

## **FY2009 DEPARTMENTAL ANNUAL REPORT OF CONTINUOUS IMPROVEMENT**

### **Department of Technology Studies Fort Hays State University**

#### **I. DEPARTMENTAL OVERVIEW**

The Department of Technology Studies is one of three departments in the College of Education and Technology, working with Advanced Educational Programs and Teacher Education departments. There are only two Technology Education programs available to students in Kansas; Fort Hays State University and Pittsburg State University. There has been historically, and currently remains, an extreme shortage of Industrial Arts/Technology teachers not only in Kansas, but nationwide.

The department has seven full time tenure/tenure track faculty members, an office manager and four work-study students. All faculty are highly qualified with education and/or experience. Four faculty have Doctorate degrees and 3 have Master degrees. Presently there are two faculty members, Joe Chretien and Kenny Rigler, who are working towards their Doctorate.

The Department provides three undergraduate programs to meet the needs of students. Technology Education is for those interested in pursuing a teaching career and Industrial Technology provides a program of study for those interested in careers in business and industry. The Technology Leadership degree is designed to provide a BS degree path for individuals who have obtained an Associate of Applied Science degree from an accredited community or technical college and want to continue their education towards a Bachelor degree without losing their applied hours. With the reorganization in the College of Education and Technology, the department does not officially have a graduate program as those programs were moved to the Department of Advanced Educational Programs this spring. The department does; however, continue support and take a leadership role in the Master of Instructional Technology and Master of Secondary Education providing a specialization concentration in Technology. The department continues to provide the MLS coordinator for Advanced Educational Programs and works with the Teacher Education department in helping with advising of their students.

The department provides specialized courses for a number of departments such as Art, Geosciences, Agriculture, Physics, Pre-engineering, Gerontology, Information Networking and Telecommunications, and Interdisciplinary Studies. The department is responsible for providing

instructional technology classes for all FHSU students who are pursuing a teaching endorsement at both the elementary and secondary levels.

The department supports the University's mission of distance education by providing an undergraduate program in Technology Leadership and courses for the Masters Degree in Instructional Technology, Masters of Liberal Studies and Masters in Secondary Education for the College of Education and Technology through on-line classes.

### **A. Departmental Mission and Vision Statements**

The Department of Technology Studies' **mission** is to provide students instruction in Communication Systems; Power, Energy and Transportation Systems; and Production Systems so that they may become technologically literate. The department strengthens the mission of the University and of the College of Education and Technology by providing a program that supports the liberal arts concept in developing analytical skills, problem-solving abilities, writing and communication skills, along with application of knowledge. The department prepares professionals for schools, business and industry in a global technological society. This preparation is based on knowledge acquired through broad based technology courses leading to technology specialization.

Graduates of the department will be versatile, adaptable, and flexible, thereby employable in a variety of businesses, industries, or public schools. Employment possibilities include teaching careers at all levels of education, construction and manufacturing industries, architectural firms, automotive companies and distribution centers, as safety specialists, quality control and industrial trainers. Graduates are problem-solvers and will have the technological skills to utilize their knowledge for an ever-changing, technological society in the 21<sup>st</sup> century.

The Department has established four **core values** for its program.

- Develop in Learners multiple skills and the capacity to think critically and problem solve.
- Develop in Learners the responsibility for their learning and future success.
- Develop in Learners success through innovation and application of established and emerging technologies.
- Develop in Learners the ability to manipulate materials, processes, and systems of instructional and industrial technology.

### **B. Departmental Goals, Objectives, and Strategic Priorities**

- Review program standards, and national trends and change the name of the Department to include Engineering. Direction that appears to be the best suited for this department is Engineering Technology.
- Develop a career and technical pathway for those students currently enrolling in one or two year technical programs which will allow them to move seamlessly into our four year program and be able to build upon their past education.
- Provide an opportunity for students to develop an understanding of technology and its contribution to a liberal arts education.

- Provide learning experiences for those students desiring to become teachers of technology at all levels of education.
- Provide learning experiences for those students pursuing careers in business, industry, and/or agriculture.
- Provide a Technology Leadership BS degree program for those who have completed an AAS degree.

To meet these goals the department has committed itself to the following objectives, which will provide a quality program that will help students understand the role of the sciences, humanities, and technologies in society.

- Develop their ability to communicate effectively through oral and written means;
- Develop fundamental knowledge about the evolution of technology and its effect on people, the environment and culture;
- Develop an ability to design, use and control communication, production, power, energy and transportation systems;
- Develop basic technical competencies for the safe and efficient application of information, energy, tools, materials, machines, and processes in a technological society;
- Develop advanced technical competencies needed to teach communication, production, power, energy and transportation systems; and develop advanced technical competencies needed for a career in communication systems, production systems, or power, energy and transportation systems;
- Design, implement and evaluate instruction using appropriate methodologies which focus on problem-solving and decision-making skills involving humans, material, capital, energy, processes and technological systems, and;
- Develop strategies for the integration of technological concepts to other school disciplines.

