

STEMS2 Unit Project Descriptions and Rubric Examples

Suggested topics:

Watershed Health

Stormwater/ storm drains

Invasive Species

Endangered Organisms

Water conservation

Hunting

Native landscaping

Land Management practices

Rubbish and recycling

Pollution

Surface water health

Eating Seafood safety

Enjoying our natural areas responsibly

ROD (Rapid Ohia Death)

Coconut Rhinoceros Beetles

Project Descriptions

Fundations of AFNR: Identify a problem and educate others about the problem

Project must engage the community, require a community partner, and research. Max of four people per project/ group. Project focus is to identify a problem and educate a selected population on solutions. Examples of projects may be: PSA, storybook, brochure, video, art work, poem, demonstration, local hiking brochure with native plant identification, or poster. Project is informing their authentic audience the issue and ways the audience members can help remediate the problem. The issues could include topics like: invasive species, protection of endangered species, water conservation, water pollution, land use, and climate change. (F of AFNR standards 5,8,11,12,& 23)

Wildlife Management 1: Take problem and develop a solution

Project must engage the community, require a community partner, and research. Max of three people per project/ group. Project focuses on identifying a problem and researching possible solutions that can be implemented.

The solution should be at a deeper level than just information about the community. It should use the design process with information about life changes the community can take to be the solution. For example: leading part of a community work day to remove invasive species from an area, writing testimony for a bill going through local government, growing native plants for outplanting within the watershed, taking a wildlife survey on school campus and identifying ways to increase native animals by planting native plants, storm drain assessment with solutions, environmental impact statement of an area ; on or off campus with given solution. Present the findings at the festival. WLM1 Standards 5 & 11)

Wildlife Management 2 Implement solution to the problem

Project must engage the community, require a community partner, and research. Max of two people per project/ group. Project focus is to determine a problem, develop a solution and start to implement the solution. Solutions should be student driven and research focused. Can be built on the students project from the previous year if possible. Examples of projects may be: Managing an area on or off campus after planting native plants to encourage biodiversity or reduce erosion, develop informative curriculum that can be used at the Elementary school, arrange a one day community event (beach cleanup or campus revitalization), conduct a Environmental Impact Statement on campus identify areas that could be managed better to improve the health of the watershed, (areas of erosion that could use better ground cover, storm drains that are not functioning well, planting of invasive vs. native), develop a management plan and present it to administration for approval, work with campus maintenance to implement parts of the management plan. Present on the outcome.(WLM 2 Standards 4, 11, & 15)

Work-Based Learning (WBL)/ Capstone: Managing the solution and documenting the outcome.

The project can be used for a student's capstone/ work-based learning project. If it is then it should follow all of the deadlines and requirements for the capstone or work-based learning projects that are outlined by the school and should be the students focus starting in the summer between their junior and senior year throughout the school year. Depending if the student is applying for STEM Honors, CTE honors, State FFA Agriscience Competition or Hawaii State Science Fair will determine the requirements of the project and presentation the student must follow. Main difference between WBL and capstone is the rigor for capstone is higher than WBL. To be eligible for capstone students must have a 3.0 GPA, advanced science and math courses. The report and presentations are at a higher level and are judged/ graded by professionals from the community. To be eligible for CTE and STEM Honors the student must be

enrolled in Capstone. Projects must engage the community, require a community partner, and research. Projects are individual and student driven.

