TILLAMOOK BAY
COMMUNITY COLLEGE

Three-Year Instructional Program Review Template
Tentative Due Date: June 30 of the Academic Year Assigned

Program Name: Agriculture and Natural Resources

Degrees and Certificates offered within Program:

- Associate of Applied Science in Agriculture and Natural Resources

Statement of Collaboration

The program faculty listed below collaborated in an open and forthright dialogue to prepare this Program Review. Statements included herein accurately reflect the conclusions and opinions of the program faculty.

Participants in the review:

- Hayden Bush, Agriculture and Natural Resources Instructor and Coordinator

Authorization:

After the document is complete, it must be signed by the Department Faculty and Chief Academic Officer prior to submission to the Curriculum and Assessment Committee.

Signatures of Department Faculty

Signature of Chief Academic Officer

Date of Submission
June 28, 2018

1.0 Mission and Goals

1.1 *Briefly describe the relationship of your program to the college's Mission, Vision, and Core Themes.*

College Mission & Vision

The Agriculture and Natural Resources (AgNR) program at TBCC offers engaging curriculum and course work in Agricultural Science, Animal Science, Soil Science, Food Science, Forestry, Natural Resources, Environmental Science, and Leadership. These classes directly contribute to the mission and vision of Tillamook Bay Community College (TBCC) by engaging students in learning about the vast resources that help the local Tillamook economy thrive. The AgNR program is relatively new to TBCC still, having only been fully established for just over 3 years. Not only does a degree in this program help students with personal gain and job advancement, but the classes are also designed to transfer on to a four-year institution that offers similar coursework. Program courses are heavily taught by adjuncts, giving students a direct connection to the occupations in which they may seek.

Additionally, the AgNR program is directed by a program advisory committee, with direct representation from most all local agriculture and natural resource entities. This committee has direct influence and oversight on programmatic direction and provides a valuable community connection to instructors and students, alike.

Core Themes

The TBCC AgNR program connects to all three core themes of TBCC, but connects with the "Leadership, Partnership, and Community Engagement" theme very closely. The program and its students and faculty serve as educational and community leaders through professional development, skill building, or partnership with local businesses and school districts, post-secondary institutions, and governmental organizations. With most courses being taught by adjuncts from the industries represented, the connection is often seamless. The program's strong advisory committee also helps raise opportunities for community engagement, which helps to play in to the core theme of "Educational Excellence" as well.

Program Description

Tillamook Bay Community College utilizes the AgNR program to prepare future agricultural and natural resource leaders with curriculum and courses reviewed by local agriculture, natural resources, and forestry agencies and companies. The program is designed to meet a broad range of student needs including recent high school graduates, incumbent workers, people seeking a career, and potential four-year transfer students.

The program combines a foundation of core courses in agriculture and natural resources as well as specialized classes within each area of emphasis; agriculture and

animal science, or natural resources. All courses prepare students with social, thinking, information literacy, and communication skills that are in demand by employers, coupled with facts and issues plaguing current industries. This allows students to apply technical skills and competencies in a variety of contexts as they relate to soil, food science, horticulture animal science, and natural resources. Students also learn to communicate information and professional judgments regarding soil, food science, horticulture, animal science, and natural resources. Furthermore, students will analyze interdependence of individuals, groups, systems and their activities in order to minimize the impact on soil, food science, horticulture, animal science, and natural resources.

Graduates of the program will be prepared to transfer to a four-year institutions (with strong ties to Oregon State University's Agricultural Sciences and Natural Resources programs). If a four-year institution is not the student's goal, the agriculture and animal science emphasis prepares students for careers in areas like agricultural and food manufacturing or farming operations. The natural resources emphasis will help prepare students for employment in public or private forestry/natural resources management agencies.

2.0 Program Data and Trends Analysis

2.1 *For each data point listed below, summarize the trend. (Attach three year longitudinal data to appendix.)*

Program Name: Business Administration

(See Appendix A for Data Table – pp. A1-A8)

Data Point	Table	Trend	Highest Year
Enrollment	2.1.a	Enrollment has steadily risen in the last 3 years, as the program was basically new 3 years ago.	166
Number Program Majors	2.1.b.1-6	The growth trend was faster between year 1 and 2 than between year 2 and 3, but has grown nonetheless.	9
Total FTE	2.1.c	Program FTE has followed the other growth trends, growing more than 5 times its amount 3 years ago.	15.6
Number Sections Offered	2.1.d	As enrollment has increased, so has the number of offerings in the program.	17
FTEF	2.1.e	FTEF has steadily grown over the course of these years. Due to the limited number of full-time faculty at TBCC in this program, Faculty load has increased. With only 1 regular faculty member at .5FTE, the remainder if the FTE is picked up by adjuncts. Faculty at TBCC often pick up more overall responsibilities than those at other larger institutions because of TBCC's small nature. This trend shows that the FTEF needs are more than what is provided by a .5 faculty member, so adjuncts are needed to pick up the rest.	1.38
Fill Rate	2.1.f	Between 2015 and 2016, fill rate stayed consistent at 18 %, and then jumped to 25% in 2018, where the program saw its highest class numbers. Fill rate should continue to increase as some AgNR classes are now recognized for science credit. This low fill rate is due to 10-15	25%

