Program Review

Based on the thorough program review addressing all criteria in policy, a comprehensive report should be possible within ten or fewer pages. This template is provided to assist institutions in providing a brief summary, 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 this template format.

Institution Name: Rose State College
Program Name and State Regents Code: Baccalaureate Track Nursing Associate in Science 0152
List Any Options:
Date of Review: October 2019 **Recommended Date of Next Review:** Fall 2024

Centrality to Institutional Mission:
The Rose State College Mission states: "As a public, open admissions, associate degree granting institution, Rose State College provides higher education preparation for lifelong learning through programs and services designed to serve a diverse community." The Baccalaureate Track Nursing program is central to the institutional mission by preparation of student's entrance into Nursing Science programs and for transfer to four-year colleges and universities.

Program Objectives and Goals:
The Associate in 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.

Upon completion, the graduate will be prepared to:

1. Describe the properties attributed to living organisms in order to appreciate the scope of those things that may impact patients.
2. Apply quantitative measurements to problems and topics related to the Nursing Sciences (such as microbial growth, genetics, etc).
3. Employ critical thinking and scientific methodology when addressing various nursing problems.
4. Evaluate how technology is used to answer questions related to patient care, and be able to assess which tools are best suited to answer various questions.
5. Appraise current issues in the scientific community.
6. Assess different ethical and legal questions that a nursing student may encounter and create a sociological and psychological foundation necessary for a nursing career.

Quality Indicators Such As: – **Student Learning Outcomes** – **Effective Teaching** – **Effective Learning Environments** – **External Curricular Evaluation** – **Capacity to Meet Needs and Expectations of Constituencies**	**Student Outcomes:** • Students are evaluated by daily assignments, quizzes, exams, presentations (oral and written), projects, and performance in the lab setting. o Sample evaluations: Presentations on identifying unknown microorganisms. Field trips to disease diagnostic labs. • A robust Honors Program allows students to conduct individual research projects. o Sample projects: "Identifying microbes in cosmetics past the expiration date." "Use of electrocardiogram to evaluate an aortic valve condition." "Using BioLab Software in the Human Physiology Lab to collect EEG data." • Quantitative reasoning and effective writing skills are also assessed. o Sample writing assessments: Summaries of primary literature, evaluation of case studies, final essay of evaluated course outcomes. **Effective Teaching:** • In addition to standard student evaluations, faculty are allowed to perform a self-evaluation. They are observed and evaluated by administrators and peers. • Faculty implementation of innovative learning techniques such as; flipped classrooms, active learning, case studies, scientific paper critiques and discussions, and construction of biological models. • Discipline-wide use of the campus LMS (Canvas) to deliver course materials to learners. • Faculty commitment to engage and assist students beyond classroom time and office hours. Readiness and accessibility to students. Faculty offer Friday "Physiology Club" to meet one-on-one with students and facilitate study groups. Faculty hold video office hours/tutorials as needed (through Google Appointments or Zoom). • Design of inquiry-based curriculum by biological science faculty that develops critical thinking skills. • Faculty have authored lab manuals for Introduction to Biology, General Biology, Zoology, Botany, and Physiology. **Effective Learning Environments:** • Small class sizes provide individualized instruction. • All classrooms and lab rooms are equipped with computers, AV data projectors, and access to the world-wide-web. • Availability of computer stations in most life science lab rooms for immediate analysis and graphing of data collected during lab experiments. • Recent capital improvements updated lighting to LED, replaced flooring, and remodeled bathrooms to be more ADA compliant. • Comfortable seats in both lecture and lab classrooms promote student attention and contribute to a positive learning environment. • Biological models, dissection specimens (heart, brain, kidney), preserved lung specimens for respiration, skulls, living specimens and posters on classroom walls create an immersion atmosphere. • Tutoring is available for students through the Learning Resource Center and Tutor.com.

- Faculty maintain offices hours specifically to meet with students.
- Student centered support workshops and seminars are available.

