HIGHER EDUCATION COORDINATING COMMISSION
255 Capitol Street NE, Salem, OR 97310
www.oregon.gov/HigherEd

Docket Item:

University Program Approval: Western Oregon University, Bachelor of Science (B.S.) in Aquarium Science

Summary:

Western Oregon University proposes a new degree program leading to a B.S. in Aquarium Science. The statewide Provosts' Council has unanimously recommended approval. Higher Education Coordinating Commission (HECC) staff completed a review of the proposed program. After analysis, HECC staff recommends approval of the program as proposed.

Staff Recommendation:

The HECC recommends the adoption of the following resolution:

> RESOLVED, that the Higher Education Coordinating Commission approve the following program: B.S. in Aquarium Science at Western Oregon University

Proposal for a New Academic Program

Institution: Western Oregon University and Oregon Coast Community College

College/School: WOU: College of Liberal Arts and Sciences

Department/Program Name: WOU: Biology; OCCC: Aquarium Science

Degree and Program Title: Bachelor of Science in Aquarium Science

1. Program Description

a. Proposed Classification of Instructional Programs (CIP) number.

03.0601: Wildlife, Fish and Wildlands Science and Management.
Definition: A program that prepares individuals to conserve and manage wilderness areas and the flora, marine and aquatic life therein, and manage wildlife reservations and zoological/aquarium facilities for recreational, commercial, and ecological purposes. Includes instruction in wildlife biology, marine/aquatic biology, environmental science, freshwater and saltwater ecosystems, natural resources management and policy, outdoor recreation and parks management, the design and operation of natural and artificial wildlife habitats, applicable law and regulations, and related administrative and communications skills.

b. Brief overview (1-2 paragraphs) of the proposed program, including its disciplinary foundations and connections; program objectives; programmatic focus; degree, certificate, minor, and concentrations offered.

Oregon Coast Community College (OCCC) offers a two-year Associate of Applied Science (AAS) degree in Aquarium Science. While the OCCC Aquarium Science program is very successful at placing students in entry-level jobs, the program alumni often find themselves limited in career advancement because they do not have a four-year degree. Additionally, an ever-increasing proportion of entry-level jobs require applicants to have four-year degrees. OCCC also offers a one-year certificate program for post-baccalaureate students; however this pathway requires students to take five years of coursework (four years at a baccalaureate-issuing institution and one-year at OCCC) before they can enter the workforce. An Aquarium Science BS degree offered jointly by WOU and OCCC will reduce the time and money required to pursue a career in Aquarium Science for students who know that they want a four-year degree, and will create additional career opportunities that are not available for students with an AAS Aquarium Science degree.

An Aquarium Science BS degree would teach students the practical skills needed to enter the workforce coupled with a broad liberal arts foundation, giving students the skills that employers expect when they require applicants to have a four-year degree. Additionally, the Aquarium Science BS degree will give the students a foundation in Biology and Business that will complement their focused training in Aquarium Science.

c. Course of study – proposed curriculum, including course numbers, titles, and credit hours.

The Bachelor of Science in Aquarium Science is a self-contained 180-credit degree completion program. Students will begin their degree at WOU and complete their general education requirements, Biology course work, Business course work, and upper division requirements over three years (118 credits). Students will spend their last year at OCCC taking their Aquarium Science course work (53 credits), which includes a 12-credit summer internship.

Students will apply to admission to the Aquarium Science degree during the Winter term of the year in which they plan to complete their course work at WOU, and will be notified before the start of the Spring term. The degree is structured so that students who do not get accepted into the Aquarium Science degree program can complete a Business BS degree with a Biology minor at Western in 180-credits.

Curriculum

The curriculum is comprised of four elements: Foundational Science courses, Business and Entrepreneurship courses, and Aquarium Science courses.

The Mathematics, Biology, Chemistry, and Earth Science coursework will create an important foundation for the Aquarium Science courses students take in their final year of the degree. The Business and Entrepreneurship courses will be valuable to students when they begin their careers because many AQS graduates work in small zoos and aquariums, or go into business for themselves.

The Aquarium Science courses listed below are identical to the required courses for AQS certificate students at Oregon Coast Community College.