The department established the Strategic Priorities for the 2008-2009 academic year which supports the University's and College's goals, these goals will continue for several years.

**Departmental Strategic Priority TECS: #1** Determine the direction of the department that meets the needs of the students and business and industry. Consider a possible name change to Engineering Technology.

**Departmental Strategic Priority: TECS: #2.** Increase recruitment in Eastern Colorado and Southern Nebraska.

**Departmental Strategic Priority: TECS: #3.** Work with Tech authority on providing quality post secondary programs and instructors for Career and Technology.

**Departmental Strategic Priority TECS: #4.** Develop a Construction Management program and a Alternative energy program.

**Departmental Strategic Priority TECS: #5.** Review curriculum to determine if additional service learning components could be implemented.

**Departmental Strategic Priority TECS: #6.** Support the mobile computing initiative by continuing to expose students to new programs and applications of the computers in industry.

### C. Department Productivity and Distinctive Accomplishments

The Department of Technology Studies had a successful year overall. We did not have many incoming freshmen fall 2008 as expected, but it is believed that this will change with a more aggressive recruiting program in Eastern Colorado, Southern Nebraska, and Kansas. Colorado has only one program at the university level that provides Industrial/Technology Education for students and as such there is a tremendous shortage of individuals pursuing teaching degrees. Nebraska currently has only two Technology Education programs. Fort Hays State University should be able to recruit students from these areas into our quality program in both industry and teaching. The department did increase its recruiting efforts in Kansas, Colorado and Nebraska. We were not successful in attracting many from Nebraska and will continue to develop strong ties to the faculty there. Colorado was better as we were able to get into many of the high schools and I believe that we will see some results this year and in the following years.

The department was involved in the following activities:

1. TECA students were able once again gain Regional, National and International recognition by attending and participating in Technology Competitions. At the Regional Conference in Colorado FHSU students were successful in four different competitions, winning 1<sup>st</sup> in Manufacturing, Technology Challenge and in Transportation. They also took 2<sup>nd</sup> in Problem Solving and 3<sup>rd</sup> in Technology Challenge.
2. TECA student attended the International Technology conference (ITEA) in Louisville Ky. While there they competed against 18 other universities and demonstrated once again the quality of our students and the quality of the program by winning three first place awards and two fourth place awards. 1<sup>st</sup> in Manufacturing, Technology Challenge, and Transportation, and 4<sup>th</sup> in Teaching Lesson and Robotics.
3. Provided the Technology Education Conference, designed to bring technology teachers from all across the state to campus for the purpose of providing leadership in the discipline and to provide opportunities to discuss issues of common interest. This event has been hosted by the department for 28 years.

4. Developed and hosted the annual Electro rally in Kansas City at the Kansas Speedway. This event attracted over 40 cars from all over the nation and one that holds the record for the fastest electric car.
5. Developed a complete email database of all Industrial Arts/Technology teachers in Colorado, 233, and 403 in Nebraska. This information is being used for student recruitment. Updated the database for Kansas and now are able to continually keep the technology teachers informed of events that affect them in teaching and provide guidance in developing programs and being able to qualify y for funding.
6. Worked with The Kansas Post Secondary Career and Technical Education authority reviewing programs to help meet the needs of Kansas workforce. Formed a joint partnership with North Central Technical College in providing a Welding Center for Western Kansas. This year the program was started with 8 students and currently there are 18 enrolled for fall 2009.
7. Supported the initiative to keep the momentum going toward improving, implementing and assessing Teacher Education for another successful NCATE and KSDE program review. This involved all faculty members and a long commitment to providing a quality program.
8. Promoted growth in the Technology Leadership BS degree program by finalizing new partnerships with community and technical colleges. New partnerships were formed with Mid Plains Community College in North Platte and McCook, Nebraska.
9. Presented Service Learning opportunities for students: Toys for Tots; Electric car races; light construction, instructional technology and Habitat for Humanity
10. Provided In-service technology training for area high school teachers.
11. Attended Regional and International Technology conferences.
12. Hosted the annual Western Kansas Technology Fair for middle and high school students. This was our 50 year anniversary.
13. Sponsored TECA students at the Regional and International Technology Conferences, where they successfully participated in technology competitions.
14. Hosted the annual Technology Day for high school seniors – a recruiting day.
15. Actively participated in College and University committees.
16. Faculty served as consultants for industries and schools. Faculty currently are members of over 25 secondary schools advisory boards. This is a requirement for VE2 funding.