External Curricular Evaluation:

- Participation with Oklahoma Regents for Higher Education Course Equivalency Project.
- Articulation agreements with University of Central Oklahoma (UCO).

Capacity to Meet Needs and Expectations of Constituencies:

- The college has developed statistically relevant student satisfaction questionnaires. These are conducted periodically to determine student needs and expectations. Resources are allocated based on the results of the questionnaires.
- An academic advisor is assigned to address student academic questions and issues. The advisor is located in a central location that is accessible to all students.

Productivity for Most Recent 5 Years	**Number of Degrees:** 20 (2015), 18 (2016), 24 (2017), 14 (2018), 26 (2019): **Avg = 20.4** **Number of Majors:** 186 (2015), 190 (2016), 182 (2017), 164 (2018), 196 (2019): **Avg: 183.6**
Other Quantitative Measures Such As: – **Number of Courses for Major** – **Student Credit Hour in Major** – **Direct Instructional Costs** – **Supporting Credit Hour Production** – **Roster of faculty members including the number of FTE faculty in the specialized courses within the curriculum** – **If available, information about employment or advanced**	• **Number of courses for the major**: 12 courses to select from within Chemistry, Biology, Health Sciences, Psychology, and Sociology. • **Student credit hour in major**: 42 Credit Hours **Direct Instructional** costs: Instructional Salaries 28518 Adjunct Salaries 10599 Classified Staff Salaries 3325.8 Benefits 13878 Supplies & Oper. Exp. 6370.2 Travel 105.4 Total 62796.4 **Supporting Credit Hour Production** 21 credit hours **Full Time Faculty** (Biological Sciences Department): 4 Amy Hurst — Ph.D. Biomedical Sciences Leanne May — M.S. Animal Science Cory Rubel — Ph.D. Cell Biology Angela Collymore-Slovak — Ph.D. Biomedical Sciences **Clearing House Data**

- **studies of graduates of the program over the past five years**
- **If available, information about the success of students from this program who have transferred to another institution**

Majors Sent to Clearing House	Sent to National Student Clearinghouse	Found in the Clearinghouse System	Transferred	Transferred/Total Sent	Transferred /Sent and Found in System	Transferred and Graduated from Transfer School
0152 Baccalaureate Track Nursing	852	535	337	40%	63%	93

Duplication and Demand	**Duplication**: Other community colleges' in the state do have Nursing programs. However, the Rose State College Baccalaureate Track Nursing Associate in Science is unique among programs in that it is a 2-year pathway designed specifically to transfer to a Baccalaureate degree program. It is also more readily available to students in eastern Oklahoma county. Transfer agreements with UCO allow students that complete the Baccalaureate Track Nursing Associate in Science at Rose State College to enter into their Nursing Program needing only an additional 10 hours in UCO's pre-professional coursework, compared to needing 24 additional hours in UCO's pre-professional coursework if only completing the AAS. **Demand**: According to the United States Department of Labor, "Employment of registered nurses is projected to grow 12 percent from 2018 to 2028, much faster than the average for all occupations." (https://www.bls.gov/ooh/healthcare/registered-nurses.htm#tab-6) The median earning potential for a Registered Nurse nationally is $71,730 (https://www.bls.gov/ooh/healthcare/registered-nurses.htm#tab-5) when considering those practitioners involved in diagnosing and treating patients, registered nurses, and other occupations for those individuals with a nursing degree. Job prospects in the field are good due to the need to replace retiring workers; however, there has been an uptick in nurses entering the labor market in recent years and this has created greater competition for jobs. Therefore, the Bureau of Labor Statistics projects that "registered nurses with a Bachelor of Science degree (BSN) in nursing will have better job prospects than those without." Additionally, within the Engineering and Science Division the Baccalaureate Track Nursing Associate in Science has the 2nd highest number of declared majors. Therefore, institutionally demand is high for this program.
Effective Use of Resources	**The Biological Sciences Department** has resources that facilitate the Baccalaureate Track Nursing Associate in Science degree requirements: 1. High-quality microscopes. 2. Video cameras mounted on microscopes for the capture of still shots and video of microscopic life. 3. Quality materials for microbial culturing, dissection specimens, and biotechnology tools. 4. Living and preserved specimens for lab investigations: including bacteria, protists, fungal cultures, sheep brains, pig lungs, bovine heart, and porcine kidney. 5. Educational software including interactive study guides, complex concept animations, and laboratory simulations. 6. Storage for specimens including an ultrafreezer (-80C) 7. Biocapture devices to measure EMG, ECG, EEG, respiratory volumes, and surface temperature.

