Assurance of Student Learning 2019-2020	
College of Education and Behavioral Sciences	School of Teacher Education
SKyTeach, Science and Mathematics Education 0774	

Use this page to list learning outcomes, measurements, and summarize results for your program. Detailed information must be completed in the subsequent pages.			
Student Learning Outcome 1: Students will create and document teacher work sample in their content area (contextual factors, learning goals, pre/post assessment, design for instruction, analysis of learning, reflection of teaching practices).			
Instrument 1	SMED 489: Students are evaluated using the Teacher Work Sample Rubric. In-class exploration and practice will all phases of backward design (goal / objective writing, assessment development, instructional design), including phase-by-phase feedback from both peers and instructor		
Instrument 2			
Instrument 3			
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 1.		**Met**	**Not Met**
Student Learning Outcome 2: SMED 470 PBI Unit Plan: Students will work collaboratively with a cooperating teacher, master teacher, and professor to develop a problem/project-based instructional unit approximately one week in length			
Instrument 1	**SMED 470: Students will be evaluated over 5 checkpoints throughout the semester where the students receive feedback and direction on aspects of problem-based unit development. Students are evaluated on a criterion referenced document.**		
Instrument 2			
Instrument 3			
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 2.		**Met**	**Not Met**
• **Student Learning Outcome 3:** SMED 320: Students will plan, teach, and analyze effectiveness of instruction based on evidence of student learning for two solo experiences culminating in the Comprehensive Video Analysis of Teaching			
Instrument 1	**SMED 320: Students will complete a final course reflection through a video analysis project.**		
Instrument 2			
Instrument 3			
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 3.		**Met**	**Not Met**

Program Summary (Briefly summarize the action and follow up items from your detailed responses on subsequent pages.)

Actions following the 2018-2019 academic year include course alignment to create a logical progression of complexity in lesson development, lesson planning, lesson delivery, and assessment of student learning. Technological tools were introduced to add supports for ongoing student progress. Students know earn Google Level 1 teacher certification early in the program and students earn Google Level 2 teacher certification during their capstone course.

Student Learning Outcome 1				
Student Learning Outcome	Students will create and document teacher work sample in their content area (contextual factors, learning goals, pre/post assessment, design for instruction, analysis of learning, reflection of teaching practices).			
Measurement Instrument 1	**NOTE: Each student learning outcome should have at least one direct measure of student learning . Indirect measures are not required.** The teacher work sample rubric is attached to the end of this document. Fall 2019 Data: 7 students were enrolled in SMED 489 and all 7 students received a "3" on the Teacher Work Sample Spring 2020 Data: 13 students were enrolled in SMED 489 and all 13 students received a "3" on the Teacher Work Sample			
Criteria for Student Success	Teacher work sample rubric			
Program Success Target for this Measurement	Score of 80% or better on the project rubric which represents a score of "3", proficient or higher.		**Percent of Program Achieving Target**	100%
Methods	Students complete this task in their final semester during their SMED 489 course. The instructor works closely with each student in formative discussions regarding their teacher work sample. No student is able to complete the program without successful negotiation of the teacher work sample.			
Measurement Instrument 2				
Criteria for Student Success				
Program Success Target for this Measurement	**100%**		**Percent of Program Achieving Target**	**100%**
Methods				
Measurement Instrument 3				
Criteria for Student Success				
Program Success Target for this Measurement			**Percent of Program Achieving Target**	
Methods				

Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 1.	**Met** / **Not Met**
Actions (Describe the decision-making process and actions planned for program improvement. The actions should include a timeline.)	
Actions following the 2018-2019 included the implementation of a plan to train all students in the use of instructional technology and in the development of a professional growth plan. A phase in plan to require Google Teacher Certification at Level 1 and Level 2 and a professional growth dossier over the course of the program was implemented. Google Level One Certification became a requirement in SMED 470 in Fall 2017 and it also became a requirement in SMED 102 in Fall 2018. This will allow the program to begin requiring Google Level Two Certification in SMED 470 in Fall 2021 and the program will continue requiring Google Level One certification in SMED 102.	
Follow-Up (Provide your timeline for follow-up. If follow-up has occurred, describe how the actions above have resulted in program improvement.)	
Follow-up items will include ongoing program discussions and revisions on curriculum alignment with respect to field based clinical exercises that complement content addressed during the lecture components of SKyTeach coursework. These revisions will be in place by the 2020-2021 academic year.	

