Graduate Degree Program Self-Study:
Department Overview

Department | **Applied Sciences, Technology & Education   (ASTE)**

After evaluating the completed self-study documents for all of the graduate degree programs in your department, what changes, if any, would you recommend? Please respond as concisely as possible in the table box below, <u>limiting your response to no more than 2 pages, 12-point font.</u>

The self-study process is very timely for the graduate (MS) programs in the School of Applied Sciences, Technology & Education (ASTE). The Agricultural Systems Technology (AST) faculty within the School proposed significant changes to the structure of the graduate programs approximately 18 months ago. When it became apparent that another program would merge with the School the proposed changes were delayed. The merge occurred in January 2012 and this self-study will now include the Technology and Engineering Education (TEE) MS program and AST MS program, which both have similar missions and will require similar resources. The programs differ in delivery methodology; however, both are seeking to increase on-line components. The AST program also brings a focus upon Extension Education that was not present in the TEE program.

The expertise in Technology and Engineering Education; Agricultural Education; and Family and Consumer Sciences Education positions our School to be a comprehensive graduate program for Career and Technical Education (CTE) within the institution and State. The challenge in developing a comprehensive offering will be in maintaining disciplinary identity as well as content-specific needs of the CTE disciplines. The student surveys collected from past students have confirmed that mentoring our graduate students appears to be strength of our programs; although formal assignments and dedicated resources are limited. These surveys also identified student concern related to fiscal support while in the MS program. Student fiscal concerns will not likely be alleviated because the MS students are predominantly in-service teachers seeking to advance their chosen career and they do not work on campus in traditional graduate student assistantships.

Our immediate goal is to efficiently use existing courses and expertise across the programs. Our largest student population is and will likely continue to be in-service teachers in career and technical education disciplines who for the most part are not residential students. These students typically complete a Plan C MS degree. We recognize a M.Ed. may be an appropriate degree for this audience.
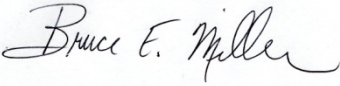
We also have on-campus students typically pursuing an 'Extension Education' emphasis. These students tend to complete a thesis project and have a technical content background to complement the education methodology in the graduate program. Extension Education students are either self-supported or receive support from faculty. This School's faculty must continue and advance their efforts to seek external funding for graduate assistantships. The current Curriculum and Instructional doctoral degree with a TEE emphasis will serve as a

model for the School to implement a doctoral program. This is the logical progression for the School in developing a Ph.D. program. This interdepartmental program leverages our faculty resources for doctoral coursework.

The School seeks to advance a congruent graduate program along with the undergraduate programs. Current resources could support a graduate program of approximately 50 Master's students (35 to 40 non-thesis and 10 to 15 thesis) and 6 to 8 Ph.D. students.

Please use the signature block below to indicate approval by the department head.

Department Head Approval:

Bruce E. Miller	*Bruce E. Miller*	March 9, 2012
Printed Name	**Signature**	**Date**

Graduate Degree Program Self-Study

Department	Agricultural Systems Technology and Education
Degree Program	Master of Science in Agricultural Systems Technology

For each graduate degree program in your department, complete this self-study by entering responses and data in the table boxes in this document. Please respond as concisely as possible. <u>The total length of this completed document should not exceed 14 pages, 12-point font.</u>

The self-study is organized into questions regarding the overall nature of each graduate degree program and the critical components of recruiting, mentoring, management, and funding.

<u>Overall</u>

What is the purpose and mission of this graduate degree program?

To prepare students for careers in extension, adult and community education as well as in school-based career and technical education.

What are the core strengths of this graduate degree program?

Focus is placed on skill development, program planning, and evaluation techniques. The degree program emphasizes a wide range of teaching and learning skills and requires proficiency in research methodology and statistical applications.

What are the primary needs to achieve and advance the purpose/mission of this degree program?

Money for graduate student assistance and for recruitment, faculty time dedicated to graduate studies, and additional research and internship opportunities for students.

<u>Recruiting</u>
Recruiting criteria include, but are not limited to, academic preparedness (GPA, standardized test scores, prerequisite degrees); diversity (gender, race, ethnicity, citizenship); number of applied/admitted/enrolled students

What types and numbers of students are you targeting for this graduate degree program?

Based on the current number of faculty members in the department, about 30 students is our maximum with 50% Plan A and 50% Plan C. We need students who can write proficiently and are able to handle higher order thinking processes related to conducting research and analyzing and interpreting data.

What recruiting strategies are you currently using?

Word-of-mouth; undergraduate programs; recruiting at professional conferences; web-

based.

How effective are these strategies?

We are currently at maximum capacity within the program based on current faculty numbers.

How do you evaluate recruiting effectiveness?

