SOUTH CAROLINA TECHNICAL COLLEGE SYSTEM
New Program Proposal Submission Form

College Name   Piedmont Technical College

Program Title   Associate in Applied Science, **with a major in** Diversified Agriculture

CIP Code   010601   **Credit Hours**   70.0

Academic Unit   **Diversified Agriculture**

Implementation Date (Proposed) Fall 2011

Date of Local Area Commission Approval: July 20, 2010

Direct Questions to Keith Lasure, Dean of Engineering and Industrial Technologies, at 864.941.8687 or lasure.k@ptc.edu.

President's Signature   _Kay Brach_   Date _2/3/11_

I. Proposal Narrative: Justification

a) **State the purpose(s) and objectives of the program. Provide details on the employment for which graduates will be prepared.**

Piedmont Technical College (PTC) proposes the implementation of an Associate in Applied Science with a major in Diversified Agriculture. The program will be the first of its kind offered in the state. The curriculum is designed to equip graduates with the skills necessary to acquire upper-level operator and management positions, as well as entrepreneurial opportunities in the diverse areas of agriculture that include animal science, soils, agricultural mechanics, crops, forestry, and wildlife. In addition, the program will provide students with the skills they need to work in farm support industries.

Upon completion, graduates will have knowledge of production agriculture, soil and water management, and mechanical skills. Students will also be introduced to skills necessary to manage employees, supplies, and budgets.

Currently, the college offers two certificate programs, Basic Diversified Agriculture and Advanced Diversified Agriculture. Both are in their second year of existence and have generated much student interest. The combined curriculum for these two certificates will serve as the curriculum for the proposed associate degree program.

b) **Explain how the program will support and/or complement the college's mission?**

As stated in the institutional mission, PTC transforms lives and strengthens communities by providing opportunities for intellectual and economic growth. Implementation of this program aligns with the college's mission to offer quality programs to meet the emerging needs of the communities served. Recent studies have shown that, while other types of industries steadily declined in the college's service area, the agriculture industry has consistently grown. Additionally, surveys have further supported continued growth in the field, indicating new job positions and entrepreneurial opportunities. Recent high unemployment levels in these rural counties magnify the importance of training in the agriculture field.

c) **Discuss general student interest in the program.**

The seven county service area for PTC has a number of agricultural education programs in the high school and career centers which will feed the proposed Diversified Agriculture program. Approximately 600 students are enrolled in ten different K-12 agricultural education programs in the college's service area. Recruiting efforts for the existing certificate programs have been aimed at these high school programs.

Currently, 21 students are enrolled in the existing certificate programs. Most of these students have expressed interest in an associate degree program if it were available.

d) **Discuss local, state, and national employment trends for program-specific occupations. Include full-time and part-time wage information at the state and regional/national level.**

Currently, several counties in the college's service area have some of the highest unemployment rates in the nation. The implementation of the proposed program is part of strategic efforts by the college and community leaders to address these unemployment statistics.

The Palmetto Agribusiness Council report for 2006 indicated that income from agricultural commodities reached nearly two billion dollars. The report went on to state that South Carolina's agriculture and forestry industry represent one of the largest, if not the largest industry clusters in the state's economy. Furthermore, the reports explains that the labor income from direct, indirect, and induced efforts of agricultural products created 115, 645 jobs and income figures reaching near $3.5 billion. These facts support PTC's assertions that a job force with working knowledge of the agriculture industry will be prepared to take advantage of many of the management jobs in this growing field.

Data from the Bureau of Labor Statistics show that skilled full-time farm managers in South Carolina can expect a mean yearly salary of $45,470. This is significantly higher than the national average for a non-skilled worker. Responses from local industry indicate that program graduates can expect a salary ranging from $12.00 per hour to slightly more than $40,000 annually. Salary is driven by the level of employee commitment. While some may consider starting salaries to be low for this industry, wages are quickly adjusted once an employer proves he is committed to the industry and to the employer.

With the present trend in agriculture of the family farm moving more towards corporate farms, the need for agricultural managers will continue to increase. The Diversified Agriculture program will provide corporate farming operations with a pool of qualified workers. PTC's environmental scan included survey responses from ten (10) businesses in the college's service area. The industry supports the proposed training efforts and the surveys show that new jobs and attrition will require at least 114 full-time employees and as many as forty (40) part-time employees per year for the next three years.

e) **Include a list of all related existing programs within the institution. Compare/contrast the proposed program to related programs.**

PTC offers the following related programs: an Associate in Applied Science, with a major in Horticulture; a certificate program in Horticulture Landscape Management; and two transfer options under the Associate in Science for Horticulture/Turfgrass and Agriculture Education. The latter two options allow students to transfer to Clemson University's bachelor's degree program in Agriculture Education.

