

WICHITA STATE UNIVERSITY

Program Review Self-Study Template

[Redacted content]

College Engineering

Date of last review: Fall 2008

Date of last accreditation report (if relevant): Summer 2008

List all degrees described in this report (add lines as necessary)

[Redacted content]

Linda Klimt

1. Departmental purpose and relationship to the University mission (refer to instructions in the WSU Program Review document for more information on completing this section)

a. University Mission

description of program. If so, is there a need to change?

At this time, undergraduate and graduate program review suggests there is no need to change

A notable number of AE students participate in the cooperative education program, working locally or

[REDACTED]

out of town. It is surprising that the NASA Johnson Space and Dryden Flight Research Centers are the most popular. Additionally, many other students work with faculty on research projects or with the National Institute for Aviation Research in their laboratories. Obviously, such experiences dramatically compliment the student's education.

The AE Department meets standards established by the Engineering Accreditation Commission (EAC) of

[REDACTED]

h	The broad education necessary to understand the impact of engineering solutions in a global
[REDACTED]	
[REDACTED]	
[REDACTED]	
[REDACTED]	
[REDACTED]	
[REDACTED]	
[REDACTED]	
[REDACTED]	
[REDACTED]	
[REDACTED]	
[REDACTED]	
[REDACTED]	
[REDACTED]	
[REDACTED]	

2a. Describe the quality of the program as assessed by the strengths, productivity, and qualifications of the faculty in terms of SCH, majors, graduates and scholarly productivity (refer to instructions in the

MSH Program Review document for more information on completing this section). Complete a

UG Program (SCH from entire department)

Last 3 Years	Tenure/Tenure Track Faculty (Number)		Tenure/Tenure Track Faculty with Terminal Degree (Number)		Instructional FTE (#): TTF= Tenure/Tenure Track GTA=Grad teaching assist O=Other instructional FTE			Total SCH by FY from Su, Fl, Sp	Total Majors - From fall semester	Total Grads by FY
					TTF	GTA	O			
Year 1 →	12		12		9.4	0.5	2.5	6059	178	41
Year 2 →	11		11		9.2	0.5	0.7	6376	173	46
Year 3 →	11		11		9.1	1.0	0.7	6326	363	44
Total Number Instructional (FTE) = TTF+GTA+O								FTE	FTE	FTE
Year 1 →								489	14	3
Year 2 →								613	17	4
Year 3 →	separate table for each program if appropriate.								34	

Scholarly	Number						Number of		Creative	No. Book	No. Grants Awarded or	\$ Grant
	Ref	Non-Ref	Ref	Non-Ref	Ref	Non-Ref	**	***				
Year 2							Juried	****	Juried	Non-Juried		

↓
12.4
10.4
10.8

586

4

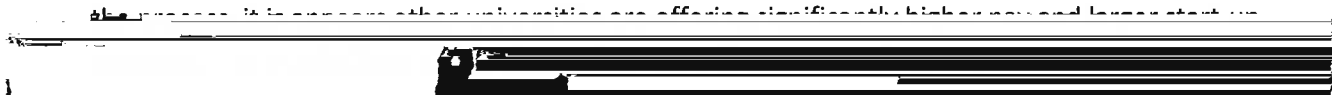
8
4

23
20

17
27
2 14

* Winning by competitive audition. ** Professional attainment (e.g. commercial recording). *** Principal role in a performance. **** Commissioned or included

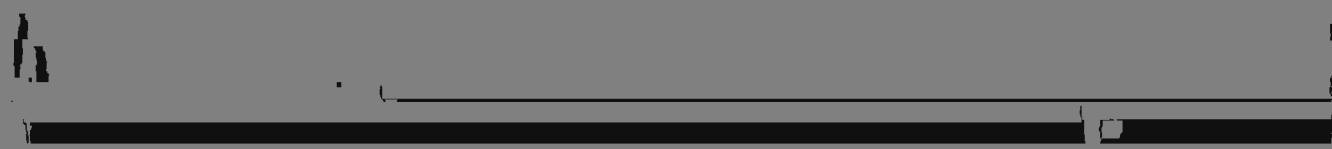
The department is currently working to fill two new tenure-track faculty positions. Interestingly, within



Last 3 Years	Tenure/Tenure Track Faculty (Number)		Instructional FTE (#):			Total SCH	Total Majors	Total Grads
	Faculty	Faculty with Terminal Degree (Number)	TTF= Tenure/Tenure Track GTA= Grad teaching assist O=Other instructional FTE			Total SCH by FY from Su, Fl, Sp	From fall semester	by FY
			TTF	GTA	O			
Year 1 →	*	*	*	*	*	N/A	91	9
Year 2 →	*	*	*	*	*	N/A	120	13
Year 3 →	*	*	*	*	*	N/A	128	12
Total Number Instructional (FTE) = TTF+GTA+O								