PROJECT RUBRIC

General Project Rubric	Below Standard (1 point)	Approaching Standard (2 pts)	Meets Standard (3 pts)	Exceeds Standard (4 pts)
Community Partnership	There is little to no evidence of collaboration with a community partner. (0-1 times in contact)	Limited collaboration with community partners, with minimal engagement or impact. (2 times in contact)	Effective collaboration with a community partner, demonstrating a mutually beneficial relationship. Communication was professional.(3 times)	Exceptional collaboration with a community partner, resulting in a significant positive impact on the project Communication was professional.(4+ times)
Appropriate Audience Selected	The project lacks relevance or is inappropriate for the intended audience. Or no target audience is selected.	The project is somewhat relevant but does not fully consider the audience's needs or interests.	The selected audience could be better defined for the project. Example: Individuals that use hiking trails are the target audience for a project focused on hog hunting. Hog hunters would be a better audience.	The project is highly engaging and tailored perfectly to the intended audience. (Age appropriate or content appropriate) Example storybook about pollution has picking up rubbish and not throwing it on the ground.
Project Appropriate	The project poorly addresses watershed issues, lacking clarity and depth. Project is not focused on watersheds, Pu'uloa, or Pearl City. Project is very generic.	The project covers the watershed issues adequately but lacks some key information or creativity. Project is partly focused on watersheds, Pu'uloa, or	The project effectively conveys the importance and complexities of the watershed issue. Project is focused on watersheds, Pu'uloa, or Pearl City.	The project provides a compelling and comprehensive expiration of the watershed issue. Project is focused on watersheds, Pu'uloa, or

		Pearl City. Project is partly genetic.		Pearl City. It focuses on a tissue that is relevant only to Pearl City, Pu'uloa, or its watersheds.
Overall Creativity	The project lacks creativity, is disorganized, or has major technical issues.	The project is fairly organized but lacks creativity and engagement.	The project is well-organized, engaging, and creative.	The project is exceptionally well-crafted, creative and engaging.
Incorporation of Hawaiian Place Names, Values, or Mo'olelo	The project lacks any meaningful incorporation of Hawaiian place names, values, or mo'olelo.	The project includes some elements of Hawaiian place names, values, or mo'olelo but lacks depth or significance.	The project effectively integrates Hawaiian place names, values, or mo'olelo in a meaningful way.	The project showcases a deep and thoughtful incorporation of Hawaiian place names, values, or mo'olelo.
Coverage of Watershed Issue	The project poorly addresses the watershed issue, lacking clarity and depth.	The project covers the watershed issue adequately but lacks some key information or creativity.	The project effectively conveys the importance and complexities of the watershed issue.	The project provides a compelling and comprehensive exploration of the watershed issue.
Actionable Steps for Watershed Restoration	The project does not propose any actionable steps for the audience to take in helping to restore the watershed.	The project includes basic, but vague or limited, actionable steps for the audience.	The project presents clear and practical actionable steps for the audience to contribute to watershed restoration.	The project offers innovative, well-researched, and impactful actionable steps for watershed restoration.
Research	Little to no research done.	Little research done (1-3 sources), sources not	Some research done and cited. (4- 9 sources)	Research done well 10 plus sources. All cited in

		cited or cited incomplete.		APA format. Quotes cited within paper.
Communication Skills within the group and group to teacher. (Clarity, Engagement)	The group's communication is unclear, lacks engagement, and has frequent disruptions.	The group's communication is somewhat clear, with limited engagement and occasional disruptions.	The group communicates the content clearly, with engagement and few disruptions.	The group's communication is exceptionally clear, engaging, and seamless.

WLM 1 Criteria Should be at a higher quality than Foundations projects	1 (Limited)	2 (Basic)	3 (Proficient)	4 (Exemplary)
Community Partnership	There is little to no evidence of collaboration with a community partner. (0-2 times in contact)	Limited collaboration with community partners, with minimal engagement or impact. (3-4 times in contact)	Effective collaboration with a community partner, demonstrating a mutually beneficial relationship. Communication was professional.(4-5 times)	Exceptional collaboration with a community partner, resulting in a significant positive impact on the project. Communication was professional.(6+ times)
Project Appropriate	The project poorly addresses watershed issues, lacking clarity and depth. Project is not focused on watersheds, Pu'uloa, or Pearl City. Project is very generic.	The project covers the watershed issues adequately but lacks some key information or creativity. Project is partly focused on watersheds, Pu'uloa, or Pearl City. Project is partly generic.	The project effectively conveys the importance and complexities of the watershed issue. Project is focused on watersheds, Pu'uloa, or Pearl City.	The project provides a compelling and comprehensive exploration of the watershed issue. Project is focused on watersheds, Pu'uloa, or Pearl City. It focuses on a tissue that is relevant only to Pearl City, Pu'uloa, or its