## II. DEPARTMENTAL PERFORMANCE METRICS

### A. Department Performance Indicators

Key Performance Indicator	FY2005	FY2006	FY2007	FY2008	FY2009
Freshmen	14	13	14	17	14
Transfer Students	19	17	16	12	14
Undergraduate (first majors/second majors)	133/5	138/3	140/1	114/0	104/1
Graduate Majors	20	25	22	34	50
MLS Majors	7	4	3	4	7
Major Retention	62.87%	62.31%	62.32%	52.90%	58.41%
Undergraduate Student Credit Hours	3026	3435	3392	3192	3592
Graduate Student Credit Hours	1439	1181	827	515	767
Tenured or Tenure-track Faculty (Headcount)	8	8	6	6	7
Non Tenure-Track Faculty (Headcount)	0	0	2	2	0
Other Faculty					
Michaelis/ TECS 290 VC Intro to Inst.Tech.					22
Kuhn/ TECS 390VA Intro to Elem.					22
Kollman TECS 290VE Intro to Inst.Tech.					14
Undergraduate Degrees	26	40	27	28	15
Graduate Degrees	10	10	9	6	20
<p>Briefly note 2-3 improvements over the last year prompted from the above enrollment indicators.</p> <p>With the low number of freshmen enrolling for the last several years the department increased its recruiting efforts not only in Kansas but also in Nebraska and Colorado. The results are that at this time we have doubled the number of incoming freshmen for this fall. We have developed a system to help retain the students that are on campus by providing improved mentoring.</p>					
Number of books, book chapters, and refereed articles published	1	1	1	2	2
Percent of faculty publishing refereed books, chapters, or articles	12.5%	12.5%	12.5%	12.5%	14.2%
Number of non-refereed articles and presentations	15	22	34	28	22
Percent of faculty publishing non-refereed articles or presentations	100%	100%	100%	87.5%	100%

Key Performance Indicator	FY2005	FY2006	FY2007	FY2008	FY2009
Number of scholarly performances and other creative activities		9	10	12	15
Percent of faculty in scholarly performances or other creative activities		100%	87.5%	87.5%	85.7%
Total number of external grant applications submitted/percent of faculty submitting		1/12.5%	1/12.5%	0	0
Total number of funded external grants/percent of faculty funded		1/12.5%	1/12.5%	0/0%	0
Most of the activities in the department in the Scholarly arena revolved around the development of recruiting information and high school contacts in a three state region. As a result we believe that our incoming Freshmen will increase over a 100% from last year.					
Direct Outcome 1 Technology Education Students that passed the PPST, NTE the first attempt				7/87.5%	6/100%
Direct Outcome 2 Complete Employer satisfaction with quality interns				1/100%	11/100%
Indirect Indicator 1 [Student placement in Industry and Teaching.]				100%	99%
Indirect Indicator 2 TECA Student performance at Region and International Technology Competitions				See attached listing for results	See attached listing for results
Senior students' Level of Academic Challenge			45.80	56.69	51.20
Senior students' Active and Collaborative Learning			48.81	45.09	39.68
Senior students' Student-Faculty Interaction			46.67	46.67	42.54
Senior students' Enriching Educational Experiences			33.53	29.66	38.53
Senior students' Supportive Campus Environment			61.81	47.94	46.11
The department will review these numbers to determine why they have dropped and then implement a plan for improvement. The department has increased collaborative learning in several classes i.e., Productions Systems, Introduction to Instructional Technology, and Robotics. The faculty will continue to improve this area and after the curriculum changes in Construction Management and Alternative Energy, academic challenge and collaborative learning will be enhanced.					

Key Performance Indicator	FY2005	FY2006	FY2007	FY2008	FY2009
Outcome/Indicator 1 Contact with Kansas, Nebraska and Colorado Industrial Arts/Technology teachers.					Contacted 468 in Ks. 403 in Nebraska and 233 in Colorado
Outcome/Indicator 2 In the departments recruitment efforts contact was made by letter, school visits and campus visitation programs					1500 + Students were contacted.
As has been stated in this report, it appears that progress has been made in this process. Admissions are up as are enrollments. This is an on-going major effort, as changes are beginning to be made. Teachers in Kansas and surrounding states need to be kept informed of what is available at FHSU for their students. In the meetings with teachers this past year, we were surprised to learn how many schools do not know what we have to offer.					