Student Learning Outcome 2				
Student Learning Outcome	Students will work collaboratively with a cooperating teacher, master teacher, and professor to develop a problem/project-based instructional unit approximately one week in length			
Measurement Instrument 1	**NOTE: Each student learning outcome should have at least one direct measure of student learning . Indirect measures are not required.** **The problem-based unit of instruction rubric/guidelines is attached to the end of this document.** Fall 2019 Data: 13 students were enrolled in SMED 470 and all 13 students received a score of 80% or higher on the rubric. Spring 2020 Data: 11 students were enrolled in SMED 470 and all 11 students received a score of 80% or higher on the rubric.			
Criteria for Student Success	**The problem-based unit of instruction rubric/guidelines is attached to the end of this document.**			
Program Success Target for this Measurement	Score of 80% or better on the rubric	**Percent of Program Achieving Target**	100%	
Methods	Each student in the SKyTeach program completes this assignment at the end of the SMED 470 course. Students are coached and mentored in the development of a problem-based unit of instruction throughout the semester. The culminating event in the course is the development of an original problem-based unit of instruction, teaching of the unit in the clinical field placement and a teaching evaluation and reflection on the unit.			
Measurement Instrument 2				
Criteria for Student Success				
Program Success Target for this Measurement		**Percent of Program Achieving Target**		
Methods				
Measurement Instrument 3				
Criteria for Student Success				
Program Success Target for this Measurement		**Percent of Program Achieving Target**		
Methods				
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 2.			**Met**	**Not Met**

Actions (Describe the decision-making process and actions planned for program improvement. The actions should include a timeline.)
Actions following the 2018-2019 included the implementation of a plan to train all students in the use of instructional technology and in the development of a professional growth plan. A phase in plan to require Google Teacher Certification at Level 1 and Level 2 and a professional growth dossier over the course of the program was implemented.
Follow-Up (Provide your timeline for follow-up. If follow-up has occurred, describe how the actions above have resulted in program improvement.)
Follow-up items will include ongoing program discussions and revisions on curriculum alignment with respect to field based clinical exercises that complement content addressed during the lecture components of SKyTeach coursework. These revisions will be in place by the 2020-2021 academic year.

Student Learning Outcome 3			
Student Learning Outcome	Students will plan, teach, and analyze effectiveness of instruction based on evidence of student learning for two solo experiences culminating in the Comprehensive Video Analysis of Teaching		
Measurement Instrument 1	**NOTE: Each student learning outcome should have at least one direct measure of student learning . Indirect measures are not required.** **The video analysis project rubric is attached to the end of this document.** Fall 2019 Data: 10 students were enrolled in SMED 320 and all 10 students received a score of 80% or higher on the rubric. Spring 2020 Data: 10 students were enrolled in SMED 320 and all 10 students received a score of 80% or higher on the rubric.		
Criteria for Student Success	**The video analysis project rubric is attached to the end of this document.**		
Program Success Target for this Measurement	Score of 80% or better on the rubric	**Percent of Program Achieving Target**	100%
Methods	Each student in the SKyTeach program completes this assignment at the end of the SMED 320 course. Students are coached and mentored in the development of lessons throughout the semester. The culminating event in the course is the development of an original 5E inquiry based lesson, teaching of the lesson in the clinical field placement and a video analysis and reflection resulting in the development of a professional growth plan.		
Measurement Instrument 2			
Criteria for Student Success			
Program Success Target for this Measurement		**Percent of Program Achieving Target**	

Methods			
Measurement Instrument 3			
Criteria for Student Success			
Program Success Target for this Measurement		**Percent of Program Achieving Target**	
Methods			
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 3.		**Met**	**Not Met**

Actions (Describe the decision-making process and actions planned for program improvement. The actions should include a timeline.)

Actions following the 2018-2019 included the implementation of a plan to train all students in the use of instructional technology and in the development of a professional growth plan. A phase in plan to require Google Teacher Certification at Level 1 and Level 2 and a professional growth dossier over the course of the program was implemented.

Follow-Up (Provide your timeline for follow-up. If follow-up has occurred, describe how the actions above have resulted in program improvement.)

Follow-up items will include ongoing program discussions and revisions on curriculum alignment with respect to field based clinical exercises that complement content addressed during the lecture components of SKyTeach coursework. These revisions will be in place by the 2020-2021 academic year.