Foundational Science (43-45 credits)

- MTH 110: Applied College Mathematics or MTH 111: College Algebra (4)
- CH 104: Chemistry and the Environment (4)
- ES 106: Earth Systems Science (4)
- BI 211: Principles of Biology I (4)
- BI 212: Principles of Biology II (4)
- BI 213: Principles of Biology III (4)
- ES 331: Introduction to Oceanography (3)
- Choose 4 of the below
    - BI 317: Vertebrate Natural History (4)
    - BI 343: Analysis of Biological Data (4)
    - BI 360: Animal Behavior (4)
    - BI 361: Marine Ecology (5)
    - BI 451: Invertebrate Zoology (5)
    - BI 453: Marine Vertebrates (4)

Business and Entrepreneurship (22 credits)

- BA 211: Financial Accounting (4)
- BA 310: Principles of Marketing (3)
- BA 315: Financial Management (3)
- BA 361: Organizational Behavior (3)

- BA 362: Business Ethics (3)
- BA 370: Business and Society (3)
- ENT 350: Small Business Management (3)

Aquarium Science (53 credits)

- AQS 100: Introduction to Aquarium Science (3)
- AQS 110: Aquarium Science Practicum 1 (2)
- AQS 111: Aquarium Science Practicum 2 (2)
- AQS 165: Current Issues in Aquarium Science (1)
- AQS 186: Introduction to Scientific Diving (3)
- AQS 215: Biology of Captive Fishes (4)
- AQS 216: Elasmobranch Husbandry (2)
- AQS 220: Biology of Captive Invertebrates (4)
- AQS 226: Biology of Diverse Captive Species (2)
- AQS 232: Reproduction & Nutrition of Aquatic Animals (4)
- AQS 240: Life Support System Design and Operation (4)
- AQS 245: Animal Husbandry in a Research Capacity (2)
- AQS 252: Exhibits and Interpretation (4)
- AQS 270: Fish & Invertebrate Health Management (4)
- AQS 295: Aquarium Science Internship (12)

Electives of the student's choosing (free electives) (min 22 credits)

The WOU General Education Program constitutes at least 40 credits in addition to the courses listed above. To complete a baccalaureate degree, students will need to take at least 22 credits of elective courses. Students will work closely with an academic advisors to ensure that their elective courses include sufficient upper division course work to complete the 60 upper division credit requirement of WOU.

d. Manner in which the program will be delivered, including program location (if offered outside of the main campus), course scheduling, and the use of technology (for both on-campus and off-campus delivery).

The first three years of the program will be offered at WOU. WOU offers in-person, hybrid and on-line courses. In addition to the Monmouth campus, WOU also offers a limited number of courses in Salem. The final year of the program will be offered at OCCC. The OCCC Aquarium Science courses are offered in-person.

e. Adequacy and quality of faculty delivering the program.

This program takes advantage of established programs at WOU and OCCC. The General Education courses, Foundational Science courses, and Business courses in the AQS BS degree are existing courses that are taught as part of the General Education program, the Biology curriculum, or the Business curriculum at WOU. The Aquarium Science courses are existing courses that are taught at OCCC. Both institutions have highly qualified faculty who will contribute to this program.

f. Adequacy of faculty resources – full-time, part-time, adjunct.

This program takes advantage of existing courses which are adequately staffed by current faculty at WOU and OCCC.

g. Other staff.

The degree will be housed in the Biology Department at WOU and the Aquarium Science Program at OCCC. Academic advising will be provided by Biology faculty at WOU and Aquarium Science faculty at OCCC. A faculty advisory board will govern the program and provide academic advising to students. The inaugural advisory board will be drawn from the faculty committee that developed this program, and other faculty interested in supporting interdisciplinary degree completion efforts. Administrative support to coordinate the program, especially the intake of new students and assignment of faculty advisors, will be provided by the Office of Academic Affairs.

h. Adequacy of facilities, library, and other resources.

WOU already has the facilities, library, and other resources in place to support the courses offered by WOU. OCCC likewise has the resources in place to support the courses offered by OCCC.

i. Anticipated start date.

Pending approval by HECC and NWCCU, we anticipate beginning this program in Fall 2020.

2. Relationship to Mission and Goals

a. Manner in which the proposed program supports the institution's mission, signature areas of focus, and strategic priorities.