		seat openings per class, which also contributes to excess capacity per instructor, augmenting some of our FTEF and WSCH figures.	
WSCH/FTEF	2.1.g	Weekly student contact hours per full-time equivalent faculty (WSCH/FTEF) is a productivity measure to evaluate the impact full-time faculty have on FTE generation for the college. For this data, the typical convention nation-wide is to use 510 (the number of hours associated with one FTE) as a comparative measure, which would indicate that a full-time faculty member is generating one FTE, roughly per week for the college. Over the last 3 years, WSCH/FTEF has increased 107%, indicating that student numbers are rising rapidly. Data from 2015-2016 shows a large increase in class offerings between 2015 and 2016 (almost double) and a much less increase from 2016-2017. This is because in 2015 only the first year of the degree program was offered. The second year was offered for the first time in 2016, effectively doubling offerings. This increase in course offerings decreased the overall WSCH/FTEF between 2015 and 2016, but it slightly rose during 2017 since there was a much less dramatic change in course offerings.	386.1
% Students Retained from Fall to Fall	2.1.h.1-4	As the program grows, so does retention. This measure is slightly deceiving, given that the program is still new and has so few students enrolled, comparatively.	50%
Successful Completion Rate	2.1.i	Successful completion rate is relatively high in this program. This is likely due to the smaller class sizes that allow for more individualize interaction of instructor-to-student and peer-to-peer.	94%

2.2 Program Peer Comparison

How does your program compare with peers? *(Peers include similar programs at the college or programs at peer institutions as identified by the Office of Institutional Research)*

Based on size, location, and curricula, there are no other community colleges quite as small as our TBCC program, but anecdotally, the most comparable would be Klamath Community College (KCC), Treasure Valley Community College (TVCC), and Blue Mountain Community College (BMCC). All three of these colleges have significantly more students than TBCC.

- KCC offers one AAS degree in agriculture and several other transfer options.
- TVCC offers three AAS degrees: 1) Ag Business, 2) Horse Production, and 3) Ranch Management, as well as 5 AS options: 1) Ag Business, 2) Animal Science, 3) Crop Science, 4) General Agriculture, and 5) Soil Science.
- BMCC offers Four AAS degrees: 1) Ag Business, 2) Ag Production - Crops, 3) Ag Production - Livestock, and 4) Ag Production - General as well as AS options for transferring to a university.

KCC has seen an upward trend in enrollment after they hired a sustainable faculty member to guide students and the programs. TVCC has continued to grow given their close proximity to Idaho and BMCC has seen tremendous growth by expanding their offerings and building new facilities.

Analysis:
After review of other programs, the following summary provides insight to gained information:

- Enrollment at all four colleges in agriculture and natural resources is increasing, though TBCC's is growing slower due to the physical accessibility.
- All three of the other community colleges have a multitude of agriculture and natural resource industries within just a few miles of the campuses, whereas the TBCC service area has a limited diversity of types of agricultural operations.
- TBCC's degree is very unique in that it combines core areas of both agriculture and natural resources with the intent of providing a well-rounded student.
- TBCC's program lacks in offering much in the ways of certifications.
- Other programs offer more emphasis on the sciences, such as chemistry, but TBCC focuses more on core ideas in agriculture and natural resources.

2.3 Student Enrollment and Achievement by Gender and Race/Ethnicity

Analyze the achievement levels for each of the groups listed below. Are there differences in achievement levels across groups? Are there strategies you can implement to provide more support for these populations?
(Attach to Appendix or provide below the Retention and Success Rates by Gender and Race/Ethnicity as identified by the Office of Institutional Research)

Program Name: Agriculture and Natural Resources

*This information is unavailable due to Figures being reported as NR (for not reported) follow the FERPA convention of not reporting student figures lower than 5, to preserve student confidentiality.

Analysis:
Though the program is still new enough to not have reliable data, this created a challenge: how does the program increase both retention and diversity? With that said, the program has had 4 graduates to date, with each graduate completing within the two-year time frame. Retention of these students could have contributed to that success.

2.4 (CTE Programs Only) List the certifications students are able to earn through participation in your program.
At this time, there are no certifications associated with the Agriculture and Natural Resources program.

2.5 Other Data

Please include any other data (internal or external) that may be relevant to student achievement, learning, and trends within your Basic Skills, CTE, or Transfer Education program.

At this time, besides information referenced later and found within the Appendices, there is no additional data necessary for listing here.

Analysis
Certificates will be considered as advisory committee members bring opportunities forward.

2.6 Strengths, Weaknesses, Opportunities, Challenges (SWOC)

2.6.1 What are the strengths of your program as indicated in the above data?
- The program is growing fairly rapidly, both in majors and class numbers.
- The program is fairly new and is attracting new students.

- The program and classes are small, compared to other colleges, allowing for more one-on-one support.
- AgNR classes are guaranteed to be offered at a minimum to receive the degree.
- Use of Open Educational Resources is expanding in the program, saving students money.
- The program has a strong connection with the local high schools and community agencies.
- The program uses online teaching tools, such as Moodle, effectively and efficiently.
- AgNR faculty have stepped up to provide leadership in state-wide roles.
- Adjunct teaching faculty provide an easy, real-world connection for students.
- Advisory committee members are utilized for connections and curriculum assistance.

2.6.2 What are the weaknesses of your program as indicated in the above data?

- Low student numbers make data less readily available and reliable.
- All courses are offered only one section per term, meaning that most classes are only offered once per year.
- There are a limited number of agriculture/natural resource electives offered each term.
- There are no certificates available (although a forestry technology certificate is in the works).
- Advisory committee members cautioned program leadership that the two emphasis areas may confuse students and also lend little more credibility to the program, because employers want coachable students with generalized skills (and with this advice, plans include elimination of the emphasis areas and allowing more choice for electives on the behalf of students).

2.6.3 What are the opportunities for your program as indicated in the above data?

- Geographic region is advantageous because students can learn about important industries right from the sources.
- Partnerships between school districts, other colleges and universities, and community organizations will continue to prosper.
- Scholarship needs will increase and we will need to look at how to best handle that.
- Students could become more involved in community-based projects by engaging stakeholders.
- Data shows the need for more FTE, so and increate from a .5FTE position to a higher may be advantageous.