**C. Department Quality Initiatives and Results**

FY2009 Quality Initiatives	Results
Worked with the Kansas Technical Education Authority in developing and implementing post secondary Teacher education workshops. Develop a program to help increase needed technical skills for these teachers along with helping to insure that they are highly qualified in their teaching area.	After working with Joe Glassman and others from the Technical Education Authority and with technical colleges, new partnerships have been developed. There is now a welding center on campus which essentially is a program provided by North Central Technical College and is housed on campus. Both faculty work together to provide quality education. Last year was the first year for the program which started with 8 full time students. This coming year the program has 18 students enrolled with an additional five on a waiting list. The department also developed an articulation agreement with Mid Plains Community Colleges whereby FHSU will provide the BS degree in Technology Leadership with an emphasis in Teacher Education for their technical teachers who do not have a BS Degree.
To develop completely new marketing materials for all the programs in the department.	This is an on-going process and as such has slowly begun to make a difference. The department has seen an increase of admitted students for the fall and a large increase in interest and inquiries in all three of our programs; Technology Education, Industrial Technology, and Technology Leadership. This is an on-going process as new materials are developed to promote changes in the department and in the program. As the recession or whatever it is called, continues we will see an increase of

	individuals looking at changing careers and pursuing the required skills and education to obtain quality jobs.
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FY2010 Quality Initiatives	Responsible Party, Resources, and Plan
This year the department will review national program mission and objectives to determine if it is in the best interest of our students to change the name of the department to include the term Engineering	There appears to be a movement nationwide to include design and engineering to a greater extent in technology programs. Some have suggested that the discipline be titled STEM, Science Technology Engineering and Mathematics, while others in the profession are supporting TIDE, Technology Innovation, Design and Engineering. The faculty have started the review process and it appears that the department name may be changed to Engineering Technology. The faculty will continue reviewing this name change, considering the cost, the curriculum and whether or not the program would have to be ABET accredited. During this year there will not be additional expenses occurred for this study.
Develop appropriate assessment procedures and materials	There is an increasing demand for assessment of programs, curriculum, and students in all programs. The department has assessment procedures and instruments, but after reviewing the data collected for program development, for program approval and for NCATE documentation, it is evident that the departments can and should be doing a better job of compiling appropriate data that can be analyzed and used to improve the program and substantiate curriculum change or modifications.

**D. Institutional Quality Results**

FY2009 University Initiatives	Department Activities/Results
Increase access and retention for Hispanic students	The department has increased its recruiting efforts in Southwest Kansas and in Eastern Colorado. There has been an increase in inquiries from this area and includes Hispanic students.
Increase the quantity and quality of K-12 teachers educated	The department has not been able to increase the quantity of technology teachers in the program but has been somewhat successful in attracting new individuals to teaching with the T2T program. There has been an increase in individuals who have BS degrees in Industrial Art/ Technology but are leaving industry or other types of employment to pursue teaching as a career. Additionally, we are developing a marketing plan to help those that may have been laid off due to the economy obtain a teaching degree. This is in conjunction with the Technical and Career Authority.
Improve undergraduate students' foundational skills	The department has aided in this goal by requiring more writing in the curriculum. See attached list.

Enhance physical wellness of students, faculty, and staff	Encouraging students and faculty to develop a good life style is part of the Technology in Society class. Several of the faculty are taking advantage of the Boot camp provided by HHP.
Internationalize the campus and curriculum	The department has several students from China in the MIT program and works with other departments on campus to help insure that they are able to understand and meet the needs of the program. Additionally, the department has been working with the international advisor in developing an appropriate curriculum for a number of students from Turkey. As this program grows so will the number of Turkish students.

### III. FY2009 STRATEGY AND OPPORTUNITIES FOR IMPROVEMENT

#### A. Departmental Reflection of Strengths, Needs, Opportunities, and Threats

Current Strengths	Current Needs
<p>One of two programs in Kansas that provides Technology Education - teacher education preparation.</p> <p>Specialized curriculum supporting other major programs on campus.</p> <p>Leader in Technology Education in Kansas and surrounding states.</p> <p>Developed strong partnerships with technical and community colleges. Building collaborative programs with technical colleges to provide seamless transfer for students</p> <p>Developed positive relationships with major industries in Kansas, Nebraska and Colorado.</p> <p>Solid support from administration allowing for growth.</p>	<p>After visiting with personnel from surrounding states we need to develop a quality marketing plan to make them aware of what is available to their students.</p> <p>Develop a positive relationship with PSU in providing a team effort in identifying a clear direction on Career, Technical, and Technology program in Kansas.</p> <p>Change the name to include Engineering in the title, followed by modifying and updating the curriculum to depict this name change.</p>
Future Opportunities	Future Threats
Develop a Construction Management and an Alternative Energy program for industry interests.	Decline in enrollment due to a major push for an increased skilled workforce at technical and vocational schools.