	8. Biological safety equipment (safety hoods and autoclaves) **Media and Materials** The Learning Resource Center (LRC) at Rose State College holds a wealth of resources in the life sciences that include: 1. Reference publications including books, dictionaries and encyclopedias 2. Books in biology and health related topics 3. Audiovisual items including CD ROMs, DVDs, and VHS 4. Journals (hardcopy) of medical, and health-related organizations 5. Online journal databases including EBSCO and DynaMed.
Strengths and Weaknesses	***Strengths:*** • Highly qualified faculty members with a diverse educational and research background. • Full-time faculty are hired to fulfill needs of high demand courses, such as Physiology, in order to strengthen the program. • Full-time faculty are assigned to foundation classes such as General Biology. Since full-time faculty have mandatory office hour requirements this allows students greater access to help outside of class during peak-times. • Adjunct faculty are informed of their class preparation, when possible, 4 months in advance so that they have time to prepare materials. Adjunct faculty are supported by full-time faculty leaders that obtain materials, share resources, and generate schedules. • All faculty are supported by a highly qualified lab assistant to set up labs and prepare lab materials. • Willingness of faculty to implement innovative learning techniques inside and outside of class. Examples include; active learning, flipped classrooms, case studies, scientific paper critiques and discussions, construction of biological models, and research projects. • Creation in the last year of a *Biological Concepts* class to help strengthen students that may be deficient in General Biology curriculum. • Faculty commitment to engage and assist students beyond classroom time and office hours. Faculty members routinely take or encourage students to attend lectures on science (such as Neuro night at OUHSC) and field trips (such as OMRF research labs, OADDL, Myriad Botanical Gardens, and Martin Park). Our faculty and advisors are committed to providing accessibility to students. • Program degree sheet updated for clarity. • Partnership with OSU, UCO, OU, and LU to provide scholarships, research opportunities and a smooth transfer to baccalaureate programs for under-represented students. For example the Langston University NASA Advanced Research (LUNAR) grant. • Facilities are well equipped with technology to assist in student learning. For example, Physiology recently received updated probes for data collection such as heart rate, temperature, and much more. General Biology and Microbiology have state of the art image collection equipment for image capture of gel electrophoresis and microbial plate counting.

- Administration, at both the division and institution level, is supportive of the STEM field and recognizes the need to not only recruit and retain quality faculty, but also provide resources for those faculty.
- The Associate Dean of the division has a PhD in Botany and carries a split time 50% teaching load.
- Technology funds are often made available for the purchase of some necessary items to enhance student learning.
- Developed a BIOL 1124 Gen Bio Hybrid course to meet the needs of our diverse student population.
- Biological Sciences Program Coordinator effectively creates and shares course schedules with full-time and adjunct faculty; schedules lab dates for all BIOL 1124 and BIOL 1114 labs; and is able to enter courses into the OASIS system.
- All lab offerings are linked to specific lectures so that students will have the same instructor for both lecture and lab.
- The Rose State College Engineering and Science Division has worked to create a formal Institutional Review Board (IRB) that would allow for the expanded ability to apply for grants.