2.6.4 What challenges exist for your program based on the above data?

- Tillamook County lacks affordable housing; the population is a stagnant and aging demographic. As such, TBCC has less potential for student enrollment growth.
- Agriculture and natural resources careers are often viewed as less desirable and portrayed negatively.
- TBCC offers fewer students opportunities, such as social gatherings or clubs, compared with larger institutions.

3.0 Student Learning Outcomes Assessment

3.1 How has assessment of course level SLOs led to improvements in student
After revising the Program Learning Outcomes (PLOs) and Course Learning Outcomes (CLOs) college wide in 2017, AgNR faculty had the opportunity to take a comprehensive look at their CLOs of each of their classes. This process included a formal review of student achievement of the CLOs after the class was complete. Each and every class in the AgNR degree reworked their CLOs to do the following:

- More concisely point out the outcomes of the course.
- Better align assessment methods with assessment needs.
- Ensure courses aligned with PLOs.

As a result, most courses condensed their outcomes in a much more concise manner, so that students know exactly what they should take from the course.

3.2 How has assessment of program-level SLOs led to improvements in transfer or certificate/degree awards?
Program level Student Learning Outcomes were revised in 2017 because previous outcomes were confusing and hard to measure. These improved outcomes are much more student-centered and focus on what students will take from the program and be able to contribute to an employer. Furthermore, these outcomes will serve as an assessment method to ensure that new (and existing) courses fit within the scope of the programmatic needs.

3.3 What challenges remain to make course and program level Student Learning Outcome Assessment more effective for your program?
Outcomes will need to constantly be reconsidered for a variety of reasons: continuity with the ever-changing subjects, new faculty, changes at university programs, and changes in community need. This ever-constant need for monitoring these outcomes may prove to be challenging, as outcome changes may mean curricula changes.

4.0 Evaluation of Progress Toward Achievement of Previous Program Plans (Section 4.0 N/A 2017-18)

4.1 Evaluate steps taken to achieve plans established in the last program review.
Not applicable – no former program review exists.

4.2 In cases where resources were allocated toward goals, evaluate the efficacy of that spending.
Not applicable – no former program review exists.

5.0 Program Plans

5.1 Short-term Plans (three year cycle)

5.1.1 *Based on the above data and analyses, identify 2 or more concrete plans, measurable outcomes, and activities that you would anticipate resulting in improvements to the program in the next three year cycle.*

- **Expand certificates offerings in AgNR program.**
  As the program develops, new community needs should arise. Adding certificate offerings may help make this program more relevant to those who just want to gain workforce skills or advance in current employment, without having to complete a full degree. Options might include forestry or animal science technology certificates.
- **Expand course offerings to include more general agriculture and natural resource offerings.**
  While the AgNR program at TBCC is very unique, taking advantage of this uniqueness and providing the best and most well rounded education could be key to program success. Courses like agriculture business, general horticulture, and more species-specific animal science courses would be great options in expanding the general course offerings.
- **Review current course offerings and revise as needed.**
  Agriculture and Natural Resources are constantly changing, as are the needs of students. Revision and review of course offerings on a consistent basis should help the program provide current and relevant curriculum to students. Possible expansion could include a forestry specific component.

*5.1.2 What specific aspects of these plans can be accomplished without additional financial resources? (*See 5.1.1 above)
Little to no resources will be needed to implement these plans, but some may be needed after implementation

5.2 Long-term Plans (six year cycle)

5.2.1 *Based on the above data and analyses, identify 2 or more concrete plans, measurable outcomes, and activities that you would anticipate resulting in improvements to the program in the next six years.*

- **Develop facilities specific to lab requirements, such as a greenhouse or animal facility.**
  This goal may be lofty, but either building or partnering with existing groups on space used for laboratory activities would enable further growth and more hands-on training for the program. Local agencies or schools may have existing resources available for a partnership to be developed.
- **Conduct a program alumni and employer survey measuring competency of program in preparing graduates for work.**

Assessing the needs of our students and employers is key to maintaining a strong program, so this survey plan could help to provide valuable programmatic data used to drive future decisions.

5.2.2 What specific aspects of these plans can be accomplished without additional financial resources?

The survey would require little to no resources to implement these plans, but some may be needed to make program changes.

6.0 Requests for Resources

For any specific aspect of a plan listed in 5.0 that would require additional financial resources, complete the form below. If you are aware of a potential funding source other than college general funds, identify the potential source below.

Type of Resource	Requested Amount	Potential Funding Source
Personnel	$2,000	General fund or community support
Facilities	$5,000	Grant or community support
Equipment	$5,000	Grant or community support
Supplies	$1,000	Grant or community support
Training	$1,500	Grant or community support
Other (promotion)	$1,500	Foundation or Advancement
Total Requested Amount	$16,000	Multiple sources

6.1 *Describe the resource request.*

With expanded course offerings will come more personnel needs as well as potential needs for professional developments. Expansion of course offerings or changes in curriculum will also need to be advertised locally and/or statewide. A laboratory space, such as a greenhouse, would require supplies for maintenance and, of course, the initial costs to purchase and build.

6.2 *What measurable outcome(s) will result from filling this resource request?*

As faculty review and/or revise courses and curriculum to meet current industry trends, course outcomes should satisfy both employer and student needs. While the revision focus is to ensure students are gaining relevant skills, it will also address student success in completing courses which further leads to students successfully completing the degree. Both completion of degree measures and course completion measure will help to ensure that these changes are impacting student learning outcomes, and program learning outcomes. Any course or curriculum changes will be benchmarked by student success measures. Additionally, student involvement numbers will help to

measure the success of program expansion, by measuring growth in courses and in the program as a whole.

