

PAPER ENGINEERING

SELF-STUDY QUESTIONNAIRE

**State University of New York
College of Environmental Science
and Forestry**

**1 October 2006
Update 1.0**

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Introduction to the Update

This update provides supplemental material to the Paper Engineering Self Study document dated 15 June 2006. The updated material includes the following:

1. Updated information tables from the self study in terms of students, faculty, and budgetary information.
2. Information on the evaluation of objectives and assessment of outcomes through a survey of the SPPF Board of Directors. The results of this survey are given under Criteria 2 and 3.
3. Information from the SUNY-wide Student Opinion Survey which was administered to approximately 1/3 of the students at SUNY-ESF. This was the first use of this survey where the data was broken down by Faculty, allowing it to be used for assessment within the major. The interpretation method of the results is given below.
4. A sampling of examples of “closing the loop” as requested by the PEV.

Results from the Student Opinion Survey

The results of the Student Opinion Survey (SOS) are shown under their respective Criteria and Outcome. A number of the questions were categorized as pertaining to six of the seven criteria, and when pertaining to Criterion 3, broken further down by outcome. Typically, the questions asked students to rate various aspects of the college on a 5 point scale. For different questions the scales ranged from:

Definitely Yes	Uncertain	Definitely No	(Yes/Uncertain/No)
Very Satisfied	Neutral	Very Dissatisfied	(VS/S/N/D/VD)
Very Frequently	Sometimes	Never	(VF/F/S/R/N)
Strongly Agree	Neutral	Strongly Disagree	(SA/A/N/D/SD)
Very Large Competency		No Competency	(VLC/LC/MC/SC/NC)

For each question, we compared the school of the PSE students with the SUNY-ESF average for the highest two rating values. We would like the total percentage of these two rating values to be at least 5% higher than the ESF average. In the tables in the following sections, the ratings are highlighted as follows:

Score more than 5% above college average
Score within 5% of college average
Score 5% below college average

Illustrative Examples of Closing the Loop

Feedback Received	Action Taken / Continued Plans	Results Evaluated
Ethics and management skills need more emphasis (SPPF Curriculum Committee, Self Study Response)	An experimental course in Professional and Management Skills was offered by Dr. William Tully in the Fall 2005. The course developed several modules on these topics which are now being incorporated into the curriculum in PSE 132, PSE 304, and PSE 480.	Based on the ethics exercises in PSE 132, students have a better understanding of engineering ethics. An assessment cycle of the inclusion of these skills in PSE 304 and PSE 480 have not yet been completed.
Management skills need more emphasis in the curriculum (SPPF Curriculum Committee).	Through feedback and discussion with SPPF directors, we found that they would like some students to focus more on management than engineering. We revised the Paper Science program to better incorporate the management minors offered at SUNY-ESF and produce students with a management background.	The new program was implemented last year and has not yet had any students beyond the sophomore level.
Students need more practical hands on experience with equipment (SPPF Curriculum Committee, Summer Internship Survey, Student Comments)	Over the past several years, an experimental component has been added to several of the engineering courses such as PSE 372 (Heat transfer). This has allowed students to put theory into practice. We plan on continuing this incorporation of experimental exercises in some of the other engineering courses.	Students understanding of heat transfer has improved to the hands-on experimentation with a heat exchanger. They are showing a greater understanding of heat transfer operations in PSE 468 during the papermachine seminars.

<p>Students need a greater competency in the use of computers and engineering software (SPPF Curriculum Committee, students, employers)</p>	<p>The use of WinGems, a paper industry specific mass and energy solver, was incorporated to a greater degree in PSE 480 and PSE 481. Matlab, Mathcad, and Excel are used in a number of classes in the curriculum after being introduced in APM 153. Students in PSE 370 are encouraged to use computers for solutions of homework and take-home exams.</p>	<p>Students in PSE 468 will be required to use Matlab and other software to solve problems. Their competency in Spring 2007 will be specifically assessed.</p>
<p>Feedback received and changes at the course level can be found in the FCARs of individual courses.</p>	<p>For example, see the PSE 370 notebook.</p>	

General Student Satisfaction

The questions below relate to the demographics of the students polled and the general satisfaction of the students with SUNY-ESF and the program. The demographic results show that the sampling was representative of the student body and that the GPA's tend to be higher than the college average. Significantly fewer students in PSE receive Pell grants, reflecting the scholarship support that is available.

Reflecting on the general student satisfaction with their education at ESF, all eight questions show that PSE students are highly satisfied with the educational program and college. In all cases, the top categories exceeded the college average by at least 5%.