Weaknesses:

- The current lab pay rate of 0.5882 hr/lab hour lags behind lab compensation in other Oklahoma community colleges. A revision of teaching lab pay to make it equal to comparable colleges in Oklahoma may help in the retention of qualified instructors who are willing to teach life science labs.
- There is no institutional step or longevity increases for faculty.
- There is no institutional step or longevity increases lab assistant. Lab assistant is currently responsible for managing over 20 lab sections and 8 different preparations. Could easily have a senior "Lab Manager" designation and also have a lab assistant to help the lab manager.
- Utilization of lab rooms is near maximum, not only preventing the opportunity for the development of new courses, but also limiting the number of sections of existing classes that can be offered.
- Lack of adequate facilities for growing and maintaining living plants, animals, or for the conduction of student experiments involving larger living organisms. Without these facilities, the cost of buying from other locations is expensive and inconvenient.
- Limited whole and live/preserved specimens and models in Biology, and Physiology labs.
- Students are entering the program with inadequate writing and math skills, and limited background in biological science.
- Students do not always take the courses in the recommended sequence. Therefore, they will end up in classes for which they do not have the prerequisites which impedes their success.
- Students are being advised away from taking STEM degrees. Students that express an interest in Nursing, Allied Health, Pre-medical, and related degrees are being advised to graduate with Enterprise Development degrees that only require 23 hours in *any* course work to meet program requirements. This results in a weak science foundation for the students and can pose severe challenges as they further their studies at four-year institutions.

	• With only 4 full-time faculty and a 50% faculty/administrator there is still a strong dependency on adjuncts. While adjuncts are highly qualified, many are working at multiple institutions limiting their ability to interact with students outside of class time. • Full-time faculty regularly teach 18 – 21 credit hours and a significant portion of these hours are equated lab hours. Full-time faculty are on their feet helping students in active learning lab environments closer to 27-29 contact hours and still maintaining outside office hours, study sessions, and online Zoom/Google help sessions.
Recommendations	The Baccalaureate Track Nursing AS degree program degree enrollment numbers have shown modest growth since the previous program review; increasing from an average 170.2 to the current average of 183.6. This increase came when the college as a whole experienced a decrease in enrollment. What is most impressive is the increase in number of graduates. The number of average graduates from the previous review has almost doubled; increasing from 10.4 to the current 20.4 average. The strengths of the faculty and administrative support has helped to achieve this growth. This dedication to rigor and student preparation has increased student perceptions, retention, and persistence. This has also helped with the desire of transferring institutions to work with our departments on transfer agreements. Despite these gains, state level funding continues to affect the ability to make facility upgrades or purchase additional specimens. Additionally, nationally projected enrollment declines could play a role in future outcomes. Every effort should be made to **maintain** the number of students declaring the Baccalaureate Track Nursing degree and continue to build on the increased graduation rates. Therefore it is recommended that the <u>following key points be addressed</u>; • Step or longevity pay increases to encourage the retention of current faculty. • Increasing lab pay rates will help to retain faculty and bolster a supportive workplace environment. • Hiring 1 additional full-time faculty member would help alleviate reliance on adjunct faculty and reduce current faculty workloads. • Full-time faculty schedules should maximize their ability to interact with students outside of the classroom. Full-time faculty should be scheduled to teach classes during peak times that students are on campus. • At the staffing level, create a Lab Manager designation for senior lab assistant and increase pay. • Create a part-time lab assistant position to help alleviate workload for senior lab assistant. • Add one additional lab space for high enrollment courses. • Institutionally, students need to be guided to the appropriate division level advisor as soon as they arrive on campus. . • Identify students that are underprepared for Biology and direct them to Concepts of Biology (BIOL 1001), or Introduction to Biology (BIOL 1114) before enrolling in the major's track General Biology (BIOL 1124).

	• Continue seeking external partnerships and grants as a necessary part of the current educational environment..

Program Review Summary Template
3.7 Academic Program Review
(optional)

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 Mission states: "As a public, open admissions, associate degree granting institution, Rose State College provides higher education preparation for lifelong learning through programs and services designed to serve a diverse community." The Biological Sciences program is central to the institutional mission by preparation of students requiring general education science courses and preparing majors students for transfer to four-year colleges and universities.