The information provided by alumni and employers will assist in program improvement by providing feedback from program completers and those who employ them. This information will help the program to drive decisions with increased competency in providing for the workplace needs of today. Additionally, faculty can use such measures to make sure that student learning outcomes at the course level are relevant to their given fields.

6.3 *How does this request further college fulfillment of the college mission and its Core Theme objectives?*

These improvements will allow the AgNR program to continue linking students with degrees, certificates, and training that is relevant to meet their future goals. These resources focus on academic achievement and providing hands-on training in high wage and high demand fields.

7.0 Advisory Committee and Employer Input (CTE Programs Only):

7.1 List Current Advisory Program Membership

Program Coordinator (Chair)		Hayden Bush
President		Dr. Ross Tomlin
Chief Academic Officer		Dr. Ann Hovey
TBCC Foundation		Heidi Luquette
Curriculum Dept. Representative		Amy Alday-Murray
OSU Extension Service		Troy Downing, Valerie Grant
OSU College of Forestry		Nichole Kent, Randy Rosenberger
OSU College of Agricultural Sciences		Dr. Penny Diebel
OSU Department of Agricultural Education and Agricultural Science		Dr. Jonathan Velez
Oregon Dept. of Fisheries and Wildlife		Rick Klumph
Stimpson Lumber		John Wehage
Hampton Lumber		Dave Kunert
Bureau of Land Management		Karen Shank
Tillamook County		Dave McCall
Tillamook School District		Bruce Rhodes
Tillamook High School		Clair Thomas (NR), Brooklyn Bush (Ag), Lori Loeffler (For)
Tillamook Estuaries Partnership		Claudine Rehn, Lisa Phipps
Oregon Dept. of Forestry		Kate Skinner
Tillamook Bay Watershed Council		Denise Lofman
Tillamook County Farm Bureau		Karl Zwiefel, Carol Marie Luethold
Tillamook County Creamery Association		Dr. Kate Lott
NKN High School		Dr. Heidi Buckmaster
Nestucca High School		Joe Meyer, Ron Smith
Dairy Industry		Derrick Josi

7.2 Discuss the process your program followed to ensure advisory committee membership involvement in and contributions to this program review. Report on comments and concerns shared by members of the advisory committee.

The advisory committee is an integral part of the TBCC AgNR program, providing advice, direction, and needed support to curriculum and student success. The committee meets at least three times per year to ensure that the program is meeting the needs of our diverse agriculture and natural resource employers, as well as other program stakeholders. Members discuss general program content, skills graduates need, job opportunities, career trends, and strategic planning. Committee members

include representatives from business and industry, TBCC faculty, local high school partners, and other agriculture and natural resource allies.

A heavy chunk of the committee is made up of forestry professionals, which has sparked the idea of a separate forestry degree or certificate. The committee, by in large, agreed that that would be a good direction to go next. When asked about the value of industry certifications, the advisory committee said that a certificate specific to forestry may make some sense for those who want to work in public agencies like the Bureau of Land Management or the Department of Forestry, but that certificates were less important to them than the soft skills that students should be graduating with; coachability, problem solving, and work ethic.

7.3 Date final program review to be shared with advisory committee membership:
This program review will be shared at the next advisory committee meeting, which falls on November 1, 2018.

8.0 High School, Community, and Employer Outreach

8.1 (CTE Programs Only) List the largest employers within the service area for your program completers. How do these employers provide input to the program curriculum and information about industry trends?

Tillamook County Creamery Association and its farmer-owner dairy farmers are by far the largest agricultural employer in the area. Our public agencies, such as the Bureau of Land Management, Department of Forestry, and the Department of Fish and Wildlife make up a large sum of the natural resources employers in the area. Additionally, private timber companies are also prevalent in Tillamook. All of these entities have a seat at the table on our advisory committee and are active members in shaping our program curriculum and needs.

8.2: (CTE Programs Only) Discuss local employer perceptions of your program and its graduates. What mechanism did you use to gather this input during the program review process?

By-in-large, most of the employers related to this service area view our program as a great fit for our community. Several community members have commented on the fact that it took so long to get a program started in such an agriculture and natural resource rich area. Many local businesses have graciously opened their doors for TBCC students to become employed, serve as interns, or just for class tours and labs. Some of the food processors in the area have commented, however, that they would like to see more relevant food processing ties with the program, but have also acknowledged that that can only occur where it fits.

The community also understands that the program's goal is to be cooperative and transparent. The most common and useful mechanism used to gather this input during the program review process was discussion and word of mouth. The program coordinator reached out multiple times to stakeholders, advisory committee members, and other community leaders for input that was gladly given and well received.

8.3 (CTE Programs Only) What employment opportunities are available to your program completers (list specific positions)? To your certificate completers?

Students who earn the AAS in Agriculture and Natural Resources have a variety of job opportunities in the area. Local agriculture producers have needs for herdspeople and managers, as well as general labor pool workers with knowledge and skill pre-gained. Our local agencies in agriculture, natural resources, and forestry have a plethora of entry- to mid – level jobs available, like forestry technicians, water quality specialists, park rangers, and wildland firefighters.

8.4 (CTE Programs Only) Provide labor market data regarding the projected number of job openings in the region (northwest Oregon and Portland metropolitan area). Cite the source of this data.
Labor market data was collect from the Oregon Labor Information System (OLMIS) at www.qualityinfo.org. The data is projected information including the Tillamook region (Northwest Oregon), Portland-Metro area, and the state of Oregon.

Jobs in agriculture and farm-related work, specific to general labor or "farmworkers" are expected to grow at a rate of 12% in the area. Specifically, farm workers expect an annual number of job openings of 83. Farm, Ranch, and Other Agriculture Managers have an expected growth rate of 21%, with 22 annual replacement openings. Both occupations are slightly higher than the state average.

