Program Review Executive Summary Template

board prior to submission to the State Regents. Executive summaries should be possible within two pages using this template format. pages. This template is provided to assist institutions in providing a brief summary, which is to be presented to the institutional governing Based on the thorough program review addressing all criteria in policy, a comprehensive report should be possible within ten or fewer

Institution Name: Rose State College

Program Name and State Regents Code: Earth and Environmental Science (1522 & 0392)

List Any Options: Atmospheric Science, Geology, Earth Science Education, Quality/Safety, Science & Analytical and Natural

Resources

Date of Review: 11/15/2019 Recommended Date of Next Review: 2029

Centrality to Institutional Mission:

environmental science, geology, and meteorology, all in the context of a modern earth-systems-science approach. This Interdisciplinary science degree program focuses on helping students prepare for a wide range of possible career paths Courses and programs in the Department of Earth and Environmental Sciences expose students to the fundamentals in

Program Objectives and Goals:

- Atmospheric Science, Industrial Safety, or other STEM related field 1. Preparing students to transfer to a four-year college or university to pursue a degree in Environmental Science, Geology
- 2. Providing students of all majors with courses that fulfill the general education requirements in science for their specific program
- 3. Providing a higher education program in Earth and Environmental Science that fosters lifelong learning to a diverse population.

Quality Indicators Such Ass

- Student Learning Outcomes
- Effective Teaching
- Effective Learning Environments
- External Curricular Evaluation
- Capacity to Meet Needs and Expectations of Constituencies
- the program options under the Earth and Environmental Science Program.

 They are transferring these degrees to 4 year institutions. Articulation agreements have also been set in place.
- Effective Teaching: Students evaluate the faculty and the faculty in turn perform a self-evaluation for administrators and their constructive criticism. All of these evaluations consistently result in high performance and satisfaction ratings. Adjunct faculty are periodically evaluated by the full time faculty and the Associate Dean.

| Number of Degrees: 7.2 Number of Majors: 60 | |
|--|---|
| | Productivity for Most Recent 5 Years |
| majors to better serve the student. | |
| the students need for graduation. We offer courses for majors and non- | |
| needs and expectations. Many of the courses taught in the Earth and Environmental Sciences Program are General Education requirements that | |
| relevant student satisfaction surveys which are meant to determine student | |
| constituent is the student and the college has developed statistically | |
| Capacity to Meet Needs and Expectations of constituencies: Our first | |
| Oklahoma and East Central University). | |
| (University of Oklahoma, Oklahoma State University, University of Central | |
| articulation agreements with the 4 year transfer institutions in the state | |
| expectations and transferability of the A.S. degree. There are also | |
| Course Equivalency Project to align course to determine student needs, | |
| Program participates with the Oklahoma Regents for Higher Education | |
| External Curricular Evaluation: The Earth and Environmental Science | · |
| the lab assistant and new lab equipment is purchased when needed. | |
| visit the instructor's office hours. Laboratory equipment is maintained by | |
| assist in effective teaching. Students also have the ability to seek tutoring or | |
| individualized instruction. Classrooms are equipped with multimedia to | |
| Students experience small class sizes which provide for more | |
| media, sat on debate panels and also received awards for their teaching abilities. | |
| Some of the faculty have been guest lecturers, subject matter experts for the | CONTROL AND |