WOU's mission is to create lasting opportunities for student success through transformative education and personalized support. WOU has made an enduring commitment to the value of teaching and learning, and emphasizes a student-centered, personalized approach to education. WOU places a high value on its role as an access institution in Oregon, offering programs that support the needs of our community members and makes education affordable. Our institutional priorities, as identified in our strategic plan, calls for the university to:

- Strengthen programs that support graduates' career, professional, and graduate school preparedness (I.1.3)
- Provide intentional and effective paths to graduation within 180 credits (I.2.1)
- Promote academic array that provides distinctive, high-quality programs (II.4.1)
- Promote interdisciplinary courses and degree programs that support collaborative and multidimensional educational experiences and pathways (II.4.4)
- Strengthen and expand community college partnerships to promote educational attainment (IV.3.5)

OCCC's mission include preparing students for success by providing educational pathways in response to the diverse needs of the community and to offer accessible and engaging programs that will enrich local community and beyond. One of their core objectives is to offer academic programs comprised of clear pathways to employment and self-development.

The proposed BS degree in Aquarium Science embodies WOU's and OCCC's missions in that it creates a clear educational pathway that combines the technical skills needed for a specific career

path with the fundamental skills of a liberal arts degree, such as communication, quantitative literacy skills, and critical thinking. While students can already combine a 4-year degree with an Aquarium Science certificate, the BS degree will allow students to complete their academic training in 4-years and 180 credits instead of 5 years and 233 credits. Likewise, students could currently earn an AAS in Aquarium Science degree then pursue a baccalaureate degree, but they would be entering the job market two years after completing their career-specific course work.

b. Manner in which the proposed program contributes to institutional and statewide goals for student access and diversity, quality learning, research, knowledge creation and innovation, and economic and cultural support of Oregon and its communities.

In 2011, Oregon passed legislation creating the 40-40-20 goal which aspires to have 40% of Oregonians complete a 4-year degree, 40% complete a 2-year degree or certificate, and 20% earn a high school diploma. In 2017, Oregon passed additional legislation clarifying that these targets are for young Oregonians rising through the education system. The BS in Aquarium Science provides a clear, career-oriented pathway for students to earn a 4-year degree.

In 2013, Oregon created a STEM Investment Council to aid in the advancement of the state's STEM goals. The creation of a STEM degree that gives Oregon high school students a clear career pathway will give more students access to STEM careers and the opportunity to develop the knowledge and skills needed to thrive in a competitive workforce.

c. Manner in which the program meets regional or statewide needs and enhances the state's capacity to:

i. improve educational attainment in the region and state;

One of the state goals is to increase the number of students earning 4-year degrees. Creating a clear pathway to a career-focused baccalaureate degree will help achieve that goal. Likewise, one of the state goals is to increase STEM education. The BS in Aquarium Science will give students an additional option for a STEM degree.

ii. respond effectively to social, economic, and environmental challenges and opportunities; and

People with baccalaureate degrees have higher rates of employment than people with associate's degrees. For example, according to the National Center for Education Statistics, in 2017, 25- to 34-year old men with a bachelor's degree had 5% higher rate of employment then men with some college but no bachelor's degree. For women, the difference was 8%. Using different data and dividing the data into slightly different categories, the Bureau of Labor Statistics reported similar trends: in 2017, people with bachelor's degree had an unemployment rate of 2.5%, people with an associate's degree had an unemployment rate of 3.4%, and people with some college but no degree had an unemployment rate of 4.0%. The Bureau of Labor Statistics also reported that the average weekly income of people with a bachelor's degree ($1,173) was 40% higher than the average weekly income of people with an associate's degree ($836). Creating a clear pathway to a 4-year degree for student's interested in aquarium science will give students more employment opportunities and a greater earning potential.

iii. address civic and cultural demands of citizenship.

This degree provides students interested in a career in aquarium science the opportunity to earn a degree that includes a broad-based liberal education, which will give them skills such as critical thinking skills, quantitative literacy skills, and communication skills which are essential in order for citizens to contribute constructively to society. Additionally, understanding how to properly care for aquatic organisms requires learning about ecology, environmental sustainability, and the proper management of resources; a healthy global society needs citizens who are well-versed in these valuable concepts.

