AL AND COMPUTER

ear

2.31

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820

11.1

1

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11

14.5

12

2158

12

12

1.03

2387

755

12

11

834

10

10

Program Review Program Report

ENGINEERING

ELECTRICAL AND COMPUTER

…ar in fiscal year (summer, fall, spring). If data are from the fall only, it is …t fall of the fiscal year. For example, FY 2008 is Fall 2007 data

COMPUTER ENGINEERING

ENGINEERING

ELECTRICAL AND COMPUTER

ELECTRICAL ENGINEERING

BS, MS and PhD in Electrical Engineering
BS in Computer Engineering
BS and MS in Computer Science

College of Engi   ring Academic Program Review   ss Overview

During academic year 2005-2006 the College of Engineering (CoE) underwent an extensive and inclusive strategic planning process with input from the College Industry Advisory Board (IAB), leadership, faculty, staff and students. The final outcome of this process was a ten-year strategic plan for the College. From

College Assessment Process

The purpose of the assessment process at the college level is to ensure that the college follows a strategic direction that serves well all its constituents and that there is a system in place that allows for continuous improvement in the achievement of the college mission and vision. The input in this process

course folders or portfolios, alumni surveys, graduating senior exit surveys and interviews, senior project evaluation by faculty and professional engineers, specific class exam questions and projects and co-op experience evaluation by employers and students. Every outcome is assessed by at least one tool but on the average three tools are used per outcome.

The process to ensure the achievement of the program outcomes is repeated every year and involves data collection and analysis by the program Curriculum and Assessment Committee, recommendation

of changes from the committee, consideration of those changes by the IAB of the program and approval of the changes by the departmental faculty. The final step in closing the loop in the process is the

implementation of faculty approved changes and modification to the catalog.

In spring 2007, the BS in EE and CE programs were subjected to a mock ABET accreditation visit conducted by experienced evaluators who reviewed the self-study report, curriculum content, laboratory facilities, college and institution support for each program, program objectives and outcomes' review and assessment processes, and faculty size and credentials. Recommendations were provided by the EE program mock visitor on program objectives, how to present some of the

the mock visitor gave high marks to everything the department

The mastery of the Department of EECS graduate programs' outcomes is assessed through multiple

tools including but not limited to: MS Exit Exam; information on student performance on specific courses provided by faculty; information from students' graduate plan of studies; Dissertation, Thesis

The changes implemented by the EECS Department within the last five years to close the loop in the

continuous improvement process of its academic programs are included as follows.

A new department was created to house the undergraduate and graduate programs in EE, the
undergraduate program in CE and the undergraduate and graduate programs in CS.

students/instructional faculty (21/faculty member), the number of PhD students/faculty member

(21/faculty member), credits hours/instructional faculty (690/faculty member), degrees

2006 to 2007 was due to the fact that the ~~admissions and the efforts seen~~

the department was moved to another organization within the College with the purpose of

Wichita State University
GRADUATE SCHOOL
KANSAS BOARD OF REGENTS 2009 PROGRAM REVIEW
Doctor of Philosophy in
g
Master of Science in E
Master of Science in

Review process: The Graduate Council prepared, discussed and reviewed these materials.

Program: The MS in both EE and CS has three options. The thesis option requires 24 h

mastery of various aspects of the curriculum. That is, data are not provided as mastery of program content. Concerning the MS EE Competency outcome (A), achievement

ram, and that the linkages between program

KANSAS BOARD OF REGENTS PROGRAM REVIEW

GRADUATE PROGRAMS

DEPARTMENT OF ELECTRICAL ENGINEERING
AND COMPUTER SCIENCE

WICHITA STATE UNIVERSITY

2008

1. *A statement that describes how the program relates to the mission and role of the college and the university.*

The Department of Electrical Engineering and Computer Science (EECS) offers comprehensive

programs that lead to undergraduate (BS) and graduate (MS and Ph.D.) degrees in fulfilling and promoting the missions and roles of the university and college. Electrical engineers and computer scientists play a lead role in developing the modern technologies in a wide variety of specialties including electronics, power systems, controls, networking, software development, software engineering, computer architecture, and communications. Graduates from the EECS Department at Wichita State University serve Wichita companies, Kansas companies and companies through out the nation.

The mission of Wichita State University, as approved by the Kansas Board of Regents, states in part:

Wichita State University is committed to providing comprehensive educational opportunities in an urban setting. Through teaching, scholarship, and public service, the University seeks to equip both students and the larger community with the educational

The College of Engineering at Wichita State University is committed to the following:

The current faculty, along with faculty rank and graduate faculty rank of each is given in Table 1, along with carrier scholarly activities and industrial experience. As seen, the department has a very good distribution of faculty rank, indicating an experienced yet growing department.

Table 1 – Career Industrial Experience and Scholarly Activities of EECS Faculty

E. Sawan, PhD (1979) Univ. of Ill.-Urbana	Professor (Full)	3	30	70	$0
J. Watkins, PhD (1995) Ohio State Univ.	Assoc. Prof. (Full)	0	11	53	$873,000
W. Jewell, PhD (1986) Oklahoma State Univ.	Professor (Full)	4	28	80	$3,007,000

The strengths, productivity, and qualifications of the faculty are first-rate, but the ...