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| logistics move, was meant to keep all of our students in the program, together, in one centralized location on campus. The Earth and | | |
| Environmental Science Building is now called the STEM Building. This | - | |
| were combined to create the Earth and Environmental Science Program. | | |
| In 2018 the Geoscience Program and the Environmental Science Program | • | Effective Use of Resources |
| universities. | | |
| degree. Additionally, we have articulation agreements with many state | | |
| different times to afford a diverse student population opportunities to earn a | | |
| Regents for Higher Education. Courses within the program are offered at | | |
| eyceeds the productivity indicator requirements set by the Oklahomo States | • | |
| more diverse degree options and growth in the college community | | |
| not available at other state community colleges. This program allows for | | |
| Environmental Science degree is a path for many different options that are | | |
| aspect of this degree. However, Rose State College Earth and | | |
| | • | Duplication and Demand |
| | | transferred to another institution |
| Environmental Science Program a 36% graduation success rate. | | of students from this program who have |
| students graduated from their institution, giving the Earth and | | If available, information about the success |
| students transferred to another institution. Of those 118 students, 42 | | five years |
| Of the 303 students sent to the clearing house, 171 were found, of those 118 | • | graduates of the program over the past |
| Technician) | | employment or advanced studies of |
| (Adjunct), Dean Carlberg (Adjunct) and Stephanie Andres (Lab | | If available, information about |
| April Moreno-Ward (Adjunct), Fenton Rood (Adjunct), Amanda Kis | | courses within the curriculum |
| Pedersen (Adjunct), Rachel Miller (Adjunct), Molly Pattullo (Adjunct), | | number of FTE faculty in the specialized |
| Steve Carano (full time tenured), Daniel Ratcliff (full time tenured), Carl | • | Roster of faculty members including the |
| The 5 year average of supporting credit hour production is 2106 hours | • | - Supporting Credit Hour Production |
| and Travel \$0 are the mean averages over 5 years. | | - Direct Instructional Costs |
| Salaries \$144, Benefits \$5,117, Supplies & Operational Expenditures \$312 | | Student Credit Hour in Major |
| Instructional Salaries \$10,186, Adjunct Salaries \$2,630, Classified Staff | • | Number of Courses for Major |
| 15 Courses for Majors with a 5 year average of 2,265 student credit hours. | • | Other Quantitative Measures Such As: |

| | | | | | | | Strengths and Weaknesses | | | | | TO THE PROPERTY OF THE PROPERT |
|--|--|---|---|--|---|--|---|--|---|---|--|--|
| Earth and Environmental Science classes. | All classes, labs, and offices are co-located on the third floor of the STEM Building with a total of three lecture halls and one laboratory dedicated to the | Partnerships and articulation agreements transfer to the state universities. Facilities are well equipped by using technology funds to assist in student | studies, modeling, field days (visiting geological/environmental phenomenon and operational meteorological environments) and research | faculty with resources as needed. Faculty are willing to implement innovative learning techniques inside and outside the classroom. Some examples include hands on learning case. | Administration, at both the division and institutional level, is supportive of the STEM curriculum, and recognizes the need to recruit and retain quality | Program, as well as support staff, within the Engineering and Science Division have a diverse educational and research background. | Strengths: Highly qualified faculty members in the Earth and Environmental Science | program has also procured private funds and grants to help aid different and exciting ways of instruction. | Management System called Canvas, which allows for both on-line, traditional and hybrid courses. The Earth and Environmental Science | staff. Additional services include Early Alert for student retention, Testing Center, STEM Lab and Tutoring. All instructors use the Learning | Office provides counseling and disability services for both students and | better support for our students. All classrooms have multimedia, Wi-Fi |

| The current lab pay rate of 0.57 hours/lab hour lags behind the lab compensation in Oklahoma's community colleges. An increase of teaching lab pay rate in order to make it comparable to other colleges in Oklahoma can ensure attracting qualified instructors. Pay rate increase for adjunct faculty compared to other community colleges in Oklahoma. Students are entering college with inadequate math, writing skills and basic knowledge of Earth and Environmental science. Students do not always declare a major which will hinder them from being properly mentored. Students also don't take courses in the recommended sequence. Therefore, they will end up in course where they do not have the prerequisites or they are on a path that is not setting them up for success. Economic environment, especially in the Geosciences, has made students leery of majoring in a science where the local energy companies have had fluctuations in hiring or laying off employees. Increase majors and graduates by promoting enrollment through proper advisement. Actively engage students to improve success and retention. Maintain relationships with the state universities for articulation. Hire one (1) more full time faculty that can teach both Geology & Environmental Science Continue to reach out to elementary schools, middle schools and highs schools about STEM degrees by either inviting them to campus or visiting them at their schools for recruitment. Increase lab pay rates to retain faculty and bolster a positive workplace environment. Continue to seek external partnerships and grants to foster the current educational environment. |
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Program Review Summary Template 3.7 Academic Program Review

Based on the thorough internal or external program review addressing all criteria in policy, a comprehensive report should be possible within ten or fewer pages. This program review template is provided to assist institutions in compiling the program review information, which is to be presented to the institutional governing board prior to submission to the State Regents. Executive Summaries should be possible within two pages using the provided template (Program Review Executive Summary Template).

