

PROGRAM REVIEW

February 7, 2011

UNIT Agriculture DEPARTMENT Agriculture COLLEGE School of Polytechnic Studies

GRADUATE _____ UNDERGRADUATE X

UNIT CONTACT PERSON _____

CHAIRPERSON SIGNATURE _____

DEAN SIGNATURE _____

EXECUTIVE SUMMARY UNDERGRADUATE

The Department of Agriculture at Southeast MO State University has initiated the following objectives/ideas since the last review:

- (1)develop quality programs that have dedicated instruction in the science and technology of agriculture/horticulture coupled with sufficient breath in agribusiness to guarantee student career success,
- (2)develop programs having emerging technology and career potential to attract a greater array of students,
- (3)develop a department culture of professional service to the region's agriculture/horticulture,
- (4)provide higher education instruction at the regional centers to support the agriculture needs of the Missouri "bootheel",
- (5)develop a new business model for the auxiliary enterprises to promote profitability,
- (6)maintain a desired level of student experiential learning,
- (7)continue to develop teaching infrastructure.

The faculty and professional staff view the program review as a reflective instrument that chronicles our past accomplishments and establishes our vision for the growth of the Department of Agriculture. We the faculty and professional staff of the Department of Agriculture certify that we have participated and endorse this document:

Michael Aide, Donn Beighley, Indi Braden, William Ellis, David Mauk, Wesley Mueller, Neil Herman, Denise Pingel, Paul Schnare, and Sven Svenson.

Program Review Final University Committee Chair Comments

I. SIZE, SCOPE, AND PRODUCTIVITY OF THE PROGRAM

Briefly describe the depth and breadth of your unit's offerings (Undergraduate).

The department has one major with four options: Agribusiness (animal science, horticulture, plant and soil science, agriculture industry). Additionally, the department has Pre-Veterinary Medicine and Pre Vocational Agriculture Education. Because Pre-Veterinary Medicine and Pre Vocational Agriculture Education programs are not majors, most students pursue curriculum criteria established for the Agribusiness major. The minimum target for majors is 160 and the aspirational major target is 250. The department exceed the minimum target with 197 (AY07), 181 (AY08), and 189 (AY09). The distribution of majors is evenly spaced with 33 (animal science), 30 (horticulture), 24 (plant and soil science), 51 (agriculture industry), 43 (Pre-Veterinarian Medicine), and 4 (PreVocational Agriculture Education). The number of minors has been steady, averaging 18 students.

SIZE and SCOPE DATA UNDERGRADUATE							
Measure	Minimum	Aspirational Target	Year				
			AY07	AY08	AY09	4	5
Majors UNIT Total	160	250	197	181	189		
Agribusiness: Agribusiness [BS/BS/AGBU]			11	10	3		
Agribusiness: Animal Science [BS/BS/AGAN]			34	34	33		
Agribusiness: Horticulture [BS/BS/AGHO]			43	35	30		
Agribusiness: Horticulture 2+2 [BS/BS/AGHT]			2	2	1		
Agribusiness: Agriculture Indus [BS/BS/AGAI]			34	40	51		
Agribusiness: Plant & Soil Scie [BS/BS/AGPS]			19	22	24		
Agriculture: Agriscience [BS/BS/AGAS]			1	0	0		
Agriculture: Plant & Soil Sci [BS/BS/AGPL]			4	3	0		
Pre-Veterinary Medicine [PREPROF/PPROF/PRVT]			47	33	43		
Pre-Vocational Agriculture Edu [PREPROF/PPROF/PRAG]			2	2	4		
Minors UNIT Total			18	20	19		
Agriculture			13	15	11		
Agriculture Minor			2	0	0		
Companion Animals			0	1	4		
Horticulture			1	3	3		
Horticulture Minor			1	0	0		
Soils			1	1	1		
Completers UNIT Total	20	40	26	40	29		
Agribusiness: Agribusiness [BS/BS/AGBU]			3	10	2		
Agribusiness: Animal Science [BS/BS/AGAN]			6	14	6		
Agribusiness: Horticulture [BS/BS/AGHO]			9	7	8		
Agribusiness: Horticulture 2+2 [BS/BS/AGHT]			0	0	1		
Agribusiness: Agriculture Indus [BS/BS/AGAI]			4	6	9		

Agribusiness:Plant & Soil Scie [BS/BS/AGPS]			1	1	3		
Agriculture: Agriscience [BS/BS/AGAS]			1	0	0		
Agriculture: Plant & Soil Sci [BS/BS/AGPL]			2	2	0		
% Completion Rate 6 YR	40	50	46	68	57		
Unit - % Retention FS YR 1 -- F YR 2	64	64	52	58	65		
Unit - % Retention FS YR 3 -- F YR 4	66	83	82	87	75		
UNIV - % Retention FS YR 1 -- F YR 2			70	68	70		
UNIV - % Retention FS YR 3 -- F YR 4			86	87	81		
SCH On Campus FS			3,303	3,453	3,514		
SCH Off Campus FS			288	246	387		
SCH Total FS			3,591	3,699	3,901		
SCH Summer On and Off Campus			338	375	290		
SCHR (SCH ratios) On Campus Fall/Spring	186	255	289	291	293		
SCHR (SCH ratios) Off Campus Fall/Spring	186	255	246	203	310		
SCHR (SCH ratios) Total	186	255	285	283	295		
Delaware SCHR			200	187			
% of Sections with Enrollment < 10 (GR < 8)	10	0	9	12	14		

Area of Concern for Size and Scope Data (Undergraduate)

An area of interest is the number of majors associated with the agribusiness: plant and soil science option, having 4, 3 and 0 on-campus majors from AY07 to AY09. The department has initiated the teaching of the agribusiness: plant and soil science option at Southeast MO State University (Sikeston, Malden and Kennett) in the fall 2009 semester, with 11 new majors. We expect new students at the regional centers to substantially increase and augment the program.

One other area of departmental interest is the Pre-Vocational Agriculture Education program, with 2 (AY07), 2 (AY08) and 4 (AY09) majors, respectively. We are currently presenting a plan to have a new major (Agriculture Education - effective Fall 2010 pending CBHE approval) with a substantial recruiting program to address this situation. We anticipate a substantial major increase in the proposed Agriculture Education major because of the intensive FFA teacher involvement in the creation of this major.

The percent completion rate is appropriately evolving with a minimum target of 40% and an aspirational target of 50%. Currently the department's percent completion rates are 46% (AY07), 68% (AY08) and 57% (AY09), respectively. A greater percent completion rate is anticipated because the department is upgrading the course content and the rigor of the agribusiness/ animal science option to retain Pre-Veterinary Medicine students.

SCH generation is excellent, showing an increasing progression from 3,591 SCH in AY07, 3,699 SCH in AY08 and 3,901 SCH in AY09. Similarly, the SCHR is 285 (AY07), 283 (AY08) and 295 (AY09), surpassing the aspirational target of 255. With growth and development of our program at the regional centers we will adjust substantially our aspirational SCH and SCHR values to higher limits.

TEACHING PERSONNEL DATA UNDERGRADUATE							
	Minimum	Aspirational Target	AY07	AY08	AY09	Year 4	Year 5
Unit Full Time Faculty Number	8.00	10.00	8.00	7.00	8.00		
Unit Full Time Faculty Adjusted for Release	7.50	9.00	6.75	5.25	6.75		
Unit Full Time Faculty UG FTE			11.92	9.69	12.03		

Unit Regional Campus Faculty Number					0.00		
Other Teaching Personnel UG Number	1.00	2.00	2.00	4.00	5.00		
Other Teaching Personnel UG PTFTE	0.10	0.30	0.70	3.38	1.20		

Area of Concern for Teaching Personnel Data (Undergraduate)

The department has a minimum target of 8 teaching personnel and an aspirational target of 10 teaching personnel. One of the faculty is Dr. Beighley, who is a research fellow and does not have a teaching commitment. Dr. Beighley's salary is a line item appropriation of the Missouri Legislature and is not a University commitment. Currently, for teaching personnel, we have 8 (AY07), 7 (AY08), and 8 (AY09), respectively. When adjusted for release time, the department has 6.75 (AY07), 5.25 (AY08), and 6.75 (AY09) teaching personnel, respectively. With changes in the release time arrangements for the David M. Barton Agriculture Research Center, the amount of departmental release time will be diminished in FY10. Thus, the department is at its minimum target for teaching personnel and at or below its minimum target when adjusted for release time. Other undergraduate personnel include: 2 (AY07), 4 (AY08) and 5 (AY09), which are part-time personnel that teach one to 2 courses/ semester. These other personnel are vital to the program because of the specific nature of their teaching assignments (veterinarians, equestrian, and horticulture). The corresponding part time FTE is 0.7 (FY07), 3.38 (FY08) and 1.20 (FY09), which exceeds the aspirational limit of 0.30. The department desires to increase the number of faculty; however, the department recognizes the need to increase student enrollment. Collectively, these two demographics will increase with the offering of the BS degree program at the regional centers. Currently, we have 6 faculty: (i) horticulture has 2 faculty, (ii) 1 faculty serving animal science, and (iii) 3 faculty serving agronomy (plant and soil science). The department also has 1 position reserved for agribusiness and 1 faculty is a research fellow.