Number of students enrolled in the program; improved average admission test scores and GPA over time.

What would be required to be more effective in recruiting students for this graduate degree program? (list in rank order)

1. Increased faculty numbers to maximize program breadth and depth
2. Improved program rigor/reputation
3. Money (assistantships, tuition awards/waivers; recruitment)
4. Time (adjustments of role statements to increase time for graduate program)
5. Improved laboratories/research facilities

Mentoring

Mentoring criteria include, but are not limited to, preparation for future career; scholarly development; professional community participation; appreciation for diversity; collaborative opportunities

Please provide the following supporting data on students in this graduate degree program:

	2008-2009	2009-2010	2010-2011
Number of research/scholarly presentations (or exhibitions, performances, etc. as appropriate) made by students in this program at state, regional, national, or international meetings	5	5	2
Total number of peer-reviewed publications whose primary author is a student in this program	2	2	3
Total number of peer-reviewed publications where a student in this program is a co-author	0	2	2
Number of students from the previous year's graduating class that have found employment in the field	14/17	12/13	7/11

Comment on data relevant to mentoring students in this degree program not captured in the table above.

Graduate faculty members in the department are also working with doctoral students in

the interdepartmental PhD program in Curriculum and Instruction in the College of Education and Human Services that are not captured in the table above. Further, faculty members have high level of responsibility with undergraduate students and undergraduate research is not captured in the above table.

What mentoring strategies are you currently using?

Students have a high level of access to faculty members and one-on-one mentoring is the primary strategy. Student internships provide for additional mentoring opportunities. While many students in the program are at a distance, they are still provided with close mentoring.

How effective are these strategies?

Strategies are effective but not efficient, taking large amounts of faculty time. While the distance component of the program improves access for students, it also inhibits effective mentoring opportunities. Based on responses from the exit survey as well as the survey of current students, mentoring of graduate students is a strength of the program. With very few exceptions the comments and scores in this area are extremely positive.

How do you evaluate mentoring effectiveness?

Amount of time and effort invested compared with publications and presentations and feedback from graduate students.

What would be required to be more effective in mentoring students in this graduate degree program? (list in rank order)

| 1. Increased level of student writing proficiency upon admission |
| 2. More faculty time dedicated to working directly with graduate students |

Management
Management data and criteria include, but are not limited to, the faculty and their scholarship, opportunities for and placement of graduates; average time to degree completion; degree completion rates; frequency of course offerings; graduate enrollment numbers (headcount and FTE); retention; number of degrees conferred; credit requirements; specializations offered; faculty resources

Please provide the following supporting data on <u>faculty</u> with a terminal degree who teach courses or mentor students in this graduate degree program:

	2008-2009	2009-2010	2010-2011
Number of faculty	6	5	7
Average number of peer-reviewed publications (or books, exhibitions, performances, etc. as appropriate) per faculty member	2.67	5.2	2.14
Number of faculty who received extramural grants for research	2	3	4
Average dollar amount per faculty member of extramural grants received	67,358	91,150	38,409

Comment on the data relevant to managing this graduate degree program not captured in the table above.

No faculty member in the department has a specifically assigned role in working with graduate students. All faculty members in the department who teach and/or mentor graduate students carry significant undergraduate teaching or extension responsibilities.

What are the professional/career opportunities for graduates of this degree program? Comment on the need for and viability of this program in terms of the graduate placement market.

The placement rate of graduates in this program is quite high. Many students complete the program while maintaining employment in secondary schools. Students who complete the degree program immediately upon completing their undergraduate degree are also finding employment in public schools. Opportunities in extension and relevant agencies are currently solid with high levels of placement following degree completion.

How is this information communicated to potential and current students?

Through website and mentoring.

What strategies are used to keep this degree program current in terms of its:
   a) Philosophy?

All faculty members in the graduate program are active in their respective professional organizations and are active in conducting and disseminating research.

   b) Methodology?

Faculty members in the graduate program are practitioners in their respective fields.

c) Technology?

A reasonable amount of money has been invested in the program to keep technology current. Our method of delivery to students in distant locations is a prime example of the use of current technology.

What is the targeted time to completion for students in this degree program?

Two years (six semesters)

How is this information communicated to potential and current students?

Website, student mentoring, and recruiting (selling point)

In the past 3 years, how many students have completed their degrees within this targeted time? (numbers of students completing on time vs. total number of students)

In the past three years, 38 out of 47 graduates have completed within two years (six semesters). Five more were only one semester beyond that goal (seven semesters).

What are the factors that affect completion?

Employment; family situations; financial issues; student motivation.

If improvements are needed, what are they?