Results from Student Opinion Survey

Student Demographics from the Student Opinion Survey

How many college credits have you earned toward your current degree

Faculty	NA	0-30	31-60	61-90	>91	Number
ERFEG		24%	26%	27%	23%	62
PSE	4%	26%	13%	22%	35%	23
CMWPE	8%	4%	15%	38%	36%	53
Engineering	4%	17%	20%	30%	30%	138
ESF	3%	19%	21%	25%	32%	771

What is your overall GPA at this college?

Faculty	NA	3.5-4.0	3.0-3.49	2.5-2.99	2.0-2.49	<2.0	Number
ERFEG	5%	15%	35%	31%	13%	2%	62
PSE	4%	43%	17%	26%	9%		23
CMWPE	2%	6%	28%	32%	25%	8%	53
Engineering	4%	16%	30%	30%	17%	4%	138
ESF	6%	15%	29%	30%	14%	5%	768

Are you currently receiving a Pell Grant

Faculty	Yes	No	Number
ERFEG	29%	71%	58
PSE	9%	91%	23
CMWPE	26%	74%	53
Engineering	25%	75%	134
ESF	26%	74%	751

General Satisfaction with the College and Program

If you could start over, would you choose to attend this college again?

Faculty	NA	Yes	Uncertain	No	Number
ERFEG		52%	31%	9% 5% 3%	64
PSE		52%	43%	4%	23
CMWPE		25%	34%	21% 13% 8%	53
Engineering		41%	34%	13% 7% 4%	140
ESF		44%	32%	14% 7% 3%	773

How satisfied are you with this college in general?

Faculty	NA	VS	S	N	D	VD	Total
ERFEG		48%	37%	10%	6%		63
PSE		57%	39%	4%			23
CMWPE		23%	38%	17%	21%	2%	53
Engineering		40%	37%	12%	11%	1%	139
ESF		32%	50%	11%	6%	1%	772

Compared to your expectations, your academic experiences at this college have:

Faculty	Exceed	Met	Not Met	Number
ERFEG	33%	53%	14%	64
PSE	30%	65%	4%	23
CMWPE	11%	55%	34%	53
Engineering	24%	56%	20%	140
ESF	29%	58%	13%	776

How frequently have you been satisfied with your academic experiences at this college?

Faculty	NA	VF	F	S	R	N	Number
ERFEG		18%	52%	26%	5%		62
PSE		30%	52%	13%	4%		23
CMWPE		6%	32%	45%	17%		53
Engineering		15%	44%	31%	9%		138
ESF		16%	49%	29%	6%	0%	764

This college has helped me meet the goals I came here to achieve.

Faculty	NA	SA	A	N	D	SD	Number
ERFEG		23%	52%	13%	8%	3%	61
PSE		27%	59%	9%	5%		22
CMWPE		8%	30%	38%	19%	6%	53
Engineering		18%	45%	22%	12%	4%	136
ESF		20%	45%	24%	8%	3%	757

Comparing the cost to the quality of education, this college is a good value.

Faculty	NA	SA	A	N	D	SD	Number
ERFEG		64%	31%	5%			61
PSE		82%	18%				22
CMWPE		32%	40%	17%	9%	2%	53
Engineering		54%	32%	9%	4%	1%	136
ESF		51%	34%	10%	3%	1%	755

I feel certain I will find a job within my field after I graduate.

Faculty	NA	SA	A	N	D	SD	Number
ERFEG		70%	24%	3%	2%	2%	63
PSE		87%	9%	4%			23
CMWPE		63%	25%	10%	2%		52
Engineering		70%	22%	6%	1%	1%	138
ESF		44%	35%	15%	4%	1%	766

I believe an internship or other professional opportunities are valuable components of a college education.

Faculty	NA	SA	A	MC	D	SD	Number
ERFEG		64%	27%	5%	5%		66
PSE		96%	4%				23
CMWPE		58%	27%	15%			52
Engineering		67%	23%	8%	2%		141
ESF		66%	28%	5%	0%		768

B. Accreditation Summary

1. Students

Table 3 below updates the information given on p. 7 of the self-study.

Table 3. Freshman and Transfer Admissions to PSE for the past eleven years (revised).

Year	Freshman Admissions		Transfer Admissions		Total
	Paper Engineering	Paper Science	Paper Engineering	Paper Science	
2006-07**	11	2	0	1	14
2005-06	9	5	2	1	17
2004-05	11	1	2	1	15
2003-04		4		7	11
2002-03		4		5	9
2001-02		9		7	16
2000-01		9		8	17
1999-00		5		11	16
1998-99		13		8	21
1997-98		4		22	26
1996-97		11		17	28

*Prior to the 2004-5 academic year, students were not required to immediately select an option upon admission. With the 2004-05 year, students must select a program immediately, but can easily change it during the first two years of study.