<p>Develop a specialization partnership with community and technical colleges which will allow for a student who has completed a certificate or AAS degree to transfer all hours toward a technical career specialization.</p> <p>Develop post secondary training and certification to meet the needs of industry as identified by the Governor’s career and technical authority.</p> <p>Develop specialized curriculum for meeting the needs of International Students especially those from Turkey. This specialized curriculum will need to be developed with Physics in electrical technology,</p>	<p>Major changes in how program funding is approved for secondary programs. VE-2 funding is fast becoming the driving force on what is being taught in high schools programs.</p> <p>Increased number of students desiring to take all course work virtually thus reducing the numbers of students here on campus. This program is an applied program and does not lend itself to a completely on-line degree.</p> <p>Technology Education program are expensive by nature. Equipment and material are changing and improving at a rapid pace. With the present economy it will be difficult to keep current curriculums in place.</p>
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**B. Opportunities for Improvement**

[NOTE: Long-term OFIs are meant to be resource-intensive changes requiring permanent or one-time resources that can favorably impact the department over the long-term.]

Long-Term Strategic Initiatives	Resources Required	Expected Result
<p>Develop summer workshops for career and technical education teachers to get them certified in their specialization.</p>	<p>Dependent upon what the Technical Authority deems a priority will determine what workshops are offered first. Industry will help with specialized equipment on a short time frame.</p>	<p>Post secondary teachers will be able to successfully pass the industries certification test for their specialization. They will be able to obtain the necessary teaching pedagogy to be successful in their classrooms.</p>
<p>Change the name of the department to Engineering Technology. Keep in line with National Organization.</p>	<p>In the first year there will not be any new resources needed with the exception of review material. Dollars minimal.</p>	<p>The process had started with review of material and the expectations for an Engineering Technology program.</p>

## IV. SUPPORTING MATERIALS

### A. Department Degree Program Affinity Diagram(s)

#### *Bachelor of Science Technology Leadership*

##### **Mission**

**The mission of Technology Studies is to prepare technologically literate professionals for educational systems, business, and industry, in a global technological society**

##### **Guiding Principles**

Provide the students with the leadership and management skills that are essential in today's workforce. Businesses and industries are looking for individuals who have applied technology skills along with leadership skills to advance with in companies as mid-managers.

Provide a seamless transfer Bachelor of Science degree. Students who have the ability and desire to work in industry and who have successfully obtained an Associated of Applied Science degree can transfer those applied hours directly to the Technology Leadership program without the concern of loss hours.

Individuals who graduated with an AAS degree and who are employed in a career are oftentimes not able to quit that job and return to college to finish their BS degree.

Provide a Workforce Baccalaureate Degree available to all students across Kansas and surrounding states.

##### **Learning Objectives**

- ✓ To provide an opportunity for students to develop an understanding of Technology and its contributions to a liberal arts education.
- ✓ To provide educational experiences for students desiring to become leaders of technology in business, industry, or education.
- ✓ To provide educational experiences in the fundamental knowledge about the evolution of environment and culture.
- ✓ To provide educational experiences so students acquire an understanding of the nature of technology and to use this experience as supervisors, managers, and lead individuals in their selected careers.

##### **Organizing Themes**

###### **Associate of Applied Science**

The program is designed so that students can acquire a Bachelor of Science in Technology Leadership without a loss of hours obtained in their applied Associate's Degree

Students can transfer up to 64 hours in this program. Twenty-four of those hours should be in approved general education. IF for some reason they do not have 24 hours of general education those hours will be added into their leadership program.

The program is designed to provide students with the same number of general education and upper level courses that are required of all students who graduate with a Bachelor of Science degree.

The classes have been designed so that students can obtain the degree without having to disrupt their family or quit their present jobs. The program is available through the Virtual College and distance education.

The program provides students with two leadership options to meet their individual needs. Option one has the total leadership major of 31 hours prescribed while option two provides some degree of flexibility for students who wish to take additional classes in their applied area of specialization.

## Graduate Characteristics

Graduates of the Technology Leadership, Industrial Technology and Technology Education programs are considered leaders in their field.

- ✓ Are employed in a wide array of businesses and industries as mid-management, supervisors, foremen, quality control, and draftsmen. They are also employed as teachers of all forms of technology
- ✓ Have a wide variety of experiences and knowledge, which allows them the opportunity to understand the technological society for today and tomorrow.
- ✓ Have the ability to organize and manage group activities, and prepare written and oral technical materials.
- ✓ Are adaptable and flexible and able to make changes as our industrial society demands.
- ✓ Are knowledgeable about mechanical and technical equipment, materials, procedures, and process.