1. Additional time for faculty to focus on mentoring and teaching graduate students would greatly improve this time, especially for students completing Plan A programs.
2. We find that students who are better prepared for the program when they are admitted are more likely to complete in a timely manner. Therefore, the goal is to admit students who are better prepared.

What is the minimum number of credits currently required for this graduate degree program?

30 Plan A; 37 Plan C

How does the number of required credits comply with standards in the discipline/field (e.g., accrediting agency, professional certification board and/or peer degree program)? Would you increase or decrease required credits to degree, and why?

The number of credits required is similar to other equivalent programs throughout the nation. We do not plan to increase or decrease the required credits to this degree program.

What changes, if any, should be made to the current specializations offered for this degree?

We may look to eliminate two of the specializations that are currently inactive. We may also look to change the name of the secondary and post-secondary agricultural education specialization to simply be agricultural education. We will also likely add an Agricultural Communication specialization in the next year or so. The Technology and

Engineering Education program recently joined our department and there may be some opportunities for merging, collaborating, or sharing resources as there are some overlaps between the two programs.

What would be required to make this graduate degree program more effective?

1. Increase rigor including final exams, oral exams, and defenses for all students – not just Plan A students
2. Allocated time for faculty to devote to graduate studies.
3. Additional financial resources for assistantships, tuition awards/waivers, and scholarships.
4. Additional faculty members to share the teaching and mentoring load

Funding
Funding criteria include, but are not limited to, funding sources (departmental, institutional, contracts, grants); percentage of students receiving support via tuition awards, assistantships, fellowships; average level and duration of support; selection process for tuition awards, fellowships, assistantships

Please fill in the following chart to show the number of students funded by type and level of funding (FTE), and the average amount of funding per student for 2008-2009, 2009-2010, and 2010-2011:

		2008-2009	2009-2010	2010-2011
Number of students funded by type and level of funding (FTE) per year		#	#	#
a) Externally funded fellowships, traineeships, & internships only	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE	0	0	0
b) USU fellowships only	Full support (0.5 FTE)	0	1	1
	Partial support (<0.5 FTE)	0	0	0
c) Teaching assistantships (departmental) only	Full support (0.5 FTE)	1	0	1
	Partial support (<0.5 FTE)	1	1	0
d) Research assistantships from internal sources only (UWRL, UAES, department, etc.)	Full support (0.5 FTE)	0	0	1
	Partial support (<0.5 FTE)	0	0	0
e) Research assistantships from external grant/contract sources only	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE)	1	1	0
f) Administration or other assistantships only	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE)	0	0	0
g) Combination of external support (a) <u>with</u> fellowships (b), or assistantships (c, d, e, &/or f)	Full support (0.5 FTE)	1	1	3
	Partial support (<0.5 FTE)	2	2	0
i) Combination of USU fellowships (b) <u>with</u> assistantships (c, d, e, &/or f))	Full support (0.5 FTE)	1	1	3
	Partial support (<0.5 FTE)	2	2	0
j) Combination of different types of assistantships (c, d, e, &/or f)	Full support (0.5 FTE)	1	0	2
	Partial support (<0.5 FTE)	2	2	0
k) Other — Describe: grad students hired hourly	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE)	0	1	1
Number of <u>self-funded</u> students per year		14	10	8
Total numbers of students per year		17	13	11
Average amount of funding per student per year		$	$	$
a) Full support (0.5 FTE)		12,000	12,000	12,000
b) Partial support (<0.5 FTE)		6,000	6,000	0

Comment on data relevant to funding students in this graduate degree program not captured in the table above.

Funding varies widely from year to year based on faculty research dollars and projects. The vast majority of our students are self-funded. A common concern expressed by students through the exit survey and the survey of current students is with the availability of financial aid opportunities for graduate students in the program. Unfortunately we do not anticipate any changes to the situation in the near future. With reduced funding opportunities for master's degree students from central administration, faculty with very high teaching roles and responsibilities, and students who are working while completing their degree programs, the majority of students in this program will continue to be self-funded.

Comment on the sources and relative proportions of funding available to students in this graduate degree program.

The program could certainly use more. In order for this to happen, faculty members in the program need additional time to develop proposals that include assistantship support. However, most faculty in the department have very high teaching roles and this limits the ability to seek external funding or to manage a grant if awarded.

Describe the adequacy and appropriateness of the current level of funding for recruiting and retaining graduate students to completion in this degree program.

Most students in the program are self-funded. Additional funding would allow for the ability to recruit higher quality students.

Describe the adequacy and appropriateness of the current level of funding for recruiting and retaining faculty to build and sustain this degree program.

This question might be better answered by the department head and college dean. However, a better model for funding graduate assistantships, allowing us to recruit the best and brightest from across the U.S. and beyond is certainly a factor in recruiting and retaining quality faculty members, who would then contribute to the rigor and reputation of the program.