Natural Resources Managers are expecting about an 8% annual growth in need. This is coupled with 8 annual replacement openings. Forest Technicians have an annual replacement openings of 16, and expect 5.1% growth. However, the advisory committee has advised the program that many in this field are reaching retirement age and this number should increase dramatically. Both occupations are considerably higher than the state average.

8.5 (CTE and Transfer Programs) What dual credit offerings does your program support? In which area high schools are these dual credit courses offered? How will your program support the expansion of dual credit offerings at area high schools?
Currently, the AgNR program offers unique dual credit and expanded options courses to local high school students wishing to earn credit at TBCC. Courses include:

- ANS 121 – Intro to Animal Science
- AG 221 – Metals and Welding
- ANS 230 – Dairy Cattle Evaluation
- ANS 231 – Livestock Evaluation
- ESR 171 – Environmental Science, Biological Perspectives
- LEAD 242 – Personal Leadership Development

As of now, only Tillamook High School takes advantage of the dual credit opportunities, but plans to expand to Neahkahnie High School and Nestucca High School are in place. Potential plans to expand out of the county have also been discussed.

9.0 Executive Summary

Tillamook Bay Community College utilizes the AgNR program to prepare future agricultural and natural resource leaders with curriculum and courses reviewed by local agriculture, natural resources, and forestry agencies and companies. The program is designed to meet a broad range of student needs including recent high school graduates, incumbent workers, people seeking a career, and potential four-year transfer students.

The program combines a foundation of core courses in agriculture and natural resources as well as specialized classes within each area of emphasis; agriculture and animal science, or natural resources. All courses prepare students to:

- Apply technical skills and competencies in a variety of contexts as they relate to soil, food science, horticulture animal science, and natural resources.
- Communicate information and professional judgments regarding soil, food science, horticulture, animal science, and natural resources.
- Analyze interdependence of individuals, groups, systems and their activities in order to minimize the impact on soil, food science, horticulture, animal science, and natural resources.
-

When comparing the TBCC AgNR program with peer colleges a couple key findings include:

- Enrollment at all four colleges in agriculture and natural resources is increasing, though TBCC's is growing slower due to the physical accessibility.
- All three of the other community colleges have a multitude of agriculture and natural resource industries within just a few miles of the campuses, whereas TBCC has a limited diversity or operations.
- TBCC's degree is very unique in that it combines core areas of both agriculture and natural resources with the intent of providing a well-rounded student.
- TBCC's program lacks in offering much in the ways of certificated.
- Other programs offer more emphasis on the sciences, such as chemistry, but TBCC focuses more on core ideas in agriculture and natural resources.

The AgNR program is important for students and the community because it allows for the offering of coursework that provides essential skills to our students, as directed by the program advisory committee. This committee reviews curriculum and offerings regularly to ensure relevance and rigor. Additionally, the large amount of dual credit offerings for the AgNR program provide a pipeline of future students and ensure a valuable connection with our K-12 partners.

Finally, AgNR faculty and advisory committee members identified both short-term and long-term goals as follows:

- Short Term:
  - Expand certificates offerings in AgNR program.
    - Forestry certificate of degree (or both).
  - Expand course offerings to include more general agriculture and natural resource offerings.
    - Courses like agriculture business, general horticulture, and more species-specific animal science courses.
  - Review current course offerings and revise as needed.
    - Possible expansion could include a forestry specific component.
- Long Term
  - Develop facilities specific to lab requirements, such as a greenhouse or animal facility.
    - Greenhouse of lab equipment (partner with K-12, potentially).
  - Conduct a program alumni and employer survey measuring competency of program in preparing graduates for work.
    - Assessing the needs to maintain a strong program.

Potential new ventures may include a forestry component or degree/certificate and expanded faculty (increasing regular faculty from .5FTE).

Success of the TBCC AgNR program has been largely due to the buy-in of community stakeholders, advisory committee membership, and supporting faculty and staff at TBCC and other institutions. As the program moves forward, keeping the foundations of the program in mind will be key to success.

Chief Academic Officer Program Review Summary Page

The relative youth of the Ag/NR program presents a double-edged sword – there is little data available and it may be difficult to interpret since there are so few students, giving disaggregation little meaning. At the same time it is a good time to step back and take stock to look forward with potential plans.

With the resignation of the program coordinator to pursue other opportunities, this review also lays the groundwork for the successor to have a snapshot of the program and its challenges.

The new degree program in Forestry will kick off in the fall of 2018 (the coming academic year), as will the Forestry Technician certificate which is housed in the Ag/NR program. The new forestry degree will be an AS in Forestry – certificates can only be housed within CTE (AAS) programs so this is the reason for the Forestry certificate being integrated into the Ag/NR program. There is significant overlap between the two degrees, giving more flexibility to students.

The reclassification of many of the Ag/NR degree courses from the CTE ACTI code to the 100 LDC code has increased enrollment in many of the Ag/NR courses, which is helping to increase the efficiency of the program. This also gives students pursuing transfer degrees more options to satisfy their transfer requirements.

While expansion of course offerings is a noble goal, and one that could increase enrollment in the program, this could also increase the complexity of staffing and scheduling, and have the effect of diluting enrollment across the board in Ag/NR courses. This strategy needs to be pursued with caution and with attention to the impact it could have on program costs, since there is already significant excess capacity in Ag/NR courses (reflected by the fill rate). The impact of this strategy could be offset if the courses are able to be coded as LDC courses --- but since these may be introductory courses in species-specific areas, that may not be possible.

From a 30,000 foot perspective, one also needs to mindful of the impact that reclassifying courses as LDC courses may have on enrollment in the traditional LDC courses the college has offered – as this may cause enrollment in those courses to decline.