## ***Bachelor of Science Industrial Technology/Technology Education***

### **Mission**

**Our mission is to prepare technologically literate professionals for educational systems, business, and industry, in a global technological society**

### **Guiding Principles**

Provide a wide variety of background experiences and knowledge, which allows students the opportunity to understand the technological society for today and tomorrow.

Stimulate curiosity, analytical, and problem solving to encourage ability to incorporate these attributes in decision-making situations.

Ability to learn utilizing a variety of instructional methodologies.

Capable to organize and manage group activities, and prepare written and oral technical materials.

Knowledgeable about mechanical and technical equipment, materials, procedures, and processes.

Competent of being a productive contributor in a global society.

Adaptable and flexible and able to make changes as our industrial society demands.

Knowledgeable about technology and its application.

### **Learning Objectives**

To provide an opportunity for students to develop an understanding of technology & its contribution to a liberal arts education.

To develop and understand the role of the sciences, humanities & technologies in society.

To develop their ability to communicate effectively through oral & written means.

To develop fundamental knowledge about the evolution of technology & its effect on people, the environment & culture.

To provide educational experiences for those students desiring to become leaders of technology at all levels of education and industry.

To develop an ability to design, use & control communication, manufacturing, construction & power, energy & transportation.

To develop basic technical competencies for the safe & efficient application of information, energy, tools, materials, machines & processes, in technological systems.

To develop advanced technical competencies needed to successfully teach communication, production & power, energy & transportation technologies.

To design, implement & evaluate instruction using appropriate methodologies which focus on problem solving & decision making skills involving humans, material, capital & energy; processes & technological systems.

To develop strategies for the integration of technological concepts to other school disciplines.

## Organizing Themes

The program is designed so that students can acquire a Bachelor of Science in Industrial Technology or Technology Education.

Industrial Technology teaches students with the skills and business courses to effectively work and manage in several areas of the industrial arena.

Technology Education provides students the necessary skills and teaching abilities to share their knowledge at an appropriate grade level.

## Graduate Characteristics

Graduates of the Technology Leadership, Industrial Technology and Technology Education programs are considered leaders in their field.

- ✓ Are employed in a wide array of businesses and industries as mid-management, supervisors, foremen, quality control, and draftsmen. They are also employed as teachers of all forms of technology
- ✓ Have a wide variety of experiences and knowledge, which allows them the opportunity to understand the technological society for today and tomorrow.
- ✓ Have the ability to organize and manage group activities, and prepare written and oral technical materials.
- ✓ Are adaptable and flexible and able to make changes as our industrial society demands.
- ✓ Are knowledgeable about mechanical and technical equipment, materials, procedures, and process.

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**B. Department Staffing Plan**

College of Education and Technology  
 Department Staffing Plan and Assignments (**Current – 09**)  
 Department of Technology Studies

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Anticipated Department Needs	Faculty Member	Future Faculty Expertise Needed	Retirement (Birth-date)	Assigned Instructional FTE's	Rank Current Date	Degree Completed	Track	Current Salary In Line	Nat'l Average For Discipline/ Rank
Chair Professional Program Development	Fred Ruda	Safety Internship Teacher Education BTL	1944	1.0	Professor	Ed.D	Tenured	102,339	
Power & Energy Computer Tech BTL Virtual	Joe Chretien	Power & Energy Technology Robotics Hydraulics/ Pneumatics Industrial Mgmt A+ Comp Maint	1951	1.0	Assistant Professor 1998	M.S.	Tenured	54,494.	
Instructional Tech Plastics Tech Communication Tech	Kenny Rigler	Instructional Tech Communication Tech Plastics Technology	1980	1.0	Instructor 2007	M.S.	Tenure track Second year	43,680.	
Power & Energy Instructional Tech MIT Coordinator	Robert Howell	Power & Energy Technology Practicum MIT Interdisciplinary Teacher Education	1947	1.0	Associate Professor 2005	Ph.D.	Tenured	55,859.	
Construction Tech	Duane Renfrow	Construction Tech Woods Materials Plastics Interdisciplinary	1955	1.0	Associate 1996 Professor	Ed.D	Tenured	61,062	
Comm. Tech CAD Expand area	Kim Stewart	Communication Technology CAD Construction Engineering Graph Manuf Graphics	1959	1.0	Assistant 1997 Professor	M.S.	Tenured	61,796	
Instructional Tech	Rita Hauck	Instructional Tech Multimedia Hypermedia	1946	1.0	Associate Professor	Ph.D.	Tenured	55,477.	