What could be done to more effectively fund graduate students in this degree program? (list in rank order)

1. Dedicated faculty time to graduate programs and grant development
2. More faculty to support specific program areas (specifically agricultural extension)
3. Better research facilities/opportunities

Are there any important aspects in evaluating this graduate degree program that have not been captured in the information above? If so, please comment.

The recent addition of Technology and Engineering Education and their graduate degree programs provides an opportunity to look at overlap and collaboration as we move forward with program improvement plans.

Graduate Degree Program Self-Study

Department	ASTE
Degree Program	**Technology and Engineering Education (TEE) - Master's of Science (MS) Degree**

For each graduate degree program in your department, complete this self-study by entering responses and data in the table boxes in this document. Please respond as concisely as possible. The total length of this completed document should not exceed 14 pages, 12-point font.

The self-study is organized into questions regarding the overall nature of each graduate degree program and the critical components of recruiting, mentoring, management, and funding.

Overall

What is the purpose and mission of this graduate degree program?

The Master of Science (MS) degree program is primarily designed for professionals in the areas of technology and engineering education, and career and technical education (CTE) who want to improve their knowledge and skills in such areas as curriculum development, research methods, current educational theory, and evaluation and assessment. The Plan A option of the program is designed to prepare students to move into a doctoral program.

What are the core strengths of this graduate degree program?

- Faculty Expertise
- Flexible Program of Study
- One-Month Summer Program – Meets the needs of practicing teachers in mentoring environment and provides "resident tuition" for out-of- state students.
- One of only a few MS programs in Technology and Engineering Education in the Western U.S.

What are the primary needs to achieve and advance the purpose/mission of this degree program?

- Full-time program needs to be strengthened with support for graduate assistantships and course offerings.
- Graduate Program Coordinator and faculty needs to focus on building this program utilizing the "new strengths" that can be found within the new school of Applied Sciences, Technology, and Education.
- Revised Graduate Program Information Materials needed.
- Revised Website needed.
- Staff person needed to monitor graduate student application process and

progress through the program.
- Exploring meeting the graduate educational needs of the CTE and other faculty at USU Eastern.

Recruiting

Recruiting criteria include, but are not limited to, academic preparedness (GPA, standardized test scores, prerequisite degrees); diversity (gender, race, ethnicity, citizenship); number of applied/admitted/enrolled students

What types and numbers of students are you targeting for this graduate degree program?

- Target Numbers: 20-25
- Target Populations: Summer Program – Secondary and Post-Secondary Teachers. Academic Year (9-month) Program – Students looking to advance to a terminal degree.

What recruiting strategies are you currently using?

1. Contacting (via e-mail and word-of-mouth) practicing technology and engineering education and CTE teachers in the State of Utah to let them know about our program.
2. Attendance at local CTE conferences and Activities – Handing out Flyers.
3. Attendance and Booth at National Conference.
4. Program Website.
5. Promotional Materials with program logo.

How effective are these strategies?

Strategy #1: Very Effective
Strategy #2: Effective
Strategy #3: Effective
Strategy #4: Somewhat Effective
Strategy #5: Somewhat Effective

How do you evaluate recruiting effectiveness?

Ask current students in the program how they found out about the program and what they believe are effective strategies to recruit new students.

What would be required to be more effective in recruiting students for this graduate degree program? (list in rank order)

1. Revised program offering both in-person and on-line course opportunities.
2. Graduate Assistantships and/or tuition waivers.
3. National Recruiting (e.g., in professional publications)
Extend list as needed

Mentoring

Mentoring criteria include, but are not limited to, preparation for future career; scholarly development; professional community participation; appreciation for diversity; collaborative opportunities

Please provide the following supporting data on <u>students</u> in this graduate degree program:

	2008-2009	2009-2010	2010-2011
Number of research/scholarly presentations (or exhibitions, performances, etc. as appropriate) made by students in this program at state, regional, national, or international meetings	3	2	3
Total number of peer-reviewed publications whose primary author is a student in this program	1	2	2
Total number of peer-reviewed publications where a student in this program is a co-author	0	0	0
Number of students from the previous year's graduating class that have found employment in the field			0

Comment on data relevant to mentoring students in this degree program not captured in the table above.

Most students are already employed in a teaching position. A good majority of the part-time students are only here only during the summer. Of the full time students, all have received jobs or continued on to a terminal degree.

What mentoring strategies are you currently using?
- One-on-one meetings with students as needed.
- Frequent communications via e-mail and phone.
- Visiting their programs and meeting with them at their work locations.
- Involving them in major program area activities (e.g., Vex Robotics Competitions)

How effective are these strategies?

All strategies listed above are very effective mentoring programs.