**Information available as of 6 September 2006. Data includes only Fall 2006 admissions. Other years include both Fall and Spring admissions of that academic year.

Table 4 summarizes and updates the recruiting activities over the past year and updates the corresponding table on page 8 of the self study. Over the past year, we have contacted or presented to over 700 students in addition to the 200 or so people that stopped by at the fair. We expect a similar mix of recruiting events over the next year.

Table 4. Summary of major recruiting activities for academic years 2005-06 (revised).

Date	Activity	Target Audience	Participants
2005-07-28	DEC Camp	High School	50
2005-10-22	Fall Open House (ESF)	High School	35
2005-11-03	Manlius Pebble Hill High School	High School	3
2005-11-04	Bloomsberg School Career Fair	High School	15
2005-11-07	Franklin/Unadilla High School	High School	20
2005-11-11	Engineering Open House (ESF)	High School	30
2005-12-07	Broome Community College	Administrators	16
2005-12-20	Ilion Central Schools	High School	100
2006-02-15	Emma Willard High School	High School	100
2006-03-09	Canastota High School	High School	25
2006-03-17	Manlius Pebble High	5 th Grade	40
2006-04-12	Tomkins Community College	Transfer	40
2006-04-21	Adirondack Community College	Transfer	40
2006-04-22	Spring Open House (ESF)	High School	12
2006-05-03	Jamesville-Dewitt High School	High School	35
2006-05-31	Manlius Pebble High	6 th Grade	12
2006-07-13	DEC Camp	High School	50
2006-07-17	DEC Camp	High School	45
2006-07-26	ESF Engineering Camp	High School	55
2006-08-31	PSE Day at the NYS Fair	All Ages	~200

Table 10 updates the student matrix based on the enrollment at the beginning of the fall semester, updating the corresponding table on page 22 of the self-study. Data in the table reflects the new program, Bioprocess Engineering, being offered in the Faculty of Paper Science and Engineering. Table 11 updates the average graduating GPA of students in the program (page 23 in the self-study).

Table 10. Current student matrix as of 6 September 2006 (revised).

Class	Paper Engineering	Paper Science	Bioprocess Engineering	Total	Average GPA
Freshman	12	3	1	16	n/a
Sophomore	10	5		15	3.0
Junior	4	1		5	3.2
Senior	4	2		6	3.0
Total	30	11	1	42	3.0

Table 11. Average GPA of graduates (revised).

Academic Year	Average GPA
2000-01	3.13
2001-02	3.23
2002-03	3.03
2003-04	2.87
2004-05	3.01
2005-06	3.63
Overall Average	3.10

Results from Student Opinion Survey

Five questions on the SOS asked the students of their satisfaction on the availability and quality of advising. The results below show that in general, students in Paper Science and Engineering are satisfied with the quality of advising within the major and its availability. Advisors are generally helpful and both planning courses within the program and in career planning. In four of the five questions, students in Paper Science and Engineering rated their experiences as higher than average. One question was rated lower than average, which more generally related to campus-wide advising.

General academic advising

Faculty	NA	VS	S	N	D	VD	Total
ERFEG	12%	23%	35%	12%	13%	5%	60
PSE	26%	17%	26%	17%	13%		23
CMWPE	10%	12%	33%	35%	8%	2%	51
Engineering	17%	22%	17%	27%	14%	4%	108
ESF	7%	16%	37%	22%	12%	4%	715

Academic advising in your major

Faculty	NA	VS	S	N	D	VD	Total
ERFEG	2%	30%	42%	15%	7%	5%	60
PSE		39%	48%	4%	4%	4%	23
CMWPE		18%	45%	22%	14%	2%	51
Engineering	1%	27%	44%	16%	9%	4%	134
ESF	1%	25%	35%	23%	13%	4%	729

Academic advising is available to me when I need it.

Faculty	NA	SA	A	N	D	SD	Total
ERFEG		26%	48%	20%	5%	2%	61
PSE		30%	61%	4%		4%	23
CMWPE		13%	60%	21%	4%	2%	53
Engineering		22%	55%	18%	4%	2%	137
ESF		25%	46%	19%	7%	4%	762

My academic advisor is knowledgeable about requirements in my major.

Faculty	NA	SA	A	N	D	SD	Total
ERFEG		62%	29%	6%		3%	63
PSE		57%	22%	13%	4%	4%	23
CMWPE		50%	27%	17%	4%	2%	52
Engineering		57%	27%	12%	2%	3%	138
ESF		45%	29%	15%	7%	4%	767

My academic advisor has been helpful in planning for my career.