Year 1 →								
Year 2 →					N/A	N/A	N/A	N/A
Year 3 →					N/A	N/A	N/A	N/A

Scholarly	Number Presentations		Number Conference Proceedings		No. Book Chaps.		No. Grants
	Ref	Non-Ref	Ref	Non-Ref	Inured	Non-Inured	
Year 2							
Year 3							\$3.6M



7. Academic Programs: Analyze the quality of the program as assessed by its curriculum and impact on students

Last 3 Years

Complete this section for each program (if more than one). Attach updated program assessment plan (if on

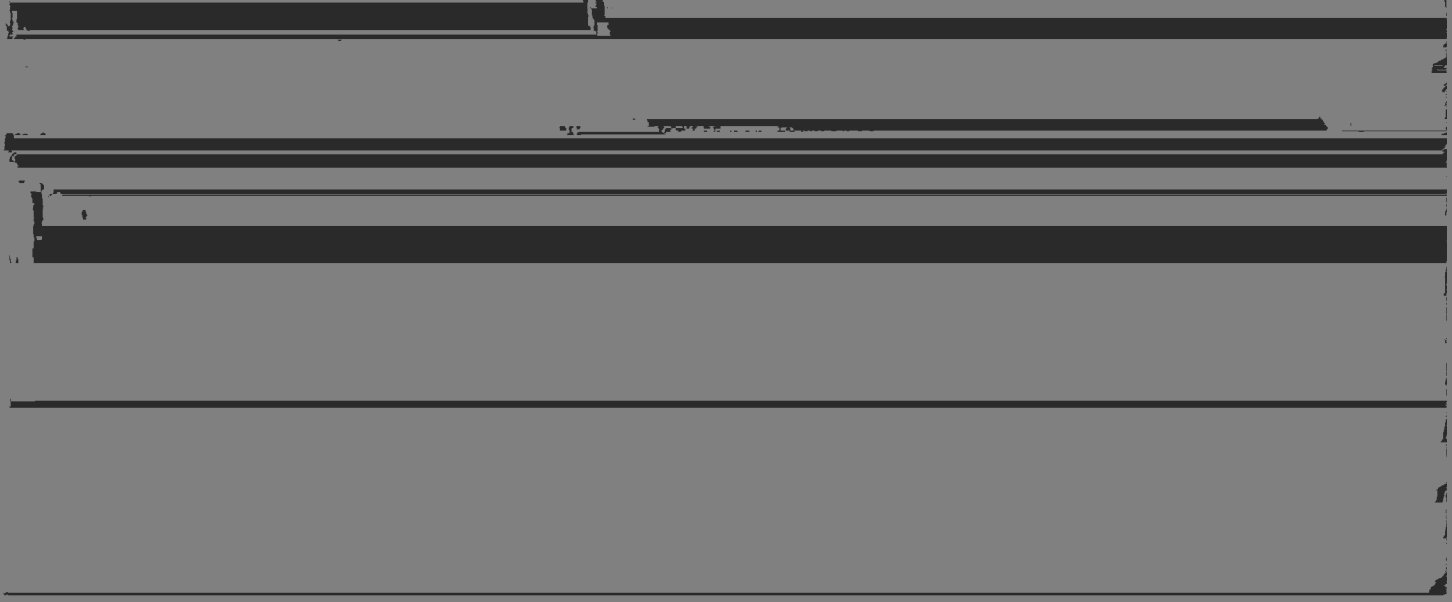
Learning Outcomes	Assessment Tool (e.g.)	Target/Criteria (desired)	Results	Analysis
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
most programs will	portfolios, rubrics,	program level achievement)	<ul style="list-style-type: none"> However, faculty note a 	significant
Outcomes)	[REDACTED]	[REDACTED]	[REDACTED]	concerns with
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Program:	<ul style="list-style-type: none"> Design activities 	student abilities should not	[REDACTED]	[REDACTED]
Undergraduate	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

environmental, social,
political, ethical,
health and safety,
manufacturability,
and sustainability

- Alumni feedback should be predominately positive (a rating of 60 percent or higher in each program outcome is considered satisfactory)

outcomes

department is expanding student experiential activities to address this



assessments of students should be satisfactory or higher (quantitative results above 2.4 (or 60 percent) are considered to indicate acceptable performance levels)