COMPARISONS UNDERGRADUATE										
	AY07		AY08		AY09		Year 4		Year 5	
	COLL	UNIV	COLL	UNIV	COLL	UNIV	COLL	UNIV	COLL	UNIV
% Completion Rate 6 YR	46.77	50.77	60.00	50.82	46.66	47.04				
Unit - % Retention FS YR 1 -- F YR 2	60.39	62.68	58.69	63.69	63.79	66.03				
Unit - % Retention FS YR 3 -- F YR 4	80.92	82.78	80.85	83.34	79.60	82.34				
UNIV - % Retention FS YR 1 -- F YR 2	71.28	62.81	70.65	63.69	72.41	66.13				
UNIV - % Retention FS YR 3 -- F YR 4	86.18	83.02	86.52	83.73	84.21	82.40				
SCHR (SCH ratios) On Campus Fall/Spring	270.00	262.00	257.00	261.00	261.00	248.00				
SCHR (SCH ratios) Off Campus Fall/Spring	189.00	227.00	189.00	290.00	162.00	213.00				
SCHR (SCH ratios) Total	264.00	242.00	252.00	265.00	252.00	242.00				
% of Sections with Enrollment < 10 (GR < 8)	15.46	17.54	18.23	17.42	17.32	22.70				

SIZE and SCOPE DATA SUMMARY UNDERGRADUATE				
Measure	Mean	5 year Outcome	% of Aspiration Target	Trend
Majors UNIT Total	189.0	Needs Improvement	75.6	Irregular
Agribusiness: Agribusiness [BS/BS/AGBU]	8.0			Declining
Agribusiness: Animal Science [BS/BS/AGAN]	33.7			Declining
Agribusiness: Horticulture [BS/BS/AGHO]	36.0			Declining
Agribusiness: Horticulture 2+2 [BS/BS/AGHT]	1.7			Declining

Agribusiness:Agriculture Indus [BS/BS/AGAI]	41.7			Improving
Agribusiness:Plant & Soil Scie [BS/BS/AGPS]	21.7			Improving
Agriculture: Agriscience [BS/BS/AGAS]	0.3			Irregular
Agriculture: Plant & Soil Sci [BS/BS/AGPL]	2.3			Declining
Pre-Veterinary Medicine [PREPROF/PPROF/PRVT]	41.0			Irregular
Pre-Vocational Agriculture Edu [PREPROF/PPROF/PRAG]	2.7			Improving
Minors UNIT Total	19.0			Irregular
Agriculture	13.0			Irregular
Agriculture Minor	0.7			Irregular
Companion Animals	1.7			Improving
Horticulture	2.3			Irregular
Horticulture Minor	0.3			Irregular
Soils	1.0			Static
Completers UNIT Total	31.7	Needs Improvement	79.15	Irregular
Agribusiness: Agribusiness [BS/BS/AGBU]	5.0			Irregular
Agribusiness: Animal Science [BS/BS/AGAN]	8.7			Irregular
Agribusiness: Horticulture [BS/BS/AGHO]	8.0			Irregular
Agribusiness: Horticulture 2+2 [BS/BS/AGHT]	0.3			Improving
Agribusiness:Agriculture Indus [BS/BS/AGAI]	6.3			Improving
Agribusiness:Plant & Soil Scie [BS/BS/AGPS]	1.7			Improving
Agriculture: Agriscience [BS/BS/AGAS]	0.3			Irregular
Agriculture: Plant & Soil Sci [BS/BS/AGPL]	1.3			Declining
% Completion Rate 6 YR	57.0	Aspiration	114	Irregular
Unit - % Retention FS YR 1 -- F YR 2	58.3	Red Flag	91.14	Improving
Unit - % Retention FS YR 3 -- F YR 4	81.3	Needs Improvement	97.98	Irregular
UNIV - % Retention FS YR 1 -- F YR 2	69.3			Irregular
UNIV - % Retention FS YR 3 -- F YR 4	84.7			Irregular
SCH On Campus FS	3,423.3			Improving
SCH Off Campus FS	307.0			Irregular
SCH Total FS	3,730.3			Improving
SCH Summer On and Off Campus	334.3			Irregular
SCHR (SCH ratios) On Campus Fall/Spring	291.0	Aspiration	114.11	Improving
SCHR (SCH ratios) Off Campus Fall/Spring	253.0	Needs Improvement	99.21	Irregular
SCHR (SCH ratios) Total	287.7	Aspiration	112.8	Irregular
% of Sections with Enrollment < 10 (GR < 8)	11.7	Aspiration	0	Improving

UNDERGRADUATE

Brief Conclusion from Data

The department has met and exceeded its student demographic base with respect to the number of majors, the number of SCH generated, and its SCHR. The retention rate will be strengthened in the animal science curriculum with the recent addition of AY200 (Companion Animals) and AY300 (Domestic Animal Anatomy and Physiology). The animal science option is also working to develop two new animal science courses having applications to animal science and veterinary medicine. Additionally the department is extending its teaching outreach to Southeast MO State University (Sikeston/ Malden/ Kennett) with the introduction of the agribusiness – plant and soil science option. We desire to substantially increase the number of our majors in the southern most regions of our service area, thus increasing the potential to attract a greater faculty base and approach our aspirational target for teaching personnel.

Additional Data or Comments

The faculty of the Department of Agriculture have specialty in agronomy, animal science or horticulture, yet all faculty have an agribusiness component. The faculty emphasize that all faculty participate with their expertise in the instruction of all agribusiness majors.

The number of majors in the department is poised for substantial growth because of new and proposed programs. Student credit hour productivity reflects a positive trend. The department is addressing the retention rate by developing a more attractive animal science program for the Pre-Veterinary Medicine and traditional animal science majors. Additionally the horticulture program has recently upgraded its curriculum to attract a greater array of horticulture students beyond students interested in greenhouse or golf course management.

Most of the teaching by the faculty is associated with majors in the department. Although teaching in University Studies is valued by the faculty and the faculty support of the goals of a liberal education, the majority of the teaching is restricted to our core and complimentary option courses. Thus, the department has students that largely attend Southeast MO State University because of their specific interest in this department.

Plan to Address

Important to our discussion is the department's recognition that enrollment management is fundamental to our growth. The department is embracing its new commitment to the southern most region of the university's service area. This region is a massive agricultural region and our presence in this region is critical to our mission. The placement of the agribusiness – plant and soil option at Southeast Missouri State University (Sikeston/ Malden/ Kennett) is destined to facilitate a substantial student enrollment increase, which will eventually translate into the need for a greater faculty base.

The department is also preparing to introduce Agriculture Education major to replace Pre-Vocational Agricultural Education. The Agriculture Education major is a BS degree having linkages with the College of Education, where a student will be able to pursue a degree program for high school certification in agriculture education (primarily FFA). This program will be cost-affordable because most of the instruction is already performed in the Department of Agriculture and in the College of Education. However, the outreach of this program places the department favorably in the region's high schools and affords the department an excellent recruiting base.

Brief Follow Up on Outcomes of Plans to Address from Last Review

More than half of the Department of Agriculture faculty were not present when the department performed its last program review. A major outcome of the last review witnessed the combining of several majors into one major, an action designed to guarantee sufficient student numbers in the Agribusiness major. With the vision of the former chair and the continuance of that vision by the present chair, coupled with the dedication of the faculty, the department has transformed itself to a department having a commitment to excellent courses and having a professional outreach to our service area. The department largely sees itself as the agriculture resource for the entire University's service area, rather than just serving the counties surrounding Cape Girardeau County. Our presence is expanding in the Missouri "Bootheel" and in the St. Louis metropolitan area. Our programs in Pre-Veterinary Medicine and Agricultural Education will augment the quality of our instruction and will attract a greater pool of student talent. We re-drafted our Promotion and Tenure document to more appropriately reflect quality teaching and the

development of professional outreach and teaching facilities.