Faculty	NA	SA	A	N	D	SD	Total
ERFEG		27%	27%	27%	8%	10%	59
PSE		42%	16%	32%	5%	5%	19
CMWPE		27%	29%	27%	15%	2%	41
Engineering		29%	26%	28%	10%	7%	119
ESF		24%	21%	31%	13%	10%	670

2. Program Educational Objectives

**Program Objective Evaluation Report
Faculty of Paper Science and Engineering
2005-2006**

Instrument:	SPPF Directors' Survey
Objectives Evaluated:	1-5
Constituents:	SPPF
Frequency:	Every 6 years
Timescale:	10 years
Responsibility:	Associate Chair SPPF Administrative Manager
Coordinator:	Dr. Gary M. Scott

Over the late spring and early summer of 2006, a survey of the Board of Directors of SPPF was conducted to determine their views on the Program Educational Objectives and Program Outcomes for the Paper Engineering program. They were asked to evaluate two aspects of each component of our program:

1. The important of the objective to the program.
2. Is the program as a whole meeting the objective.

The results of this survey will be shared with the SPPF Board of Directors at their next meeting on 25-27 October 2006 in Syracuse, NY.

The following table summarizes the results for all objectives: Specific details are discussed below.

Summary of ratings from SPPF Directors' Survey.

Program Objective	Importance To Program (1 to 5)	Program Evaluation (1 to 4)
1. Have a sound background in fundamental science and engineering principles as applied to paper science and engineering;	4.85	3.73
2. Understand related societal issues such as environmental protection, occupational health and safety, resource management, and appropriate business skills;	4.00	3.36
3. Are well-rounded professionals in terms of teamwork, communication, and problem solving;	4.62	3.64
4. Are well-prepared for engineering practice in paper science and engineering;	4.85	3.82
5. Have developed life-long learning skills and abilities.	4.00	3.36

Importance to Program:

- 1 = Not Important
5 = Very Important

Program Evaluation:

- 1 = NM = The program does not meet this objective.
2 = AP = The program is approaching this objective.
3 = MM = The program minimally meets this objective.
4 = FM = The program fully meets this objective.

Program Objective (PEN)	Specific Assessment Metric	Expectations																																																			
Responses and Action																																																					
1-5	The directors were asked to rate the importance of each objective to the program. This question relates to the appropriateness of the objectives to the program in meeting the needs of our constituents. The Board of Directors, in addition to representing SPPF, also consists of alumni and employers. Each objective was rated on a scale of 1 (not important) to 5 (very important).	We expect the Program Educational Objectives to represent the important aspects of the program. Thus, we expect all the objectives to receive an average score of at least 4.00, indicating that our directors feel that the objectives appropriately reflect the important objectives of the program.																																																			
<p>As can be seen from the table of results below, all of the objectives received ratings of at least 4.00 with objectives 1 and 4 being rated as being the most important. These objectives involve the background science and engineering knowledge of the students and their overall preparedness for work in the industry. These ratings, while very encouraging, represent the views of one of our constituents. The results show that the current formulation of our Program Educational Objectives satisfies the need of this constituent while being consistent with the needs of our other constituents and the requirements of EAC/ABET.</p> <p>Distribution of rating of Objectives in terms of importance to program.</p> <table border="1" data-bbox="394 930 1393 1461"> <thead> <tr> <th data-bbox="394 930 873 993" rowspan="2">Program Objective</th> <th colspan="5" data-bbox="873 930 1304 993">Importance to Program</th> <th data-bbox="1304 930 1393 993" rowspan="2">Mean</th> </tr> <tr> <th data-bbox="873 993 959 1035">1</th> <th data-bbox="959 993 1045 1035">2</th> <th data-bbox="1045 993 1131 1035">3</th> <th data-bbox="1131 993 1218 1035">4</th> <th data-bbox="1218 993 1304 1035">5</th> </tr> </thead> <tbody> <tr> <td data-bbox="394 1035 873 1119">1. Have a sound background in fundamental science and engineering principles as applied to paper science and engineering;</td> <td></td> <td></td> <td></td> <td>2</td> <td>11</td> <td>4.85</td> </tr> <tr> <td data-bbox="394 1119 873 1245">2. Understand related societal issues such as environmental protection, occupational health and safety, resource management, and appropriate business skills;</td> <td></td> <td></td> <td>4</td> <td>5</td> <td>4</td> <td>4.00</td> </tr> <tr> <td data-bbox="394 1245 873 1329">3. Are well-rounded professionals in terms of teamwork, communication, and problem solving;</td> <td></td> <td></td> <td>1</td> <td>3</td> <td>9</td> <td>4.62</td> </tr> <tr> <td data-bbox="394 1329 873 1392">4. Are well-prepared for engineering practice in paper science and engineering;</td> <td></td> <td></td> <td></td> <td>2</td> <td>11</td> <td>4.85</td> </tr> <tr> <td data-bbox="394 1392 873 1461">5. Have developed life-long learning skills and abilities.</td> <td></td> <td></td> <td>4</td> <td>5</td> <td>4</td> <td>4.00</td> </tr> </tbody> </table>							Program Objective	Importance to Program					Mean	1	2	3	4	5	1. Have a sound background in fundamental science and engineering principles as applied to paper science and engineering;				2	11	4.85	2. Understand related societal issues such as environmental protection, occupational health and safety, resource management, and appropriate business skills;			4	5	4	4.00	3. Are well-rounded professionals in terms of teamwork, communication, and problem solving;			1	3	9	4.62	4. Are well-prepared for engineering practice in paper science and engineering;				2	11	4.85	5. Have developed life-long learning skills and abilities.			4	5	4	4.00
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5. Have developed life-long learning skills and abilities.			4	5	4	4.00																																															
1-5	<p>The directors were asked to rate how well the program was meeting this objective. The possible ratings were:</p> <p style="padding-left: 40px;"> NM = does not meet AP = approaches meeting MM = minimally meets FM = fully meets </p> <p>These rating were changed to numerical values of 1 to 4, respectively, for analysis. The final results gives us an indication of</p>	We expect that each objective will receive a rating somewhat above a rating of 3. We therefore set our point for taking action based on this information at 3.3. We do, however, expect the ratings to be much higher, especially for those that are deemed more important based on this survey.																																																			