Student Learning Outcome 1: SMED 489 Student Teaching Seminar Teacher Work Sample Rubric

Contextual Factors Rubric				
Criteria	**Beginning**	**Developing**	**Proficient**	**Exemplary**
CF 1 School Information **KTS 2.2, 3.3**	Characteristics of school described at the minimal, inaccurate, irrelevant or biased level in 2 or more of the required areas. School information provided limited to the 5 required areas. Implications based on this information are missing or not appropriately stated.	Characteristics of school described at the minimal, inaccurate, irrelevant or biased level in 1 of the 5 required areas. School information provided includes the 5 required areas and at least 1 additional area. Implications based on this information are clearly stated and complete for the 1 area.	Characteristics of school described clearly at a substantive, accurate, and unbiased level in all of the 5 required areas. School information provided includes the 5 required areas and at least1 additional area. Implications based on this information are clearly stated and complete for 2 areas.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.

CF 2 Knowledge of Classroom Information **KTS 2.2, 3.3**	Characteristics of classroom described at the minimal, inaccurate, irrelevant or biased level in 2 or more of the 4 required areas. Implications based on this information are missing	Characteristics of classroom described at the minimal, inaccurate, irrelevant or biased level in 1 of the 4 required areas. Implications based on this information are clearly stated and complete for 1 area.	Characteristics of classroom described clearly at a substantive, accurate, and unbiased level in all of the 4 required areas. Implications based on this information are clearly stated and complete for at least 2 areas.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.
CF 3 Knowledge of Student Characteristics **KTS 2.2, 3.3**	Characteristics of students described at the minimal, inaccurate, irrelevant or biased level in 2 or more of the 8 required areas. Implications based on this information are missing or not appropriately stated in at 2 areas.	Characteristics of students described at the minimal, inaccurate, irrelevant or biased level in 1 of the 8 required areas. Implications based on this information are clearly stated and complete for 6 of the 7 areas.	Characteristics of students described clearly at a substantive, accurate, and unbiased level in all of the 8 required areas. Implications based on this information are clearly stated and complete for the 7 required areas.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.

Learning Goals & Pre/Post Assessment Rubric				
Prompt Areas	**Beginning**	**Developing**	**Proficient**	**Exemplary**
LGA 1 List 2 to 3 learning goals **KTS 2.1**	None of the learning goals are clear or logical for one or more of the following: learning outcomes, stated in behavioral terms, focused on the unit topic, appropriate for student abilities, and appropriate for content/curriculum	Only one clear learning goal provided Or one of the 2 to 3 learning goals are not clear or logical for one or more of the following: learning outcomes, stated in behavioral terms, focused on the unit topic, appropriate for student abilities, and appropriate for content/curriculum.	2 to 3 learning goals stated as clear, logical learning outcomes, stated in behavioral terms, focused on the unit topic, appropriate for student abilities, and appropriate for content/curriculum.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.
LGA 2 Levels of learning goals **KTS 3.1**	Goals do not reflect revised Bloom's Taxonomy with at least one goal at or above the Analyzing level.	Goals somewhat reflect revised Bloom's Taxonomy with at least one goal at or above the Analyzing level.	Goals reflect revised Bloom's Taxonomy with at least one goal at or above the Analyzing level.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.
LGA 3 Alignment of Learning Goals with standards **KTS 2.1**	Not every learning goal is aligned with local, state or national standards Or content and Bloom's levels are incorrect.	Each of the learning goals is not correctly and logically aligned with local, state or national standards in content and Bloom's levels. Some standards are missing or incorrectly aligned with goals.	Each of the learning goals is correctly and logically aligned with local, state or national standards in content and Bloom's levels.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.
LGA 4 Appropriateness of Learning Goals **KTS 2.2, 1.2**	Justification is missing for two goals Or 2 or more justifications of the required areas in the prompt	Justification is missing for one goal Or 3 or more justifications of the required areas in the prompt	Clear and logical justification in the 4 required areas for learning goal appropriateness: student prior knowledge, student learning needs and/or developmental appropriateness, authentic real world, and other relevant connections.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.
LGA 5 Mastery levels for each Learning Goal **KTS 3.1**	Mastery level is not provided for each goal Or it is not mathematically possible Or indicates level that is too low for student abilities or discipline	Mastery level for each goal may not be mathematically possible or indicates lower expectations for student abilities or discipline	Mastery level for each goal is mathematically possible and indicates high expectations for student abilities or discipline	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.
LGA 6 Pre-post Assessment Blueprint: Learning Goals **KTS 5.1, 5.3**	All assessment items are not aligned to specific learning goals, correct level of Bloom's, and content standard.	All assessment items are clearly and appropriately aligned to 2 of the following: specific learning goals, correct level of Bloom's, and content standard.	All assessment items are clearly and appropriately aligned to specific learning goals, correct level of Bloom's, and content standard.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.
LGA 7 Pre-post Assessment Blueprint: Adaptations **KTS 2.2**	Description of adaptations does not meet the individual needs of students as described in the contextual factors or no description is provided.	Description of adaptations does not clearly meet the individual needs of students as described in the contextual factors or description is incomplete.	Clear, logical description of adaptations that meet the individual needs of students as described in the contextual factors	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.
LGA 8 Pre-post Assessment Blueprint: Modes of Assessments **KTS 5.1, 5.3**	The pre and post assessment represents only one mode or assessments do not integrate knowledge, skills and/or reasoning ability.	The pre and post assessment duplicates some modes or assessments do not require clear integration of knowledge, skills and/or reasoning ability.	The pre and post assessment includes multiple modes and requires the integration of knowledge, skills and/or reasoning ability.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.