Description of the program's connection to the institutional mission and goals:

The Rose State College Earth and Environmental Science Program aligns with the vision and goals of the college in three key areas:

- 1. Preparing students to transfer to a four-year college or university to pursue a degree in Environmental Science, Geology, Atmospheric Science, Industrial Safety, or other STEM related field;
- 2. Providing students of all majors with courses that fulfill the general education requirements in science for their specific program of interest; and
- 3. Providing a higher education program in Earth and Environmental Science that fosters lifelong learning to a diverse population.

3.7.5 Process (Internal/External Review):

Previous Reviews and Actions from those reviews:

Analysis and Assessment (including quantitative and qualitative measures) noting key findings from internal or external reviews and including developments since the last review:

The full time Earth & Environmental Science faculty develops, routinely reviews, and updates curriculum in their program. Some of the courses in the program have applied the Oklahoma State Regents Course Equivalency Project to facilitate the Comprehensive Action Plan to improve student transfers. In 2018 the Geoscience Program and the Environmental Science Program were combined to create the Earth and Environmental Science Program. This action was made to create a more robust program and includes three-degree options in Environmental Science which are Quality/Safety, Natural Resources, and Science & Analytical and three-degree options from Geoscience which are Atmospheric Science, Geology, and Earth Science Education. Additionally, this was a logical pairing due to the logistics of the programs being located together on the third floor of the STEM building.

A. Centrality of the Program to the Institution's Mission: (Institution's response/rationale should follow each criteria of this policy; (Size of box provided is <u>NOT</u> an indicator of the length of response expected; please include as much information as needed to thoroughly address each standard.)

Courses and programs in the Department of Earth and Environmental Sciences expose students to the fundamentals in environmental science, geology, and meteorology, all in the context of a modern earth-systems-science approach. This Interdisciplinary science degree program focuses on helping students prepare for a wide range of possible career paths.

B. Vitality of the Program:

B.1. Program Objectives and Goals:

The Rose State College Earth & Environmental Science degree program provides students with the analytical skills and scientific knowledge to expand and apply critical thinking to all facets of learning. The expected program outcome is to provide a comprehensive lower division education for students who plan to transfer to a baccalaureate degree program.

Atmospheric Science Option-Upon completion, the graduate will be able to:

- 1. Demonstrate a solid foundation in geology, math, and related sciences appropriate for students transferring to a four-year institution.
- 2. Demonstrate an understanding of how basic atmospheric science principles and how they relate to observations made.
- 3. Display an understanding of scientific inquiry, scientific methodology, application of critical thinking, use of technology, writing and oral communication skills.
- 4. Recognize and use appropriate resources from literature and the scientific community.
- 5. Understand how atmospheric sciences apply to the many facets of society.

Earth Science Education Option-Upon completion, the graduate will be able to:

- 1. Demonstrate a solid foundation in math and sciences appropriate for students transferring to a four-year institution.
- 2. Demonstrate an understanding of basic scientific principles and how they relate to observable features.
- 3. Demonstrate an understanding of how science applies to many facets of society.
- 4. Display an understanding of scientific inquiry, scientific methodology, application of critical thinking, use of technology, writing and oral communication skills.
- 5. Recognize and use appropriate resources from literature and the scientific community.

Geology Option-Upon completion, the graduate will be able to:

- 1. Demonstrate a solid foundation in geology, math, and related sciences appropriate for students transferring to a four-year institution.
- 2. Demonstrate an understanding of how basic geologic principles and how they relate to observable features.
- 3. Demonstrate an understanding of how geology applies to many facets of society.
- 4. Critically analyze theories regarding the formation of Earth and the materials that make it up.
- 5. Display an understanding of scientific inquiry, writing, and oral presentations.
- 6. Recognize and utilize appropriate resources from scientific literature.