As is our tradition, emphasis is placed on student learning, student success and student enrichment through experiential learning activities. The Department of Agriculture has programs of study in Animal Science, Plant and Soil, Horticulture, Pre-Veterinary Medicine, and Pre-Vocational Agriculture Education (to be transformed to Agriculture Education). The dedicated faculty strive to bring emerging technology to the students, based around our centers of learning: the David M. Barton Agriculture Research Center with an emphasis on crops and beef, the Charles L. Hutson Greenhouse Complex with an emphasis on floriculture, and the Horticulture Research Station with an emphasis on turf grass, landscape design and maintenance, sustainable fruit and vegetable production, nursery crop production, ornamental plant evaluation and viticulture. Every student is afforded the opportunity for individualized research and internships in their career area. With an emphasis on careers, the program is augmented with agribusiness courses that prepare students for agribusiness management or for pursuing career self-fulfillment through entrepreneurship.

The department is expanding its teaching activities to Southeast MO State University (Sikeston/ Malden/ and Kennett). We are currently preparing new articulation agreements with our educational partners at Three Rivers Community College and Mineral Area Community College. The department is addressing the retention needs of the department. Thus, the department is well poised for growth and curricular excellence.

Program Review Final University Committee Chair Comments

II. REVENUE AND OTHER RESOURCES GENERATED BY THE PROGRAM

REVENUE DATA UNDERGRADUATE					
Measure	AY07	AY08	AY09	Year 4	Year 5
All Courses - SCH Revenue					
On Campus FS	656,163.91	750,016.11	822,806.72		
Off Campus FS	43,138.44	37,556.70	57,789.72		
Summer On and Off Campus	68,632.74	83,632.50	68,199.70		
Subtotal Revenue SCH	767,935.09	871,205.31	948,796.14		
All Courses - Fees Revenue					
On Campus FS	2,390.00	2,120.00	1,370.00		
Off Campus FS	0.00	0.00	260.00		
Summer On and Off Campus	0.00	0.00	0.00		
Subtotal Revenue FeeS	2,390.00	2,120.00	1,630.00		
All Courses - Total SCH and Fees	770,325.09	873,325.31	950,426.14		
Univ Studies Crses - SCH Revenue					
On Campus FS	297,114.24	337,554.90	419,884.92		
Off Campus FS	34,083.54	33,607.14	26,620.08		
Summer On and Off Campus	37,391.40	48,653.46	37,849.62		
Subtotal Revenue SCH	368,589.18	419,815.50	484,354.62		
Univ Studies Crses - Fees Revenue					
On Campus FS	0.00	0.00	0.00		
Off Campus FS	0.00	0.00	0.00		
Summer On and Off Campus	0.00	0.00	0.00		
Subtotal Revenue FeeS	0.00	0.00	0.00		
Univ Studies - Total SCH and Fees	368,589.18	419,815.50	484,354.62		
SER/BC/ROM Crses - SCH Revenue					
On Campus FS	0.00	10,364.16	0.00		
Off Campus FS	0.00	0.00	0.00		
Summer On and Off Campus	0.00	0.00	0.00		
Subtotal Revenue SCH	0.00	10,364.16	0.00		
SER/BC/ROM Crses - Fees Revenue					
On Campus FS	0.00	0.00	0.00		
Off Campus FS	0.00	0.00	0.00		
Summer On and Off Campus	0.00	0.00	0.00		
Subtotal Revenue Fees	0.00	0.00	0.00		
SER/BC/ROM - Total SCH and Fees	0.00	10,364.16	0.00		
Major Courses - SCH Revenue					

On Campus FS	359,049.67	402,097.05	402,921.80		
Off Campus FS	9,054.90	3,949.56	31,169.64		
Summer On and Off Campus	31,241.34	34,979.04	30,350.08		
Subtotal Revenue SCH	399,345.91	441,025.65	464,441.52		
Major Courses - Fees Revenue					
On Campus FS	2,390.00	2,120.00	1,370.00		
Off Campus FS	0.00	0.00	260.00		
Summer On and Off Campus	0.00	0.00	0.00		
Subtotal Revenue FeeS	2,390.00	2,120.00	1,630.00		
Major Courses - Total SCH and Fees	401,735.91	443,145.65	466,071.52		
Unit Revenue External Grants	112,626.00	75,225.00	44,850.00		

SUMMARY UNDERGRADUATE

Measure	Mean	Trend
All Courses - SCH Revenue		
On Campus FS	742,995.58	Improving
Off Campus FS	46,161.62	Irregular
Summer On and Off Campus	73,488.31	Irregular
Subtotal Revenue SCH	862,645.51	Improving
All Courses - Fees Revenue		
On Campus FS	1,960.00	Declining
Off Campus FS	86.67	Improving
Summer On and Off Campus	0.00	Static
Subtotal Revenue FeeS	2,046.67	Declining
All Courses - Total SCH and Fees	864,692.18	Improving
Univ Studies Crses - SCH Revenue		
On Campus FS	351,518.02	Improving
Off Campus FS	31,436.92	Declining
Summer On and Off Campus	41,298.16	Irregular
Subtotal Revenue SCH	424,253.10	Improving
Univ Studies Crses - Fees Revenue		
On Campus FS	0.00	Static
Off Campus FS	0.00	Static
Summer On and Off Campus	0.00	Static
Subtotal Revenue FeeS	0.00	Static
Univ Studies - Total SCH and Fees	424,253.10	Improving
SER/BC/ROM Crses - SCH Revenue		
On Campus FS	3,454.72	Irregular

Off Campus FS	0.00	Static
Summer On and Off Campus	0.00	Static
Subtotal Revenue SCH	3,454.72	Irregular
SER/BC/ROM Crses - Fees Revenue		
On Campus FS	0.00	Static
Off Campus FS	0.00	Static
Summer On and Off Campus	0.00	Static
Subtotal Revenue Fees	0.00	Static
SER/BC/ROM - Total SCH and Fees	3,454.72	Irregular
Major Courses - SCH Revenue		
On Campus FS	388,022.84	Improving
Off Campus FS	14,724.70	Irregular
Summer On and Off Campus	32,190.15	Irregular
Subtotal Revenue SCH	434,937.69	Improving
Major Courses - Fees Revenue		
On Campus FS	1,960.00	Declining
Off Campus FS	86.67	Improving
Summer On and Off Campus	0.00	Static
Subtotal Revenue FeeS	2,046.67	Declining
Major Courses - Total SCH and Fees	436,984.36	Improving
Unit Revenue External Grants	77,567.00	Declining

UNDERGRADUATE

Brief Conclusion from Data

The mean student credit hour (SCH) revenue from FY07 to FY09 generated by the department is \$862,645, with associated SCH fees totaling \$2,390. Thus, the total revenue resulting from SCH and fees is \$864,692. University studies total revenue generated from SCH and fees (FY07 to FY09) is \$424,253, which is approximately 50% of the total revenue generated by the department. The mean FY07 to FY09 revenue generated by major course SCH and fees is \$436,984. The department has no service courses required by other majors. When averaged over FY07 to FY09, external grants accounted for an additional \$77,567.

Trends during FY07 to FY09 for revenue generation from major courses showed an upward trend: \$401,736 (FY07), \$443,146 (FY08) and \$466,072 (FY09). Similarly, trends during FY07 to FY09 for revenue generation from University Studies major courses were positive: \$368,589 (FY07), \$419,815 (FY08) and \$484,354 (FY09). The department requires all majors to take MA134 and either CH181 or CH185 - CH186. Grant revenue was substantial, ranging from \$112,626 (FY07), \$75,225 (FY08), to \$44,850 (FY09). Grant revenue in FY 2010 will exceed \$300,000.

Additional Data or Comments

The faculty have developed "field days", in which 350 (FY08) and 400 (FY09) FFA students attended the university to listen to student/faculty discussions concerning research and student activities associated with animal science, veterinary medicine, horticulture and agronomy (crops and soil science). These activities

have increased our recognition in the FFA high school program and will result in attracting more students to attend Southeast MO State University. Future student increases are expected because of recruiting sponsored events for prospective high school students and a greater interaction with FFA teachers.

In FY10, the department has been singularly successful in grant activities. We received (i) \$84,000 (Rural Development for a semi-confinement beef operation), \$30,000 (USDA for Riparian Strip/Buffer Workshops), (iii) \$81,000 for entrepreneurship training in horticulture, and (vi) additional pending grants totaling \$280,000. Also, in FY10, the department has received cooperative research grants (international agribusiness) totaling \$27,000.

Plan to Address

The department wishes to develop a funding stream from (i) agribusiness sponsorship of research, (ii) grants, (iii) University Foundation giving activities, and (iv) cooperative programs with University Missouri Extension and Federal agencies (USDA-NRCS). These activities should provide an annual cash flow of \$250,000.

The department also wished to expand the number of majors, primarily through placing the Agribusiness / plant and soil science option at Southeast MO State University (Sikeston/ Malden/ Kennett). Also, articulation agreements and cooperative programs development with Three Rivers Community College and Mineral Area Community College should result in an increase in transfer students.

The department is beginning discussions with Three River Community College to place a 2+2 program at their institution.