LGA 9 Pre-post Assessment Blueprint: Scoring Criteria **KTS 5.1**	Scoring procedures are not explained; assessment items or prompts are not written for student understanding; mastery levels are not defined; directions and procedures are not clear to students. Scoring key and/or rubrics are incomplete.	Scoring procedures are not well explained; assessment items or prompts are not clearly written; mastery levels are not clearly defined; directions and procedures are not clear to students. Scoring key and/or rubrics are attached but do not include all required components.	Scoring procedures are explained, assessment items or prompts are clearly written, mastery levels defined, directions and procedures are clear to students. Scoring key and/or rubrics are attached and include all required components.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.

Design for Instruction				
Criteria	**Beginning**	**Developing**	**Proficient**	**Exemplary**
DI 1 Results of pre-assessment **KTS 5.4, 2.2**	Depicted the results of the pre-assessment. Failure to administer pre-assessment or to accurately provide 2 or more of the following information pieces and implications as they relate to learning goals: Number of students mastering each learning goal; type of missed questions/tasks; and content/skill of incorrect responses. For each of the above areas, identify the implications derived from pre-assessment data and adjustments planned due to information from pre-assessment data analysis.	Depicted the results of the pre-assessment. Administration of pre-assessment but failure to accurately provide 1 of the following information pieces and implications as they relate to learning goals: Number of students mastering each learning goal; type of missed questions/tasks; and content/skill of incorrect responses. For each of the above areas, identify the implications derived from pre-assessment data and adjustments planned due to information from pre-assessment data analysis.	Depicted the results of the pre-assessment. Administration of pre-assessment and accurate inclusion of the following information pieces and implications as they relate to learning goals: Number of students mastering each learning goal; type of missed questions/tasks; and content/skill of incorrect responses. For each of the above areas, identify the implications derived from pre-assessment data and adjustments planned due to information from pre-assessment data analysis.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.
DI 2 Unit Overview **KTS 2.1, 1.3, 2.5, 1.1, 1.2**	Provides a limited description for 5 of the following criteria in unit overview: Learning goals and objectives for each day/lesson; Topic/activity per day related to at least one learning goal; Instructional strategies content aligned with Bloom's levels and differentiation of instruction. Variety of research-based strategies, activities, alignments/resources Student engagement Real world connections; Description multiple formative assessments that are appropriate and aligned to the Learning Goals; Specific adaptations and differentiation per strategy that address Contextual Factors and the pre-assessment.	Provides an adequate description for 6 following criteria in unit overview: Learning goals and objectives for each day/lesson; Topic/activity per day related to at least one learning goal; Instructional strategies content aligned with Bloom's levels and differentiation of instruction. Variety of research-based strategies, activities, alignments/resources Student engagement Real world connections; Description multiple formative assessments that are appropriate and aligned to the Learning Goals; Specific adaptations and differentiation per strategy that address Contextual Factors and the pre-assessment.	Provides thorough understanding of the following criteria in unit overview: Learning goals and objectives for each day/lesson; Topic/activity per day related to at least one learning goal; Instructional strategies content aligned with Bloom's levels and differentiation of instruction. Variety of research-based strategies, activities, alignments/resources Student engagement Real world connections; Description multiple formative assessments that are appropriate and aligned to the Learning Goals; Specific adaptations and differentiation per strategy that address Contextual Factors and the pre-assessment.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.
DI 3 Integration of Technology **KTS 6.1**	Minimal technology use in planning and instruction	Some technology use in planning and instruction	Demonstrate technology integration in planning and instruction and how P-12 student use of technology will be integrated in unit for higher level thinking activities and in a real world context.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.