the overall impression of the Board of Directors' opinion of how we are meeting our objectives.					
All of the objectives were rated as being met through this survey. Numerically, the results ranged from 3.36 to 3.82. It is important to note that, in general, we received the higher rating for those objectives that the directors deemed the most important.					
Distribution of rating of Objectives in terms of meeting the objectives.					
Program Objective	Program Evaluation				
	NM 1	AP 2	MM 3	FM 4	Mean
1. Have a sound background in fundamental science and engineering principles as applied to paper science and engineering;		1	1	9	3.73
2. Understand related societal issues such as environmental protection, occupational health and safety, resource management, and appropriate business skills;		1	5	5	3.36
3. Are well-rounded professionals in terms of teamwork, communication, and problem solving;			4	7	3.64
4. Are well-prepared for engineering practice in paper science and engineering;			2	9	3.82
5. Have developed life-long learning skills and abilities.		1	5	5	3.36

Discussion:

From the information from the survey above, it appears that the Program Educational Objectives are appropriate to the program in meeting our constituent needs. The results are also consistent with the other evaluations discussed in the self-study in showing that we are meeting our objectives. As exemplified by the two comments below from the survey papers, our students are held in fairly high esteem.

“However, while employed by Union Camp in positions of technical management, I always considered the ESF pulp and paper students to be some of the best engineers we hired. They always rose up in the management ranks and are contributing in an outstanding manner in many companies.”

“We did hire College of Forestry students and graduates. They performed very well. I can think of only one graduate that didn’t seem too sharp. Fortunately, he decided to move on and went to a mill on the West Coast.”

3. Program Outcomes and Assessment

**Program Outcome Assessment Report
Faculty of Paper Science and Engineering
2005-2006**

Instrument:	SPPF Directors' Survey
Outcomes Assessed:	1, 2, 3, 4, 5, 6, 7, 8
Constituents:	SPPF
Frequency:	Every 6 years
Timescale:	6 to 10 years
Responsibility:	Associate Chair SPPF Administrative Manager
Coordinator:	Dr. Gary M. Scott

Over the late spring and early summer of 2006, a survey of the Board of Directors of SPPF was conducted to determine their views on the Program Educational Objectives and Program Outcomes for the Paper Engineering program. They were asked to evaluate two aspects of each component of our program:

3. The important of the outcome to the program.
4. The general rating of the students graduating from the program.

The results of this survey will be shared with the SPPF Board of Directors at their next meeting on 25-27 October 2006 in Syracuse, NY.

The following table summarizes the results for all objectives: Specific details are discussed below.

Summary of ratings from SPPF Directors' Survey.

Program Outcome	Importance to Program (1 to 5)	Performance of Students (1 to 5)
1. a sound knowledge of science and engineering as applied to paper science and engineering;	4.85	3.82
2. the ability to solve a real engineering problem in a team environment using appropriate design techniques;	4.85	4.00
3. the ability to conceptualize problems in terms of unifying principles, design and conduct experiments, and analyze and interpret data;	4.85	4.18
4. an ability to engage in life-long learning;	3.92	3.91
5. well-developed written and oral communication skills;	3.92	4.09
6. the ability to work in an industrial position within the pulp, paper, or allied industries;	4.69	4.45
7. understand the professional and ethical responsibility of an engineer;	4.15	4.18
8. a knowledge of the broad, contemporary issues facing the engineer in global and societal contexts.	3.54	3.54