Environmental Quality/Safety Option-Upon completion the graduate will be prepared to:

- 1. Understand and apply principles of environmental media, chemistry, waste management and health and safety concepts.
- 2. Integrate information from across the scientific disciplines and apply these concepts to complex environmental problems.
- 3. Collect and interpret scientific data in both field and lab settings.
- 4. Design experiments by applying critical thinking and scientific methodology to various inquires.
- 5. Effectively communicate to diverse audiences using written, oral, and graphic methods.

Natural Resources Option-Upon completion the graduate will be prepared to:

- 1. Understand and apply principles of the natural components of environmental media and man's impact upon their quality.
- 2. Integrate information from across the scientific disciplines and apply these concepts to complex environmental problems.
- 3. Collect and interpret scientific data in both field and lab settings.
- 4. Design experiments by applying critical thinking and scientific methodology to various inquires.

Science and Analytical Option-Upon completion the graduate will be prepared to:

- 1. Understand and apply principles of zoology/microbiology, chemistry, physics, and math that are relevant to natural systems and environmental processes.
- 2. Integrate information from across the scientific disciplines and apply these concepts to complex environmental problems.
- 3. Collect and interpret scientific data in both field and laboratory settings.
- 4. Design experiments by applying critical thinking and scientific methodology to various inquires.
- 5. Effectively communicate to diverse audiences using written, oral, and graphic methods.

B.2. Quality Indicators (including Higher Learning Commission issues):

Quality Indictors used will be Student Outcomes, Effective Teaching, Effective Learning Environments, External Curricular Evaluation and the Capacity to Meet Needs and Expectations of Constituencies.

Student Outcomes: Students are successfully completing the course work of the program options under the Earth and Environmental Science Program. They are transferring these degrees to 4 year institutions. Articulation agreements have also been set in place.

Effective Teaching: Students evaluate the faculty and the faculty in turn perform a self-evaluation for administrators. All of these evaluations consistently result in high performance and satisfaction ratings. Adjunct faculty are periodically evaluated by the full time faculty and the Associate Dean. Some of the faculty have been guest lecturers, subject matter experts for the media, sat on debate panels and also received awards for their teaching abilities.

Effective Learning Environments: Students experience small class sizes which provide for more individualized instruction. Classrooms are equipped with multimedia to assist in effective teaching. Students also have the ability to seek tutoring or visit the instructor's office hours. Laboratory equipment is maintained by the lab assistant and new lab equipment is purchased when needed.

External Curricular Evaluation: The Earth and Environmental Science Program participates with the Oklahoma Regents for Higher Education Course Equivalency Project to align courses to determine student needs, expectations and transferability of the A.S. degree. There are also articulation agreements with the 4 year transfer institutions in the state (University of Oklahoma, Oklahoma State University, University of Central Oklahoma and East Central University).

Capacity to Meet Needs and Expectations of Constituencies: Our first constituent is the student. The college has developed statistically relevant student satisfaction surveys which are meant to determine student needs and expectations. Many of the courses taught in the Earth and Environmental Sciences Program are General Education requirements that the students need for graduation. We offer courses for majors and non-majors to better serve the student.

B.3. Minimum Productivity Indicators:

| Time Frame (e.g.: 5 year span) | Head Count | Graduates |
|--------------------------------|------------|-----------|
| 2015 | 67 | . 11 |
| 2016 | 70 | 9 |
| 2017 | 61 | 4 |
| 2018 | 56 | 5 |
| 2019 | 46 | 7 |

| Total | 300 | 36 |
|---------|-----|-----|
| Average | 60 | 7.2 |

B.4. Other Quantitative Measures:

b.4.a. Number of courses taught exclusively for the major program for each of the last five years and the size of classes:

| Courses | 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------|------|------|------|------|------|
| ENSC 2113 | 1/6 | 1/9 | 1/8 | 1/9 | 1/3 |
| ENSC 2123 | 1/8 | 1/10 | 1/10 | 1/6 | 1/7 |
| ENSC 2191 | 1/2 | 1/4 | 1/4 | 2/5 | 1/3 |
| ENSC 2233 | 1/10 | 1/11 | 1/13 | 1/4 | 1/9 |
| ENSC 2403 | 1/7 | 1/5 | 1/5 | 1/2 | 1/3 |