d. To provide an appropriate variety of graduate courses for the program.
e. To enroll a sufficient number of students to support the courses offered.
f. To achieve an acceptable placement rate within one year of graduation either in jobs or in graduate programs for further study.
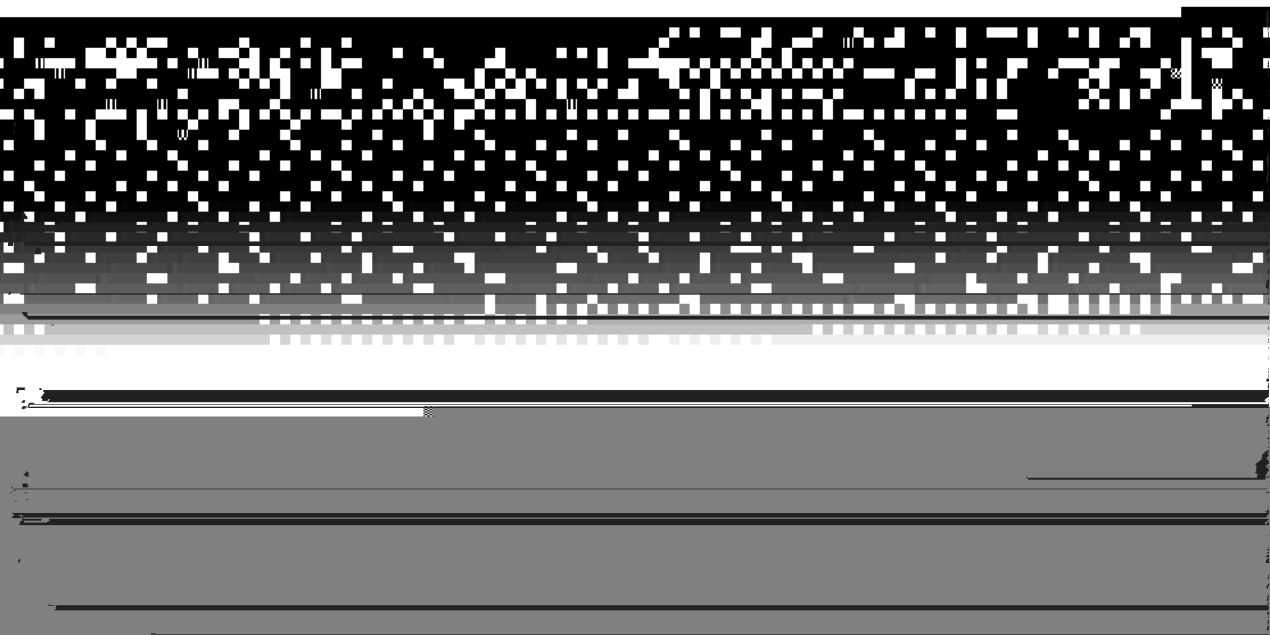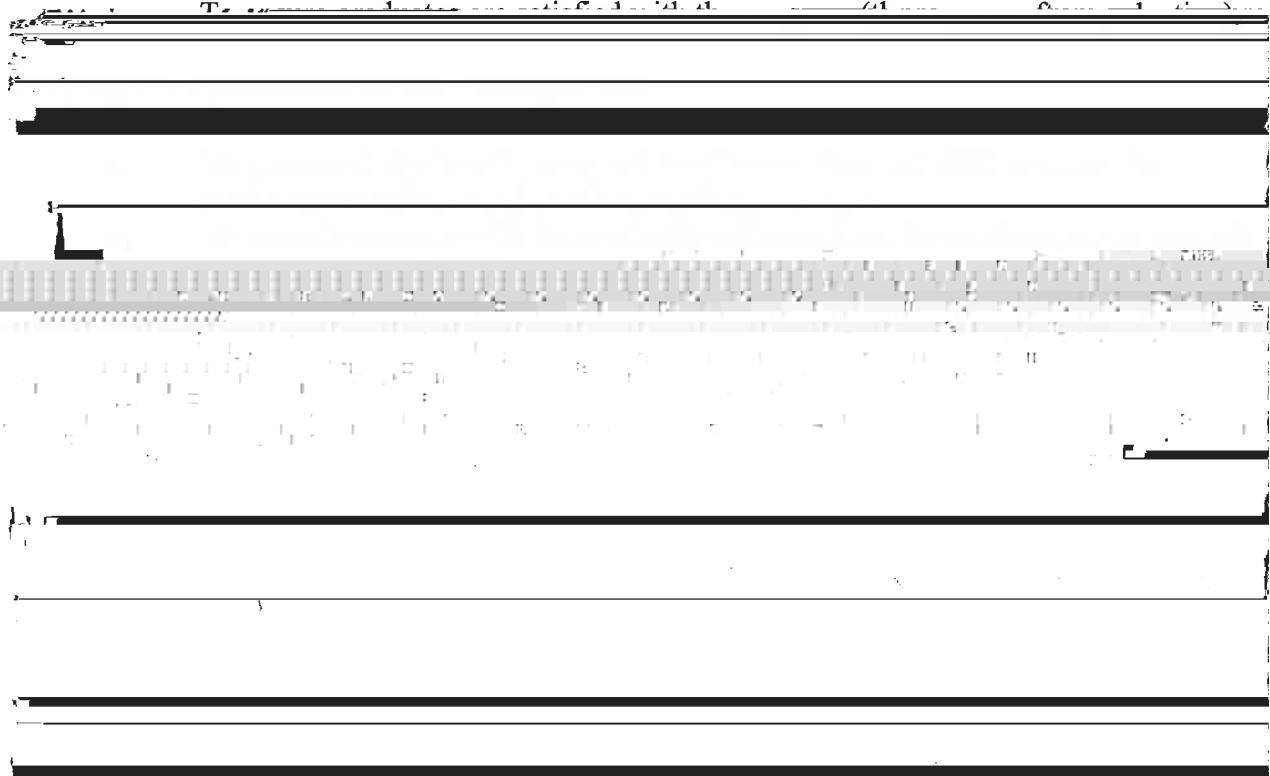
The program objectives of the MS CS degree are:

a. To provide students with advanced level knowledge and skills required for productive employment in industry and government.