Brief Follow Up on Outcomes of Plans to Address from Last Review

We have condensed the curriculum to minimize low enrollment classes and have structured the curriculum to reflect our modern student demographics. We are particularly interested in having discussions with new student relations to advance our name recognition in the metropolitan centers of St. Louis (MO), Kansas City (MO) and Cincinnati (OH). Grant activity has increased substantially and we are developing relationships with Sponsored Programs and have developed a departmental culture of grant activity.

Program Review Final Chair Comments

The Department of Agriculture is similar to the departments in the College of Science and Mathematics and also similar to our fellow colleagues in the School of Polytechnic Studies; in that, our programs are equipment intensive. The cost factor of this equipment is largely anticipated to be funded via contractual agreements to perform research for agribusiness, thus receiving funding from this source; as well as, funding our experiential learning activities. We are discussing options with Facilities Management to grow plants for sale to the University, thus reducing the University's financial commitments. With Chartwells, we are discussing production of fresh fruits and vegetables grown for sale to Chartwells for use in campus food preparation, as part of a new campus Sustainable Garden. Both of these programs promote undergraduate learning activities for students in the Department of Agriculture and other departments, while increasing the Department of Agriculture's cash flow.

The Department of Agriculture is the only department that is expected to generate its own revenue to maintain our teaching assets. Our teaching assets include the David M. Barton Agriculture Research Center, the Charles L. Hutson Horticulture Greenhouse, and the Horticulture Research Station. Revenue is generated from plant sales, grain sales, and beef sales. This reliance on "managing three businesses" places a strain on the faculty and causes the department to rely on the "ups and downs" of the futures market. This revenue allows the department to purchase equipment (tractors, tillage and harvesting equipment), veterinary medicine and other animal supplies, build roads, fences, grain bins, purchase potting media, pay electrical bills, etc. Our undergraduate research programs profit and loss statements are largely dependent upon excellent business management and the work ethic of the faculty and professional staff. Please note that the University does support the program; however, I also wish to acknowledge that I have the best and most loyal faculty on campus. These faculty and professional staff are largely for the financial success of these enterprises.

Program Review Final University Committee Chair Comments

III. COSTS AND OTHER EXPENSES ASSOCIATED WITH THE PROGRAM

COSTS DATA UNDERGRADUATE					
	AY07	AY08	AY09	Year 4	Year 5
Cost Per Major	2,736.00	3,158.00	2,955.00		
Unit Costs per Major SCH - On campus FS	280.00	282.00	284.00		
Unit Costs per Major SCH - Off campus FS	309.00	681.00	226.00		
Unit Costs per Major SCH - Summer	345.00	345.00	201.00		
Unit Costs per Major SCH - Overall	285.00	290.00	273.00		
Unit Costs for Major Crses - On campus FS	480,596.00	508,689.00	488,001.00		
Unit Costs for Major Crses - Off campus FS	13,902.00	12,262.00	44,142.00		
Unit Costs for Major Crses - Summer	44,495.00	50,677.00	26,342.00		
Unit Costs for Major Crses - Overall	538,993.00	571,628.00	558,485.00		
Unit Costs per Univ Studies SCH - On campus FS	276.00	220.00	198.00		
Unit Costs per Univ Studies SCH - Off campus FS	313.00	320.00	222.00		
Unit Costs per Univ Studies SCH - Summer	288.00	222.00	147.00		
Unit Costs per Univ Studies SCH - Overall	282.00	232.00	196.00		
Unit Costs for Univ Studies Crses - On campus FS	410,133.00	339,398.00	355,014.00		
Unit Costs for Univ Studies Crses - Off campus FS	76,021.00	73,010.00	42,577.00		
Unit Costs for Univ Studies Crses - Summer	51,889.00	47,359.00	23,402.00		
Unit Costs for Univ Studies Crses - Overall	538,043.00	459,766.00	420,993.00		
Unit Costs per SER/BC/ROM SCH - On campus FS	0.00	159.00	0.00		
Unit Costs per SER/BC/ROM SCH - Off campus FS	0.00	0.00	0.00		
Unit Costs per SER/BC/ROM SCH - Summer	0.00	0.00	0.00		
Unit Costs per SER/BC/ROM SCH - Overall	0.00	159.00	0.00		
Unit Costs for SER/BC/ROM Crses - On campus FS	0.00	3,811.00	0.00		
Unit Costs for SER/BC/ROM Crses - Off campus FS	0.00	0.00	0.00		
Unit Costs for SER/BC/ROM Crses - Summer	0.00	0.00	0.00		
Unit Costs for SER/BC/ROM Crses - Overall	0.00	3,811.00	0.00		
Unit Costs per All SCH - On campus FS	278.00	252.00	240.00		
Unit Costs per All SCH - Off campus FS	312.00	347.00	224.00		
Unit Costs per All SCH - Summer	312.00	272.00	172.00		
Unit Costs per All SCH - Overall	283.00	260.00	238.00		
Unit Costs for All Crses - On campus FS	890,729.00	851,898.00	843,015.00		
Unit Costs for All Crses - Off campus FS	89,924.00	85,273.00	86,719.00		
Unit Costs for All Crses - Summer	96,384.00	98,035.00	49,743.00		
Unit Costs for All Crses - Overall	1,077,036.00	1,035,205.00	979,478.00		

COSTS COMPARISONS UNDERGRADUATE					
	AY07	AY08	AY09	Year 4	Year 5
College Cost per Major	3,137.00	3,614.00	3,152.00		
University Cost per Major	3,297.00	3,345.00	2,083.00		
Delaware Study Cost/SCH Unit	253.00	350.00	0.00		
College Cost per Major SCHR	206.00	245.00	274.00		
University Cost per Major SCHR	204.00	214.00	231.00		
College Cost per Univ Studies SCHR	210.00	194.00	269.00		
University Cost per Univ Studies SCHR	153.00	108.00	106.00		
College Cost per SER/BC/ROM SCHR	180.00	183.00	151.00		
University Cost per SER/BC/ROM SCHR	121.00	130.00	117.00		
College Cost per all SCHR	210.00	230.00	269.00		
University Cost per all SCHR	153.00	155.00	161.00		

SUMMARY UNDERGRADUATE		
	Mean	Trend
Cost Per Major	2,949.66	Irregular
Unit Costs per Major SCH - On campus FS	282.00	Improving
Unit Costs per Major SCH - Off campus FS	405.33	Irregular
Unit Costs per Major SCH - Summer	297.00	Declining
Unit Costs per Major SCH - Overall	282.66	Irregular
Unit Costs for Major Crses - On campus FS	492,428.66	Irregular
Unit Costs for Major Crses - Off campus FS	23,435.33	Irregular
Unit Costs for Major Crses - Summer	40,504.66	Irregular
Unit Costs for Major Crses - Overall	556,368.66	Irregular
Unit Costs per Univ Studies SCH - On campus FS	231.33	Declining
Unit Costs per Univ Studies SCH - Off campus FS	285.00	Irregular
Unit Costs per Univ Studies SCH - Summer	219.00	Declining
Unit Costs per Univ Studies SCH - Overall	236.66	Declining
Unit Costs for Univ Studies Crses - On campus FS	368,181.66	Irregular
Unit Costs for Univ Studies Crses - Off campus FS	63,869.33	Declining
Unit Costs for Univ Studies Crses - Summer	40,883.33	Declining
Unit Costs for Univ Studies Crses - Overall	472,934.00	Declining
Unit Costs per SER/BC/ROM SCH - On campus FS	53.00	Irregular
Unit Costs per SER/BC/ROM SCH - Off campus FS	0.00	Static
Unit Costs per SER/BC/ROM SCH - Summer	0.00	Static
Unit Costs per SER/BC/ROM SCH - Overall	53.00	Irregular
Unit Costs for SER/BC/ROM Crses - On campus FS	1,270.33	Irregular

Unit Costs for SER/BC/ROM Crses - Off campus FS	0.00	Static
Unit Costs for SER/BC/ROM Crses - Summer	0.00	Static
Unit Costs for SER/BC/ROM Crses - Overall	1,270.33	Irregular
Unit Costs per All SCH - On campus FS	256.66	Declining
Unit Costs per All SCH - Off campus FS	294.33	Irregular
Unit Costs per All SCH - Summer	252.00	Declining
Unit Costs per All SCH - Overall	260.33	Declining
Unit Costs for All Crses - On campus FS	861,880.66	Declining
Unit Costs for All Crses - Off campus FS	87,305.33	Irregular
Unit Costs for All Crses - Summer	81,387.33	Irregular
Unit Costs for All Crses - Overall	1,030,573.00	Declining

UNDERGRADUATE

Brief Conclusion from Data

The mean cost associated with the offering of all courses by the department is \$1,030,573. The mean cost for offering major courses (FY07 to FY08) is \$556,369. The mean cost for a major based on SCH is \$283, compared with the University mean SCH cost of \$204 (FY07) and \$231 (FY09). Thus, the department is slightly more expensive than the mean major cost. The cost per major is \$2,955 (FY09), which compares favorably with the University mean cost per major of \$3,297 (FY07) and \$2,083 (FY09).