				watersheds.
Appropriate Audience Selected	The project lacks relevance or is inappropriate for the intended audience. Or no target audience is selected.	The project is somewhat relevant but does not fully consider the audience's needs or interests.	The selected audience could be better defined for the project. Example: Individuals that use hiking trails are the target audience for a project focused on hog hunting. Hog hunters would be a better audience.	The project is highly engaging and tailored perfectly to the intended audience. (Age appropriate or content appropriate) Example storybook about pollution has picking up rubbish and not throwing it on the ground.
Adherence to Project Type and Format	The project significantly deviates from the specified project type or format.	The project generally adheres to the chosen project type but has some major deviations.	The project closely follows the specified project type and format requirements.	The project perfectly adheres to the chosen project type and format requirements.
Incorporation of Hawaiian Place Names, Values, or Mo'olelo	The project lacks any meaningful incorporation of Hawaiian place names, values, or mo'olelo.	The project includes some elements of Hawaiian place names, values, or mo'olelo but lacks depth or significance.	The project effectively integrates Hawaiian place names, values, or mo'olelo in a meaningful way.	The project showcases a deep and thoughtful incorporation of Hawaiian place names, values, or mo'olelo.
Coverage of Watershed Issue	The project poorly addresses the watershed issue, lacking clarity and depth.	The project covers the watershed issue adequately but lacks some key information or creativity.	The project effectively conveys the importance and complexities of the watershed issue.	The project provides a compelling and comprehensive exploration of the watershed issue.
Student-Driven Actions for Watershed	The project lacks actionable steps or	The project includes basic, but somewhat	The project presents clear and practical	The project offers innovative,

Restoration	actions are vague and not feasible for the intended audience.	vague, student-driven actions for the intended audience.	student-driven actions for the audience to contribute to watershed restoration.	well-researched, and impactful student-driven actions for watershed restoration.
Research	Little to no research done.	Little research done (1-3 sources), sources not cited or cited incomplete.	Some research done and cited. (4- 9 sources)	Research done well 10 plus sources. All cited in APA format. Quotes cited within paper.
Design Process for Community Solutions	The project lacks a clear design process for community solutions or presents impractical ideas.	The project outlines a basic design process with some practical community solutions.	The project presents a well-structured design process with practical community solutions.	The project offers a comprehensive and innovative design process with highly practical community solutions.
Call to Action for Community Advocacy	The project does not include a clear call to action for community advocacy.	The project includes a basic call to action for advocacy but lacks specificity or impact.	The project presents a clear and actionable call to action for community advocacy related to the watershed issue.	The project offers an inspiring and compelling call to action for community advocacy that is highly actionable.
Actionable Steps for Watershed Restoration	The project does not propose any actionable steps for the audience to take in helping to restore the watershed.	The project includes basic, but vague or limited, actionable steps for the audience.	The project presents clear and practical actionable steps for the audience to contribute to watershed restoration.	The project offers innovative, well-researched, and impactful actionable steps for watershed restoration.
Overall Creativity	The project lacks creativity, is disorganized, or has	The project is fairly organized but lacks creativity and	The project is well-organized, engaging, and creative.	The project is exceptionally well-crafted, creative and