The outcomes for the MS CS program are:

a. The student will gain advanced knowledge of the mathematical foundations of

As these new faculty start graduating MS students, there status will change.

c. **Program Objective (c) – Providing appropriate laboratories:**

Appropriate technical personnel must be available for service and maintenance of the department laboratories.

This objective has been achieved. Two full time technicians are employed by the College of Engineering for the service and maintenance of the college laboratories.

On the Graduate School Exit Survey, students indicate that access to the laboratories was appropriate for their areas of specialty.

92% of the Engineering students indicated that access to the laboratories was appropriate.

d. **Program Objective (d) – Appropriate variety of graduate courses:**

The department must offer 10 or more graduate level courses in each semester, excluding thesis, directed project, and dissertation hours.

Data is not available at this time. A survey will be conducted to determine the achievement of this objective.

g.   **Program Objective (g) – S   with the**

More than 85% of program graduates, surveyed three years after graduation, will indicate satisfaction with the program.

Data is not available at this time. A survey will be conducted to determine the achievement of this objective

Assessment of Objectives for MS CS Programs:

a.   **Program Objecti   (a) – Advanced level knowledge an   skills required for productive employment:**

This outcome was assessed through an alumni survey conducted in 2007, in which eleven alumni responded. Results indicated that there is a need for courses related to networking, software engineering, systems programming, and web
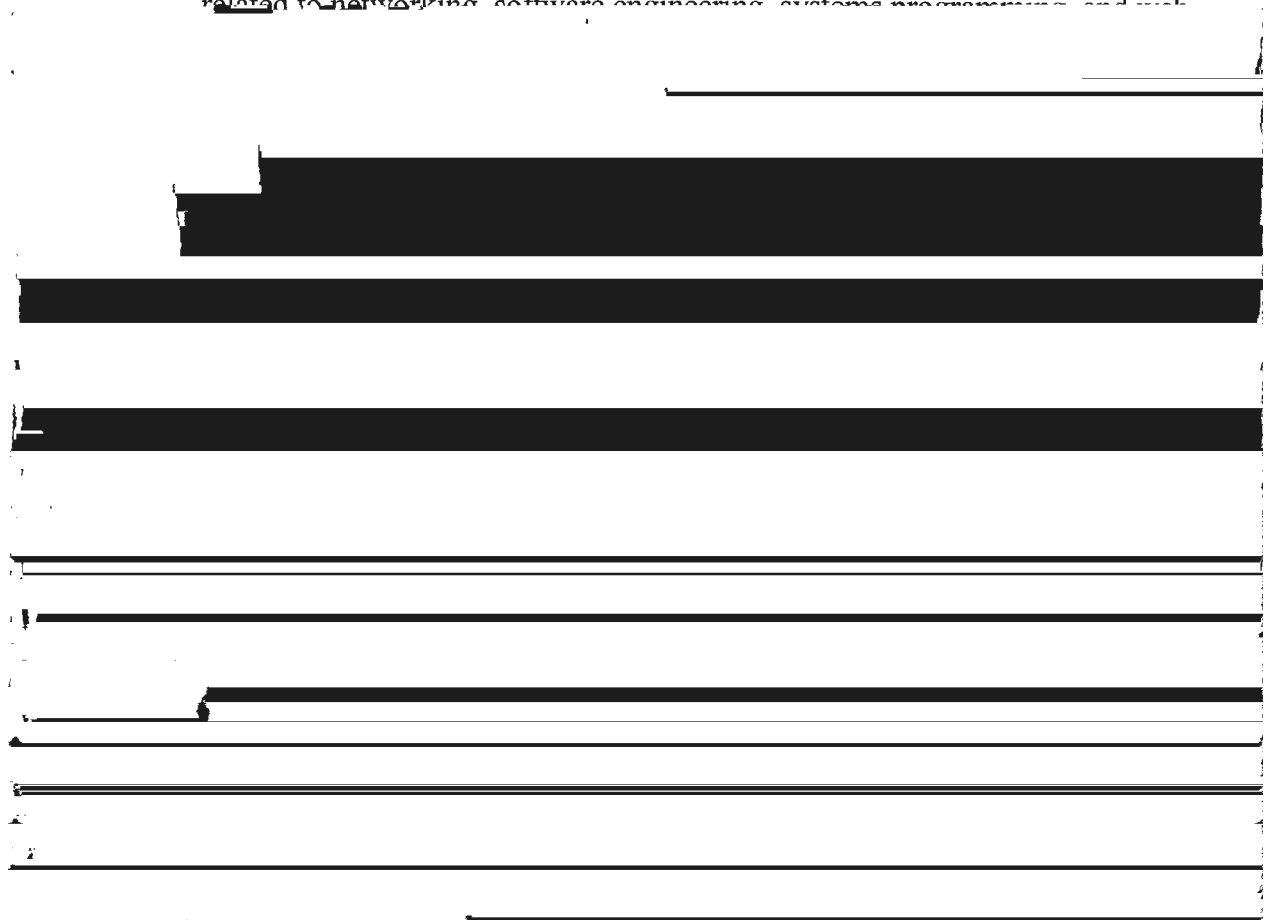
related applications. In response, a new faculty hire in computer networking was made.

b.

research and for further graduate study:

the fall 2006 satisfied these GRE requirements.

This objective was achieved.   In the fall 2006 semester, the department had 19 students in the Ph.D. program.

The department must grant in excess of 2 PhD degrees per academic year.

This objective was achieved.   From FY 2004 through FY 2008, the

b	Program Objiective (f) – Placement rate:

More than 85% of the graduates of the program must be placed within one year of

This outcome has been achieved. All theses and project reports were accepted.