Right now the majority of courses which have been re-classified are in the science and lab science area – this as resulted in giving transfer students non-biology options to satisfy lab science requirements, making these courses quite popular.

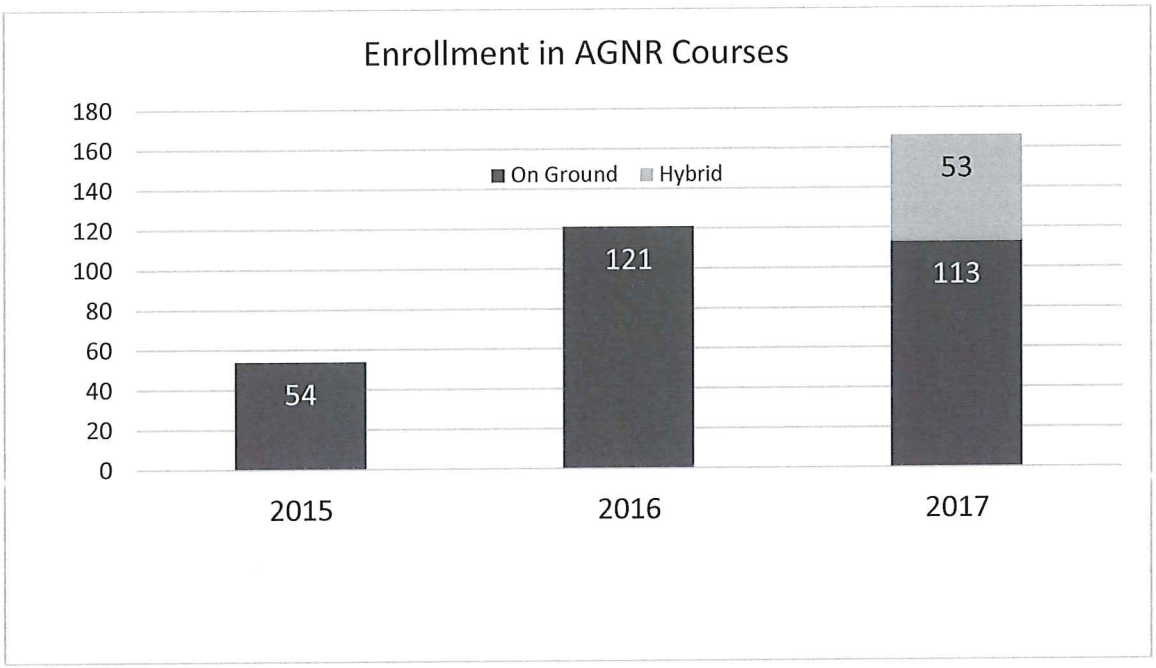
Long-term plans which include the request for a lab space should be considered carefully and integrated into the facilities master plan if approved. Care should be taken to ensure that the lab will not be handling hazardous materials --- or else the facilities must include the capability to store and handle these substances, as the college does not currently have this capability.

An alumni survey could be easily implemented and with little to no cost, with the advisory committee assisting with this. This should be encouraged.

Appendix A: Program Review Data and Trends
Agriculture and Natural Resources

Section 2.1.a: Program Enrollment

Table 2.1.a: Enrollment in Ag/NR program courses, 2015 – 2017
(includes majors and non-majors)



Source: TBCC Student Information System.

OLMIS (Oregon Labor Information System) at www.qualityinfo.org .

Note: Replacement openings occur when workers permanently leave an occupation for reasons such as retirement

Section 2.1.b: Program Majors

2.1.b.1: Annual Number of Agriculture and Natural Resources Program Majors (Duplicated Headcount – see note)

Row Labels	2015 Count	%	2016 Count	%	2017 Count	%	Total Count	Total %
Agriculture and Natural Resources	3	1.2%	8	3.7%	9	4.5%	20	3.0%
Students in all other majors	251	98.9%	210	96.3%	192	95.5%	653	97.0%
Grand Total	**254**	**100.0**	**218**	**100.0**	**201**	**100.0**	**673**	**100.0**

Source: TBCC Student Information System. Percentages may add to more than 100% due to rounding.
Note: Duplicated Headcount: Students are counted in each year they are enrolled and thus may be counted in more than one year.

2.1.b.2: Agriculture and Natural Resources Annual Number of Program Majors Disaggregated by Gender

Row Labels	2015 Count	%	2016 Count	%	2017 Count	%	Total Count	Total %
Agriculture and Natural Resources								
F	NR	NR	NR	NR	NR	NR		
M	NR	NR	6	75.0%	7	77.8%		
Students in all other majors								
F	135	53.8%	123	58.6%	110	57.3%	327	48.6%
M	116	46.2%	87	41.4%	82	42.7%	275	40.9%
Grand Total	**254**	**100.0**	**218**	**100.0**	**201**	**100.0**	**673**	**100.0**

Source: TBCC Student Information System. Percentages may add to more than 100% due to rounding.
Note: Duplicated Headcount: Students are counted in each year they are enrolled and thus may be counted in more than one year.

2.1.b.3: Business Administration Annual Enrollment of Program Majors Disaggregated by Race/Ethnicity

Row Labels	2015 Count	%	2016 Count	%	2017 Count	%	Total Count	Total %
Agriculture and Natural Resources								
Hispanic	NR	NR	NR	NR	NR	NR		
White	NR	NR	6	75%	8	88.9%		
Asian	NR	NR	NR	NR	NR	NR		
Unknown	NR	NR	NR	NR	NR	NR		
Students in all other majors								
Native American	5	2.0%	NR	NR	NR	NR	12	1.8%
Hispanic	33	13.2%	37	17.6%	36	18.8%	96	14.3%
White	178	70.1%	148	70.5%	129	67.2%	417	62.0%
MultiRacial	5	2.0%	5	2.4%	7	3.7%	19	2.8%
Asian	NR	NR	NR	NR	NR	NR	NR	NR
Unknown	29	11.6%	14	6.7%	15	7.8%	54	8.0%
Grand Total	**254**	**100.0**	**218**	**100.0**	**201**	**100.0**	**673**	**100.0**

Source: TBCC Student Information System. Percentages may add to more than 100% due to rounding. Figures reported as NR (for not reported) follow the FERPA convention of not reporting student figures lower than 5, to preserve student confidentiality.