How do you evaluate mentoring effectiveness?

Through communication and feedback from the graduate students.

What would be required to be more effective in mentoring students in this graduate degree program? (list in rank order)

1. Scheduled formal meetings with the students, especially the part-time students.

2. A "student inventory" that identifies their specific needs as they progress through the program.

Management

Management data and criteria include, but are not limited to, the faculty and their scholarship, opportunities for and placement of graduates; average time to degree completion; degree completion rates; frequency of course offerings; graduate enrollment numbers (headcount and FTE); retention; number of degrees conferred; credit requirements; specializations offered; faculty resources

Please provide the following supporting data on <u>faculty</u> with a terminal degree who teach courses or mentor students in this graduate degree program:

	2008-2009	2009-2010	2010-2011
Number of faculty	6	6	6
Average number of peer-reviewed publications (or books, exhibitions, performances, etc. as appropriate) per faculty member	10	10	10
Number of faculty who received extramural grants for research	5	5	5
Average dollar amount per faculty member of extramural grants received	----	----	----

Comment on the data relevant to managing this graduate degree program not captured in the table above.

This data is no longer relevant as the department split in January 2012.

What are the professional/career opportunities for graduates of this degree program? Comment on the need for and viability of this program in terms of the graduate placement market.

- As most graduates are already employed, this degree offers opportunities to advance on their organization's pay scale.
- This degree help selected students advance to a doctoral program.
- This degree allows some to move into higher education (e.g., community college) positions.
- This degree help individuals who may want to pursue administrative positions.
- For the few full-time students who graduate in this program, there is 100% placement.

How is this information communicated to potential and current students?
- In recruitment materials.
- Class discussion
- At local and national conferences.
- In local and national publications.

What strategies are used to keep this degree program current in terms of its:

d) Philosophy?

- Attendance at regional and national conferences.
- Presentations at regional and national conferences.
- Publishing in journals and magazines.
- Service to Professional Organizations.
- Connecting to the Community, including Business and Industry.
- Professional and Personal Readings
- Communication with the State Office of Education and Educational Specialists
- Communication with State Career and Technology Education Directors (CTE)

e) Methodology?

- Attendance at regional and national conferences.
- Presentations at regional and national conferences.
- Publications in journals and magazines.
- Service to Professional Organizations.
- Connecting to the Community, including Business and Industry.
- Professional and Personal Readings

f) Technology?

- Attendance at regional and national conferences.
- Professional Educational and Industrial Training
- Connecting to the Community, including Business and Industry.
- Professional and Personal Readings.
- Technology Workshops

What is the <u>targeted</u> time to completion for students in this degree program?

- Full-Time Students: 1-2 years (3-4 semesters)
- Part-Time Students: 2-4 years (3 summers)

How is this information communicated to potential and current students?

- Stated in publication materials
- Reviewed with students when they develop their Program of Study.

In the past 3 years, how many students have completed their degrees within this targeted time? (numbers of students completing on time vs. total number of students)

- Approximately 80% complete in the recommended time frame.

What are the factors that affect completion?

- Physical Location of Students
- Availability of courses.
- Student's job and family responsibilities may require too much of their time.

If improvements are needed, what are they?

- Completion path examples.

What is the minimum number of credits currently required for this graduate degree program?

- Plan A: 30 credits
- Plan B: 33 credits
- Plan C: 36 credits

How does the number of required credits comply with standards in the discipline/field (e.g., accrediting agency, professional certification board and/or peer degree program)? Would you increase or decrease required credits to degree, and why?

Required credits are typical of degrees offered in this type of program. No change is recommended.

What changes, if any, should be made to the current specializations offered for this degree?

No changes recommended.

What would be required to make this graduate degree program more effective?

A flexible program that offers both on-line and on-campus courses.

Funding

Funding criteria include, but are not limited to, funding sources (departmental, institutional, contracts, grants); percentage of students receiving support via tuition awards, assistantships, fellowships; average level and duration of support; selection process for tuition awards, fellowships, assistantships

Please fill in the following chart to show the number of students funded by type and level of funding (FTE), and the average amount of funding per student for 2008-2009, 2009-2010, and 2010-2011:

		2008-2009	2009-2010	2010-2011
Number of students funded by type and level of funding (FTE) per year		#	#	#
a) Externally funded fellowships, traineeships, & internships only	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE	0	0	0
b) USU fellowships only	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE)	0	0	0
c) Teaching assistantships (departmental) only	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE)	0	0	0
d) Research assistantships from internal sources only (UWRL, UAES, department, etc.)	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE)	0	0	0
e) Research assistantships from external grant/contract sources only	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE)	0	0	0
f) Administration or other assistantships only	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE)	0	0	0
g) Combination of external support (a) <u>with</u> fellowships (b), or assistantships (c, d, e, &/or f)	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE)	0	0	0
i) Combination of USU fellowships (b) <u>with</u> assistantships (c, d, e, &/or f))	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE)	0	0	0
j) Combination of different types of assistantships (c, d, e, &/or f)	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE)	0	0	0
k) Other Describe:	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE)	0	0	0
Number of <u>self-funded</u> students per year		15	15	15
Total numbers of students per year		15	15	15
Average amount of funding per student per year		$	$	$
a) Full support (0.5 FTE)		0	0	0
b) Partial support (<0.5 FTE)		0	0	0

Comment on data relevant to funding students in this graduate degree program not captured in the table above.