Assessment of Outcomes for MS CS Program:

a. **Educati   Outcome (a)   Advanced   of the foundations of   science:**

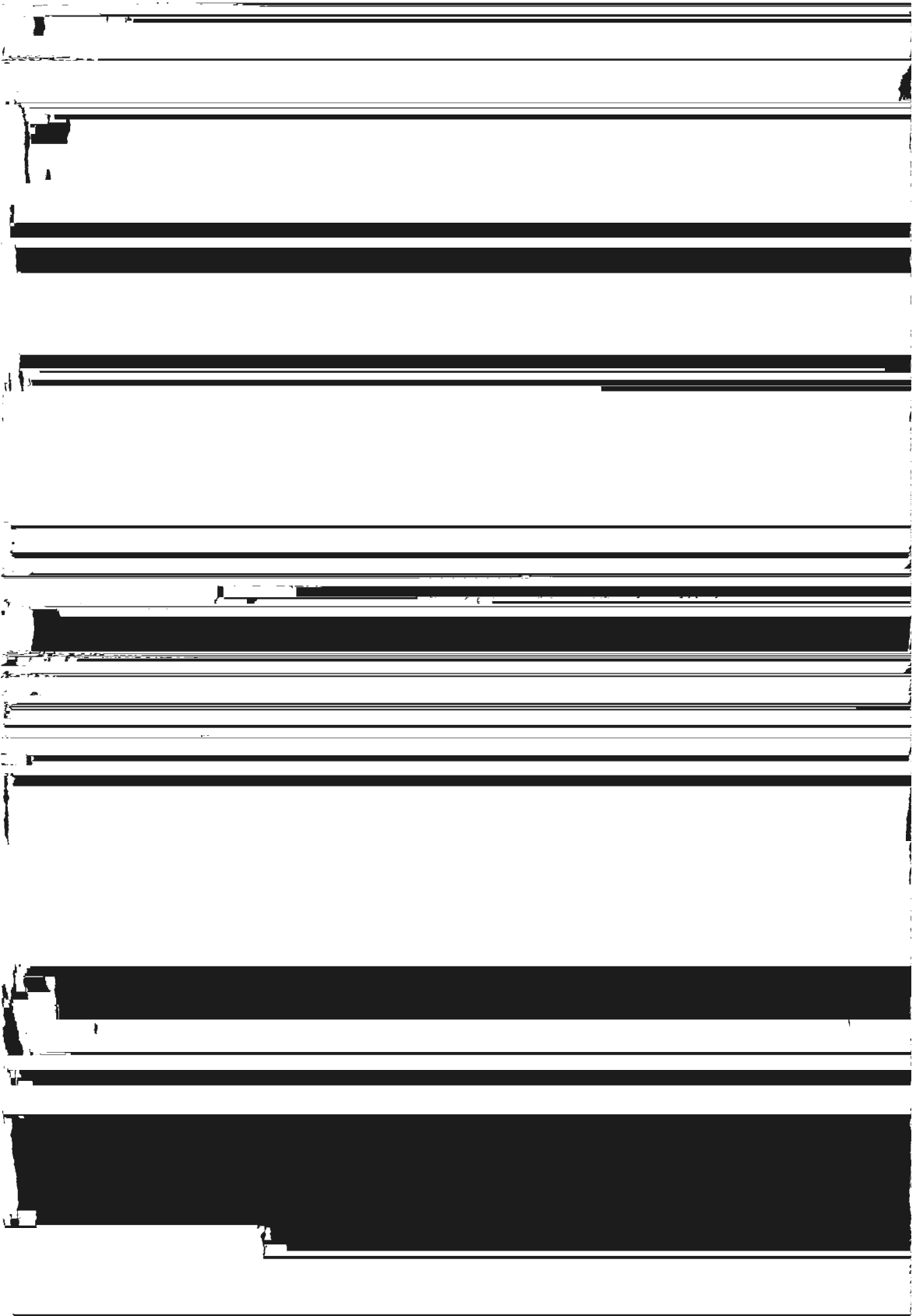Students must complete CS 720, Theoretical Foundations of Computer Science.

This outcome has been achieved.   All graduates have passed CS 720.

c **Educational Outcome (b) – Depth of   in an area of   within compute science:**

Students must graduate with a cumulative G.P.A. of 3.0 or hirer

This outcome has been achieved. All graduates have graduated with a cumulative G.P.A. of 3.0 or hirer.

d. **Educational Outcome (c) – Graduates will have one of the following: 1) advanced skills in software development; 2) skills and experience in conducting research; or 3) breadth of knowledge in Computer Science:**

Students must graduate with either: 1) project option; 2) thesis option; or 3) extra coursework option.

This outcome was achieved.

Assessment of Outcomes for PhD Program

a. **Educational Ou   (a) – Competency in major and minor areas:**

Progress will be monitored to ensure satisfactory mastery in their major and minor areas. Satisfactory mastery is indicated by receiving grades of B or better in each course in their major and minor areas.

This outcome has been achieved.   Advisers were satisfied with the progress of their students in their major and minor areas.

b. **Educational Outcome (b) – Report writing:**

Students will demonstrate report-writing skills. This will be assessed via the required written dissertation, conference papers, and journal papers.

This outcome has been achieved.   Advisers were satisfied with the dissertations and conference and journal papers published by their graduate

c. **Educational Outcome (c) – Presentation skills:**

Students will demonstrate presentation skills. This will be assessed via the required oral defense of the dissertation, and by seminars, and paper presentations.

This outcome has been achieved. Advisers were satisfied with the oral defense of the dissertation, and by seminars, and paper presentations of their graduate students.

d. **Educational Outcome (d) – Critical and analytical skills:**

Students will demonstrate critical and analytical skills. This will be assessed via

(all graduate level courses within the ECE department), and (ii) successful completion of the dissertation.