| GEOL 1121 | 1/4 | 1/4 | | | |
|-----------|-----|-----|-----|-----|-----|
| GEOL 1123 | 1/6 | 1/5 | | | |
| GEOL 1124 | | 1/4 | | | 1/1 |
| GEOL 2002 | | 1/6 | | | |
| GEOL 2801 | | 1/5 | 1/1 | | |
| METR 1313 | | 1/4 | 1/4 | 1/4 | |
| METR 2113 | | | | | 1/4 |
| METR 2123 | 1/3 | 1/3 | | 1/4 | 1/3 |
| METR 2802 | 1/3 | 1/3 | | 1/4 | 1/3 |
| METR 2901 | 2/3 | 1/3 | | 1/4 | 1/3 |

(number of courses / enrollment)

b.4.b. Student credit hours by level generated in all major courses that make up the degree program for five years:

| Year | 2015 | 2016 | 2017 | 2018 | 2019 |
|----------------|------|------|------|------|------|
| 1000 level | 1993 | 2158 | 2224 | 2310 | 2095 |
| 2000 level | 122 | 144 | 109 | 104 | 68 |
| Total Cr. Hrs. | 2115 | 2302 | 2331 | 2414 | 2163 |

b.4.c. Direct instructional costs for the program for the review period:

| Instructional Salaries | \$10,186 |
|-------------------------------------|----------|
| Adjunct Salaries | \$2,630 |
| Classified Staff Salaries | \$144 |
| Benefits | \$5,117 |
| Supplies & Operational Expenditures | \$312 |
| Travel | \$0 |

Figures are mean averages over the last 5 years.

b.4.d. The number of credits and credit hours generated in the program that support the general education component and other major programs including certificates:

| | ool alloaton. | | | | |
|-----------|---------------|---------|---------|---------|---------|
| | 2015 | 2016 | 2017 | 2018 | 2019 |
| ENSC 1101 | 7/61 | 7/80 | 7/85 | 7/64 | 7/67 |
| ENSC 1103 | 63/1242 | 66/1389 | 69/1557 | 69/1620 | 78/1482 |
| GEOL 1114 | 20/153 | 16/111 | 12/72 | 8/66 | 8/45 |
| METR 1121 | 2/32 | 2/36 | 2/21 | 2/31 | 2/29 |
| METR 1123 | 15/432 | 18/456 | 18/453 | 24/495 | 27/453 |

(number of credits/credit hours generated)

b.4.e. A roster of faculty members, faculty credentials and faculty credential institution(s). Also include the number of full time equivalent faculty in the specialized courses within the curriculum:

| Faculty | Credential | Institution that granted degree |
|-------------------------------------|----------------------------|-----------------------------------|
| Steve Carano (full time tenured) | B.S. Operational | Mississippi State University, |
| , | Meteorology, B.A. | University of Oklahoma and |
| | Journalism and M.S. | Mississippi State University |
| | Geosciences | |
| Daniel Ratcliff (full time tenured) | B.S. Wildlife & Fisheries | Oklahoma State University |
| | Ecology and M.S. | |
| | Environmental Science | |
| Carl Pedersen (Adjunct) | B.S. Biology, B.S. Biology | University of Steven's Point, |
| | Education and M.S. Natural | Southwest Minnesota State |
| | Resources Management | University and North Dakota State |
| | | University |
| Rachel Miller (Adjunct) | B.S. Geology and M.S. | SUNY Oswego and Rutgers |
| | Environmental Geology | University |
| Molly Pattullo (Adjunct) | B.S. Geology and M.S. | Arkansas Tech University and |
| | Geology | University of Tennessee |
| April Moreno-Ward (Adjunct) | B.A. Classics and M.S. | Texas Tech University and |
| | Geology | University of Texas at Arlington |
| Fenton Rood (Adjunct) | B.A. Geography and | University of Oklahoma |
| | Masters of Public Health | |
| Amanda Kis (Adjunct) | BS Mathematics, MS | University of Wisconsin, |
| | Meteorology and PhD | University of Oklahoma and |
| | Meteorology | University of Oklahoma |
| Dean Carlberg (Adjunct) | B.S. Chemistry and M.S. | Old Dominion University and |
| | Environmental Science | University of Oklahoma |
| Stephanie Andres (Lab | B.S. Chemistry | Oklahoma State University |
| Technician) | | |

b.4.f. If available, information about employment or advanced studies of graduates of the program over the past five years:

Records show that 118 students transferred to another institution to continue their studies. Information about employment is not available.

b.4.g. If available, information about the success of students from this program who have transferred to another institution:

According to the National Student Clearinghouse, there were 118 students that transferred to another institution and 42 (36%) went on to earn a higher degree.

| Sent | Found | Transferred | Graduate from Transfer |
|------|-------|-------------|------------------------|
| 303 | 171 | 118 | 42 (36%) |

B.5. Duplication and Demand:

In cases where program titles imply duplication, programs should be carefully compared to determine the extent of the duplication and the extent to which that

duplication is unnecessary. An assessment of the demand for a program takes into account the aspirations and expectations of students, faculty, administration, and the various publics served by the program. Demand reflects the desire of people for what the program has to offer and the needs of individuals and society to be served by the program.

Address Duplication: Other community colleges in the state do offer some aspect of this degree. However, Rose State College Earth and Environmental Science degree is a path for many different options that are not available at other state community colleges. This program allows for more diverse degree options and growth in the college community.

Address Demand:

The Earth and Environmental Science degree program exceeds the productivity indicator requirements set by the Oklahoma State Regents for Higher Education. Courses within the program are offered at different times to afford a diverse student population opportunities to earn a degree. Additionally, we have articulation agreements with many state universities.

According to the Bureau of Labor Statistics:

Employment of atmospheric scientists, including meteorologists, is projected to grow 8 percent from 2018 to 2028, faster than the average for all occupations. The best job prospects for atmospheric scientists will be in private industry. Atmospheric scientists need a bachelor's degree in atmospheric science or a closely related field for most positions.

Employment of environmental engineering technicians is projected to grow 9 percent from 2018 to 2028, faster than the average for all occupations. Employment in this occupation typically is tied to projects created by environmental engineers. State and local governments' concerns regarding water availability and quality should lead to efforts to increase the efficiency of water use. Typical degree level for this occupation is an associate's degree.

Employment of environmental science and protection technicians is projected to grow 9 percent from 2018 to 2028, faster than the average for all occupations. Environmental science and protection technicians should have good job prospects overall. Environmental science and protection technicians typically need an associate's degree or 2 years of postsecondary education, although some positions require a bachelor's degree.

Employment of environmental scientists and specialists is projected to grow 8 percent from 2018 to 2028, faster than the average for all occupations. Heightened public interest in the hazards facing the environment, as well as increasing demands placed on the environment by population growth, are expected to spur demand for environmental scientists and specialists. Environmental scientists and specialists need at least a bachelor's degree in a natural science or science-related field for most entry-level jobs.

Employment of geological and petroleum technicians is projected to grow 7 percent from 2018 to 2028, faster than the average for all occupations. Demand for natural gas is expected to increase demand for geological exploration and extraction in the future. Geological and petroleum technicians typically need an associate's degree or 2 years of postsecondary training in applied science or a science-related technology.

Employment of geoscientists is projected to grow 6 percent from 2018 to 2028, as fast as the average for all occupations. The need for energy, environmental protection, and responsible

land and resource management is projected to spur demand for geoscientists in the future. Geoscientists need at least a bachelor's degree for most entry-level positions.

b.5.a. Detail demand from students, taking into account the profiles of applicants, enrollment, completion data, and occupational data:

Rose State College (RSC) is an open enrollment institution in a diverse community that provides students equitable access to a college education. These degree paths within the Earth and Environmental Science degree program transfer not only the general education requirements but also the program requirements with articulation agreements to many state universities. RSC sets students up for success at the university level. Additionally, 36% of Rose State students that transferred to other institutions, did graduate.