Importance to Program:
 1 = Not Important
 5 = Very Important

Performance of Students:
 1 = No ability
 3 = Average ability
 5 = Exceptional ability

Program Outcome (PEN-ABET)	Specific Assessment Metric	Expectations
Responses and Action		
1 – 8, a-k	<p>The directors were asked to rate the importance of each outcome to the program. This question relates to the appropriateness of the outcomes to the program in meeting the needs of our constituents. The Board of Directors, in addition to representing SPPF, also consists of alumni and employers. Each objective was rated on a scale of 1 (not important) to 5 (very important).</p>	<p>We expect the Program Outcomes to represent the important aspects of the program. Thus, we expect all the objectives to receive an average score of at least 4.00, indicating that our directors feel that the outcomes appropriately reflect the important outcomes of the program.</p>
<p>As can be seen from the table of results below, 5 of the 8 outcomes meet our expectations in terms of the importance of the outcome to the SPPF Board of Directors (Outcomes 1, 2, 3, 6, and 7). Outcomes 4 and 5 are very close to meeting this objective. Outcome 8 is the lowest rated outcome in terms of importance at 3.54. These results indicate that the outcomes as stated, are generally in agreement with the needs of the constituents as represented by SPPF. The results show that the current formulation of our Program Outcomes satisfies the need of this constituent while being consistent with the needs of our other constituents and the requirements of EAC/ABET.</p> <p>Distribution of rating of Outcomes in terms of importance to program.</p>		

	Program Outcomes	Importance to Program					Mean
		1	2	3	4	5	
	1. a sound knowledge of science and engineering as applied to paper science and engineering;				2	11	4.85
	2. the ability to solve a real engineering problem in a team environment using appropriate design techniques;			1		12	4.85
	3. the ability to conceptualize problems in terms of unifying principles, design and conduct experiments, and analyze and interpret data;				2	11	4.85
	4. an ability to engage in life-long learning;			4	6	3	3.92
	5. well-developed written and oral communication skills;			4	6	3	3.92
	6. the ability to work in an industrial position within the pulp, paper, or allied industries;			1	2	10	4.69
	7. understand the professional and ethical responsibility of an engineer;		1	1	6	5	4.15
	8. a knowledge of the broad, contemporary issues facing the engineer in glo-bal and societal contexts.		2	5	3	3	3.54
1-8, a-k	<p>The directors were asked to rate how well the program was meeting the outcomes. The ratings were based on a scale of 1 to 5 with 1 indicating no ability, 3 indicating average ability, and 5 indicating exceptional ability.</p> <p>We expect that the rating of the students' meeting the outcomes will be at least 3.75, indicating that our students rate somewhat above average.</p> <p>With the exception of Outcome 8, all of the respondents rated our students of at least average ability or greater. Again, except for Outcome 8, the results met the criteria given above. Our students were most highly rated in terms of their ability to work in an industrial setting (Outcome 6), their understanding of ethics (Outcome 7), and their ability to conceptualize problems (Outcome 3). Outcome 8 relates more to the "soft" engineering skills and a effort, as indicated in the self-study, is underway to improve this outcome performance.</p> <p>Distribution of rating of Outcomes in terms of performance of students.</p>						

Program Outcomes	Performance of Students					Mean
	1	2	3	4	5	
1. a sound knowledge of science and engineering as applied to paper science and engineering;			4	5	2	3.82
2. the ability to solve a real engineering problem in a team environment using appropriate design techniques;			4	3	4	4.00
3. the ability to conceptualize problems in terms of unifying principles, design and conduct experiments, and analyze and interpret data;			3	3	5	4.18
4. an ability to engage in life-long learning;			4	4	3	3.91
5. well-developed written and oral communication skills;			4	2	5	4.09
6. the ability to work in an industrial position within the pulp, paper, or allied industries;			1	4	6	4.45
7. understand the professional and ethical responsibility of an engineer;			2	5	4	4.18
8. a knowledge of the broad, contemporary issues facing the engineer in glo-bal and societal contexts.		2	3	4	2	3.54

Discussion:

From the information in the survey, it appears that the Program Outcomes are appropriate to meeting our constituent needs. The students are also meeting the outcomes as stated in the perception of our SPPF Board of Directors. These results are consistent with the other assessment methods discussed in the self-study.