- Electrical Engineering
- Mechanical Engineering
- Computer Science
- Accounting

The department offers graduates with two of the five most sought after graduates with an MS

degree. The top 5 degrees in demand by employers for 2008 PhD graduates, according to J.J.

5. *A statement that describes the service the program provides to the discipline, other programs at the university, the metropolitan area or Kansas, or other matters as appropriate.*

The Electrical Engineering and Computer Science Department strongly serves the needs of the Wichita metropolitan area. Approximately 34% of the engineers employed in Wichita, Kansas, the center of industrial activity in the state, received their engineering training at Wichita State University. Many of these engineers continue their education as part-time graduate students. As mentioned above, most graduate level courses are frequently offered in the evening to cater to the special needs of the working students.

6. *An assessment of the program's cost effectiveness as measured by such matters as cost per credit hour, peer comparisons, and other indicators.*

The Department of Electrical Engineering and Computer Science is a cost effective program in regards to cost per credit hour and cost per graduate. Appendix A provides financial support

credit hour production of the department. Table 4 is a summary, over the past five years, of the cost per credit hour. Because the Department of Computer Science and the Department of

Table 5 – Student Enrolment per Major

	FY 2006	FY 2005	FY 2006	FY 2007	FY 2008	Average
			Undergraduate			
BS EE	235	214	211	207	186	211
BS CE	180	176	139	123	138	151
BS CS	361	273	263	234	227	272
Total UG	776	663	613	564	551	633
			Graduate			
MS EE	267	207	217	272	237	240
PhD EE	26	24	24	19	28	24
MS CS	140	117	86	74	74	98
Total Grad	433	348	327	365	339	362
			Total Students			
Total	1209	1011	940	929	890	996

Credit hour production for peer institutions in Kansas is difficult to come by. However, the American Society for Engineering Education keeps statistics on the number of degrees awarded

by programs throughout the US. Table 6 shows a FY2006 comparison of effectiveness, with

The EECS Department also has significant income with regards to research grants. Research awards granted to faculty of the department, during calendar year 2008 alone, is over $4,200,000. This includes grants from NASA EPSCoR ($447K), Army DEPSCoR ($406K), NIS ($160K), Cisco Systems ($2,800K), and Department of Energy ($213K). Given the research nature of our department and the research dollars that we bring into the university, we are extremely cost effective and beneficial to the university system.

	2005	2006	2007
	$ 1,201	475,715	$1,347,859
	,673	27,982	$134,146
	$ 6,874	503,697	$1,482,004
	623	,406	2,106
	398	,514	2,117
	79	,700	3,614
	24	163	116
	624	,783	7,953
	.9	60.1	41.8
	.6	36	47.1
	.5	3.9	11.1
	3	12	9
		11	9
		6	7

74	62	73
64	61	103
0	0	0
0	0	0
0	0	0
65	77	67
121	130	147
237	272	207
0	0	0
28	19	24
26.3	24.5	23.5
17	13	35
33	33	47
26	29	
40.63%	54%	45.63%
22.9	23	21.8
12	13	12

3
5
1%
4
4

4

5
2
26%

3
3

4

35
68

0
34
0

0
0

0
45
91

0
4

34
82
51.25%

0
21
0

0
0

0
45
124

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TION	2004	005	2006	2007	08
s/Benefits	$913,220	10,270	$856,155	$874,552	803
Operating Exp	$60,550	4,856	$56,307	$58,894	514
	$973,770	75,126	$912,462	$933,447	317
Division	2,363	,022	1,709	1,565	74
Division	3,161	,405	2,240	1,860	09
rs	1,265	994	613	777	
al	0	0	0	0	4
	6,789	,421	4,562	4,202	
Undergraduate	43.7	$6.2	42.7	41.8	74
raduate Majors	24.7	24.6	21.9	18.8	3
ajors	31.6	39.2	35.4	39.4	3
d/Tenure Track ead Count	7	6	5	4	
d/Tenure Track ith Terminal	7	6	5	4	
enured Faculty	3	3	3	3	

4

Section I: Part F: Actual Instructional FTE

Total Instructional Faculty FTE in Department	7	8	7	7	8
1. Tenured/Tenure Track Faculty	3.3	4.06	5	6	7
2a. Instructor of Record (IOR)	1	0.11	0.52	0.45	0.36
2b. Not Instructor of Record	0	0	0	0.08	0.27
3. Other Instructional FTE	6.6	6.07	5.14	7.35	3.44
4. Total FTE	10.9	10.24	10.66	13.88	11.07
5. SCH generated by Tenured/Tenure Track Faculty	225	493	457	938	1,656
6. SCH generated by GTA's (IOR)	159	0	66	0	0
7. SCH generated by Other Instructional Faculty	1,686	1,436	1,434	1,493	1,366
8. Total SCH	2,070	1,929	1,957	2,431	3,022
9. Average SCH per Tenured/Tenure Track Faculty	68.18	121.43	91.40	156.33	236.57
10. Average SCH per GTA (IOR only)	159.00	0.00	126.92	0.00	0.00
11. Average SCH per Other Instructional Faculty	255.45	236.57	278.99	203.13	397.09
12. Average Overall SCH per FTE	189.91	188.38	183.58	175.14	272.99

Section II: Part A: Majors in the Discipline — COMPUTER SCIENCE

1. Freshmen/Sophomores (optional)	92	87	104	104	126

...ar Majors			
235	169	159	147
140		86 117	74
0	0	0	0
0		0	0
22.7	23	23.1	3.7
7	13	13	10
33	33	33	33
113	81	71	76
48.09%	47.93%	44.65%	.70%
0	0	0	0
42	41	30	29
36	40	27	29
0	0	0	0
0	0	0	0

KANSAS BOARD OF REGENTS PROGRAM REVIEW

and the university.