Most Students are part-time and attend only attend in the summer.

Comment on the sources and relative proportions of funding available to students in this graduate degree program.

- Almost all students fund their own programs.
- Some students may receive scholarships from their school.

Describe the adequacy and appropriateness of the current level of funding for recruiting and retaining graduate students to completion in this degree program.

- No funding currently received for funding graduate students at the MS level.
- A tuition waiver or graduate assistant ship would be helpful to attract full-time students.

Describe the adequacy and appropriateness of the current level of funding for recruiting and retaining faculty to build and sustain this degree program.

- Last year, the department had six faculty members who could teach graduate courses in this program. There are now only two faculty members. An additional faculty member would be helpful.

What could be done to more effectively fund graduate students in this degree program? (list in rank order)

1. Obtain External Funding.
2. Make available teaching assistantships in lieu of using adjunct faculty.
3.
Extend list as needed

Are there any important aspects in evaluating this graduate degree program that have not been captured in the information above? If so, please comment.

In January 2012 the Department of Engineering and Technology Education (ETE) Department "abruptly split" and the new program area of Technology and Engineering Education and moved into the new School of Applied Sciences, Technology, and Education that is housed in the ASTE Department in the School of Agriculture. Prior to the separation of the department, the TEE program had three faculty lines, after the separation, only two faculty lines moved with the new program area. This split has weakened the faculty resources to develop and deliver this program.

Although the split was "untimely" (i.e., during the second week of the Spring semester) and poorly planned (e.g., it required all non-technology and engineering education faculty to immediately vacate their offices), the remaining two faculty members are excited to be with the new school and the opportunities it offers to grow both the undergraduate and graduate programs.

Graduate Degree Program Self-Study

Department	ASTE
Degree Program	**Technology and Engineering Education (TEE)-Doctoral Program (PhD or EdD)**

For each graduate degree program in your department, complete this self-study by entering responses and data in the table boxes in this document. Please respond as concisely as possible. The total length of this completed document should not exceed 14 pages, 12-point font.

The self-study is organized into questions regarding the overall nature of each graduate degree program and the critical components of recruiting, mentoring, management, and funding.

Overall

What is the purpose and mission of this graduate degree program?

The School of Teacher Education and Leadership (TEAL) in the Emma Eccles College of Education and Human Services administers an interdepartmental program leading to a doctoral degree (PhD or EdD) in Education specializing in Curriculum and Instruction. Within this degree, students are able to choose an emphasis area in "Technology and Engineering Education."

The PhD prepares candidates for academic careers in institutions that demand research expertise and an understanding of the theoretical foundations of technology and engineering education.

The EdD program prepares candidates to serve as curriculum and instruction leaders in public or private educational institutions and to teach in education and education-related programs in colleges and universities.

What are the core strengths of this graduate degree program?

- Faculty Expertise
- Strong Research Component
- Interdisciplinary Program
- Strong Program of Study
- One of only a few doctoral programs in Technology and Engineering Education the Western U.S.

What are the primary needs to achieve and advance the purpose/mission of this degree program?

- Full-time program needs to be reviewed and/or revised based on current positioning within the new school and its new association with the College of

> Agriculture.
> - TEE Faculty need to build bridges with new colleagues in the School of Applied Science, Technology and Education and in the College of Agriculture.
> - Revised Graduate Program Information Materials needed.
> - Revised Website needed.
> - Staff person needed to monitor graduate student application process and progress through the program.
> - Explore re-connecting with C&I distance education doctoral program.
> - Exploring meeting the graduate educational needs of the CTE and other faculty at USU Eastern.

Recruiting

Recruiting criteria include, but are not limited to, academic preparedness (GPA, standardized test scores, prerequisite degrees); diversity (gender, race, ethnicity, citizenship); number of applied/admitted/enrolled students

What types and numbers of students are you targeting for this graduate degree program?

> - Target Numbers: 5-10
> - Target Populations: Experienced teaching professionals in the areas of technology and engineering education or career and technical education wanting to obtain a terminal degree and move into a teaching and research role in higher education or advancing into administration at their current place of employment.