As previously noted, the college also offers two certificate programs in Diversified Agriculture that will serve as the curriculum for the proposed associate degree program.

f) **Compare/contrast the program to those with similar objectives at other SC technical colleges. Where possible, summarize enrollment, graduates, and placement rates for existing programs. This information can be found in the State Board's annual Program Evaluation Report.**

College	Program Name	Enrollment	# Graduates	Placement Rate
Orangeburg-Calhoun (OCTC)	Sustainable Agriculture (Certificate only) New Prog.	15	10	N/A (New Program)
Horry-Georgetown	AAS Horticulture	14	6	100%
Spartanburg Community	AAS Horticulture	57	15	73%
Piedmont Technical	AAS Horticulture	26	4	75%

Provide any additional supporting narrative for the information entered above.

As previously noted, this will be the first Diversified Agriculture degree program in the state. This program has great potential to serve PTC students in the field of agriculture across many disciplines.

g) **Discuss any existing articulation or collaborative agreements in related program areas with other SC technical colleges.**

There are no formal plans for articulation at this time as the proposed program will be the first associate degree of its kind in the state. The OCTC Sustainable Agriculture certificate is the only existing related program in the state. As the proposed degree program expands, there may be a possibility for transfer from the OCTC certificate program into PTC's associate degree program.

h) **Indicate whether this is a terminal degree program (occupational in intent). If there is potential for students to transfer into a baccalaureate program, provide narrative on the progress to date concerning articulation agreements with potential transfer institutions.**

This program is designed primarily as a terminal degree program. However, work is continuing on articulation and/or transfer agreements with Clemson University and Abraham Baldwin Agricultural College (ABAC, located in Tifton, Georgia). Through these partnerships, PTC students could transfer into an agricultural bachelor's degree program at either of these institutions with minimum or no loss of credit hours.

In support of these articulation efforts, PTC has applied for a grant from the US Department of Agriculture in collaboration with ABAC. If awarded, the grant will provide funds for both colleges to develop and coordinate a seamless transfer pathway in Diversified Agriculture.

a) **Explain the program admissions criteria.**

PTC is an open-door institution, serving the educational needs of all who apply for admission. There are no special admissions requirements unique to the Diversified Agriculture program. All applicants for admission must meet the college's following minimum requirements:

1. Be at least 18 years of age OR
2. Possess a high school diploma, GED or acceptable scores on the college's placement test, or on the SAT or ACT.
3. Complete the college placement test to assess skills in reading, English, math, and technology readiness and demonstrate the ability to benefit from formal education.

b) **State the anticipated total number of enrollment for the first year of the program. Include the total number of transfer students from other internal programs and new students to the institution. Provide the estimated attrition rate and explain possible causes of attrition. Also include the anticipated number of graduates from the program.**

Estimated first-year enrollment in the proposed program is twenty (20) full-time students for fall 2011; eighteen (18) students will be new to the institution, and two (2) will transfer from other programs. Enrollment is expected to increase to thirty (30) and thirty-five (35) students in years two and three, respectively, as employer interest grows. The estimated attrition rate is 25 percent, due to several factors including students' failure to maintain a 2.0 GPA, their transfer to other academic programs, and financial or personal problems. PTC initially anticipates graduating thirteen (13) students from the program each year.

c) **Based on the information above, complete enrollment tables A and B below.**
Note: Table B should include enrollment numbers for new students only.

TABLE A: PROJECTED TOTAL ENROLLMENT						
YEAR	FALL		SPRING		SUMMER	
	HEADCOUNT	CREDIT HRS	HEADCOUNT	CREDIT HRS	HEADCOUNT	CREDIT HRS
2011	20F	300	22F	330	15F	120
2012	15S + 30F = 45	690	15S + 25F = 40	465	22F	330
2013	22S + 35F = 57	525	22S + 30F = 52	555	26F	420

TABLE B: ESTIMATED ADDITIONAL ENROLLMENT (NEW STUDENTS ONLY)						
YEAR	FALL		SPRING		SUMMER	
	HEADCOUNT	CREDIT HRS	HEADCOUNT	CREDIT HRS	HEADCOUNT	CREDIT HRS
2011	18F	225	15F	45	13F	15
2012	13S + 18F = 31	240	13S + 15F = 28	60	13F	30
2013	13S + 18F = 31	270	13S + 15F = 28	60	13F	30

III. A) Curriculum Display *Contact the System Office if additional space is needed*

Note: The display should align with a state-approved program model. Additionally, all course prefixes, numbers, and titles listed in the table below should align with the SBTCE Statewide Catalog of Approved Courses (CAC). If the course is pending SBTCE approval, list "XXX" in the 'Number' column.