3. Accreditation

a. Accrediting body or professional society that has established standards in the area in which the program lies, if applicable.

b. Ability of the program to meet professional accreditation standards. If the program does not or cannot meet those standards, the proposal should identify the area(s) in which it is deficient and indicate steps needed to qualify the program for accreditation and date by which it would be expected to be fully accredited.

c. If the proposed program is a graduate program in which the institution offers an undergraduate program, proposal should identify whether or not the undergraduate program is accredited and, if not, what would be required to qualify it for accreditation.

d. If accreditation is a goal, the proposal should identify the steps being taken to achieve accreditation. If the program is not seeking accreditation, the proposal should indicate why it is not.

4. Need

a. Anticipated fall term headcount and FTE enrollment over each of the next five years.

	Headcount projections, first 6 years of program					
	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Cohort 1 ('20-21)	4	4	4	4		
Cohort 2 ('21-22)		5	5	5	5	
Cohort 3 ('22-23)			6	6	6	6
Cohort 4 ('23-24)				8	8	8
Cohort 5 ('24-25)					10	10
Cohort 6 ('25-26)						12
Total	4.0	9.0	15.0	23.0	29.0	36.0

Projections are based on the interactions that of AQS faculty and administrators have had with potential, current, and former AQS students. Potential AQS students have expressed reluctance to enroll in a program at a community college, rather than a four-year institution. Current and former AQS students have expressed a desire to be able to obtain AQS training as part of a four-year degree.

	FTE projections (Average of 42.3 credits per year for years 1-3, 53 credits for year 4)					
	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Cohort 1 ('20-21)	3.8	3.8	3.8	4.8		
Cohort 2 ('21-22)		4.7	4.7	4.7	6.0	
Cohort 3 ('22-23)			5.6	5.6	5.6	7.2
Cohort 4 ('23-24)				7.5	7.5	7.5
Cohort 5 ('24-25)					9.4	9.4
Cohort 6 ('25-26)						11.3
Total	3.8	8.5	14.1	22.7	28.6	35.4

We assume that students will attend full-time. 42.3 credits is 0.94 FTE. 53 credits is 1.2 FTE.

b. Expected degrees/certificates produced over the next five years.

	Graduate projections, first 6 years of the program					
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Cohort 1 ('20-21)				4.0		
Cohort 2 ('21-22)					5.0	
Cohort 3 ('22-23)						6.0
Cohort 4 ('23-24)						
Cohort 5 ('24-25)						
Cohort 6 ('25-26)						
Total				4.0	5.0	6.0

c. Characteristics of students to be served (resident/nonresident/international; traditional/ nontraditional; full-time/part-time, etc.).

There are only 10-15 colleges or universities in the United States which offer 4-year degrees in zoo or wildlife science. Of those, only three (Roger Williams University, St. Francis University, and the University of New England) have a degree that emphasizes aquarium science. Additionally, none of those institutions are in the Rocky Mountain region or western United States. As such, we expect this program to attract students from all over the United States, especially from Oregon, California, Idaho, Nevada and Washington. The AAS and certificate Aquarium Science programs currently offered at OCCC has attracted students from 13 states over the past 3 years.

d. Evidence of market demand.

A survey of the job listings on the Association of Zoos & Aquariums website shows that in the past year approximately 33% of aquarist or related aquarium jobs require a bachelor's degree, and the majority of job postings prefer a bachelor's degree. As stated above, the average salary for individuals with a bachelor's degree is 40% higher than individuals with an associate's degree. This difference in salary reflects a difference in the value that employers place on four-year degrees.

e. If the program's location is shared with another similar Oregon public university program, the proposal should provide externally validated evidence of need (e.g., surveys, focus groups, documented requests, occupational/employment statistics and forecasts).

No other Oregon public universities offer this program.

f. Estimate the prospects for success of program graduates (employment or graduate school) and consideration of licensure, if appropriate. What are the expected career paths for students in this program?

Graduates of the Aquarium Science program at Oregon Coast Community College have a 94% rate of finding jobs in the aquarium industry. We envision that students with an Aquarium Science BS degree will be as successful at landing aquarium-related jobs, but will have access to higher-salary entry-level positions and will have greater opportunity for promotion and advancement in their career.

5. Outcomes and Quality Assessment

a. Expected learning outcomes of the program.