DI 4 Instructional Strategies **KTS 1.1, 1.2, 1.3, 2.4, 2.5**	Provides an limited description of two instructional strategies from different learning goals for 2 of the following criteria in unit overview: Identification of appropriate content related strategies to meet Learning Goals and revised Bloom's levels; Instructional strategies meet student needs through appropriate adaptations and differentiated instruction based on pre-assessment data. Real world connections; Discussion of materials/technology.	Provides an adequate description of two instructional strategies from different learning goals for 3 of the following criteria in unit overview: Identification of appropriate content related strategies to meet Learning Goals and revised Bloom's levels; Instructional strategies meet student needs through appropriate adaptations and differentiated instruction based on pre-assessment data. Real world connections; Discussion of materials/technology.	Thorough and clear description of two instructional strategies from different learning goals that includes: Identification of appropriate content related strategies to meet Learning Goals and revised Bloom's levels; Instructional strategies meet student needs through appropriate adaptations and differentiated instruction based on pre-assessment data. Real world connections; Discussion of materials/technology.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.
DI 5 Formative Assessments **KTS 2.3, 5.4**	Provides a limited description for 1 of the following criteria in unit overview: Description of assessment and purpose; Justify appropriateness for the content and developmental level of students; Inclusion of formative assessments and scoring criteria.	Provides an adequate description for 2 of the following criteria in unit overview: Description of assessment and purpose; Justify appropriateness for the content and developmental level of students; Inclusion of formative assessments and scoring criteria.	Thorough and clear explanation of Formative Assessments including the following items: Description of assessment and purpose; Justify appropriateness for the content and developmental level of students; Inclusion of formative assessments and scoring criteria.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.

Analysis of Student Learning				
Criteria	**Beginning**	**Developing**	**Proficient**	**Exemplary**
ASL 1 Visual Representation of Student Performance **KTS 6.4**	No use of technology tools to create graphs/tables; graphs/tables are hand drawn. 3 or more required graphs/tables are not included. Or All required graphs/tables from the prompt are included but most are inaccurate, do not communicate student learning gains, or do not compare groups and assessments correctly.	Poor use of technology tools to create graphs/tables; graphs/tables do not clearly or accurately communicate data. 1 or 2 required graphs/tables are not included. Or All required graphs/tables from the prompt are included but some are inaccurate, do not communicate student learning gains, or do not compare groups and assessments correctly.	Excellent use of technology tools to create graphs/tables that communicate student learning data legibly and accurately. At least three graphs/tables from the prompt are included, providing accurate data to communicate, assess, and compare student learning gains. Representations are labeled accurately.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.
ASL 2 Analysis of Student Performance **KTS 5.4, 7.1**	No discussion for 2 or more graphs or 2 or more goals; or inaccurate discussion and reflection of data results and interpretation for all learning goals. No alignment of analysis with learning goals, contextual factors, and curriculum standards for each required graph and each learning goal. No conclusions drawn from data or incorrect data used. No reference to trends and patterns in student performance. No interpretation of student misconceptions of content.	Accurate and logical description and reflection on data results and interpretation for only one learning goal; or no discussion for one graph for one or more goals; or inaccurate discussion and reflection of data results and interpretation for some learning goals. Unclear or inaccurate alignment of analysis with learning goals, contextual factors, and curriculum standards for each required graph and each learning goal; or discussion of alignment of analysis with learning goals, contextual factors, and curriculum standards is left out for one or more graphs/goals. Inaccurate conclusions drawn from data or inaccurate data used to draw conclusions. Little or no reference to trends and patterns in student performance. Unclear or inaccurate interpretation of student misconceptions of content.	Accurate and logical description, analysis, evaluation and reflection on data results to determine progress of individuals and groups toward learning goals. Identify differences in progress among student groups. Clear, accurate alignment of analysis with learning goals, contextual factors, and curriculum standards for each required graph and each learning goal. Meaningful conclusions drawn from data and reported using both percentages and raw data. Clear and accurate reference to trends and patterns in student performance. Thorough interpretation of student misconceptions of content.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.