TABLE C: PROPOSED SEMESTER LAYOUT					
1st Semester – Fall					
Prefix	**Number**	**Course Title**	**Lecture**	**Lab**	**Credits**
• AGR	206	Basic Farm Maintenance	3	3	4
• AGR	211	Applied Agriculture Calculations	3	0	3
• BIO	101	Biological Science I	3	3	4
• ENG	165	Professional Communication or ENG 101 English Composition I	3	0	3
• FOR	104	Introduction to Environmental & Natural Resources	1	0	1
Total Semester Hours			**13**	6	15
2nd Semester – Spring					
Prefix	**Number**	**Course Title**	**Lecture**	**Lab**	**Credits**
• CWE	101	Cooperative Work Experience Preperation	1	0	1
• HRT	125	Soils	3	3	4
• AGR	203	Introduction to Animal Science	3	3	4
• MAT	170	Algebra, Geometry and Trigonometry I	3	0	3
• ART	101	Art History and Appreciation or other Approved Humanities/Fine Art Course	3	0	3
Total Semester Hours			**13**	**6**	**15**
3rd Semester – Summer					
Prefix	**Number**	**Course Title**	**Lecture**	**Lab**	**Credits**
• AGR	210	SCWE in Agriculture	1	28	8
Total Semester Hours			**1**	**28**	**8**
4th Semester – Fall					
Prefix	**Number**	**Course Title**	**Lecture**	**Lab**	**Credits**
• AGR	207	Field Crop Production	2	3	3
• AGR	201	Introduction to Sustainable Agriculture	2	3	3
• HRT	127	Soil and Water Management	3	3	4
• AGR	205	Pest Management	2	3	3
• PSY	103	Human Relations or PSY 201 General Psychology	3	0	3
Total Semester Hours			**12**	**12**	**16**
5th Semester – Spring					
Prefix	**Number**	**Course Title**	**Lecture**	**Lab**	**Credits**
• AGR	209	Introduction to Agriculture Marketing	3	0	3
• AGR	208	Introduction to Agriculture Economics	2	3	3
• IMT	131	Hydraulics and Pneumatics	3	3	4

TABLE C: PROPOSED SEMESTER LAYOUT					
• SPC	205	Public Speaking	3	0	3
• WLD	142	Maintenance Welding	2	3	3
Total Semester Hours			**13**	**9**	**16**
PROGRAM TOTALS			**52**	**61**	**70**

If applicable, provide the course title and description for all new courses that will be added to the college's local catalog. Place an asterisk (*) beside those that will also be new to the SBTCE Statewide CAC.

AGR 211 - Demonstrates basic mathematical applications in crop and livestock production and agribusiness and financial management. These applications aid students in understanding the mathematical applications needed in the agriculture field.

c) **Provide a brief explanation of the planned assessments of student learning outcomes that will be used.**

PTC will assess students' competencies through written exams, hands-on lab projects in the college's fifteen-acre lab, field crop production, written reports, cooperative work experiences with local farmers and ranchers, and classroom participation.

d) **If the program requires clinical support, provide narrative demonstrating that the college has secured commitments from service area employers to support an adequate number of clinical/work experience sites (i.e. should meet the needs of the number of students displayed in the enrollment charts).**

Area farmers and agricultural businesses are providing cooperative work experience opportunities for students in the present certificate programs. These same programs will meet the requirement for the new Diversified Agriculture Degree students.

IV. Proposal Narrative: Faculty

    a) List all administration, faculty, and staff positions that will support the program. Do NOT include individual names. Instead, list the position title and indicate if it is a new or existing position. Explain any changes or additions to existing positions (e.g. shared department heads, administrative assistants, etc.)

- Administration (.25 FTE, 1 headcount)
  No new administration will be added. Currently the Dean of Engineering and Industrial Technology will divide time among the proposed program and the other Engineering and Industrial programs.

- Faculty (1.5 FTE, 3 headcount)
  Existing coordinator will serve as a full time instructor. One existing instructor in similar program (Horticulture) will assist in instructing and one adjunct will be used to assist in instruction.