## C. Bibliography of Departmental Scholarly Activity

### Presentations

- Kim Stewart
  - o Nov 08: *The Nuts & Bolts of the Technology Program: A Perfect Fit for Your Students* @ Colorado Technology Education Association fall conference
  - o Jan 09: Keynote Opening Presentation: *Student Recruiting and Departmental Promotion* @ FHSU Technology Studies Senior Day
  - o Jan 09: *Laser Cutting Activities* @ FHSU Technology Studies Senior Day
- Rita Hauck
  - o March 08: *Non-terrified Terrific Innovative Teacher* @ FHSU CTELT
  - o Sept 08: *Web-based Course Development Quality Assurance - Faculty Perspective* @ FHSU CTELT
  - o July 08: *Anchor for Change in Introduction to Instructional Technology Course* @ the National Consortium for Continuous Improvement (Chicago, IL)
  - o Nov 09: *Good Practices for E-learning in Education Courses* @ 2008 World Conference on E-Learning In Corporate, Government, Healthcare, & Higher Education (Las Vegas, NV)
  - o June 09: *Immersion in Language and Culture through Multimedia and Web Resources* @ Ed-Media '09 World Conference on Educational Multimedia, Hypermedia, and Telecommunications (Honolulu, HI)
  - o June 09: *Individuality, Innovation, and Accountability for Learning in Online Multimedia/Hypermedia Applications Courses* @ Ed-Media '09 World Conference on Educational Multimedia, Hypermedia, and Telecommunications (Honolulu, HI)
- Kenny Rigler
  - o Nov 08: *Enhancing Design, Communication, and Collaboration through Web 2.0 Technologies* @ Four State Regional Technology Conference (Pittsburg, KS)
  - o '08-'09: *Teaching with Mobile Technologies* @ FHSU CTELT
  - o Feb 09: *Does Mobile Computing Increase Student Engagement in the Classroom?* @ FHSU CTELT
  - o Feb 09: *Got GLS? Comparing Epsilen's Global Learning System to Blackboard* @ FHSU CTELT
  - o April 09: *Diverse Agendas: The Varieties and Scope of Research at FHSU* @ FHSU
- Duane Renfrow
  - o Nov 08: *Techno CNC Router Operation* @ FHSU Technology Studies Senior Day
  - o Nov 08: *The Nuts & Bolts of the Technology Studies Program at FHSU* @ Denver, CO
- Joe Chretien
  - o Spring 09: *New Opportunities for Degrees in Technology – An Evolution of Degree Programs at Kansas Institutions* @ Connecting Education and Employment Conference
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### Research

- Kenny Rigler
  - o Epsilen vs. Blackboard

**Articles**

- Rita Hauck
  - o *Technology Education Debate in Perspective*
  - o *Good Practices for E-learning in Higher Education Courses* in Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education
  - o *Immersion in Language and Culture through Multimedia and Web Resources* in Proceedings of World Conference on Educational Multimedia, Hypermedia, and Telecommunications
  - o *Individuality, Innovation, and Accountability for Learning in Online Multimedia/Hypermedia Applications Courses* in Proceedings of World Conference on Educational Multimedia, Hypermedia, and Telecommunication
  - o *Alpha Prision Libreta para Facilitador* in AlphaUSA
- Robert Howell
  - o 08: Associate Editor for Journal of Industrial Teacher Education
  - o 09: Editor for Journal of Industrial Teacher Education
  - o 08-09: Peer Reviewer for Tech Directions

**D. Department Program Assessment Results****Department Internship Evaluations****Summer 08/Fall 08/Spring 09**

Traits	Above Average	Average	Below Average	N/A
Relationship with Others	90%	10%		
Judgment	60%	40%		
Ability to Learn	70%	30%		
Work Habits	90%	10%		
Dependability	100%			
Quality of Work	60%	40%		
Quantity of Work	60%	40%		
Communications: Oral	40%	60%		
Communications: Written	30%	60%		10%
Leadership Quality	50%	50%		
Care & Proper Use of Equipment	70%	30%		
Safety Habits	60%	30%		10%
General Attitude	100%			
Reaction to Constructive Criticism	50%	50%		
Contribution to the Organization	60%	40%		

**Strengths and weaknesses of interns in relation to the above traits, as presented by industry**

- Is a very straightforward and dependable person.