The total cost associated with the department offering University Studies is \$420,993. The mean department cost for offering University Studies on a SCH basis is \$196, whereas the mean University cost is \$153 (FY07) to \$106 (FY09).

The overall unit costs for major courses have increased slightly (approximately 3 percent) over the three year time span: \$538,993 (FY07), \$571,628 (FY08), and 558,485 (FY09). Similarly, the unit costs per major on the SCR basis is relatively constant at \$285 (FY07), \$290 (FY08), and \$273 (FY09). The unit cost for all courses has remained relatively constant over the three year time span, actually declining in FY09: \$1,077,036 (FY07), \$1,035,205 (FY08) and \$979,478 (FY09).

Additional Data or Comments

The costs associated with the Department of Agriculture may be partitioned among faculty salary, operations, and equipment. The faculty composition is a blend to RNTT (2), assistant professors (2) full professors (3) and a research fellow (1). The research fellow's salary is a special line item appropriation of the Missouri Legislature and is not a University expense. Our equipment budget (\$48,000 – \$12,000 for university computer upgrade = \$36,000) supports much of our equipment needs for our experiential learning intensive courses. As an example, the department purchased a leaf area meter for the crop science courses (\$10,000) and a potting media mixer (\$12,000) for the horticulture program.

The department is currently writing a NSF-MRI grant for \$120,000 to augment our teaching. Thus, grant writing efforts are expected in the department and will add to our equipment base to promote effecting experiential learning. We are anticipating funding the Horticulture Research Station (\$25,000/year) using grant money (\$20,000) and nursery stock sales (\$5,000).

Plan to Address

The costs of maintaining the department's auxiliary enterprises (David M. Barton Agriculture Research Center, Charles L. Hutson Horticulture Greenhouse, and the

Horticulture Research Station) have largely been accomplished by product sales. The department is moving towards agribusiness sponsored research and grants to offset the short-fall earnings of the beef, crop and horticulture plant sales. This change in “economic management” should be (i) profitable, (ii) have positive implications for the local agriculture and horticulture sector, and (iii) supports our experiential learning program. The dedication of the David M. Barton Agriculture Research Center resulted in an endowment sufficient to offset some operating expenses and provide scholarships. The department is working closely with the University Foundation to further giving opportunities.

Brief Follow Up on Outcomes of Plans to Address from Last Review

The department has consolidated several majors into one Agribusiness major, having four options (animal science, horticulture, plant and soil science, and agriculture industry). The department also eliminated several courses and consolidated other courses. These changes reduced the number of low enrollment classes and encouraged greater numbers of students within the major. The department increased the offering of IU301 (Historical perspectives: American Agriculture). The faculty have increased their participation in web-based (on-line) courses; as well as, increased their usage of ITV instruction to increase the availability of selected courses to our student body. The department is considering using webinar based courses. The department has increased its activities with the School of Polytechnic Studies advising center, increasing our recruiting and retention activities and has increased the number of high school prospects that have visited the department.

Based on the previous review, the department reduced its faculty composition by one faculty position and converted one tenure track position to a RNTT position. With continued program growth and after appropriate discussions with the university administration, the department expects to reverse this action

Program Review Final Chair Comments

The department of Agriculture is beginning a program of instruction at Southeast MO State University (Sikeston, Malden, Kennett). The increased student tuition revenue will reduce the mean cost per major course. The department’s grant activity is expanding, generating additional revenue. Our goal is to increase revenue and offset our program costs.

Program Review Final University Committee Chair Comments

IV. CONTRIBUTION TO UNIVERSITY STUDIES AND COURSES SERVING OTHER PROGRAMS

UNIT SCH FROM UNIVERSITY STUDIES AND COURSES SERVING OTHER PROGRAMS					
	AY07	AY08	AY09	Year 4	Year 5
University Studies: On Campus FS	1,488	1,545	1,794		
University Studies: Off Campus FS	243	228	192		
University Studies: Summer	180	213	159		
University Studies: Total	1,911	1,986	2,145		
Services: On Campus FS	0	0	0		
Services: Off Campus FS	0	0	0		
Services: Summer	0	0	0		
Services: Total	0	0	0		
ROM: On Campus FS	0	48	0		
ROM: Off Campus FS	0	0	0		
ROM: Summer	0	0	0		
ROM: Total	0	48	0		
Business Core: On Campus FS	0	0	0		
Business Core: Off Campus FS	0	0	0		
Business Core: Summer	0	0	0		
Business Core: Total	0	0	0		

UNIT SCH SUMMARY		
Measure	Mean	Trend
University Studies: On Campus FS	1,609.0	Improving
University Studies: Off Campus FS	221.0	Declining
University Studies: Summer	184.0	Irregular
University Studies: Total	2,014.0	Improving
Services: On Campus FS	0.0	Static
Services: Off Campus FS	0.0	Static
Services: Summer	0.0	Static
Services: Total	0.0	Static
ROM: On Campus FS	16.0	Irregular
ROM: Off Campus FS	0.0	Static
ROM: Summer	0.0	Static
ROM: Total	16.0	Irregular
Business Core: On Campus FS	0.0	Static
Business Core: Off Campus FS	0.0	Static

Business Core: Summer	0.0	Static
Business Core: Total	0.0	Static

UNDERGRADUATE

Brief Conclusion from Data

Unit departmental SCH productivity on campus has increased: 1,488 (FY07), 1,545 (FY08), and 1,794 (FY09). Unit departmental SCH productivity off campus has slightly declined: 243 (FY07), 228 (FY08), and 192 (FY09). Total unit departmental SCH productivity (on campus, off campus, summer) has increased: 1,911 (FY07), 1,986 (FY08), and 2,145 (FY09).

Additional Data or Comments

The department supports University Studies by typically offering the following courses: (i) UI100-Freshmen Seminar (two sections in Fall semester and one section in Spring semester), (ii) AG201-World Food and Society (Economic Systems) (minimum of five sections per semester and one section in summer), (iii) UI344-Plants and Humanity (one course per semester and summer), (iv) UI436 Agricultural Ethics (CL004 included) (one offering per year), and (v) IU301 Historical Perspective: American Agriculture (one offering per year).

The department desires to further participate in University Studies, providing the courses are germane, rigorous and serve an appropriate need of University Studies. The department recognizes the benefits of University Studies on promoting the breath of intellectual inquiry among our students. Indeed, the department has adopted the nine University Objectives as a pedagogical basis for agribusiness courses.

Plan to Address

The department supports University Studies and its teaching objectives. The department is considering the placement of one course in Living Systems and one UI course. These actions are predicated on successful discussions with University Studies based on course appropriateness and the need to demonstrate student interest and student advancement.

Brief Follow Up on Outcomes of Plans to Address from Last Review

The department has consolidated several majors into one Agribusiness major, having four options (animal science, horticulture, plant and soil science, and agriculture industry). The department also eliminated several courses and consolidated other courses. These changes reduced the number of low enrollment classes and encouraged greater numbers of students with in the major. The department increased the offering of IU301 (Historical perspectives: American Agriculture). The faculty have increased their participation in web-based (on-line) courses; as well as, increased their usage of ITV instruction to increase the availability of selected courses to our student body. The department has increased its activities with the School of Polytechnic Studies advising center, increasing our recruiting and retention activities. The department reduced its faculty composition by one faculty position and converted one tenure track position to a RNTT position. All of these activities encourage our successful participation in University Studies.

The Department of Agriculture views agriculture as a key discipline in promoting the breadth development of students. We also wish to promote University Studies at the off-campus regional centers. We are particularly well suited in promoting the University Objectives # 2 (critical thinking), #3 (locating information), #6 (integrating the breadth of knowledge), #7 (value judgment) and #9 (responsible citizenship). Examples in the new curriculum include: AO327 (Sustainable Agriculture), AG440 (Precision Agriculture), AO420 (Crop Physiology), HO330 (Landscape Design and Maintenance). The department looks forward to continuing to be involved in University Studies and assisting University Studies in its evolution.