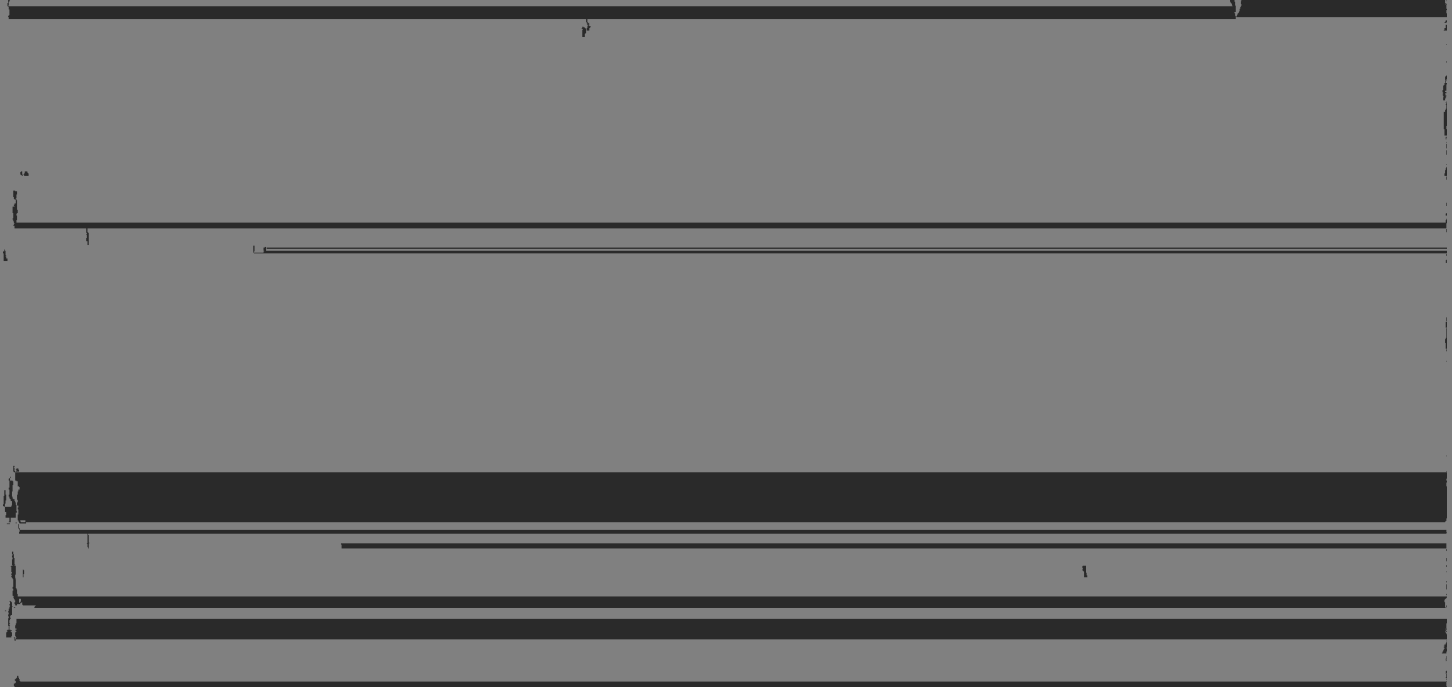
Undergraduate Programs

- Design activities

- Significant shortcomings in student abilities should not

- Design experiences show no significant

- The department



outcome is considered satisfactory)

exam scores

- The department is

Employer performance

assessments of students should be satisfactory or

expanding student

above 2.4 (or 60 percent) are considered to indicate acceptable performance levels)

activities addressing these outcomes

- Further program changes are under consideration
- The department has no significant

Undergraduate

Program:
f. An understanding of professional and

- Course folders
- Design activities
- Senior exit survey

- Significant shortcomings in student abilities should not be observed
- Senior student feedback

- Course folders and design experiences show no significant shortcomings
- Senior exit surveys identify

significant

- Employer performance assessments of students should be satisfactory or

- Program changes are under

Higher quantitative results

consideration

above 2.4 (or 60 percent) are considered to indicate acceptable performance levels)

Undergraduate

Course 6-11

Significant shortcomings in

Course 6-11 and design

The



Undergraduate

Program:

j. A knowledge of

- Course folders
- Design activities
- Senior exit survey

levels)

- Significant shortcomings in student abilities should not be observed

- Course folders and design experiences show no significant shortcomings

- The department has no

• Employer survey should be predominately no significant concerns concerns with

Graduate Program: Competency in graduate level mathematics	<ul style="list-style-type: none"> • Passing one graduate level class per degree in mathematics/statistics 	<ul style="list-style-type: none"> • 100% must comply 	<ul style="list-style-type: none"> • 100% complied 	<ul style="list-style-type: none"> • Outcome achieved
Graduate Program: Ability to perform independent research	<ul style="list-style-type: none"> • Preparation of theses, dissertations, or directed project reports 			