- Has a very good all around understanding of what is needed in our trade. Is very knowledgeable and skilled in aspects of our work.
- Wants to learn and does not back away from any task given.
- Send me more people like him.
- Is a solid individual so good we have made him a full time employee with our company.
- Sincerely, I have not had the opportunity to work with a better individual.
- Trying not to sound like a scratched record, but is knowledgeable in all fields concerning our activities and is pleasant to work with.
- Needs to follow instructions closer and not change plans.
- Very good work, with a little more experience could be a great asset to company.
- Has a very good working relationship with everyone he has worked with. He has been more than willing to learn new software and procedures. Has a very good attitude toward his work!
- Students could be observed by the department more often, as well as stay for an hour to shadow the student.
- Shows a will to learn every day and continues to learn. What he lacks in experience he makes up in his work ethics and knowledge learned to date.
- Blue Print Review, product knowledge, leadership seminars.
- Has been exceptional help. I hope to keep him here for awhile.
- Strengths – attitude to learn was good and desired to learn. Followed instruction. Weakness – not having a construction background
- What type of civil engineering projects did she work on? Were the projects real projects and could the plans be used to build a project? What equipment, software and techniques were used during the internship and how were they applies to an actual project?

### Recommendations of Interns by industry representatives

- We have made a job offer and he has completed his coursework. Not much more we can do.
- If he is a typical student I see very little to improve upon.
- None that I can tell at this time.
- In the manufacturing field, there isn't an area which he didn't try and excel at. We can only hope we will have him as an employee for a long time.
- More time on accuracy of parts.
- The intern could give a presentation to the Department of Technology Studies (instructors and students) on his/her experiences as an intern.
- Has the tools to do the job!! Needs to bring them out with confidence and firmness!!
- CAD tailored to Civil Engineering type projects.

### E. Other Departmental Information

#### Technology Studies Department Writing Needs Analysis

Types of Writing	Description	Courses
Reflection Papers	Becoming a professional educator requires utilizing reflection as a tool for self-growth, program assessment, and instructional	TECS 290 Introduction to Instructional Technology/TECS 460 Teaching Technology Education/TECS 277 Early Field



	<p>they plan to teach; devise and implement an instructional plan, and an assessment plan. They also describe the learning environment in the classroom; and write reflections about their teaching of the unit. These narrative reports are a maximum of 25 pages in length, not including appendices. Seven mandatory criteria are addressed in the narrative report. Reports are graded using a rubric and checklist. These evaluation instruments are aligned with the KSDE KPA rubric and checklist. Criteria addressed are also aligned with the COET Conceptual Framework.</p>	
Research paper	<p>Each student writes a research paper using a minimum of five sources, about the “past, present, and future” of a particular technology.</p> <p>Each student writes a five to six page paper with a minimum of five sources about occupational safety that pertains to their present or future workplace.</p> <p>Students research building materials and organize the information into a document that would allow an appraiser to look at their plans and make an appraisal of their plans.</p> <p>Students write a two page paper on original equipment manufacturing of robots.</p> <p>Students write a five page paper on a plastic process.</p>	<p>IDS 390 Technology in Society</p> <p>TECS 490 Occupational Safety, Health &amp; Liability</p> <p>TECS 415 Construction Graphics</p> <p>TECS 420 Fluid Systems Hydraulics &amp; Pneumatics</p> <p>TECS 240 Plastic Processes</p>
Article Review	<p>Each student writes a two page report on new materials and processes.</p> <p>Each student writes a 15 page document based on one page material product reviews.</p>	<p>TECS 180 Materials and Processes</p> <p>TECS 380 Materials Finishing &amp; Testing</p>
Furniture Plan Portfolio	<p>Each student writes a narrative plus project plans that becomes part of the student’s “Furniture Plan Portfolio.”</p>	<p>TECS 314 Furniture &amp; Cabinet Construction</p>

Case Studies	Students use critical thinking and writing skills as they respond to case studies on course topics.	TECS 480 Industrial Management
	Students plan, design, and produce an authentic Technology Studies Department Newsletter that is sent to alumni and friends.	TECS 212 Communication Graphics

#### ADDITIONAL AWARDS

1. TECA students at the Regional Technology Education Conference
  - 1<sup>st</sup> place Manufacturing Competition,
  - 1<sup>st</sup> place Technology Challenge,
  - 1<sup>st</sup> place Transportation Competition,
  - 2<sup>nd</sup> place Problem Solving,
  - 3<sup>rd</sup> place Technology Challenge.
2. TECA students at the International Technology Education Association Conference
  - 1<sup>st</sup> place Manufacturing Competition,
  - 1<sup>st</sup> place Technology Challenge,
  - 1<sup>st</sup> place Transportation Competition,
  - 4<sup>th</sup> place Teaching Lesson,
  - 4<sup>th</sup> place Robotics Competition.
3. Dr. Fred Ruda, Chair, received the Distinguished Technology Educator award given by the International Technology Education Association.
4. In the fall 2008 semester, Dr. Bob Howell was the recipient of the COET's Outstanding Research Award.
5. Mr. Kenny Rigler was named the Outstanding Teacher by the COET in the spring of 2009.
6. Dr. Rita Hauck was the spring 2009 COET's Outstanding Research Award recipient.