Results from Student Opinion Survey

Quite a number of questions on the SOS could be related to the program outcomes for paper engineering. These results are given below, grouped for each outcome. In general, our students perform at least as well as average. Of the 20 questions in this section, PSE students exceeded the college average on 11, were at the average for 5, and below average for 4. The four below average questions were:

- How frequently have you had faculty who required you to make judgments about the value of information...? (Outcome #2)
- Working with others (Outcome #3)
- Understanding your rights and responsibilities as a citizen (Outcome #7)
- Understanding political and social issues (Outcome #8)

It is important to note that there was no consistent deficiency noted in any one particular outcome. As detailed in the self-study, teamwork is strongly stressed throughout the curriculum and social, political, ethical, etc. issues have been the focus of some of the changes in the curriculum. The overall results for this criterion show that the students feel that they are meeting the outcomes through the curriculum.

Outcome #1 – a, b, e, h

Acquiring information, ideas, and concepts

Faculty	NA	VLC	LC	MC	SC	NC	Number
ERFEG		16%	46%	33%		5%	61
PSE		22%	39%	39%			23
CMWPE		9%	32%	47%	11%		53
Engineering		15%	39%	39%	4%	2%	137
ESF		25%	40%	31%	4%	1%	760

Outcome #2 – a, b, c, e, k

How frequently have you been required to think critically in completing assignments?

Faculty	NA	VF	F	S	R	N	Number
ERFEG		37%	45%	16%	2%		62
PSE		48%	39%	13%			23
CMWPE		11%	58%	28%	2%		53
Engineering		29%	49%	20%	1%		138
ESF		30%	51%	18%	2%		764

How frequently have you had faculty who required you to make judgments about the value of information...?

Faculty	NA	VF	F	S	R	N	Number
ERFEG		13%	21%	47%	16%	3%	62
PSE		9%	26%	43%	17%	4%	23
CMWPE		8%	28%	47%	13%	4%	53
Engineering		10%	25%	46%	15%	4%	138
ESF		11%	35%	41%	12%	2%	760

Acquiring analytical thinking skills

Faculty	NA	VLC	LC	MC	SC	NC	Number
ERFEG		23%	36%	34%	2%	5%	61
PSE		17%	52%	22%	9%		23
CMWPE		8%	30%	45%	17%		53
Engineering		16%	36%	36%	9%	2%	137
ESF		20%	43%	29%	7%	1%	762

Outcome #3 – a, b, c, d, g, k

How frequently have you worked with other students on class assignments?

Faculty	NA	VF	F	S	R	N	Number
ERFEG		32%	29%	29%	8%	2%	62
PSE		22%	39%	26%	13%		23
CMWPE		11%	49%	38%	2%		53
Engineering		22%	38%	32%	7%	1%	138
ESF		22%	41%	30%	7%	1%	762

Working with others

Faculty	NA	VLC	LC	MC	SC	NC	Number
ERFEG		13%	44%	30%	11%	2%	61
PSE		13%	30%	35%	17%	4%	23
CMWPE		9%	49%	32%	9%		53
Engineering		12%	44%	31%	12%	1%	137
ESF		14%	35%	35%	13%	3%	761

Using computer and information technology effectively

Faculty	NA	VLC	LC	MC	SC	NC	Number
ERFEG		20%	38%	25%	13%	5%	61
PSE		26%	48%	17%	4%	4%	23
CMWPE		9%	28%	40%	21%	2%	53
Engineering		17%	36%	29%	15%	4%	137
ESF		14%	33%	30%	16%	7%	760

Developing leadership skills

Faculty	NA	VLC	LC	MC	SC	NC	Number
ERFEG		10%	26%	28%	30%	7%	61
PSE		13%	39%	35%	13%		23
CMWPE		8%	21%	45%	11%	15%	53
Engineering		9%	26%	36%	20%	9%	137
ESF		12%	24%	34%	20%	10%	761

Outcome #4 – f, i, j

Acquiring knowledge and skills for further academic study

Faculty	NA	VLC	LC	MC	SC	NC	Number
ERFEG		20%	43%	27%	8%	2%	60
PSE		22%	61%	17%			23
CMWPE		8%	28%	43%	13%	8%	53
Engineering		15%	40%	32%	9%	4%	136
ESF		20%	42%	27%	8%	3%	758

Acquiring knowledge and skills for intellectual growth throughout your life

Faculty	NA	VLC	LC	MC	SC	NC	Number
ERFEG		21%	41%	28%	5%	5%	61
PSE		22%	52%	22%		4%	23
CMWPE		8%	27%	37%	23%	6%	52
Engineering		16%	38%	30%	11%	5%	136
ESF		25%	38%	25%	8%	3%	756

Outcome #5 – g

How frequently have you had out-of-class assignments that required a written response?