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:

- Retained most faculty. One faculty member from the past review has moved to an administrative position and is 50% teaching now. However, this did allow the department to hire a new full-time faculty with a focus on Physiology. This has allowed us to start adding in additional Physiology sections and better meet student needs.
- Lab pay has increased slightly from 0.57 per hour of lab to 0.5882 per hour of lab.
- Reworked Degree Sheet in 2016 for clarity.
- Transfer agreement with UCO allows for a faster path to the Nursing program using the AS degree compared to the AAS degree. .
- Remodeling of lights and flooring was carried out 2015 in conjunction with a bond passed by the Midwest City community.
- Overall, declared majors have increased slightly, but graduation numbers have nearly doubled in the past 5 years.

A. Centrality of the Program to the Institution's Mission:

The Rose State College Mission states: "As a public, open admissions, associate degree granting institution, Rose State College provides higher education preparation for lifelong learning through programs and services designed to serve a diverse community." The Baccalaureate Track Nursing program is central to the institutional mission by preparation of student's entrance into Nursing Science programs and for transfer to four-year colleges and universities.

B. Vitality of the Program:

B.1.Program Objectives and Goals:

The Associate in 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.

Upon completion, the graduate will be prepared to:

1. Describe the properties attributed to living organisms in order to appreciate the scope of those things that may impact patients.
2. Apply quantitative measurements to problems and topics related to the Nursing Sciences (such as microbial growth, genetics, etc).
3. Employ critical thinking and scientific methodology when addressing various nursing problems.
4. Evaluate how technology is used to answer questions related to patient care, and be able to assess which tools are best suited to answer various questions.
5. Appraise current issues in the scientific community.
6. Assess different ethical and legal questions that a nursing student may encounter and create a sociological and psychological foundation necessary for a nursing career.

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

Student Outcomes:

- Students are evaluated by daily assignments, quizzes, exams, presentations (oral and written), projects, and performance in the lab setting.
  - Sample evaluations: Presentations on identifying unknown microorganisms. Field trips to disease diagnostic labs.
- A robust Honors Program allows students to conduct individual research projects.
  - Sample projects: "Identifying microbes in cosmetics past the expiration date." "Use of electrocardiogram to evaluate an aortic valve condition." "Using BioLab Software in the Human Physiology Lab to collect EEG data."
- Quantitative reasoning and effective writing skills are also assessed.
  - Sample writing assessments: Summaries of primary literature, evaluation of case studies, final essay of evaluated course outcomes.

Effective Teaching:

- In addition to standard student evaluations, faculty are allowed to perform a self-evaluation. They are observed and evaluated by administrators and peers.

- Faculty implementation of innovative learning techniques such as; flipped classrooms, active learning, case studies, scientific paper critiques and discussions, and construction of biological models.
- Discipline-wide use of the campus LMS (Canvas) to deliver course materials to learners.
- Faculty commitment to engage and assist students beyond classroom time and office hours. Readiness and accessibility to students. Faculty offer Friday "Physiology Club" to meet one-on-one with students and facilitate study groups. Faculty hold video office hours/tutorials as needed (through Google Appointments or Zoom).
- Design of inquiry-based curriculum by biological science faculty that develops critical thinking skills.
- Faculty have authored lab manuals for Introduction to Biology, General Biology, Zoology, Botany, and Physiology.

Effective Learning Environments:

- Small class sizes provide individualized instruction.
- All classrooms and lab rooms are equipped with computers, AV data projectors, and access to the world-wide-web.
- Availability of computer stations in most life science lab rooms for immediate analysis and graphing of data collected during lab experiments.
- Recent capital improvements updated lighting to LED, replaced flooring, and remodeled bathrooms to be more ADA compliant.
- Comfortable seats in both lecture and lab classrooms promote student attention and contribute to a positive learning environment.
- Biological models, dissection specimens (heart, brain, kidney), preserved lung specimens for respiration, skulls, living specimens and posters on classroom walls create an immersion atmosphere.
- Tutoring is available for students through the Learning Resource Center and Tutor.com.
- Faculty maintain offices hours specifically to meet with students.
- Student centered support workshops and seminars are available.