b.5.b. Detail demand for students produced by the program, taking into account employer demands, demands for skills of graduates, and job placement data:

Many of the options in this degree program mainly transfer to the baccalaureate degree at the university. However, some options, allow the student to find jobs with the Associates in Science degree. Some of these jobs could include, emergency management, water & wastewater operators, environmental science technician, environmental engineering technician, petroleum technician, and/or teaching assistant.

b.5.c. Detail demand for services or intellectual property of the program, including demands in the form of grants, contracts, or consulting:

The Earth and Environmental Science Program at RSC is not mandated for services or intellectual property. It is not a program outcome. However, we have written grants to enhance the classroom teaching.

b.5.d. Detail indirect demands in the form of faculty and student contributions to the cultural life and well-being of the community:

Students are allowed to explore STEM related courses which can spark an interest in pursuing a science degree. The faculty in this program have extensive knowledge and experience in this degree program. Many of the faculty enrich the community by spending their own time in public speaking and promoting the college. Additional time is spent by the faculty and staff volunteering to support science fairs, quiz bowls, demonstrating STEM projects and other community service activities.

b.5.e. The process of program review should address meeting demands for the program through alternative forms of delivery. Detail how the program has met these demands:

The Earth and Environmental Science program meets the demand for the traditional and non-traditional delivery methods for courses. We have face-to-face, on-line, 8 week fast track, hybrid; day and evening courses in the fall, spring and summer sessions. This program also offers Interactive Television (ITV) courses for concurrent high school students and students within the Department of Corrections.

B.6. Effective Use of Resources:

Resources include financial support, (state funds, grants and contracts, private funds, student financial aid); library collections; facilities including laboratory and computer equipment; support services, appropriate use of technology in the instructional design and delivery processes, and the human resources of faculty and staff.

In 2018 the Geoscience Program and the Environmental Science Program were combined to create the Earth and Environmental Science Program. With the \$22 million capital improvement project, the old Health and Environmental Science Building is now called the STEM Building. This logistics move, was meant to keep all of our students in the program, together, in one centralized location on campus. The Earth and Environmental Science program now has adequate space to grow with better support for our students. All classrooms have multimedia, Wi-Fi access and laboratory space for better instruction. The Special Services Office provides counseling and disability services for both students and staff. Additional services include Early Alert for student retention, Testing Center, STEM Lab and Tutoring. All instructors use the Learning Management System called Canvas, which allows for both on-line, traditional and hybrid courses. The Earth and Environmental Science program has also procured private funds and grants to help aid different and exciting ways of instruction.

Institutional Program Recommendations: (describe detailed recommendations for the program as a result of this thorough review and how these recommendations will be implemented, as well as the timeline for key elements)

| Recommendations | Implementation Plan | Target Date |
|--|--|-------------|
| Increase Productivity | -Promote enrollment though proper advisement -Actively engage students to improve success and retention -Maintain relationships with the universities for articulation | ongoing |
| Full Time Faculty hired for Geology & Environmental Science within the program | -As allowed by Rose State College budget | Fall 2020 |

Summary of Recommendations:

| | Department | School/College | Institutional |
|----------------------|---------------------------|---------------------------|---------------------------|
| Possible | Earth & Environmental | Engineering & Science | Rose State College |
| Recommendations: | Science | Division | |
| Expand program (# of | Continue to increase | Continue to increase | |
| students) | majors | majors | |
| Maintain program at | Click here to enter text. | Click here to enter text. | Click here to enter text. |
| current level | | | |
| Reduce program in | Click here to enter text. | Click here to enter text. | Click here to enter text. |
| size or scope | | | |
| Reorganize program | Choose an item. | Choose an item. | Choose an item. |
| | | | |
| Suspend program | Choose an item. | Choose an item. | Choose an item. |
| | | | |
| Delete program | Choose an item. | Choose an item. | Choose an item. |
| | | | |

| Department/ Program Head (Signature) | Date_ | 11/20/19 |
|--------------------------------------|-------|----------|
| Dean Wayne (Signature) | Date_ | 11/20/19 |