	major technical issues.	engagement.		engaging.
Communication Skills within the group and group to teacher. (Clarity, Engagement)	The group's communication is unclear, lacks engagement, and has frequent disruptions.	The group's communication is somewhat clear, with limited engagement and occasional disruptions.	The group communicates the content clearly, with engagement and few disruptions.	The group's communication is exceptionally clear, engaging, and seamless.
Report/ Paper	Basic summary of project. Basic understanding of the project. Lacking several parts of the report.	Lacking a few major parts of the paper. Report still basic and mostly a recipe for a project. Lacks community connections.	Report has all parts and makes some community connections. Give a good explanation of why and how of the project. Shows growth of the participants and how the community partner was part of the process.	Report has all parts and makes good community connections. Give a great explanation of why and how of the project. Shows growth of the participants and how the community partner was an important part of the process.
Solution	Solution does not address your Pearl City area and Watersheds problem, is not doable, creates more of a problem, &/or is ineffective	Solution addresses your Pearl City area and Watersheds problem, and is doable, but creates more of a problem, &/or is ineffective	Solution addresses your Pearl City area and Watersheds problem, is doable, does not create more of a problem, &/or is effective	Solution addresses your Pearl City area and Watersheds problem, is doable and able to engage the community in the solution.
Focus	Do not use community partners to help develop solutions or give feedback. Solution not	Uses community partners minimally to help develop solutions or give feedback. Solution	Uses community partners to help develop solutions or give feedback. Solution	Uses community partners often to help develop solutions or give feedback. Solution well

	well focused on the project.	not well focused on the project.	focused on the project.	focused on the project.
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WLM 2 Criteria Should be at a higher quality than WLM 1 Projects	1 (Limited)	2 (Basic)	3 (Proficient)	4 (Exemplary)
Community Partnership	There is little to no evidence of collaboration with a community partner. (0-2 times in contact)	Limited collaboration with community partners, with minimal engagement or impact. (3-5 times in contact)	Effective collaboration with a community partner, demonstrating a mutually beneficial relationship. Communication was professional. (6-8 times At least weekly)	Exceptional collaboration with a community partner, resulting in a significant positive impact on the project. Communication was professional. (8+ times at least weekly plus additional communications)
Project Appropriate	The project poorly addresses watershed issues, lacking clarity and depth. Project is not focused on watersheds, Pu'uloa, or Pearl City. Project is very generic.	The project covers the watershed issues adequately but lacks some key information or creativity. Project is partly focused on watersheds, Pu'uloa, or Pearl City. Project is partly generic.	The project effectively conveys the importance and complexities of the watershed issue. Project is focused on watersheds, Pu'uloa, or Pearl City.	The project provides a compelling and comprehensive explanation of the watershed issue. Project is focused on watersheds, Pu'uloa, or Pearl City. It focuses on a tissue that is relevant only to Pearl City, Pu'uloa, or its watersheds.

Appropriate Audience Selected	The project lacks relevance or is inappropriate for the intended audience. Or no target audience is selected.	The project is somewhat relevant but does not fully consider the audience's needs or interests.	The selected audience could be better defined for the project. Example: Individuals that use hiking trails are the target audience for a project focused on hog hunting. Hog hunters would be a better audience.	The project is highly engaging and tailored perfectly to the intended audience. (Age appropriate or content appropriate) Example storybook about pollution has picking up rubbish and not throwing it on the ground.
Adherence to Project Type and Format	The project significantly deviates from the specified project type or format.	The project generally adheres to the chosen project type but has some major deviations.	The project closely follows the specified project type and format requirements.	The project perfectly adheres to the chosen project type and format requirements.
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Coverage of Watershed Issue	The project poorly addresses the watershed issue, lacking clarity and depth.	The project covers the watershed issue adequately but lacks some key information or creativity.	The project effectively conveys the importance and complexities of the watershed issue.	The project provides a compelling and comprehensive exploration of the watershed issue.
Student-Driven Actions for Watershed Restoration	The project lacks actionable steps or actions are vague and not feasible for the	The project includes basic, but somewhat vague, student-driven actions for the intended	The project presents clear and practical student-driven actions for the audience to	The project offers innovative, well-researched, and impactful student-driven