Learning goals

Aquarium Science students will work to achieve WOU's Undergraduate Learning Outcomes: Quantitative Literacy, Written Communication, Inquiry & Analysis, Integrative Learning, and Diversity. The curriculum will also help students meet WOU's General Education Learning Outcomes (GELOs) which are as follows:

- WOU GELO #1: Intellectual Foundations and Breadth of Exposure
  Practice different and varied forms of knowledge, inquiry, and expression that frame academic and applied learning
- WOU GELO #2: Critical thinking
  Demonstrate the ability to evaluate information and develop well-reasoned and evidence-based conclusions.
- WOU GELO #3: Citizenship
  Articulate the challenges, responsibilities, and privileges of belonging in a complex, diverse, interconnected world.
- WOU GELO #4: Multidisciplinary learning
  Integrate knowledge, perspectives, and strategies across disciplines to answer questions and solve problems.

In addition, the BS in Aquarium Science will have the following program-specific learning outcomes. These learning outcomes are related to the Biology program and Business programs at WOU and the Aquarium Science program at OCCC.

1. Demonstrate critical thinking by engaging in laboratory experimentation, field research, data analysis and interpretation at multiple course levels.
2. Effectively communicate, verbally and in writing, scientific concepts, research findings and ideas to professionals and the general public.
3. Maintain, analyze, diagnose and repair aquarium life support systems and their components.
4. Perform basic water quality analysis using standard testing equipment.

5. Maintain healthy animals through proper set-up, monitoring and accepted animal husbandry practices.
6. Identify physically compromised animals and abnormal animal behaviors.
7. Work within a group to conceptualize, plan, construct and manage environments that promote healthy of fishes and invertebrates.

Students will achieve these outcomes through a curricular structure that ensures a balance between breadth and depth of exposure. Breadth is ensured through the general education courses the students will take at WOU, as well as the required Biology and Business courses. The depth of exposure will occur partially through the upper division course work students will take at WOU, as well as the year-long Aquarium Science course work students will take at OCCC.

b. Methods by which the learning outcomes will be assessed and used to improve curriculum and instruction.

The WOU University Learning Outcomes and General Education Learning Outcomes apply to all students enrolled at WOU and are assessed by university faculty committees.

Listed above are seven degree-specific learning outcomes. Learning outcome #1 is aligned with the WOU Biology major learning outcomes, and is assessed every three years by the Biology Department. Currently, the learning outcome is assessed through two mechanisms: 1) and exit survey required of all graduating Biology majors; and 2) a signature assignment in BI 331 General Microbiology. Because AQS students will not take BI 331, the Biology faculty will choose a signature assignment from one of the required Biology courses for AQS majors—BI 360, BI 361, BI 451, BI 453. The signature assignment will be assessed using the LEAP VALUE rubrics for Critical Thinking and Inquiry & Analysis.

The OCCC Aquarium Science Program undergoes annual review by a National Visiting Committee comprised of professionals in the aquarium industry. The program also is reviewed by a Local Advisory Board comprised of aquarium, aquaculture, and government science members.

A member of the WOU Biology Department and the OCCC Aquarium Science Program manager will meet annually to review assessment findings from the previous year. Curricular adjustments, such as required courses, course-specific learning outcomes, concept delivery strategy, etc., will be discussed with the Biology faculty at WOU and the AQS faculty at OCCC during the academic year and considered for implementation.

c. Nature and level of research and/or scholarly work expected of program faculty; indicators of success in those areas.

Faculty in the Biology Department at WOU are expected to meet the scholarly standards of their divisions. Faculty at WOU can demonstrate scholarly achievement in the scholarship of discovery, application, integration and teaching & learning. All tenure-track WOU faculty are expected to maintain engagement in at least one of these modes of scholarship.

6. Program Integration and Collaboration

a. Closely related programs in this or other Oregon colleges and universities.

There are not any closely related programs at other Oregon colleges and universities.

b. Ways in which the program complements other similar programs in other Oregon institutions and other related programs at this institution. Proposal should identify the potential for collaboration.

The program offering at OCCC is unique in the state and as such there are no obvious collaboration possibilities.

c. If applicable, proposal should state why this program may not be collaborating with existing similar programs.

The Aquarium Science BS program does not plan to formally collaborate with other programs across the state. However, the curriculum plan we have created for a BS degree offered jointly between a 4-year institution and a community college has the potential to be a template for similar degrees across the state. We are happy to collaborate with institutions that want to offer degrees in conjunction with either WOU or OCCC. We are also happy to provide guidance and advice for institutions looking to develop similar programs even if those programs do not include either WOU or OCCC. Additionally, as long as students satisfy WOU's residency and upper division requirements for graduation, students could transfer courses taken at other institutions into the Aquarium Science BS program.

d. Potential impacts on other programs.