External Curricular Evaluation:

- Participation with Oklahoma Regents for Higher Education Course Equivalency Project.
- Articulation agreements with UCO.

Capacity to Meet Needs and Expectations of Constituencies:

- The college has developed statistically relevant student satisfaction questionnaires. These are conducted periodically to determine student needs and expectations.
- Resources are allocated based on the results of the questionnaires.
- An academic advisor is assigned to address student academic questions and issues. The advisor is located in a central location that is accessible to all students.

B.3. Minimum Productivity Indicators:

Time Frame (e.g.: 5 year span)	Head Count	Graduates
2015	186	20
2016	190	18
2017	182	24
2018	164	14
2019	196	26

B.4. Other Quantitative Measures:

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

BIOL 2114/HSBC Human Anatomy	40 students per section class max
BIOL 2424 Physiology	32 students per section class max
HES 2323 Nutrition	24 students per section class max

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

BACC TRACK NURSING Number of Courses	
Year	# Courses
2015	235
2016	217
2017	231
2018	252
2019	253
Grand Total	1188

BACC TRACK NURSING Number of Enrollments	
Year	# Enrollments
2015	5141
2016	5159
2017	5465
2018	5845
2019	5657
Grand Total	27267

BACC TRACK NURSING	
Year/Term/Level	Tot Hours
2015	16821
2016	16982
2017	18080
2018	19374
2019	18940
Grand Total	90197

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

Direct Instructional costs:	
Instructional Salaries	28518
Adjunct Salaries	10599
Classified Staff Salaries	3325.8
Benefits	13878
Supplies & Oper. Exp.	6370.2
Travel	105.4

Total	62796.4

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

Number of Courses	
Year	# Courses
2015	196
2016	185
2017	195
2018	217
2019	216
Grand Total	1009

Total Hours	
Year/Term/Level	Tot Hours
2015	16665
2016	16854
2017	17936
2018	19234
2019	18792
Grand Total	89481

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
Adjoa Ahedor (50%) Associate Dean	PhD	University of Oklahoma
Amy Hurst	PhD	Oklahoma State University
Leanne May	MS	Oklahoma State University
Cory Rubel	PhD	Baylor University
Angela Collymore-Slovak	PhD	Oklahoma State University
Adjuncts	MS, PhD	Varies

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

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

Majors Sent to Clearing House	Sent to National Student Clearing house	Found in the Clearing house System	Transferred	Transferred /Total Sent	Transferred /Sent and Found in System	Transferred and Graduated from Transfer School
0152 Baccalaureate Track Nursing	852	535	337	40%	63%	93

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.

B.5. Duplication and Demand Issues:

Address Duplication:

Other community colleges' in the state do have Nursing programs. However, the Rose State College Baccalaureate Track Nursing Associate in Science is unique among programs in that it is a 2-year pathway designed specifically to transfer to a Baccalaureate degree program. It is also more readily available to students in eastern Oklahoma county. Transfer agreements with UCO allow students that complete the Baccalaureate Track Nursing Associate in Science at Rose State College to enter into their Nursing Program needing only an additional 10 hours in UCO's pre-professional coursework, compared to needing 24 additional hours in UCO's pre-professional coursework if only completing the AAS. Furthermore,

Address Demand:

According to the United States Department of Labor, "Employment of registered nurses is projected to grow 12 percent from 2018 to 2028, much faster than the average for all occupations." (https://www.bls.gov/ooh/healthcare/registered-nurses.htm#tab-6) The median earning potential for a Registered Nurse nationally is $71,730 (https://www.bls.gov/ooh/healthcare/registered-nurses.htm#tab-5) when considering those practitioners involved in diagnosing and treating patients, registered nurses, and other occupations for those individuals with a nursing degree. Job prospects in the field are good due to the need to replace retiring workers; however, there has been an uptick in nurses entering the labor market in recent years and this has created greater competition for jobs. Therefore, the Bureau of Labor Statistics projects that "registered nurses with a Bachelor of Science degree (BSN) in nursing will have better job prospects than those without."