	intended audience.	audience.	contribute to watershed restoration.	actions for watershed restoration.
Research	Little to no research done.	Little research done (1-3 sources), sources not cited or cited incomplete.	Some research done and cited. (4- 9 sources)	Research done well 10 plus sources. All cited in APA format. Quotes cited within paper.
Design Process for Community Solutions	The project lacks a clear design process for community solutions or presents impractical ideas.	The project outlines a basic design process with some practical community solutions.	The project presents a well-structured design process with practical community solutions.	The project offers a comprehensive and innovative design process with highly practical community solutions.
Call to Action for Community Advocacy	The project does not include a clear call to action for community advocacy.	The project includes a basic call to action for advocacy but lacks specificity or impact.	The project presents a clear and actionable call to action for community advocacy related to the watershed issue.	The project offers an inspiring and compelling call to action for community advocacy that is highly actionable.
Actionable Steps for Watershed Restoration	The project does not propose any actionable steps for the audience to take in helping to restore the watershed.	The project includes basic, but vague or limited, actionable steps for the audience.	The project presents clear and practical actionable steps for the audience to contribute to watershed restoration.	The project offers innovative, well-researched, and impactful actionable steps for watershed restoration.
Overall Creativity	The project lacks creativity, is disorganized, or has major technical issues.	The project is fairly organized but lacks creativity and engagement.	The project is well-organized, engaging, and creative.	The project is exceptionally well-crafted, creative and engaging.
Communication Skills	The group's	The group's	The group	The group's

within the group and group to teacher. (Clarity, Engagement)	communication is unclear, lacks engagement, and has frequent disruptions.	communication is somewhat clear, with limited engagement and occasional disruptions.	communicates the content clearly, with engagement and few disruptions.	communication is exceptionally clear, engaging, and seamless.
Report/ Paper	Basic summary of project. Basic understanding of the project. Lacking several parts of the report.	Lacking a few major parts of the paper. Report still basic and mostly a recipe for a project. Lacks community connections.	Report has all parts and makes some community connections. Give a good explanation of why and how of the project. Shows growth of the participants and how the community partner was part of the process.	Report has all parts and makes good community connections. Give a great explanation of why and how of the project. Shows growth of the participants and how the community partner was an important part of the process.
Solution	Solution does not address your Pearl City area and Watersheds problem, is not doable, creates more of a problem, &/or is ineffective	Solution addresses your Pearl City area and Watersheds problem, and is doable, but creates more of a problem, &/or is ineffective	Solution addresses your Pearl City area and Watersheds problem, is doable, does not create more of a problem, &/or is effective	Solution addresses your Pearl City area and Watersheds problem, is doable and able to engage the community in the solution.
Focus	Do not use community partners to help develop solutions or give feedback. Solution not well focused on the project.	Uses community partners minimally to help develop solutions or give feedback. Solution not well focused on the project.	Uses community partners to help develop solutions or give feedback. Solution focused on the project.	Uses community partners often to help develop solutions or give feedback. Solution well focused on the project.

Capstone/ Work-based Learning should follow rubric for the Capstone Honors requirements determined by the school. If not available, then use WLM 2 rubric, but should be modified to for the higher rigor of Capstone Honors requirements.

PRESENTATION RUBRIC

	Below Standard (1 point)	Approaching Standard (2 pts)	Meets Standard (3 pts)	Exceeds Standard (4 pts)
Presentation	Presentation not organized at all, rushed, lacks proof of knowledge of the project. Does not answer any of the questions of why the project was chosen? How does it better the community? Why is it important?	Presentation not very well organized, rushed, lacks proof of knowledge of the project .Does not answer all the questions of why the project was choosin? How does it better the community? Why is it important?	Presentation organized. Shows proof of knowledge of the project. Does answer all the questions of why the project was choosin? How does it better the community? Why is it important?	Presentation very well organized. Shows proof of knowledge of the project and growth of the student. Does answer all the questions and explains: Why was the project choosin? How does it better the community? Why is it important? And explain.
Explanation of Ideas & Information	Used too few, inappropriate, or irrelevant descriptions, facts, details, or examples to support ideas; Project description unclear	Uses few descriptions, facts, details, and examples that support ideas, but there may not be enough, or some are irrelevant	Uses some descriptions, facts, details, and examples that support ideas, but there may not be enough, or some are irrelevant	Uses relevant, well-chosen descriptions, facts, details, and examples to describe the problem and solution