What recruiting strategies are you currently using?

> 6. Attendance and Booth Presence at National Conference.
> 7. Program Website.
> 8. Promotional Materials with program logo.
> 9. Utilizing PhD Graduates to recruitment other students to the program, this is especially effective at national conferences and when graduate students visit campus.

How effective are these strategies?

> Strategy #1: Very Effective
> Strategy #2: Effective
> Strategy #3: Somewhat Effective
> Strategy #4: Very Effective

How do you evaluate recruiting effectiveness?

> Ask current students in the program how they found out about the program and what they believe are effective strategies to recruit new students.

What would be required to be more effective in recruiting students for this graduate degree program? (list in rank order)

1. Revised program offering both in-person and on-line course opportunities.
2. Funded positions through grants, scholarships and/or tuition waivers.
3. National Recruiting (e.g., in professional publications)
4. The collection student data showing performance in such things as publications and presentations that indicates the quality of our program.
5. Data showing success in placement, and advancement through promotion and tenure of professional who have graduated in our program.

Mentoring

Mentoring criteria include, but are not limited to, preparation for future career; scholarly development; professional community participation; appreciation for diversity; collaborative opportunities

Please provide the following supporting data on <u>students</u> in this graduate degree program:

	2008-2009	2009-2010	2010-2011
Number of research/scholarly presentations (or exhibitions, performances, etc. as appropriate) made by students in this program at state, regional, national, or international meetings	3	3	3
Total number of peer-reviewed publications whose primary author is a student in this program	2	2	2
Total number of peer-reviewed publications where a student in this program is a co-author	1	1	1
Number of students from the previous year's graduating class that have found employment in the field	1	1	2

Comment on data relevant to mentoring students in this degree program not captured in the table above.

Data above are a close estimate and better data collection will be implemented.

What mentoring strategies are you currently using?

One-on-one and committee meetings with students as needed. Frequent communications via e-mail and phone. Involving them in major program area activities (e.g., Vex Robotics Competitions)

How effective are these strategies?

All strategies listed above are very effective mentoring programs.

How do you evaluate mentoring effectiveness?

Evaluating the number of professional who complete the program and find gainful employment.

What would be required to be more effective in mentoring students in this graduate degree program? (list in rank order)

1. Scheduled (at least once a semester) meeting with the student.
2. A "student inventory" that identifies their specific needs as they progress through the program.
3. Graduate Seminar

Management

Management data and criteria include, but are not limited to, the faculty and their scholarship, opportunities for and placement of graduates; average time to degree completion; degree completion rates; frequency of course offerings; graduate enrollment numbers (headcount and FTE); retention; number of degrees conferred; credit requirements; specializations offered; faculty resources

Please provide the following supporting data on <u>faculty</u> with a terminal degree who teach courses or mentor students in this graduate degree program:

	2008-2009	2009-2010	2010-2011
Number of faculty	6	6	6
Average number of peer-reviewed publications (or books, exhibitions, performances, etc. as appropriate) per faculty member	10	10	10
Number of faculty who received extramural grants for research	5	5	5
Average dollar amount per faculty member of extramural grants received	-----	-----	-----

Comment on the data relevant to managing this graduate degree program not captured in the table above.

This data is no longer relevant as the department split in January 2012.

What are the professional/career opportunities for graduates of this degree program? Comment on the need for and viability of this program in terms of the graduate placement market.

• Teaching and Research in a Higher Education Institution. • Moving into an administrative position at their current employment. • For the few full-time students who graduate in this program, there is 100% placement.

How is this information communicated to potential and current students?

- In recruitment materials.
- Class discussion
- At local and national conferences.
- In local and national publications.

What strategies are used to keep this degree program current in terms of its:

g) Philosophy?

- Attendance at regional and national conferences.
- Presentations at regional and national conferences.
- Publishing in journals and magazines.
- Service to Professional Organizations.
- Connecting to the Community, including Business and Industry.
- Professional and Personal Readings
- Communication with the State Office of Education and Educational Specialists
- Communication with State Career and Technology Education Directors (CTE)

h) Methodology?

- Attendance at regional and national conferences.
- Presentations at regional and national conferences.
- Publications in journals and magazines.
- Service to Professional Organizations.
- Connecting to the Community, including Business and Industry.
- Professional and Personal Readings

i) Technology?

- Attendance at regional and national conferences.
- Professional Educational and Industrial Training
- Connecting to the Community, including Business and Industry.
- Professional and Personal Readings.
- Technology Workshops

What is the targeted time to completion for students in this degree program?

- Full-Time On Campus Students: 3-4 years
- ABD students who have met residency requirements and left campus: 4 years -6 years

How is this information communicated to potential and current students?