ASL 3 Instructional Implications from Data **KTS 2.4, 7.2**	Inaccurate reflection and evaluation of instructional practice for future teaching and discussion is missing for 2 or more groups or two or more goals. Inaccurate reflection and evaluation of instructional practice for future teaching or no discussion. No discussion of content/skills that need remediation or discussion is not based on data results or results are missing for 2 or more groups or for 2 goals.	Accurate reflection and evaluation of instructional practice for future teaching but discussion is missing for 2 or more groups or one or more goals; or inaccurate reflection and evaluation of instructional practice for future teaching. Insufficiently identifies small groups for specific content/skills based on data representations and clearly evaluates instructional practice in terms of specific student needs that were noted in contextual factors. Unclear description which goal the students made the most learning gains and the goal students made the least learning gains; inadequate discussion on which learning goal determined the best conceptual understanding of content and why; and inadequate discussion which learning goal provided more learning gains due to the assessment mode and why. Unclear description of 2 changes that could be made to instruction and assessment for this unit if the unit were to be taught again. Inadequate description of reinforcement and extension activities of this unit.	Clear reflection and evaluation of instructional practice to inform future teaching. Competently identifies small groups for specific content/skills based on data representations and clearly evaluates instructional practice in terms of specific student needs that were noted in contextual factors. Thoroughly describes which goal the students made the most learning gains and the goal students made the least learning gains; discusses which learning goal determined the best conceptual understanding of content and why; and discusses which learning goal provided more learning gains due to the assessment mode and why. Clearly describes 2 changes that could be made to instruction and assessment for this unit if the unit were to be taught again. Appropriately provides logical, detailed discussion of reinforcement and extension activities of this unit.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.
ASL 4 Analysis of an Individual Student **KTS 1.5**	Inaccurate data used for student evaluation. No conclusions drawn about the extent to which this student attained learning goals in this unit. No description of student's misconceptions about content, assessment or instruction. No discussion of student's misconceptions about content. No discussion on how formative assessments helped with instructional adjustment. No reflection of what could have been done differently. No description of next steps.	Inaccurate portrayal and description of the individual student's data from pre-, formative, and post-assessments. Inappropriate conclusions drawn about the extent to which this student attained learning goals in this unit. Inaccurate description of student's misconceptions about content, assessment, and instruction or parts missing. Unclear discussion on how formative assessments helped with instruction adjustment. Collaborative efforts did not connect to student results. Inaccurate, short reflection of what could have been done differently. Little description of next steps or unclear connection of next steps to student success.	Accurate portrayal and description of an individual student's data from pre-, formative, and post-assessments along with the instruction and connection to contextual factors. Appropriate conclusions drawn about the extent to which this student attained learning goals in this unit. Accurately describes students' misconceptions about content with clear discussion on how formative assessments helped with instruction adjustment. Includes any collaborative efforts. Clear discussion on how formative assessments helped with instruction adjustment. Any collaborative efforts connect to student results. Accurate, in-depth reflection of what could have been done differently. Thorough description of next steps for individual.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.

Reflection of Teaching Rubric				
Criteria	**Beginning**	**Developing**	**Proficient**	**Exemplary**
R 1 Self-assessment of KTS **KTS 9.1**	Completes self-assessment of KTS standards before and after completion of TWS but leaves 3 or more standards blank Or does not complete either pre-assessment or post-assessment of KTS standards.	Completes and includes self-assessment of KTS standards before and after completion of TWS but leaves 2 or more standards blank.	Completes and includes entire self-assessment of KTS standards before and after completion of TWS.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.
R 2 Identify Teaching Strengths **KTS 7.2, 7.3, 9.1**	Short and disconnected discussion of 1 of the teacher's strengths as related to self-evaluation of KTS, Or discussion is very vague and not related to KTS, Provides no examples from teaching experience in this unit to support discussion.	Short and disconnected discussion of 2 of teacher's strengths as related to self-evaluation of KTS and student learning Or discussed only 1 teacher strength related to self-evaluation of KTS, Provides one example from teaching experience in this unit that is unrelated to the KTS strength discussed and student learning.	Appropriate, logical, detailed discussion of 2 of teacher's strengths as related to self-evaluation of KTS and student learning. Provides one or more examples from teaching experience in this unit in revealing each KTS strength discussed.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.
R3 Identify areas of Professional Development **KTS 7.2, 7.3, 9.1, 9.2**	Discussion of teacher's needs for improvement is not related to self-evaluation of KTS Or only one improvement is discussed. Description of one or more priorities for your own professional development is vague and not clearly based on specific data from self-assessment and student performance. Include a specific plan for growth.	Discussion of one or more of teacher's needs for improvement as related to self-evaluation of KTS may not be clear, logical, or appropriate. Description of one or more priorities for your own professional development is not clearly based on specific data from self-assessment and student performance. Include a specific plan for growth.	Appropriate, logical, detailed discussion of 2 of teacher's needs for improvement as related to self-evaluation of KTS. Clearly describes 2 to 3 priorities for your own professional development based on specific data from self-assessment and student performance. Include a specific plan for growth.	Achieves the Proficient level with minimal assistance on the first attempt and demonstrates above and beyond the Proficient level.