Table 2.1.b.4: Agriculture and Natural Resources Program Majors, for Combined Years 2015-2017

Row Labels		
Agriculture and Natural Resources		
Student Majors Count		16
Student Majors as %age of all college majors		3.17%
Students in all other majors		
Count		488
%age of all other majors		96.8%
Total Count		**504**
Total %		**100.0**

Source: TBCC Student Information System. Percentages may add to more than 100% due to rounding

Table 2.1.b.5: Agriculture and Natural Resources Program Majors, for Combined Years 2015-2017, Disaggregated by Gender

Row Labels	F	M	Grand Total
Agriculture and Natural Resources			
Count	4	12	16
%	25%	75%	100%
Students in all other majors			
Count	276	212	488
%	56.6%	43.4%	89.5%
Total Count	**280**	**224**	**504**
Total %	**100.0**	**100.0**	**100.0**

Source: TBCC Student Information System. Percentages may add to more than 100% due to rounding.

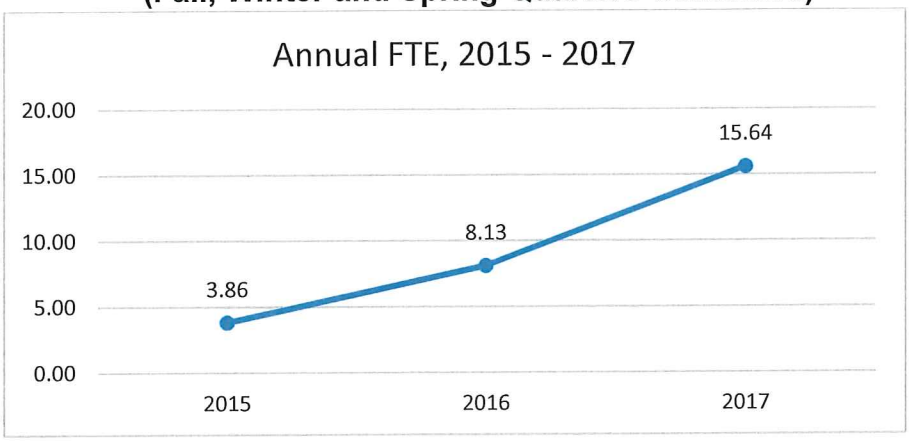
Table 2.1.b.6: Agriculture and Natural Resources Program Majors, for Combined Years 2015-2017, Disaggregated by Race/Ethnicity

Row Labels	Unknown	Hispanic	Native American	Asian	White	MultiRacial	Grand Total
Agriculture and Natural Resources							
Count	NR	NR	NR	NR	13	NR	16
%	NR	NR	NR	NR	81.3%	NR	100.0%
Students in all other majors							
Count	41	70	NR	9	352	13	488
%	8.4%	14.3%	NR	1.8%	72.1%	2.7%	100%
Total Count	**41**	**72**	**NR**	**9**	**365**	**14**	**504**
Total %	**8.1**	**14.3**	**NR**	**1.8**	**72.4**	**2.8**	**100.0**

Source: TBCC Student Information System. Percentages may add to more than 100% due to rounding. Figures reported as NR (for not reported) follow the FERPA convention of not reporting student figures lower than 5, to preserve student confidentiality.

Section 2.1.c: Program FTE

Table 2.1.c: Total Agriculture and Natural Resources Program Annual FTE (Fall, Winter and Spring Quarters Combined)



Source: TBCC Student Information System.

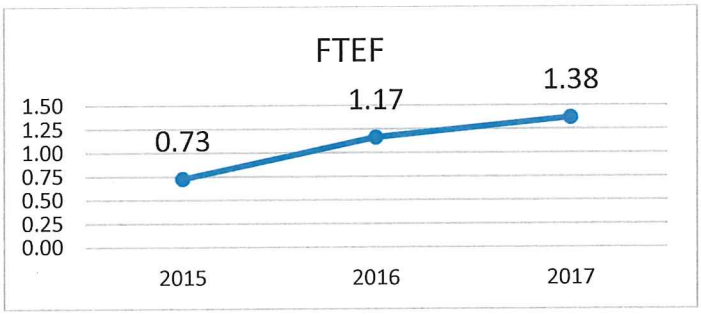
Section 2.1.d: Annual Program Sections/Courses Offered

2.1.d: Number of Agriculture and Natural Resources Program Courses and Sections Offered, 2015 – 2017

2015 – 8 courses and sections
2016 – 15 courses and sections
2017 – 17 courses and sections

Section 2.1.e: Program FTEF

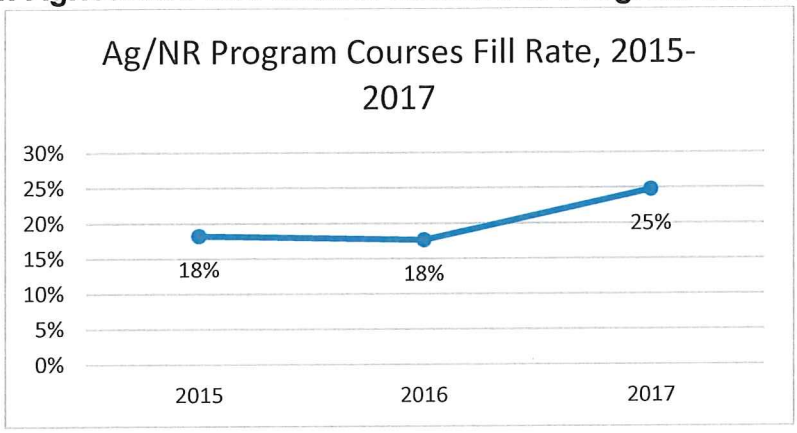
Table 2.1.e: Agriculture and Natural Resources Program Full Time Equivalent Faculty (FTEF)



Source: TBCC Student Information System.
Note: FTEF is calculated on the basis of an average full-time faculty load of teaching 16 credits per quarter, or 48 credits over fall, winter, and spring quarters.