- Staff (.25 FTE, 1 headcount)
  Current Administrative Assistant for the Engineering & Industrial division will provide support for the proposed program.

    b) Complete the chart below outlining required qualifications for each faculty position listed above.

TABLE D: FACULTY QUALIFICATIONS			
List Staff Position by Rank	**Highest Degree Earned**	**Field of Study**	**Teaching in Field**
Instructor Coordinator	M.S. Agricultural Education/ Clemson	Agriculture	Yes
Adjunct Faculty	M.S. Agricultural Education/ Clemson	Agriculture	Yes
Adjunct Faculty	M.S. Human Resource Dev./B.S. Agricultural Education/ Clemson	Agriculture	Yes

    c) Discuss institutional plans for faculty development, including, but not limiting discussion to release time for research, consulting, conferences, or curriculum development.

PTC supports the professional development of its employees. Available professional development resources are intended to increase the employment-related skills and professionalism of the college's faculty and staff through attendance and participation in approved seminars, workshops, and conferences. Travel, registration, and other funds allocated for professional development shall be used only in support of covered employees. Instructors will be involved in continual education in the Agricultural field, will attend conferences, and will work with other colleges in the areas of curriculum development.

    d) Provide definitions for faculty full-time equivalents (FTE).

A full-time faculty (FTE) is stated as enrollment as expressed in full time equivalency is equal to the total number of credit hours divided by 15 and calculated to the 100th.

e) Complete the chart below to include __ALL__ positions listed in question A.

Note: All new positions should be placed in the 'New' column and remain in the 'New' column for each subsequent program year. The same applies for all existing positions. A detailed example can be found in the "Faculty" module on T-Web.

TABLE E: UNIT ADMINISTRATION/FACULTY/STAFF SUPPORT						
YEAR	NEW		EXISTING		TOTAL	
	Headcount	FTE	Headcount	FTE	Headcount	FTE
Administration						
2010-11			1	.25	1	.25
2011-12			1	.25	1	.25
2012-13			1	.25	1	.25
Faculty						
2010-11	2	.5	1	1.0	3	1.50
2011-12	2	.5	1	1.0	3	1.50
2012-13	2	.5	1	1.0	3	1.50
Staff						
2010-11			1	.25	1	.25
2011-12			1	.25	1	.25
2012-13			1	.25	1	.25

V. Proposal Narrative: Physical Plant

a) Discuss physical plant requirements, indicating any needs for additional physical plant space within the first three years of program operation. Explain any costs associated with the acquisition of physical plant space for the program.

The proposed program will be located in a new campus facility, which provides up-to-date classroom space, a large shop, and fifteen-acre lab. For this reason, no additional costs are projected for facilities during the first three years of implementation.

The general education courses will be taught in existing classrooms at PTC or through existing distance education formats. Normal classroom sizes and ratios apply.

VI. Proposal Narrative: Equipment

a) Discuss equipment needs for the program and explain the planned sources of funding for equipment.

Much of the equipment for the existing certificates will support the proposed program. Sources of funding include the AdvanceSC grant and federal Perkins dollars.

PTC received $247,000 from AdvanceSC to create a Diversified Agriculture program to help serve the rural communities in our state and provide access to four year programs in the agribusiness cluster. A portion of this grant was coupled with Perkins funding to purchase equipment for the certificate programs.

PTC has allocated $188,725 over the next three years for equipment costs. Grant funds will continue to serve as the source of funds. Examples of equipment purchases include student lab computers, a John Deere Tractor with front end loader, Disc/Harrow, Rotary Cutting Mower, Chisel Plow, Seed Spreader, PTO Tiller, and Sprayer System.

Additionally, PTC has allocated $ 10,825 annually to provide funding to meet the needs for student supplies and materials. These needs include such items as fuel, seeds for crops, fertilizer, maintenance items, welding supplies, and other agricultural related items.

b) Itemize each piece of equipment that exceeds $5,000.

- John Deere Tractor with Front End Loader
- Disc/Harrow
- Rotary Cutting Mower with Seed Spreader
- Chisel Plow
- PTO Tiller

a) Provide a quantitative analysis of the current library resources related to the proposed program in adherence to a standard guide (e.g. the ALA Standards for College Libraries). Compare/contrast with the holdings of other institutions who have programs with similar objectives.