- Stated in publication materials
- Reviewed with students when they develop their program of study.

In the past 3 years, how many students have completed their degrees within this targeted time? (numbers of students completing on time vs. total number of students)

- Approximately 80% complete the program in the recommended time frame.

What are the factors that affect completion?

- Leaving ABD and moving to another location.
- Motivation to complete.
- Student's family and job responsibilities may require too much of their time.

If improvements are needed, what are they?

- Completion path examples of what works and what has not.

What is the minimum number of credits currently required for this graduate degree program?

To complete a doctorate degree (PhD or EdD), a minimum of 60 total credits are required for students with a master's degree, and a minimum of 90 total credits are required for students without a master's degree.
See:
http://teal.usu.edu/htm/graduate-programs/curriculum-and-instruction-doctoral-programs
http://teal.usu.edu/files/uploads/Doctoral/ETE%20emphasis.pdf

How does the number of required credits comply with standards in the discipline/field (e.g., accrediting agency, professional certification board and/or peer degree program)? Would you increase or decrease required credits to degree, and why?

Required credits are typical of degrees offered in this type of program. No change is recommended.

What changes, if any, should be made to the current specializations offered for this degree?

No changes recommended.

What would be required to make this graduate degree program more effective?

A flexible program that offers both on-line and on campus courses.

Funding

Funding criteria include, but are not limited to, funding sources (departmental, institutional, contracts, grants); percentage of students receiving support via tuition awards, assistantships, fellowships; average level and duration of support; selection process for tuition awards, fellowships, assistantships

Please fill in the following chart to show the number of students funded by type and level of funding (FTE), and the average amount of funding per student for 2008-2009, 2009-2010, and 2010-2011:

		2008-2009	2009-2010	2010-2011
Number of students funded by type and level of funding (FTE) per year		#	#	#
a) Externally funded fellowships, traineeships, & internships only	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE	0	0	0
b) USU fellowships only	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE)	0	0	0
c) Teaching assistantships (departmental) only	Full support (0.5 FTE)	2	2.5	1.5
	Partial support (<0.5 FTE)	0	0	0
d) Research assistantships from internal sources only (UWRL, UAES, department, etc.)	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE)	0	0	0
e) Research assistantships from external grant/contract sources only	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE)	0	.5	.5
f) Administration or other assistantships only	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE)	0	0	0
g) Combination of external support (a) <u>with</u> fellowships (b), or assistantships (c, d, e, &/or f)	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE)	0	0	0
i) Combination of USU fellowships (b) <u>with</u> assistantships (c, d, e, &/or f))	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE)	0	0	0
j) Combination of different types of assistantships (c, d, e, &/or f)	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE)	0	0	0
k) Other Describe:	Full support (0.5 FTE)	0	0	0
	Partial support (<0.5 FTE)	0	0	0
Number of <u>self-funded</u> students per year		1	1	1
Total numbers of students per year		3	3	3
Average amount of funding per student per year		$	$	$
a) Full support (0.5 FTE)		15,000	15000	15000
b) Partial support (<0.5 FTE)		0	0	0

Comment on data relevant to funding students in this graduate degree program not captured in the table above.

Comment on the sources and relative proportions of funding available to students in this graduate degree program.

• A few students fund their own programs or are funded by their organization.

Describe the adequacy and appropriateness of the current level of funding for recruiting and retaining <u>graduate students</u> to completion in this degree program.

• Only received funding for1 graduate student. • Another tuition waiver or graduate assistantship would be helpful.

Describe the adequacy and appropriateness of the current level of funding for recruiting and retaining <u>faculty</u> to build and sustain this degree program.

• Last year, the department had six faculty members who could teach graduate courses in this program. There are now only two faculty members. An additional faculty member would be helpful.

What could be done to more effectively fund graduate students in this degree program? (list in rank order)

1. Obtain External Funding.
2. Make available teaching assistantships in lieu of using adjunct faculty.
3.
Extend list as needed

Are there any important aspects in evaluating this graduate degree program that have not been captured in the information above? If so, please comment.

In January 2012 the Department of Engineering and Technology Education (ETE) Department "abruptly split" and the new program area of Technology and Engineering Education and moved into the new School of Applied Sciences, Technology, and Education that is housed in the ASTE Department in the School of Agriculture. Prior to the separation of the department, the TEE program had three faculty lines, after the separation, only two faculty lines moved with the new program area. This split has weakened the faculty resources to develop and deliver this program.

Although the split was "untimely" (i.e., during the second week of the Spring semester) and poorly planned (e.g., it required all non-technology and engineering education faculty to immediately vacate their offices), the remaining two faculty members are excited to be with the new school and the opportunities it offers to grow both the undergraduate and graduate programs.