Student Learning Outcome 2: SMED 470 Problem-Based Unit of Instruction Final Project Rubric and Final Presentation Rubric Part I.

Instructions: *Students are assigned to groups of 1-3 students to develop a 1-week Project-Based Instruction Unit Plan.*

Final Project Checklist: The completed final project will be submitted both electronically and in hard copy and counts for **200 points** of your final grade in this class. All group members MUST participate equally in the production of the final project AND in the final project presentation. **DUE DATE:** _____

Component (points)	Descriptions
1) Introduction: (*15*)	Overview of project providing:

	a) Title-Includes the PBI title and all group members names b) Target Audience – *For what grade level or course is this project intended?* c) Project Description – *Includes time frame for unit completion as well as a brief discussion of the central theme or concepts and the scope and sequence of lessons including student milestones and final product.* d) Driving Question/Grand Challenge – *Provides the focus for the Project-based unit and meets criteria for a driving question as discussed in this class.* e) Overall Goals – *Narrative describing how the individual lessons will develop the "big ideas" about the project's underlying science. Puts the project objectives into a larger context.* f) Project Objectives –*Lists specific skills, knowledge or products that "students will be able to…" do or complete by the end of the project.* g) Rationale – *Describes the reason this project is significant and should be done. Sells the project to a wider audience of parents, school administrators, experts in the fields, etc.* h) Background – *Provides more detailed description of scientific and mathematic content and concepts that teachers and students will need to understand to develop a quality product. Should refer explicitly to the Final Concept Map submitted with this project.* h) Standards – *Lists the NCTM/NGSS and KYCORE objectives and standards for the discipline (mathematics, science or computer science) that will be introduced, developed or demonstrated in this project-based unit.* i) Go Public – *Describes the student product in some detail, how the product will be presented to the community and provides a rubric to assess the quality of the final product.*	2011	2
2) Anchor video - (20)			

Multiple Perspectives Videos-At least 2(10) Generate Ideas Handout(5)	Should *engage students directly* with the problem/ phenomenon to be explored or investigated; should help to *make the abstract math or science concepts more concrete*; should be *situated in real world* events or experiences that are identifiable and relevant. For information about the theory, history, how to and archive, go to: http://www.edb.utexas.edu/anchorvideo/howto.php
3) Project-based Scenario Concept Map (5)	"Concept maps are a form of graphical representation in which students arrange and label nodes and links to show relationships among multiple concepts in a domain; they are intended to elicit students' understanding of a domain's conceptual structure." (p. 265, *Knowing What Students Know, 2001, NAS Press, found on-line at http://www.nap.edu/openbook.php?isbn=0309072727*)
4) Project Calendar (10)	Detailed list of activities, sequenced daily over the entire course of the project duration of approximately 2 weeks in length.
5) Lesson Plans (2-6 plans depending on group size) (100 points total) ***5a)Go Public Lesson Plan(20)***	A minimum of 2 lesson plans per group member; one lesson should be a KTIP benchmark lesson and one lesson should be a 5E investigation. Discussion and examples of these are provided in class. Final Conclusions that students display. Examples: Oral presentation; poster/project; role play. MUST include an evaluation rubric.
6) Letter to parents (10)	Explains purpose of the project, student artifacts and/or final products and describes any materials that may have to be purchased by students as well as any financial support you can offer as needed. Finally, invites parents to the presentations of final products. *Must be professionally written in business style.
7) Resources (5)	List ALL resources necessary for completion of the project, including equipment for each lesson plan activity, web sites for student information gathering, experts in the field, locations for field study visits, etc.

Part II.

Assignment: PBI Final Project Presentation DUE DATE: _____

Instructions: *Students are to develop and deliver a presentation based on their Project-Based Instruction Unit Plan.* **This assignment is worth 50 points.**

Presentation Requirements:

- Make a 12-15 minute formal final project presentation following the directions below. Prepare and present a power point talk with the following 5 slides. Each person on your team will speak for AN EQUAL AMOUNT OF TIME during the final presentation power point OR everyone on the team will lose points!