During FY 2009-10, substantial library resources were purchased to support PTC's existing agriculture certificates. This included approximately thirty books, two DVD sets, and a subscription to two related periodicals. Eleven books titles are currently on order. Additionally, students have access to nearly 300 e-Book titles, and a number of other online resources accessible from any location.

b) Discuss current library holdings in relation to the proposed program. Provide as many program-specific examples as possible of relevant resources currently available at the institution (e.g. *The Mechatronics Handbook…* for a new Mechatronics program).

Students in the Diversified Agriculture program will have access to a wealth of related resources including books, DVDs, periodicals, and online resources.

Recently purchased book titles for the existing certificate programs include *Agriscience*, *From the Farm to the Table*, *Starting and Running Your Own Small Farm Business*, and *A Handbook of Agriculture, Horticulture, and Landscape Gardening*. Several other titles as well as guides to raising various farm animals are also available.

The PTC Learning Resource Center (LRC) has purchased two sets of periodical databases related to agricultural education. The subscription to *Agricola* is $1,733 annually and the publication provides information on agricultural resources from the U.S. Department of Agriculture's National Agriculture Library. Search features are available for resources pertaining to animals and livestock, plants and crops, food and nutrition, laws and regulations, education and outreach, research and technology, and more. *Access Science* provides science and technology content from McGraw-Hill publications. The annual subscription cost is $657 and the resource includes organized categories such as agriculture, forestry and soils, anthropology and archaeology, astronomy and space science, biological and biomedical science, chemistry, computing and information technology, earth science, engineering and materials, environmental science, food science, general science, mathematics, medicine, military science, navigation, paleontology, physics, psychiatry and psychology and veterinary medicine.

The LRC occasionally purchases electronic book collections on many topics, including agriculture. The NetLibrary collection currently offers users full-text access to 52,509 books. A keyword search for the terms "agriculture or farm or farming" returns a result list of 287 e-book titles.

Additionally, the PTC library subscribes to the Films on Demand streaming video collections. In the area of agriculture, students and faculty will find many full-length programs.

The LRC provides access to several databases likely to include information on agriculture technology including ScienceOnline, GreenFILE, Academic Search Premier, SIRS Knowledge Source, Expanded Academic ASAP, and several others.

c) Explain any costs associated with library resources for the first three years of the program (e.g. books, AV, serials).

During FY 2009-10, substantial library resources were purchased to support PTC's existing agriculture certificates. The college has allocated $800 annually to the purchase of library materials. PTC intends to add minimal resources to the collection over the next three years to further support the associate degree program.

VIII. Proposal Narrative: Accreditation, Licensure, or Certification

a) Explain whether the program is subject to specialized or professional accreditation/approval by any state, regional, or national agency (other than the Commission on Higher Education).

The college does not have plans to seek accreditation within the first three years of implementation.

b) If so, discuss plans to seek such accreditation, including the timeline. Estimate any costs associated with the accreditation plans (within the first three years of the program).

N/A

c) Discuss any licensure or certification requirements for graduates and the extent to which the program will prepare graduates for these exams.

There is no standard licensure required of graduates.

IX. Proposal Narrative: Estimated Costs

TABLE F: ESTIMATED COSTS BY YEAR				
CATEGORY	**1st**	**2nd**	**3rd**	**TOTALS**
Program Administration	$0	$0	$0	$0
Faculty Salaries	$65,000	$66,000	$66,560	$197,560
Graduate Assistants	$0	$0	$0	$0
Clerical/Support Personnel	$0	$0	$0	$0
Supplies and Materials	$10,825	$10,825	$10,825	$32,475
Library Resources	$800	$800	$800	$2,400
Equipment	$34,575	$84,575	$69,575	$188,725
Facilities	$0	$0	$0	$0
Other (Identify)	$0	$0	$0	$0
TOTALS	**$111,200**	**$162,200**	**$147,760**	**$421,160**
Tuition Funding	$38,208	$63,680	$63,680	$165,568
Program Specific Fees	$0	$0	$0	$0
State Funding	$0	$38,241	$38,241	$76,482
Reallocation of Existing Funds	$0	$0	$0	$0
Federal Funding	$0	$0	$0	$0
Other Funding (Grant funds from Perkins and AdvanceSC)	$100,000	$120,000	$127,000	$347,000
TOTALS	**$138,208**	**$221,921**	**$228,921**	**$589,050**

The college will not reallocate any funds to cover the start-up costs. Grant awards from AdvanceSC and Perkins will serve as the primary funding sources during the first three years of implementation. After the initial three years, the program will remain self supporting through student tuition.