducted to identify what is known about the research question. | Collect and summarize similar research conclusions. (Activity 6.1.1) | Variation of Research SAE that fits your product: Analytical Research (see below). (modified SAE for All R2) | Project 6.1.2 Evaluation Rubric / Research SAE Evaluation Grading Rubric |
| Environmental questions are studied using research, the scientific method, critical thinking, and problem solving techniques. | Write a research proposal outlining the background and need for their research as well as a plan for conducting the research. (Project 6.1.2) |
| Conduct a self-designed research project and collect data for results and analysis. (Project 6.1.2) |
| Analytical ResearchBegin with a question that asks why or how something occurs, followed by a period of data collection using qualtitative and/or quantitative methodologies. Conduct an analysis of data, facts, and other information to determine the answer to the question posed. | Related CASE Pathway/Courses:* **Natural Resources and Ecology (NRE)**
* **Environmental Science Issues (ESI)**
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| **Career Plan Connection** | The public must be informed about environmental issues before they can make decisive actions resulting in a solution. | Develop and present an issue to a public group or organization. (Problem 6.1.3) | Create a one-minute verbal summary that describes the value of your Research SAE to your overall career plan. (modified SAE for All R3) | Guide to Assessing Problems / Research SAE Evaluation Grading Rubric |
| **Outcome Brainstorming** | Results of research experiments include interpretation of data in the form of posters, papers, or oral presentations. | Prepare a research poster to present to the class and at local science fairs. (Project 6.1.2) | Create a vision board that shares your personal intended outcomes for your SAE. (modified SAE for All R4) | Project 6.1.2 Evaluation Rubric / Research SAE Evaluation Grading Rubric |
| **Final Product** | Write a research paper summarizing the findings of their research. (Project 6.1.2) | Ensure all documentation and additional planning is completed to begin your Research SAE. (modified SAE for All RFP) |