The Department of Electrical Engineering and Computer Science (EECS) offers comprehensive

The College of Engineering at Wichita Sate University is committed to the following:

- Preparing graduates who will engage effectively and responsibly in the practice of the engineering profession in a global economy and in pursuing advanced engineering education.
- Conducting applied and basic research to support and contribute to the social and economic well-being of citizens and organizations in the Wichita metropolitan area, the state of Kansas and beyond.
- Cultivating the spirit of entrepreneurship and the connection between engineering and business that encourages technology commercialization.

academic programs.

Objective 2: To provide an undergraduate education that will enable qualified students to pursue graduate studies in electrical engineering, computer engineering, computer science and related fields.

To assess how well the programs are meeting their objectives, program graduates, within two or
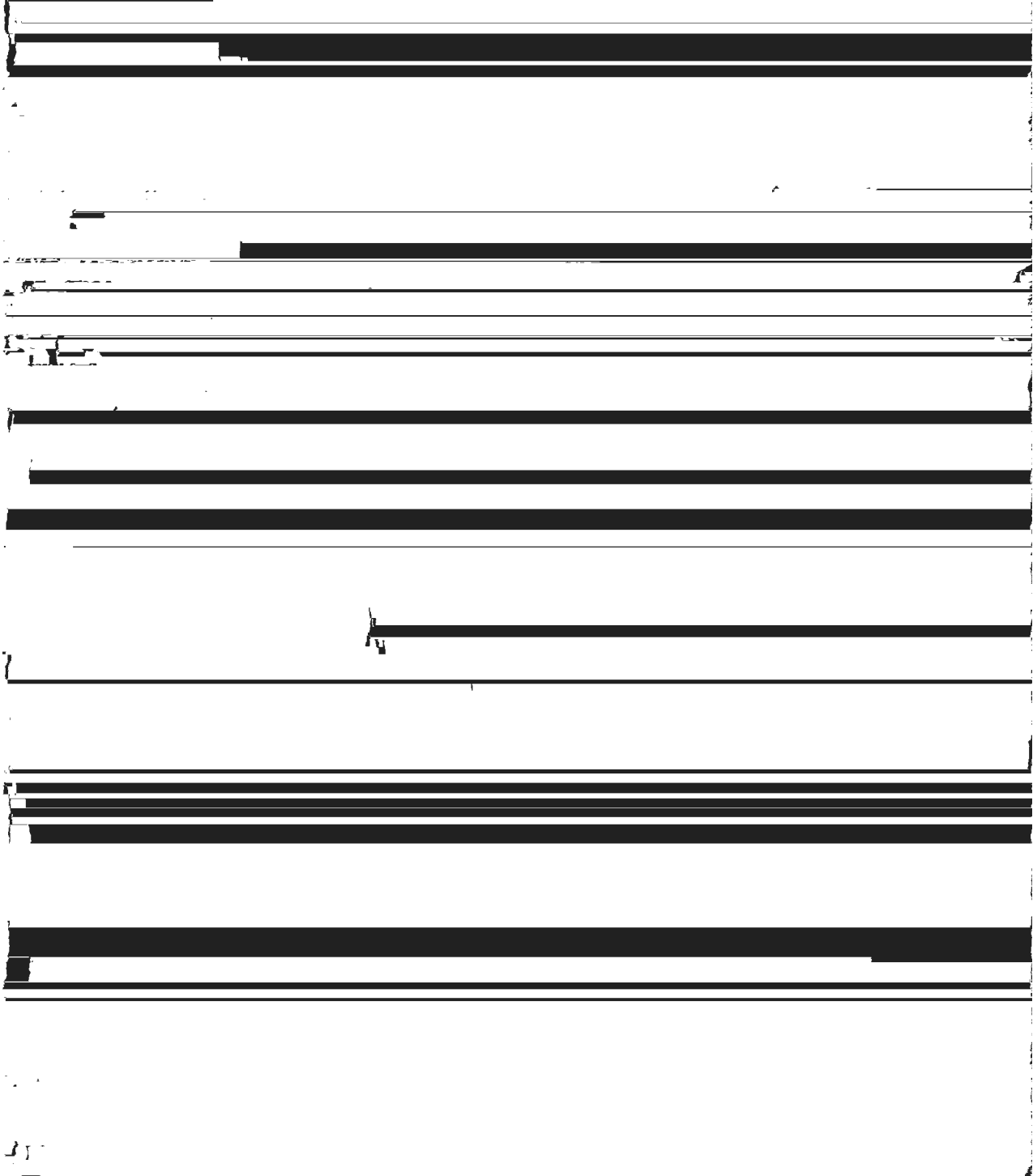
Transactions on Signal Processing, Physical Review, International Journal of Electric Power & Energy Systems, Optics Letters, IEEE Journal of Quantum Electronics, IEEE Transactions on Energy Conversion, IEEE Transactions on Power Delivery, IEEE Transactions on Automatic Control, Journal of Algorithms, Information Processing Letters, ACM Transactions on Sensor Networks, and Journal of Discrete Algorithms. Many of the journal articles are co-authored by graduate students of the department. External grants have come from a variety of government and industry sources including the National Science Foundation, Office of Naval Research, Federal Aviation Administration, Kansas Electric Utility Research Program, and US Army. In addition to the activity listed in Table 1, Dr. Kwon has been awarded 12 patents and Dr. Song