Section 2.1.f: Program Section Fill Rate

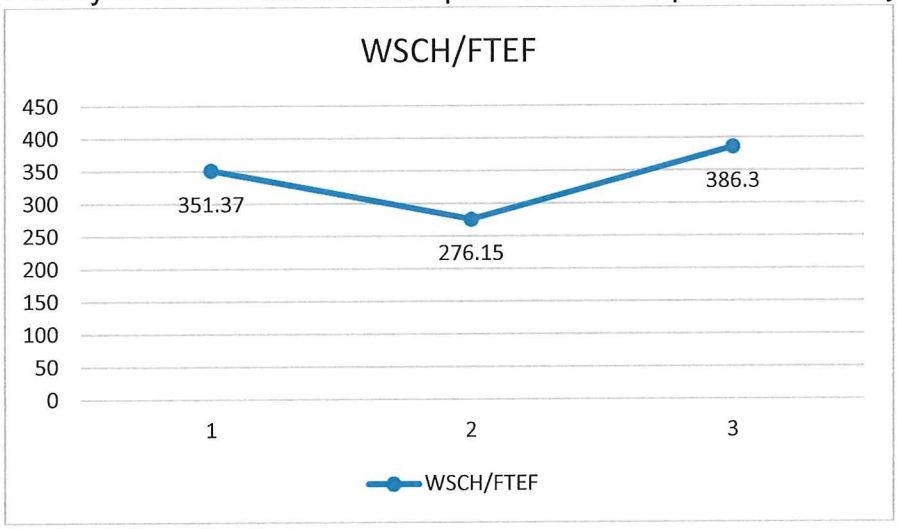
Table 2.1.f: Agriculture and Natural Resources Program Section Fill Rate



Source: TBCC Student Information System.
Note: Fill rate represents the total enrollment in Ag/NR program course sections as a percentage of available seats. As such it is an indication of capacity available within the program to accommodate increases in enrollment.

Section 2.1.g: Program WSCH/FTEF

Table 2.1.g: Agriculture and Natural Resources Program WSCH/FTEF
(Weekly Student Contact Hours per Full Time Equivalent Faculty)



Source: TBCC Student Information System.
Note: WSCH/FTEF equals the total number of students enrolled in Ag/NR courses multiplied by total weekly contact hours, divided by the FTEF number. As such it is an indication of the weekly FTE generated by full-time faculty within the program. 510 contact hours = one FTE student.

	2015	2016	2017
WSCH/FTEF	351.37	276.15	386.30
FTEF	0.73	1.17	1.38
WSCH	256.5	323.1	533.1

Section 2.1.h: Program Student Retention

Table 2.1.h.1: Agriculture and Natural Resources Student Retention – Fall-to-Fall, 2015-17

Returned Next Fall	Agriculture and Natural Resources	Students in all other majors
yes	50.0%	36.0%
no	50.0%	64.0%
Grand Total	**100.0**	**100.0**

Source: TBCC Student Information System. Percentages may add to more than 100% due to rounding. Students are aggregated across years 2015-2017. Students may be duplicated across years since enrolled in more than one year.

Table 2.1.h.2: Agriculture and Natural Resources Annual Student Retention Rates, 2015-2017

Returned Next Fall	2015		2016		2017		Total n	Total %
	n	%	n	%	n	%		
Agriculture and Natural Resources								
yes	NR	NR	NR	NR	6	66.7%	10	50.0%
no	NR	NR	6	75.0%	NR	NR	10	50.0%
Students in all other majors								
yes	91	36.3%	65	30.1%	79	41.1%	235	36.0%
no	160	63.8%	145	69.0%	113	58.9%	418	64.0%

Source: TBCC Student Information System. Percentages may add to more than 100% due to rounding. Figures reported as NR (for not reported) follow the FERPA convention of not reporting student figures lower than 5, to preserve student confidentiality. Students may be duplicated across years since enrolled in more than one year.

Table 2.1.h.3: Agriculture and Natural Resources Program Fall-to-Fall Student Retention Rates Disaggregated by Gender, 2015-2017

	Students in all Other Majors					Ag/NR Majors			
	F		M			F		M	
Returned Next Fall	n	%	n	%		n	%	n	%
yes	126	34.2%	109	38.3%		NR	NR	9	56.3%
no	242	65.8%	176	61.8%		NR	NR	7	43.8%

Source: TBCC Student Information System. Percentages may add to more than 100% due to rounding. Figures reported as NR (for not reported) follow the FERPA convention of not reporting student figures lower than 5, to preserve student confidentiality.

Table 2.1.h.4: Agriculture and Natural Resources Program Fall-to-Fall Student Retention Rates Disaggregated by Year and by Race/Ethnicity

*At the time of this program review, this data was unavailable from the Office of Institutional Research.

Section 2.1.i: Successful Completion rate

Table 2.1.i: Successful Program Course Completion Rate

2015	2016	2017
81.5%	91.7%	94.0%

Source: TBCC Student Information System.