Program Review Final University Committee Chair Comments

V. EXTERNAL DEMAND

EXTERNAL DEMAND DATA UNDERGRADUATE										
	AY07		AY08		AY09		Year 4		Year 5	
ACT DATA										
	N	ACT	N	ACT	N	ACT	N	ACT	N	ACT
No. Identifying Planned Major										
UNIT Totals			809	20.49						
AGRI PRODUCTION/TECH [414]			16	20.30						
AGRICULTURAL BUSINESS [411]			52	20.00						
AGRICULTURAL ECONOMICS [412]			5	22.00						
AGRICULTURAL EDUCATION [591]			25	20.00						
AGRICULTURAL MECHANICS [413]			7	19.10						
AGRICULTURALENGINEERING [622]			19	22.40						
AGRICULTURE&AGTECH GEN [410]			275	18.90						
AGRONOMY [415]			10	21.10						
ANIMAL SCIENCES [416]			95	22.10						
FARM & RANCH MANAGEMENT [417]			22	18.30						
HORTICULTURE/ORNMENTLHORT [421]			16	21.30						
LANDSCAPEARCHITECTURE [437]			21	20.10						
NATURAL RESOURCES MGMT [422]			12	19.00						
VETERINARIAN ASSISTING [765]			36	18.40						
VETERINARY MEDICINE [766]			198	22.60						
No. of ACT Scores to Southeast										
UNIT Totals			68	20.69						
AGRI PRODUCTION/TECH [414]			1	27.00						
AGRICULTURAL BUSINESS [411]			5	21.40						
AGRICULTURAL ECONOMICS [412]			0	0.00						
AGRICULTURAL EDUCATION [591]			2	24.00						
AGRICULTURAL MECHANICS [413]			2	14.50						
AGRICULTURALENGINEERING [622]			0	0.00						
AGRICULTURE&AGTECH GEN [410]			28	19.50						
AGRONOMY [415]			3	20.30						
ANIMAL SCIENCES [416]			7	21.40						
FARM & RANCH MANAGEMENT [417]			0	0.00						
HORTICULTURE/ORNMENTLHORT [421]			0	0.00						
LANDSCAPEARCHITECTURE [437]			1	21.00						
NATURAL RESOURCES MGMT [422]			0	0.00						

VETERINARIAN ASSISTING [765]			4	19.80					
VETERINARY MEDICINE [766]			15	22.60					
Yield: No. Enrolled at Southeast									
UNIT Totals			14	19.84					
AGRI PRODUCTION/TECH [414]			0	0.00					
AGRICULTURAL BUSINESS [411]			1	16.00					
AGRICULTURAL ECONOMICS [412]			0	0.00					
AGRICULTURAL EDUCATION [591]			0	0.00					
AGRICULTURAL MECHANICS [413]			0	0.00					
AGRICULTURALENGINEERING [622]			0	0.00					
AGRICULTURE&AGTECH GEN [410]			6	18.30					
AGRONOMY [415]			1	18.00					
ANIMAL SCIENCES [416]			2	21.50					
FARM & RANCH MANAGEMENT [417]			0	0.00					
HORTICULTURE/ORNMENTLHORT [421]			0	0.00					
LANDSCAPEARCHITECTURE [437]			1	21.00					
NATURAL RESOURCES MGMT [422]			0	0.00					
VETERINARIAN ASSISTING [765]			1	23.00					
VETERINARY MEDICINE [766]			2	23.50					

SUMMARY UNDERGRADUATE		
	Mean	Trend
Yield: No. Enrolled at Southeast		
UNIT Totals	19.8	
AGRI PRODUCTION/TECH [414]	0.0	
AGRICULTURAL BUSINESS [411]	16.0	
AGRICULTURAL ECONOMICS [412]	0.0	
AGRICULTURAL EDUCATION [591]	0.0	
AGRICULTURAL MECHANICS [413]	0.0	
AGRICULTURALENGINEERING [622]	0.0	
AGRICULTURE&AGTECH GEN [410]	18.3	
AGRONOMY [415]	18.0	
ANIMAL SCIENCES [416]	21.5	
FARM & RANCH MANAGEMENT [417]	0.0	
HORTICULTURE/ORNMENTLHORT [421]	0.0	
LANDSCAPEARCHITECTURE [437]	21.0	
NATURAL RESOURCES MGMT [422]	0.0	
VETERINARIAN ASSISTING [765]	23.0	
VETERINARY MEDICINE [766]	23.5	

Additional Data Available at http://www.missourieconomy.org/occupations/occ_proj.stm

UNDERGRADUATE

Brief Conclusion from Data

The number of students identifying a planned major associated with the department (AY08 -only data) was 809 students, having a mean ACT score of 20.49. The order of interest among the various interest areas was: Agriculture (275), Veterinary Medicine (198), Animal Science (95), agricultural business (52), Horticulture (37). Ten students indicated Agronomy as an area of interest and 25 students indicated Agriculture Education as an area of interest.

Fourteen students in FY08 enrolled as beginning freshmen in the department, having a mean ACT of 19.8. These students selected the following interest areas: agribusiness, agriculture, agronomy, animal sciences, landscape architecture, and veterinary medicine. Historically, approximately 50% of agriculture students select the program during the freshmen year.

Additional Data or Comments

The department is offering the Agribusiness – plant and soil science option this year at Southeast MO State University (Sikeston, Malden, and Kennett). Without the benefit of the university's recruiters visiting the high schools, we have eleven students enrolled. We expect the number of full time students at the regional centers to eventually reach fifty students in the plant and soil science option.

The key goal of the department is to increase student demand. The department has a three-fold plan to accomplish this goal: (i) create more attractive majors, (ii) develop better teaching assets, and (iii) increase our recruiting performance. Each of these features is constantly under review by the department and each is receiving the degree of attention that the department's finances will support.

Plan to Address

New articulation agreements with Three Rivers Community College and Mineral Area Community College will substantially increase the transfer rate to the department. Additionally, the department plans to continue to develop new programs that meet the emerging-technologies needs of the agriculture and horticulture workforce.

Developing the teaching infrastructures of the department will become a central marketing activity in the recruiting of potential students. By having modern and technologically competent centers of learning on campus, prospective students will rightfully perceive Southeast MO State University as a leading higher education institution.

High school based activities at Southeast MO State University include the department's hosting of the FFA learning activities (400+ students attend each spring semester) and the Agriculture Field Day (400+ students attend each fall semester). These are extremely positive recruiting tools and allow prospective students to visit our auxiliary services and visit with the faculty. The department recognizes the need to develop a sustaining recruiting program for Agribusiness/horticulture.

Brief Follow Up on Outcomes of Plans to Address from Last Review

The department has consolidated several majors into one Agribusiness major, having four options (animal science, horticulture, plant and soil science, and agriculture industry). The department also eliminated several courses and consolidated other courses. These changes reduced the number of low enrollment classes and encouraged greater numbers of students with in the major. The department increased the offering of IU301 (Historical perspectives: American Agriculture). The faculty have increased their participation in web-based (on-line) courses; as well as, increased their usage of ITV instruction to increase the availability of selected courses to our student body. The department has increased its activities with the School of Polytechnic Studies advising center, increasing our recruiting and retention activities. The department reduced its faculty composition by one faculty position and converted one tenure track position to a RNTT position.

Program Review Final Chair Comments

Southeast Missouri has the resource base to become the most productive agricultural region in the world. This region has transportation, financial and entrepreneurial motivation and capital availability. Farmers and ranchers are motivated to incorporate emerging technologies to promote farm profitability and crop quality, while protecting soil, water and air resources.

The region has two higher education institutions (Southeast Missouri State University and the University Missouri-Columbia) cooperating to provide the necessary research and teaching to maintain and advance a knowledgeable agriculture workforce. For Southeast MO State University's part, the Department of Agriculture is seeking to place an agribusiness degree program at Southeast MO State University at Sikeston, Malden, and Kennett. Local, regional and national agribusinesses provide emerging technologies to our growers and employ a substantial variety of individuals having careers in agriculture finance, marketing and sales to crop advising and machinery maintenance. We have geographic proximity to major markets throughout the interior of the USA and the Mississippi River allows access to major international markets. Lastly, our region is home to a virtually unlimited quantity of high quality water that permits sustainable and environmentally responsible irrigation. All of these attributes characterize our region and set the economic stage for southeastern Missouri to become the world's premiere agricultural region.

What remains is a belief that our region is destined for economic rebirth and agriculture will have a role. Please realize that this region has critical advantages when compared to the Central Valley of California and emerging technology companies are viewing our region for investment. Southeast MO State University must support our region's existing growers and our existing agribusinesses, encourage entrepreneurship, and offer our hospitality to new agriculture investment.