As there are not any closely related programs at other Oregon colleges and universities, there should not be any impacts on other programs in the state.

7. External Review

If the proposed program is a graduate level program, follow the guidelines provided in *External Review of New Graduate Level Academic Programs* in addition to completing all of the above information.

N/A

Revised May 2016

Instructions on Budget Outline form

1. Whose viewpoint?

The Budget Outline is intended to show the budgetary impact resulting from offering the new program. This table should be completed from the viewpoint of the budgetary unit that will be responsible for the program. Determine what the budgetary unit will be doing (in terms of new or additional activities) that it is not now doing and show what these activities will cost — whether financed and staffed by

shifting of assignments within the budgetary unit; reallocation of resources within the institution; special appropriation of the legislature; or gift, grant, or other funds.

2. No additional resources needed?

If the program is simply a rearrangement of courses already being offered, relying on access to library resources available for other programs, with no requirements for new or additional specialized facilities, equipment, or technology, and with no increase or decrease in students served by the budgetary unit responsible for the program, the budgetary impact would be near zero and should be so reported in the table.

3. Additional resources needed?

If FTE faculty or support staff assigned to the budgetary unit must be increased to handle an increased workload as a result of the new program (or to provide added competencies), indicate the total resources required to handle the new activities and workload (e.g., additional sections of existing courses) by specifying: (1) how much of this total figure is from reassignment within the budgetary unit (Column A), and (2) how much is from resources new to the budgetary unit (Columns B-E). Please provide line item totals in Column F.

Budget Outline Form: Year 1

Estimated Costs and Sources of Funds for Proposed Program

Total new resources required to handle the increased workload, if any. If no new resources are required, the budgetary impact should be reported as zero

Institution: Western Oregon University

Academic Year: 2016-2017

Program:

	Column A From Current Budgetary Unit	Column B Institutional Reallocation from Other Budgetary Unit	Column C From Special State Appropriation Request	Column D From Federal Funds and Other Grants	Column E From Fees, Sales and Other Income	Column F LINE ITEM TOTAL
Personnel						
Faculty (Include FTE)	0	0	0	0	0	0
Graduate Assistants (Include FTE)	0	0	0	0	0	0
Support Staff (Include FTE)	0	0	0	0	0	0
Fellowships/Scholarships	0	0	0	0	0	0
OPE	0	0	0	0	0	0
Nonrecurring	0	0	0	0	0	0
Personnel Subtotal	0	0	0	0	0	0
Other Resources						
Library/Printed	0	0	0	0	0	0
Library/Electronic	0	0	0	0	0	0
Supplies and Services	0	0	0	0	0	0
Equipment	0	0	0	0	0	0
Other Expenses	0	0	0	0	0	0
Other Resources Subtotal	0	0	0	0	0	0
Physical Facilities						
Construction	0	0	0	0	0	0
Major Renovation	0	0	0	0	0	0
Other Expenses	0	0	0	0	0	0
Physical Facilities Subtotal	0	0	0	0	0	0
GRAND TOTAL	0	0	0	0	0	0

Budget Outline Form: Year 2

Estimated Costs and Sources of Funds for Proposed Program

Total new resources required to handle the increased workload, if any. If no new resources are required, the budgetary impact should be reported as zero

	Column A From Current Budgetary Unit	**Column B** Institutional Reallocation from Other Budgetary Unit	**Column C** From Special State Appropriation Request	**Column D** From Federal Funds and Other Grants	**Column E** From Fees, Sales and Other Income	**Column F** LINE ITEM TOTAL
Personnel						
Faculty (Include FTE)	0	0	0	0	0	0
Graduate Assistants (Include FTE)	0	0	0	0	0	0
Support Staff (Include FTE)	0	0	0	0	0	0
Fellowships/Scholarships	0	0	0	0	0	0
OPE	0	0	0	0	0	0
Nonrecurring	0	0	0	0	0	0
Personnel Subtotal	0	0	0	0	0	0
Other Resources						
Library/Printed	0	0	0	0	0	0
Library/Electronic	0	0	0	0	0	0
Supplies and Services	0	0	0	0	0	0
Equipment	0	0	0	0	0	0
Other Expenses	0	0	0	0	0	0
Other Resources Subtotal	0	0	0	0	0	0
Physical Facilities						
Construction	0	0	0	0	0	0
Major Renovation	0	0	0	0	0	0
Other Expenses	0	0	0	0	0	0
Physical Facilities Subtotal	0	0	0	0	0	0
GRAND TOTAL	0	0	0	0	0	0