- This demand is echoed by the number of students declaring Baccalaureate Track Nursing Associate in Science as a major. The degree has the second highest number of declared majors in the Engineering and Science Division at an average of 180.

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

"Employment of registered nurses is projected to grow 12 percent from 2018 to 2028, much faster than the average for all occupations." (https://www.bls.gov/ooh/healthcare/registered-nurses.htm#tab-6) The Bureau of Labor Statistics projects that "registered nurses with a Bachelor of Science degree (BSN) in nursing will have better job prospects than those without."

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:

Marketing and External affairs has reported that 95% of Rose State Graduates have a job.

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

Intellectual property is not a program outcome.

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

The demand for Nurses is immeasurable. For instance, in response to human health issues (infectious disease outbreaks, cancer treatment, medical care, and more), nurses are often involved in the immediate response, face-to-face patient interactions, and provide input on policies to best serve the public.

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:

- There are 2 sections of hybrid General Biology (BIOL 1124): One hybrid meets on Friday of every week for lecture and lab. The other hybrid lectures completely online, but meets for lab 1 Friday a month for 6 hours and carries out 3 -4 labs during this time.
- 8-week sections of BIOL 1124, BIOL 2424, and BIOL 2035 are offered during the summer session.
- Night/Evening sections are offered for BIOL 1124, BIOL 2424, and BIOL 2035.

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.

The Biological Sciences Department has resources that facilitate the Baccalaureate Track Nursing Associate in Science degree requirements:

1. High-quality microscopes.
2. Video cameras mounted on microscopes for the capture of still shots and video of microscopic life.
3. Quality materials for microbial culturing, dissection specimens, and biotechnology tools.
4. Living and preserved specimens for lab investigations: including bacteria, protists, fungal cultures, sheep brains, and pig lungs, bovine heart, porcine kidney.
5. Educational software including interactive study guides, complex concept animations, and laboratory simulations.
6. Storage for specimens including an ultrafreezer (-80C)
7. Biocapture devices to measure EMG, ECG, EEG, respiratory volumes, and surface temperature .
8. Biological safety equipment (safety hoods and autoclaves)

Media and Materials

The Learning Resource Center (LRC) at Rose State College holds a wealth of resources in the life sciences that include:

1. Reference publications including books, dictionaries and encyclopedias
2. Books in biology and health related topics
3. Audiovisual items including CD ROMs, DVDs, and VHS
4. Journals (hardcopy) of medical, and health-related organizations
5. Online journal databases including EBSCO and DynaMed.

*Low Producing Program Reviews follow a different format and template.

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
• The retention of current faculty.	• Increasing lab pay rates.	• ASAP
• Address staffing levels.	• Create a Lab Manager designation for senior lab assistant, increase pay, and create an assistant position.	• ASAP
• Guide students to the appropriate division level advisor	• Address at institutional level via Faculty Senate and Academic Affairs.	• Fall 2018

• Identify students that are underprepared for Biology	• Enroll students in BIOL 1001 (Biological Concepts)	• Implement Fall 2020

Summary of Recommendations:

	Department	School/College	Institutional
Possible Recommendations:	Biology	Engineering and Science	Rose State College
Expand program (# of students)	.	Incrementally grow the program ensuring resources are available	
Maintain program at current level	Keep approximately 180 declared majors		
Reduce program in size or scope			
Reorganize program			
Suspend program			
Delete program			

Department/
Program Head _____ (Signature) Date Nov. 19, 2019

Dean _____ (Signature) Date 11/19/19