Program Review Final University Committee Chair Comments

VI. QUALITY OF PROGRAM INPUTS

UNDERGRADUATE					
Measure	AY07	AY08	AY09	Year 4	Year 5
ACT	21.49	21.52	23.07		
Selected Merit Scholarships	6.00	4.00	7.00		
High School GPA	3.34	3.07	3.52		
CBASE Composite	0.00	0.00	0.00		
CBASE English	0.00	0.00	0.00		
CBASE Math	0.00	0.00	0.00		
CBASE Science	0.00	0.00	0.00		
CBASE Social Studies	0.00	0.00	0.00		
CBASE Writing	0.00	0.00	0.00		

COMPARISONS UNDERGRADUATE															
	AY07			AY08			AY09			Year 4			Year 5		
	COLL	UNIV	NAT	COLL	UNIV	NAT	COLL	UNIV	NAT	COLL	UNIV	NAT	COLL	UNIV	NAT
ACT	21.45	22.24	21.10	21.69	22.38	21.20	22.58	22.59	21.10						
High School GPA	3.19	3.31		3.06	3.29		3.41	3.40							
CBASE Composite	0.00	0.00		0.00	0.00		0.00	0.00							
CBASE English	0.00	0.00		0.00	0.00		0.00	0.00							
CBASE Math	0.00	0.00		0.00	0.00		0.00	0.00							
CBASE Science	0.00	0.00		0.00	0.00		0.00	0.00							
CBASE Social Studies	0.00	0.00		0.00	0.00		0.00	0.00							
CBASE Writing	0.00	0.00		0.00	0.00		0.00	0.00							

SUMMARY UNDERGRADUATE		
Measure	Mean	Trend
ACT	22.09	Improving
High School GPA	3.30	Irregular
CBASE Composite	0.00	Static

UNDERGRADUATE

Brief Conclusion from Data

Mean department ACT scores spanning the three year interval are: 21.49 (FY07), 21.52 (FY08), and 23.07 (FY09). The mean department ACT score for the three year period is 22.09. The corresponding mean University ACT scores spanning the three year interval are: 22.24 (FY07), 22.38 (FY08), and 22.59 (FY09). Thus, the department parallels the university in ACT quality. Merit scholarship students were 6, 4 and 7 for the respective three year period. The mean high school GPA for the three year period was 3.3, comparing favorably with the University mean GPA of 3.3.

Additional Data or Comments

The department has recently been successful in developing an endowed scholarship (\$40,000 to \$75,000 annually). The faculty wish to devote these scholarships to attracting and retaining students with superior ACT scores and leadership/professional development capabilities within the agribusiness major. Collectively, the faculty have slowly evolved the philosophy that ACT is only one measure of potential student success. The faculty seek to recruit students who possess leadership qualities and an appreciation for agricultural advancement. These qualities, coupled with civic engagement, are ideal qualities for agribusiness professionals and FFA teachers.

Very recently, a component of our recruiting efforts has centered on building relationships with high school FFA officers. These people have already demonstrated leadership and civic engagement potential. As a parallel activity, the department is having conversations with the region's FFA teachers to explain our program and solicit their assistance in suggesting Southeast MO State University to their students.

Plan to Address

The faculty understand that new models of education are emerging and that the demographics of our student population are similarly undergoing a transformation. Experiential learning is an emerging dimension to our teaching history. Distance and on-line teaching are becoming critical to our evolution. Thus, the department is considering new teaching strategies for engaging students. As an example, the infusion of "guest" agribusiness professionals within specific courses should result in teaching augmentation and course assessment. The department also wishes to explore teaching avenues that promote professionalism across our curriculum. Perhaps unique to agriculture, this department wishes to produce students who have professional capabilities in more than the rural environment. We desire graduates who have exposure to urban environments, have a recognition of the national and international dimensions of agriculture / horticulture, and possess cross-cultural abilities. The David M. Barton Agriculture Research Center is a NEW 252 acre facility featuring emerging technologies in (1) cow-calf management, (2) irrigated row-crop research, (3) water and soil quality research, and (4) wildlife habitat management in agricultural settings. This newly acquired facility is designed with underground water conduits to provide cattle watering for advanced paddock grazing, with research focusing on animal performance based on environmentally sound pasture management. In addition, the new Agricultural Research Center will feature intensive pasture-grazing research involving irrigation and intensive soil fertility management. The corn-soybean facet is based on a 100 acre land-graded field having the latest technology involving controlled subsurface drainage and irrigation. The Charles L Hutson Greenhouse is a NEW climate controlled three-bay greenhouse featuring the production of poinsettias, mums and other plant stocks. Horticulture students participate in the production, marketing and sales of these products, gaining production and business capabilities. The Greenhouse is also the research center, featuring the All-American Garden, where students test and evaluate plant releases from major companies. The Horticulture Research Station is a research and teaching facility having irrigated turf plots, orchard, nursery, garden and bramble activities. The facility also participates with the Department of Biology to feature modern plant compost facilities, where compost will be used by the University for Campus landscaping. The department is also assisting Facilities Management in selected projects to promote the Campus as a learning laboratory.

Brief Follow Up on Outcomes of Plans to Address from Last Review

All of our goals from the last review have been realized. New student recruitment and retention goals have been formulated, building on the gains resulting from the last review.

Program Review Final Chair Comments

The department expects to grow and our tradition of educating students is evolving to meet the challenges of the 21st Century.

Program Review Final University Committee Chair Comments

VII. QUALITY OF PROGRAM OUTPUTS

WP003 UNDERGRADUATE										
	AY07		AY08		AY09		Year 4		Year 5	
	N	%	N	%	N	%	N	%	N	%
>= 9.5 (superior)	5	16.66	1	3.22	5	13.88				
8.0 - 9.0 (proficiency)	19	63.33	19	61.29	21	58.33				
7.0 - 7.5 (marginal pass)	4	13.33	10	32.25	7	19.44				
< 7.0 (fail)	2	6.66	1	3.22	3	8.33				
Unit First Time Pass Rate	30	100.00	31	100.00	36	100.00				
Unit Mean	30	8.38	31	8.03	36	8.04				

WP003 COMPARISONS UNDERGRADUATE					
	AY07	AY08	AY09	Year 4	Year 5
College Mean	7.86	7.99	7.91		
College Pass Rate	98.34	98.49	95.04		
University Mean	8.25	8.34	8.35		
University Pass Rate	97.99	98.74	98.23		

WP003 SUMMARY UNDERGRADUATE			
Method		Mean	Trend
WP003 Mean		8.15	Irregular

UNDERGRADUATE

Brief Conclusion from Data

The unit mean on the WP003 (Writing Examination) was: (i) 30 students at 8.38 in FY07, (ii) 31 students at 8.03 in FY08, and (iii) 36 students at 8.04 in FY09. The mean WP003 score over the three years was 8.15, indicating proficiency. The corresponding university mean was 8.35. The unit first time pass rate was 100% for all three years.

Additional Data or Comments

In the department's internship program the internship coordinator surveys students and employers.

Internship evaluation by students.

Year	Learning Opportunity	Quality	High Quality	Course	Real World Experience	#students
2006	uniformly yes	3.9	uniformly yes	uniformly yes		29
2007	uniformly yes	3.9	uniformly yes	uniformly yes		22
2008	uniformly yes	3.8	uniformly yes	uniformly yes		27

All values are 0 is poor; 1 is fair, 2 is average; 3 is above average, 4 is outstanding

All of our students desired this experientially learning format and all of our students reported that their internship reflected a “real world experience”. Students rated the quality of their experience as “nearly outstanding”.

Internship evaluation by employers.

Year	Work place skills	Interpersonal Skills	Image	Work Ethic	Potential	#students
2006	3.43	4.3	2.3	4.3	3.29	
2007	3.43	5.3	6.3	6.3	6.22	
2008	3.53	6.3	4.3	7.3	6.27	

All values are 0 is poor; 1 is fair, 2 is average; 3 is above average, 4 is outstanding

In general, employers are more than satisfied with the quality of our student interns. With 29 students participating in 2006 and 22 students participating in 2007, and 27 students in 2008, and the statistical certainty of their responses suggests that work place skills, interpersonal skills and the potential in agribusiness is considerably “above-average”.

The department’s assessment process shows student achievement in oral/written communication, compute fluency, technical expertise and workplace professionalism.

Plan to Address

The department is increasingly using professionals in the horticulture and agriculture/agribusiness sectors to assess the quality of our courses and programs. To this end, the department is considering the development of discipline specific teams of professionals to periodically review our academic performance, infrastructure needs and, most importantly, interact with individuals/companies that have hired our recent graduates. Additionally, the department is investigating the use of emerging technologies to better communicate career and job performance expectations and accomplishments.

Brief Follow Up on Outcomes of Plans to Address from Last Review

Our students are better prepared for the agribusiness workforce, with (i) greater learned abilities in professional communication, (ii) better understanding of the principles and role of allied science in agriculture, (iii) better understanding of the prospects presented by emerging technologies, and (iv) greater performance in developing human interaction skills. Thus, the traditional teaching of agriculture has been replaced with a paradigm encompassing (i) human interaction and professional communication, (ii) science and technology, and (iii) financial, marketing, management and policy capabilities.