Year	N	Result (e.g., 4.5 on scale of 1-5, where 5 highest)	N	Name of Exam	Program Result	National Comparison
		Score of 4.1 on the senior exit survey	1	Assessment		
					comply	achieved
2		Score of 4.2 on the senior exit survey	2	39	Assessment exam	
3		Score of 4.2 on the senior exit survey	3		Assessment exam	
Provide aggregate data on student majors satisfaction (e.g., exit surveys), capstone results, licensing or						
2		90% were satisfied or very satisfied (Grad School survey)				
3	21	90% were satisfied or very satisfied (Grad School survey)				

Results

These goals/skills are assessed directly or indirectly within the department's established

See section 3c

f. Indicate whether the program is accredited by a specialty accrediting body including the next review

[REDACTED]

g. Attach responses from the last review

[REDACTED]

h. Provide information here:

[REDACTED]

A number of undergraduate program changes have been implemented over the last three years, directly as a result of continuous assessment activities. The following summarizes the changes:

- The AE 528/628 capstone design courses now require students to design, build, test, and fly their vehicles (over 30 aircraft have been built and flown in the last three years)

[REDACTED]

The department's involvement in the AIAA Design/Build/Fly team has been greatly [REDACTED]

[REDACTED]

expanded to include more students

The department now sponsors the Deane Drexler aircraft competition for students [REDACTED]

4a. Analyze the student need and employer demand for the program. Complete for each program if appropriate

(refer to instructions in the WSU Program Review document for more information on completing this section).

WSU: The table below to provide data that demonstrates student need and demand for the

		~70%	~75%	~5%	
46	~70%	~20%	~5%	~15%	
	~70%	~75%	~20%	~5%	~15%
					UNK

program.

Undergraduate

Majors

Employment of Majors*



4b. Analyze the student need and employer demand for the program. Complete for each program if appropriate (refer to instructions in the WSU Program Review document for more information on completing this section).

- a Utilize the table below to provide data that demonstrates student need and demand for the program.

Graduate (MS and PhD)

Last 3 FYs	No. new appli- cants	NRA No. who accept	A Np. enroll- ment	N 1 Year Attri- tion % PI	C Total no. of grads	Average Salary	NRA Employ- ment % In state	A A I Employment % in the field	N C Employment: % related to the field	Employment: % outside the field	No. pursuing graduate	Projected growth from
			1		10	~\$70K				1		
						~\$70K						

Provide a brief assessment of student need and demand using the data from the table above. Include the most common types of positions, in terms of employment, graduates can expect to find.

Provide assessment here:

The need and demand for MS and PhD students is still significant, even in the face of hard economic

times. As students, interest in employer development is a major driver. Additionally, many of our graduates

...

In summary:

1/1/1 have one of the largest graduate programs in aerospace engineering in the country - 20000

1/1

[Redacted]

Fall Semester

stand-alone departments

1/1/1 of the 1/1/1 departments - 1/1/1 employees to 1/1/1 products - 1/1/1

[Redacted]

6. Report on the Program's goal (s) from the last review. List the goal (s), data that may have been collected to support the goal, and the outcome. Complete for each program if appropriate (refer to instructions in the WSU

(For Last 3 FYs)	Goal (s)	Assessment Data Analyzed	Outcome
	Attract, retain, and graduate more top-quality undergraduate and full-time graduate students		The programs appear to have

7. Summary and Recommendations

7.1. Provide a summary of the report including an overall evaluation of the strengths and weaknesses. List

[Redacted]

[Redacted]

[Redacted]

- The undergraduate program has been changed to include notably more experiential activities, both in and outside of the classroom
- Faculty and students contribute significantly to the well being of the university, the local

[Redacted]

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- Students, alumni, and employers rate the program highly

[Redacted]

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[Redacted]

[Redacted]

[Redacted]

College: Engineering

Department/Program (s): Aerospace Engineering

[REDACTED]

Degree (s) Offered: Bachelor's, Master's, and Doctorate

[REDACTED]

Master and doctoral graduates: Department reports that MS and PhD graduates are able to

[The following area contains multiple horizontal lines, many of which are obscured by thick black redaction bars, suggesting a form for recording responses or data.]

graduates will have the ability to explain information presented in mathematical forms).

○ Assessment Methods: Direct measures used to identify, collect, and prepare

data to evaluate the achievement of learning outcomes (e.g., quantitative literacy evaluated by a rubric, not grades or other indirect measures)