Slide 1) Grand Challenge

a. Describe how this driving question provides the focus and scope for BOTH the problem-based scenario that introduces the unit and the open-ended project-based unit that follows;
b. Discuss how this Grand Challenge accomplishes meets the state and National Standards intended.
c. Describe the objectives that students are expected to master by completing this project.

Slide 2) Anchor Video (Grand Challenge Video)

a. Show the anchor video.
b. Describe how the video anchors instruction for your unit (both the problem-based introduction and the project-based follow up) and engages the students with the math and/or science concepts that will be uncovered and investigated deeply during the project-based unit;

Slide 3) Project Components

a. Share the project calendar, discussing the essential components, such as the 5E lessons;
b. Describe or elaborate on how you will manage this project work, including how you will assess when scaffolds are needed for students during the project development.

Slide 4) Final Project Evaluation /Rubric

a. Describe your expectations for an excellent, adequate and an unacceptable student product and/or presentation
b. Share your final project evaluation rubric, describing how or why you have assigned the points to each required component;
c. Describe how you will manage the final presentations (for example, as a seminar or trade show?) and who you will invite to participate as evaluators.

Slide 5) Lessons Learned by your team while preparing this PBI unit

Tell us what you have learned about developing, designing, modifying and working collaboratively on this unit.

Total possible points = 50

Student name: _____

RUBRIC FOR COMPREHENSIVE ANALYSIS: _____ / 100

ITEM (POINTS)	BEGINNING (1)	DEVELOPING (2)	PROFICIENT (3)	DISTINGUISHED (4)
Analysis Of Engagement **(20 Points)**	(0-13) Student provides a partial, perhaps irrelevant, answer to the prompt. There is little evidence of understanding. Major grammar, spelling, or syntax errors exist.	(14-16) Student provides a partial answer to the prompt. There is some evidence of understanding. Grammar, spelling, or syntax errors are present.	(17-19) Student provides answers for all parts of the question. Explanations could be more explicit. There is evidence of clear understanding. Minor grammar, spelling, or syntax errors exist.	(20) Student provides answers for all parts of the question. All explanations are clear and concise. There is evidence of clear understanding. Grammar, spelling, and syntax are flawless.
Analysis Of Questioning **(20 Points)**	(0-13) Student provides a partial, perhaps irrelevant, answer to the prompt. There is little evidence of understanding. Major grammar, spelling, or syntax errors exist.	(14-16) Student provides a partial answer to the prompt. There is some evidence of understanding. Grammar, spelling, or syntax errors are present.	(17-19) Student provides answers for all parts of the question. Explanations could be more explicit. There is evidence of clear understanding. Minor grammar, spelling, or syntax errors exist.	(20) Student provides answers for all parts of the question. All explanations are clear and concise. There is evidence of clear understanding. Grammar, spelling, and syntax are flawless.
Analysis Of Cooperative Learning **(20 Points)**	(0-13) Student provides a partial, perhaps irrelevant, answer to the prompt. There is little evidence of understanding. Major grammar, spelling, or syntax errors exist.	(14-16) Student provides a partial answer to the prompt. There is some evidence of understanding. Grammar, spelling, or syntax errors are present.	(17-19) Student provides answers for all parts of the question. Explanations could be more explicit. There is evidence of clear understanding. Minor grammar, spelling, or syntax errors exist.	(20) Student provides answers for all parts of the question. All explanations are clear and concise. There is evidence of clear understanding. Grammar, spelling, and syntax are flawless.
Other Aspects Of Instruction **(10 Points)**	(0-6) Student provides a partial, perhaps irrelevant, answer to the prompt. There is little evidence of understanding. Major grammar, spelling, or syntax errors exist.	(7-8) Student provides a partial answer to the prompt. There is some evidence of understanding. Grammar, spelling, or syntax errors are present.	(9) Student provides answers for all parts of the question. Explanations could be more explicit. There is evidence of clear understanding. Minor grammar, spelling, or syntax errors exist.	(10) Student provides answers for all parts of the question. All explanations are clear and concise. There is evidence of clear understanding. Grammar, spelling, and syntax are flawless.

Comprehensive Reflection **(30 Points)**	(0-20) Incomplete reflection with no emphasis on how improvement of teaching skills will be measured.	(21-25) Incomplete reflection with little emphasis on how improvement of teaching skills will be measured.	(26-29) Comprehensive reflection identifies strengths and weaknesses and how to improve. Student identifies how improvement of teaching skills will be measured.	(30) Comprehensive and insightful reflection demonstrating recognition of strengths and weaknesses and how to improve. Student identifies how improvement of teaching skills will measured.