Program Review Final Chair Comments

The faculty view agriculture as a career spanning many subject areas, including those disciplines involving science and technology, agribusiness, agricultural production and human behavior. The curriculum reflects these disciplines, including University Studies.

The faculty are cognizant of the need to provide a curriculum that reflects the modern workforce and incorporates emerging technology to attract a wide array of student talent. The new curriculum opens up the student to environmental stewardship, civic responsibility, entrepreneurship, companion animals, alternative agriculture, resource management, and technology-based agriculture, all key areas identified at student interest areas.

Program Review Final University Committee Chair Comments

VIII. CURRENCY OF CURRICULUM

UNDERGRADUATE

What steps have you taken to ensure that your programs and courses are up-to-date and effective?

The department has initiated a review of its curriculum (2008-present) and has adopted the following:

- (1) Added two courses (AY200 – Companion animals and AY300 Anatomy and Physiology of Domestic Animals) to complement the animal science program and provided a new and necessary course sequence for the Pre-Veterinary Medicine program. These courses are currently taught by local veterinarians.
- (2) Redesigned the horticulture curriculum to more properly reflect plant identification and emerging technologies in horticulture. Developed the concept that the entire campus is a living horticulture laboratory and worked with Facilities Management to permit landscape design and installation experiences.
- (3) Designed the Horticulture Research Station to provide nursery, orchard, viticulture, garden, turf plots, composting, and bramble infrastructures for teaching and professional research.
- (4) Developed the David M. Barton Agriculture Research Center as the centerpiece facility for teaching and professional outreach activities associated with animal science and agronomy.
- (5) Working to have local professionals in agriculture/horticulture provide assessment input into the teaching program.
- (6) Developed undergraduate research experiences using the department's horticulture and agriculture auxiliary facilities.
- (7) Conducted off-campus networking activities to broaden student exposures to agriculture and horticulture activities (AFA, Iowa Alternative Agriculture, etc)
- (8) Re-designed the promotion and tenure document to reflect teaching contributions to developing teaching infrastructure, undergraduate research and course development.
- (9) Developing an array of animal science courses reflecting emerging technologies and economic opportunities, including alternative livestock

Program Review Final University Committee Chair Comments

IX. IMPACT, JUSTIFICATION, AND OVERALL ESSENTIALITY TO THE SOUTHEAST MISSION

UNDERGRADUATE

The following three objectives are paraphrased from the recent University's strategic plan (Academics and Student Experience):

Objective I: Maintain or enhance the current quality of all academic programs

The department has substantially strengthened its curriculum by adjusting its core and option requirements to reflect emerging technologies. Evidence is seen with the development of AG440 (Precision Agriculture), AO327 (Sustainable Agriculture), AO401 (Ag. Natural Resource Management), AO420 (Crop Physiology), HO431 (Landscape Installation/Maint.), and AY300 (Domestic Animal Anatomy and Physiology).

The department has developed teaching infrastructures for these courses: as witnessed by the development of the David M. Barton Agriculture Research Center, the Horticulture Research Station, and utilization of the Campus as a learning laboratory. University Foundation "giving opportunities" and grant writing activities are designed to provide sufficient levels of sustainable funding.

Objective II: Evaluate and improve the support of research to enhance the student experience and outreach to our multi-state region.

The department has developed research infrastructure at the David M. Barton Agriculture Research Center and the Horticulture Research Station. Because of this research, during the 2009 growing season the faculty have conducted (i) DNA sequencing of the beef herd (cooperation with the University Missouri-Columbia) to effectively predict feed efficiency and carcass quality, (ii) received sponsoring to conduct corporate research with two international agribusinesses, (iii) received grants to develop riparian strip corridors, (iv) received future grant funding to sponsor research for 2010, (v) received grant (\$84,000) to develop a semi-confinement facility to take a leadership role in SHOW-ME Beef production in southeast Missouri, and (vi) allowed 12 students to have undergraduate research experiences with the faculty (2008-2009). Horticulture faculty have: (i) received grants to provide entrepreneurship training for small-family farms in southeast Missouri, (ii) received notification from industry that the All-American garden is one of the nation's most successful sites (only 100 in the nation), (iii) developed the irrigated turf plots to research turfgrass for residential areas, and (iv) developed the Horticulture Research Station for future activities.

Objective VII: Evaluate the need for additional degree programs at the regional campuses as feasible based on available resources and potential student enrollments.

The department is placing the Agribusiness / plant and soil science option at Southeast MO State University (Sikeston, Malden, Kennett).

Program Review Final University Committee Chair Comments

X. PLANNING FOR THE FUTURE

Given impending personnel and environmental changes, how do you envision the configuration of your unit in five years? What components would be phased out? What components would be reduced in size? What components will have grown? What new components will have been developed? What other units might be involved in the new components?

UNDERGRADUATE

The department desires program growth and a higher quality of student success. The development of a new tradition where the department is fully vested as an educational partner throughout the University's service area is critical, especially in the Missouri "Bootheel" (agronomy and horticulture) and the St. Louis metropolitan area (horticulture). As such, each of our options is integral to the workforce needs of the region and each as been departmentally reviewed to modernize its curriculum and to have detailed recruitment and retention objectives/methods.

The department also requires (and receives) superior teaching commitments from University Studies to augment the professional communication and social / psychological development of our students. We also appreciate the need to reciprocate in our departmental offerings for University Studies.

The department desires to produce agribusiness students well grounded in the sciences and technology discipline as well as developing skills associated with agribusiness. It is the blend of understanding production agriculture and horticulture, coupled with agribusiness skills that create uniquely trained students appropriate for employment in the horticulture and agriculture work force.

The Department of Agriculture at Southeast MO State University has initiated the following objectives/ideas since the last review:

- (1)develop quality programs that have dedicated instruction in the science and technology of agriculture/horticulture coupled with sufficient breath in agribusiness to guarantee student career success,
- (2)develop programs having emerging technology and career potential to attract a greater array of students,
- (3)develop a department culture of professional service to the region's agriculture/horticulture,
- (4)provide higher education instruction at the regional centers to support the agriculture needs of the Missouri "bootheel",
- (5)develop a new business model for the auxiliary enterprises to promote profitability,
- (6)maintain a desired level of student experiential learning,
- (7)continue to develop teaching infrastructure.

The faculty and professional staff view the program review as a reflective instrument that chronicles our past accomplishments and establishes our vision for the growth of the Department of Agriculture. We the faculty and professional staff of the Department of Agriculture certify that we have participated and endorse this document:

Michael Aide

Donn Beighley

Indi Braden

William Ellis

David Mauk

Wesley Mueller

Neil Herman

Denise Pingel

Paul Schnare

Sven Svenson

Program Review Final University Committee Chair Comments

DEANS' COMMENTS

The Department of Agriculture represents the biggest and most influential economic driver of Southeast Missouri, which is agriculture. The University is impressed with the changes and enhancements that have taken place since the last Program Review. The modification of existing programs continues, as well as efforts to take programs to students via delivery at the Regional Campuses, area community colleges, and with on-line courses. They are also moving forward with new programs. The development of the David M. Barton Agriculture Research Center, Charles L. Hutson Greenhouse Complex, and Horticulture Research Station has vastly improved the instructional facilities and research capacity of the department. Because of the new facilities, research and grant activities have increased significantly and most of this research includes students. The department's efforts to reach out and serve the region have not gone unnoticed. I have had many unsolicited comments from leaders in the region who are very positive about the department's recent efforts to be an asset to the agriculture community of Southeast Missouri. Graduates of the programs continue to be very successful and have very positive comments about the quality of the curriculum and faculty.

Challenges the department faces include meeting goals for increases in the number of declared majors. The new programs and outreach efforts have already yielded increased enrollments. They will need to continue to modify existing programs and develop new ones to attract new populations of students and meet the employment needs of the region. Enrollment growth is important because they need a minimum of two faculty in each option area to insure diversity of instruction and growth is the best way to get more faculty. Another challenge will be adequate operating budgets for the David M. Barton Agriculture Research Center, Charles L. Hutson Greenhouse Complex, and Horticulture Research Station. When these operations were established many years ago, they were established as "auxiliary" operations and expected to generate a level of income to support the related educational activities. I contend that these operations should be considered, and funded like any of the labs on the campus because they have the same purpose as science labs, art labs, computer labs, etc. Until these "instructional labs" are funded like other campus labs, the department is working to develop outside donors for endowments to support them, as well as research grants to support the operations.

As Dean, I am very pleased with the progress and direction of the Department of Agriculture and think that next five years will bring surprising growth in numbers of students as well as influence on the agriculture economy of the service region.

Final University Committee Chair Comments on Entire Document

Provost's Decision