Budget Outline Form: Year 3

Estimated Costs and Sources of Funds for Proposed Program

Total new resources required to handle the increased workload, if any. If no new resources are required, the budgetary impact should be reported as zero

	Column A From Current Budgetary Unit	**Column B** Institutional Reallocation from Other Budgetary Unit	**Column C** From Special State Appropriation Request	**Column D** From Federal Funds and Other Grants	**Column E** From Fees, Sales and Other Income	**Column F** LINE ITEM TOTAL
Personnel						
Faculty (Include FTE)	0	0	0	0	0	0
Graduate Assistants (Include FTE)	0	0	0	0	0	0
Support Staff (Include FTE)	0	0	0	0	0	0
Fellowships/Scholarships	0	0	0	0	0	0
OPE	0	0	0	0	0	0
Nonrecurring	0	0	0	0	0	0
Personnel Subtotal	0	0	0	0	0	0
Other Resources						
Library/Printed	0	0	0	0	0	0
Library/Electronic	0	0	0	0	0	0
Supplies and Services	0	0	0	0	0	0
Equipment	0	0	0	0	0	0
Other Expenses	0	0	0	0	0	0
Other Resources Subtotal	0	0	0	0	0	0
Physical Facilities						
Construction	0	0	0	0	0	0
Major Renovation	0	0	0	0	0	0
Other Expenses	0	0	0	0	0	0
Physical Facilities Subtotal	0	0	0	0	0	0
GRAND TOTAL	0	0	0	0	0	0

Budget Outline Form: Year 4

Estimated Costs and Sources of Funds for Proposed Program

Total new resources required to handle the increased workload, if any. If no new resources are required, the budgetary impact should be reported as zero

	Column A From Current Budgetary Unit	**Column B** Institutional Reallocation from Other Budgetary Unit	**Column C** From Special State Appropriation Request	**Column D** From Federal Funds and Other Grants	**Column E** From Fees, Sales and Other Income	**Column F** LINE ITEM TOTAL
Personnel						
Faculty (Include FTE)	0	0	0	0	0	0
Graduate Assistants (Include FTE)	0	0	0	0	0	0
Support Staff (Include FTE)	0	0	0	0	0	0
Fellowships/Scholarships	0	0	0	0	0	0
OPE	0	0	0	0	0	0
Nonrecurring	0	0	0	0	0	0
Personnel Subtotal	0	0	0	0	0	0
Other Resources						
Library/Printed	0	0	0	0	0	0
Library/Electronic	0	0	0	0	0	0
Supplies and Services	0	0	0	0	0	0
Equipment	0	0	0	0	0	0
Other Expenses	0	0	0	0	0	0
Other Resources Subtotal	0	0	0	0	0	0
Physical Facilities						
Construction	0	0	0	0	0	0
Major Renovation	0	0	0	0	0	0
Other Expenses	0	0	0	0	0	0
Physical Facilities Subtotal	0	0	0	0	0	0
GRAND TOTAL	0	0	0	0	0	0

National Visiting Committee
Aquarium Science Program, OCCC
400 SE College Way
Newport, Oregon 97366

11 November 2019

Higher Education Coordinating Commission
255 Capitol Street NE, Third Floor
Salem, Oregon 97310

Members of the Higher Education Coordinating Commission,

We, the National Visiting Committee of Aquarium Science Program at OCCC - both past and present - do heartily endorse the proposal for the creation of a joint four-year Bachelor of Science in Aquarium Science degree. We believe a partnership between Western Oregon University and Oregon Coast Community College could be a phenomenal opportunity for future aquarium science students.