Table 1 – Career Industrial Experience and Scholarly Activities of EECS Faculty

Faculty Name	Rank (Grad. Faculty)	Years in Industry	# Journal Papers	# Confer. Present.	External $ Received
E. Sawan, PhD (1979) Univ. of Ill.-Urbana	Professor (Full)	3	30	70	$0
J. Watkins, PhD (1995) Ohio State Univ.	Assoc. Prof. (Full)	0	11	53	$873,000
A. Teshome, PhD (1980) Cornell Univ.	Assoc. Prof. (Full)	8	12	48	$500,000
R. Pendse, PhD (1994) Wichita State Univ.	Professor (Full)	0	13	100	$12,600,000
R. Bagai, PhD (1990)	Assoc. Prof.	2	7	23	$332,800

3. *A statement that analyzes the quality of the program as assessed by the regularly offered curriculum and the effect of the curriculum on the students.*

a) an ability to apply knowledge of computing and mathematics appropriate to the discipline

appropriate t its solution

c) an ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs

d) an ability to function effectively on teams to accomplish a common goal on multi-disciplinary teams

e) an understanding of professional, ethical, legal, security and social issues and responsibilities

Outcome 1 Graduates will have a broad-based understanding of the fundamentals of computer engineering, mathematics and science and their application in the solution of engineering problems **(a,e)**.

Outcome 2 Graduates will have developed an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social

loop (or fast loop) gives feedback at the course level. The outer loop (or slow loop) provides feedback at the program level, such as the Program Educational Objectives.

Program
Objectives

Program
Enhancement

Slow
Loop

Course
Improvement

Academic
Program
and
Outcomes

Fast
Loop

Course
Feedback

Outcome
Assessment

Constituent
Feedback

of Assessment Process
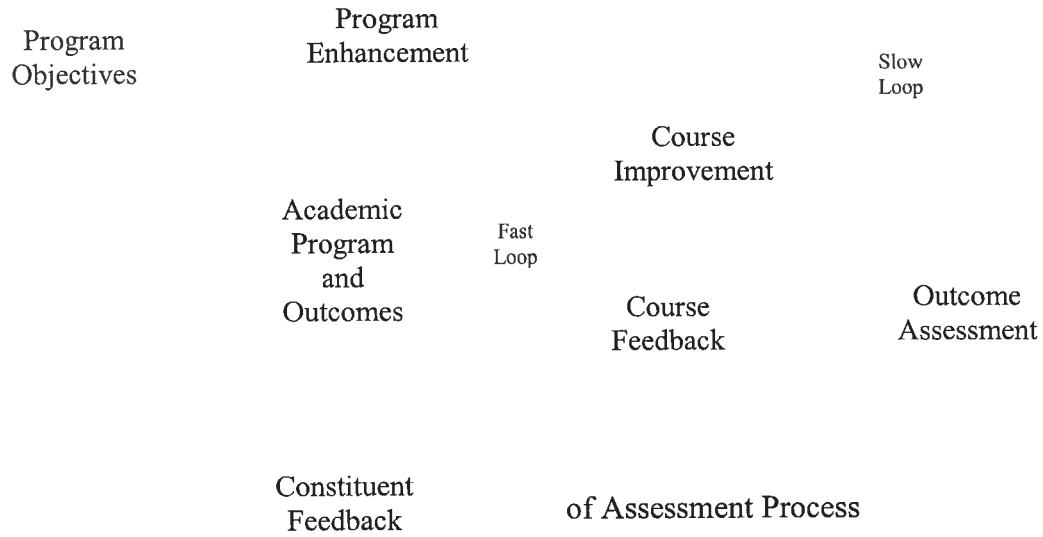
Program outcomes were assessed through the following sources of data

- **Knowledge Probes**: Short quizzes that assess the knowledge acquired by the students

- **Information from Courses**: Information from courses, including examples of student work.
- **Data from Capstone Design Courses**: Data from the capstone design courses, including design reviews and final reports.

Table 2 shows the mapping of assessment tools to program outcomes that they will measure

Table 2. Assessment Tools Used to Assess Program Outcomes.

Assessment Tool	Program Outcomes				
	1	2	3	4	5
Knowledge Probe	√				
Senior Teamwork and Exit Survey		√	√		
Senior Interview				√	√
Open House Survey		√	√		
Co-Op Education Assessment	√	√	√	√	√
Equipment and Software Survey			√		
Course Information	√				√
Design Project Information		√		√	

X

X

X

X

X

Signals and Systems ECE 383 (3 hrs)

X

X

X

X

X

X

X

X   X

Technical Electives (14 hrs)

	1	2	3	4	5
English 101 (3 hrs)				X	
English 102 (3 hrs)				X	

Table 4 - Required courses in 128-Hour Computer Engineering program and Program Outcomes they support

Course	Program Outcomes				
	1	2	3	4	5
English 101 (3 hrs)				X	
English 102 (3 hrs)				X	
Communication 111 (3 hrs)				X	
General Education Electives (15 hrs)					X
Calculus I MATH 243 (5 hrs)					
Linear Algebra MATH 511 (3 hrs)					
Differential Equations MATH 555 (3 hrs)					
	X				
	X				
	X				
Probability and Statistics IE 254 (3 hrs)	X				
Physics II PHYSICS 214 (4 hrs)					
Discrete Mathematics Math 321 (3 hrs)	X				
	X				
Chemistry I CHEM 611 (5 hrs)	X				
Statics AE 223 (3 hrs)	X				
Engineering					
	X				

X

X

Discrete Mathematics II Math 322 (3 hrs) X X X

X X

Intro to Digital Design ECE 194 (4 hrs) X X

Engineering Economics IE 255 (3 hrs) X X

X

X X X

CS 480 (3 hrs) X X

Course	Program Outcomes				
	1	2	3	4	5
English 101 (3 hrs)				X	

4. A Statement that addresses student needs, employer demands, and how well the program prepares the students for their goals.