<p>Organization</p>	<p>Missing several required parts of the presentation; Does not have an introduction and/or conclusion; Presentation does not meet time requirement [3~5 minutes]; Transitions between speakers were not planned/practiced</p>	<p>Missing required parts of the presentation; Presented ideas in an order that does not make sense; Does not have an introduction and/or conclusion; Presentation does not meet time requirement [3~5 minutes]; Transitions between speakers were not planned/practiced</p>	<p>Includes almost everything required in the presentation; Moves from one idea to the next, but main idea may not be clear or some ideas may be in the wrong order; Has an introduction and conclusion, but they are not effective; Generally times presentation well, but may spend too much or too little time on a topic, A/V aid, or idea</p>	<p>Includes everything required in the presentation; Presentation follows a logical order; Has an effective introduction and conclusion; Meets time requirement [3~5 minutes]; Transition between speakers is practiced and organized</p>
<p>Eye Contact and Posture</p>	<p>Hardly looks at audience; mainly reads notes or slides; Does not use gestures or movements in an effective manner; Lacks poise and confidence (fidgets, slouches, appears nervous) Does not stand still.</p>	<p>Makes infrequent eye contact; reads notes or slides most of the time; Uses gestures or movements but they do not look natural; Obviously nervous and fidgety.</p>	<p>Makes infrequent eye contact.; Uses a few gestures or movements but they do not look natural; Shows some poise and confidence (only a little fidgeting or nervous movement)</p>	<p>Keeps eye contact with audience most of the time; only glances at notes or slides as reference; Uses natural gestures and movements to express ideas; Looks poised and confident</p>

Voice	Mumbles or speaks too quickly or slowly; Speaks too softly to be understood; Frequently uses “filler” words (“uh, um, so, and, like, etc.”); Does not speak appropriately for the context and task (may be too informal, use slang)	Speaks clearly most of the time; sometimes too quickly or slowly; Speaks loudly enough for most of the audience to hear, but may speak in a monotone; Occasionally uses filler words; Tries to speak appropriately for the context and task	Speaks clearly; not too quickly or slowly; Speaks loudly enough for everyone to hear; changes tone to for expression; Rarely uses filler words; Speaks appropriately for the context and task	Excellent voice volume, clearly knows content. Well practiced.
Presentation Aids	Attempts to use one or a few audio/ visual aids or media but they distract from or do not add to the presentation; Slide presentation is incomplete.	Uses audio/visual aids or media, but they sometimes distract from or do not add to the presentation.	Uses well-produced audio/visual aids or media to clarify information, emphasize important points, strengthen arguments, and add interest; Presentation is complete	Uses well-produced audio/visual aids or media to clarify information, emphasize important points, strengthen arguments, and add interest; Presentation is complete. Neat and easy to understand.
Response to Audience Questions	Does not address audience questions (goes off topic or misunderstands without seeking clarification); Makes up information when asked questions unsure about or gives wrong information	Answers some audience questions, but not always clearly or completely. Does not add to the general understanding of the project.	Answers some audience questions, but not always clearly or completely	Answers audience questions clearly and completely; Seeks clarification, admits “I don’t know,” or explains how the answer might be found when unable to answer a question

Participation in Team Presentations	Not all team members participated (only one or two speak) OR One to two members dominated the presentation	All team members participate, but not equally	All team members participate for an equal length of time; All team members are able to answer questions about the project parts they worked on.	All team members participate for an equal length of time; All team members are able to answer questions about the topic as a whole.
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