After reviewing the proposed curriculum and timeline, it is clear there are immediate financial and time commitment benefits to the student in accelerating their ambition to earn both a four-year degree and an aquarium science certificate in just four years. A four-year degree is preferred in nearly 100% of institutions who posted entry level job openings on the Association of Zoos and Aquariums (AZA) job board page in 2018/2019. Upon leaving academics and entering the professional world, it is evident that a four-year degree makes a candidate more competitive. When looking towards advancement opportunities, a four-year degree plays a crucial role in demonstrating exposure to the foundational knowledge required for critical decision making in the aquarium science industry. In some instances, industry professionals seeking advancement could be at significant disadvantage, or even not qualified for consideration, with less than a four-year degree.

Members of the National Visiting Committee, made of industry professionals from around the country, remain dedicated and in support of the Aquarium Science Program at OCCC. We believe this opportunity is a superlative evolvement of the program and on behalf of the aquarium science industry, sincerely look forward to working with students who will graduate from this program.

It's our pleasure to provide this letter of support, thank you for your time and consideration.

Sincerely,

Roy Drinnen
Associate Curator, Moody Gardens
Galveston, TX

Steve Vogel
Director of Husbandry, Loveland Living Planet Aquarium
Draper, UT

Barrett Christie
Director of Animal Husbandry, The Maritime Aquarium
Norwalk, CT

Scott Greenwald
Curator of Husbandry Projects, Monterey Bay Aquarium
Monterey, CA

Colby Johnson
Piscine Energetics Inc. and former AQS student
Vernon, British Columbia

Evan Jamison
Associate Curator, Loveland Living Planet Aquarium
Draper, UT

Mike Price
Curator, SeaWorld San Diego
San Diego, CA

Megan Olhasso
Curator of Fish and Invertebrates, Monterey Bay Aquarium
Monterey, CA

Paul Clarkson
Director of Husbandry, Monterey Bay Aquarium
Monterey, CA

Higher Education Coordinating Commission
255 Capitol Street NE, Third Floor
Salem, Oregon 97310

Dear members,

The Aquarium Science Program at Oregon Coast Community College was created to fill a need for skilled animal care providers for public aquariums, aquaculture and scientific research facilities, as well as the ornamental fish trade. A foundational survey of these fields in 2001 was used to design the program curriculum and grants from the National Science Foundation helped kick off the successful partnership between Oregon Coast Community College, The Hatfield Marine Science Center (OSU), and the Oregon Coast Aquarium.

Although created as a two-year community college program leading to an Associates of Applied Science degree, the Aquarium Science Program quickly began attracting students that already had earned a bachelor's degree in Biology or Marine Biology. To better meet the demand for post-graduate training, OCCC began to offer a Certificate in Aquarium Science that could be completed in one year by students already possessing a bachelor's degree in a natural science.

A partnership between Western Oregon University and Oregon Coast Community college to create a Bachelor of Science in Aquarium Science would offer an exciting new option for students interested in the aquarium science field. The proposed degree would capitalize on the strengths of both institutions by letting students begin their education on a traditional liberal arts campus and then finish with a year of focused career and technical education. Graduates with a BS in Aquarium Science would not only be highly competitive for entry level positions but will also be equipped to advance into management and leadership positions in the field.

We at Oregon Coast Community College are excited to pursue this partnership with Western Oregon University and believe it will benefit both the institutions and our students.

Sincerely,

Larry Boles
Aquarium Science Program Manager

Dan Lara
Chief Academic Officer

Institution: Western Oregon University
Program: Bachelor of Science in Aquarium Science

Action: At the **January 2, 2020** meeting, the Statewide Provosts Council approved a new program for **Western Oregon University, BS in Aquarium Science,** to move forward to the Oregon Higher Education Coordinating Commission for its review and approval. The **Western Oregon University** Board of Trustees approved the program at its **November 20, 2019** meeting.

Eastern Oregon University
Sarah Witte, provost
X Approved
__Opposed
__Abstained

Oregon State University
Ed Feser, provost
X Approved
__Opposed
__Abstained

Portland State University
Susan Jeffords, provost
X Approved
__Opposed
__Abstained

University of Oregon
Patrick Phillips, provost
X Approved
__Opposed
__Abstained

Oregon Health & Science University
Elena Andresen, interim provost
X Approved
__Opposed
__Abstained

Oregon Tech
Joanna Mott, provost
X Approved
__Opposed
__Abstained

Southern Oregon University
Susan Walsh, provost
X Approved

__Opposed
__Abstained

Western Oregon University
Rob Winningham, provost
_X_Approved
__Opposed
__Abstained