According to *Job Outlook 2008*

The demand for engineers is also very strong locally. According to a September 20, 2008 article in the Wichita Eagle entitled *Program seeks millions to get kids into science to keep industry; Wichita needs to build up a skilled work force:*

> Kansas Senate President Stephen Morris said he and other legislators are concerned about what might happen if Wichita's aircraft companies, or engineer-reliant Kansas City-area companies like Black & Veatch, Garmin and Burns & McDonnell, leave Kansas or outsource.
>
> Those companies are at least 1,500 engineers short, said Morris, R-Hugoton. "Part of the reason our state is not growing as fast as other states is because of this shortage," Morris said.

In response to the question "Were you able to find the position you wanted?" the responses were as follows:

5—Yes	19
4—Somewhat	6
3—Neutral	2
2—Not Really	2
1—No	1
Average Response	4.33/5.0

As further service to Wichita and Kansas, some faculty members are actively engaged with industries in collaborative research, training and consulting. For example, Dr. Skinner has collaborated with local aircraft manufactures in developing new technologies through state/industry/university cooperatives, and has consulted with local companies. Dr Pendse

Table 6 – Cost per credit hour

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Average
Salaries/Benefits	$1,399,236	$1,501,201	$1,475,715	$1,347,859	$1,160,301	$1,376,862
Other Operating Expenditures	$110,846	$75,673	$27,982	$134,146	$173,889	$104,507
Total	$1,510,082	$1,576,874	$1,503,697	$1,482,004	$1,334,190	$1,481,369

Table 8 - FY2006 comparison of degrees awarded per faculty

	WSU	KSU	KU
BS D ... EE	49	48	35
CE	21	31	33
CS	30	26	39
IS	NA	11	NA
Total BS Degrees Awarded	91	126	107
MS Degrees Awarded: EE	73	19	11
CE	NA	NA	15
CS	27	24	15
Total MS Degrees Awarded	100	43	41
PhD Degrees Awarded: EE	2	4	2
CS	NA	0	2
Total PhD Degrees Awarded	2	4	4
Total Degrees Awarded	193	163	152
Faculty	16	45*	36
Degrees/Faculty	12.0	3.6	4.2

* 23 in ECE and 21 in CIS

The EECS Department also has significant income with regards to research grants. Research

	2004	2006	2007	2008
	$ 399,236	$1,475,71	,347,859	$1,160,301
	10,846	$27,982	134,146	$173,889
	$ 510,082	$1,503,69	482,004	$1,334,190
	2,344	2,406	2,106	2,268
	2,659	2,514	2,117	2,188
	3,179	2,700	3,614	2,993
	153	163	116	188
	8,335	7,783	7,953	7,637
	53.7	50.1	41.8	44.3
	36	36	47.1	43.3
	10.3	13.9	11.1	12.4
	12	12	9	9
	12	11	9	9
	8	6	7	9

lty	11	12	12
ck	11.25	13	12
d	1.83	1.03	0
	2.34	2.04	2.23
TE	1.25	1.67	2.25
	16.67	17.74	16.48
	2,706	2,387	2,158
	834	755	0
	668	914	2,005
	4,208	4,056	4,163
TA	240.53	183.62	179.83
	455.74	733.01	0.00
	534.40	547.31	891.11
H	252.43	228.64	252.61

81	73	71	62	74
99	103	68	61	64
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
75	67	74	77	65
160	147	137	130	121
267	207	217	272	237
0	0	0	0	0
26	24	24	19	28
23.3	23.5	24.6	24.5	26.3
13	12	15	13	17
34	35	35	33	33
57	47	28	29	26
57.58%	45.63%	41.18%	47.54%	40.63%
21.9	21.8	21.7	23	22.9
13	12	12	13	12

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ACT

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2

33	33	35	35	34
44	55	62	68	82
36.36%	42.31%	45.26%	46.26%	51.25%
0	0	0	0	0
21	14	21	34	21
0	14	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
37	47	39	45	45
151	72	73	91	124
0	0	0	0	0
3	0	2	4	2

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3

	2004	2005	2006	2007	2008
Benefits	$913,220	0,270	$856,155	,552	$851,803
erating Exp.	$60,550	4,856	$56,307	894	$50,514
	$973,770	5,126	$912,462	,447	$902,317
vision	2,363	,022	1,709	65	1,774
vision	3,161	,405	2,240	60	2,409
	1,265	894	613	77	621
	0	0	0		0
	6,789	,421	4,562	02	4,804
dergraduate	43.7	6.2	42.7	.8	42.4
duate Majors	24.7	4.6	21.9	.8	20.3
ors	31.6	9.2	35.4	.4	37.3
/Tenure Track ld Count	7	6	5		3
/Tenure Track n Terminal	7	6	5		2
ured Faculty	3		3	3	2

4

	7	8
	3.3	4.06
	1	0.11
	0	0
	6.6	6.07
	10.9	10.24
	225	493
	159	0
	1,686	1,436
	2,070	1,929
	68.18	121.43
	159.00	0.00
	255.45	236.57
	189.91	188.38
	92	87

5.14

...ar Majors	235	169	159	147	135
...alist /	140	117	86	74	74
	0	0	0	0	0
	0	0	0	0	0
...mposite	22.7	23	23.1	23.7	23.1
	7	13	13	10	7
	33	33	33	33	33
...ting an	113	81	71	76	71
...ing ACT	48.09%	47.93%	44.65%	51.70%	52.59%
	0	0	0	0	0
	42	41	30	29	30
...cialist /	36	40	27	29	23
	0	0	0	0	0
	0	0	0	0	0