Faculty	NA	VF	F	S	R	N	Number
ERFEG		32%	42%	21%	5%		62
PSE		30%	48%	17%	4%		23
CMWPE		23%	49%	25%	2%	2%	53
Engineering		28%	46%	22%	4%	1%	138
ESF		33%	43%	20%	4%	0%	762

Writing clearly and effectively

Faculty	NA	VLC	LC	MC	SC	NC	Number
ERFEG		5%	22%	36%	25%	12%	59
PSE		13%	35%	22%	17%	13%	23
CMWPE		6%	13%	43%	28%	9%	53
Engineering		7%	21%	36%	25%	11%	135
ESF		12%	28%	33%	21%	7%	757

Speaking clearly and effectively

Faculty	NA	VLC	LC	MC	SC	NC	Number
ERFEG		8%	16%	36%	25%	15%	61
PSE		13%	35%	26%	13%	13%	23
CMWPE		6%	15%	40%	30%	9%	53
Engineering		8%	19%	36%	25%	12%	137
ESF		11%	27%	34%	18%	9%	760

Outcome #6 – a, b, d, e, f, g, h , i, k

Acquiring knowledge and skills needed for a career

Faculty	NA	VLC	LC	MC	SC	NC	Number
ERFEG		34%	36%	18%	10%	2%	61
PSE		52%	43%		4%		23
CMWPE		15%	36%	32%	13%	4%	53
Engineering		30%	37%	20%	10%	2%	137
ESF		27%	38%	23%	10%	2%	759

Outcome #7 – c, f

How frequently have you worked hard to meet an instructor's expectations?

Faculty	NA	VF	F	S	R	N	Number
ERFEG		48%	39%	11%	2%		62
PSE		43%	52%	4%			23
CMWPE		15%	60%	21%	4%		53
Engineering		35%	49%	14%	2%		138
ESF		32%	48%	17%	2%	0%	764

How frequently have you observed student dishonesty when completing assignments or exams?

Faculty	NA	VF	F	S	R	N	Number
ERFEG		5%	10%	31%	42%	13%	62
PSE			13%	17%	39%	30%	23
CMWPE		4%		32%	45%	19%	53
Engineering		4%	7%	29%	43%	18%	138
ESF		4%	8%	29%	39%	21%	761

Understanding your rights and responsibilities as a citizen

Faculty	NA	VLC	LC	MC	SC	NC	Number
ERFEG		15%	13%	31%	21%	20%	61
PSE		4%	13%	30%	35%	17%	23
CMWPE		8%	9%	26%	32%	25%	53
Engineering		10%	12%	29%	28%	21%	137
ESF		9%	18%	32%	25%	16%	761

Have you engaged in any form of cheating this year?

Faculty	NA	No	1-2	3-5	6-10	>10	Number
ERFEG		84%	6%	5%	2%	3%	63
PSE		91%	9%				23
CMWPE		94%	4%	2%			52
Engineering		89%	6%	3%	1%	1%	138
ESF		89%	8%	1%	0%	1%	763

Outcome #8 – h, j

Understanding and appreciating ethnic/cultural diversity and other individual differences

Faculty	NA	VLC	LC	MC	SC	NC	Number
ERFEG		11%	25%	31%	16%	16%	61
PSE		9%	26%	17%	30%	17%	23
CMWPE		9%	15%	32%	30%	13%	53
Engineering		10%	21%	29%	24%	15%	137
ESF		11%	24%	30%	22%	13%	758

Understanding political and social issues

Faculty	NA	VLC	LC	MC	SC	NC	Number
ERFEG		11%	18%	28%	23%	20%	61
PSE			17%	39%	26%	17%	23
CMWPE		6%	8%	36%	34%	17%	53
Engineering		7%	14%	33%	28%	18%	137
ESF		11%	22%	34%	21%	12%	760

4. Professional Component

Results of Student Opinion Survey

In relation to the professional component, 7 questions on the survey were determined to reflect on this criterion. In 6 of the 7 questions, PSE students rated their satisfaction as being above the college average.

What is the overall impression of the quality of education at this college?

Faculty	VS	S	N	D	VD	Number
ERFEG	33%	58%	9%			64
PSE	30%	70%				23
CMWPE	13%	42%	40%	4%	2%	53
Engineering	25%	54%	19%	1%	1%	140
ESF	32%	51%	15%	2%	0%	774

If you could start over, would you choose to attend this college?

Faculty	NA	Yes	Uncertain	No	Number		
ERFEG		52%	31%	9%	5%	3%	64
PSE		52%	43%	4%			23
CMWPE		25%	34%	21%	13%	8%	53
Engineering		41%	34%	13%	7%	4%	140
ESF		44%	32%	14%	7%	3%	773

Availability of courses in your major

Faculty	NA	VS	S	N	D	VD	Number
ERFEG		20%	41%	20%	12%	7%	59
PSE		35%	52%	13%			23
CMWPE		18%	39%	27%	12%	4%	51
Engineering		22%	42%	22%	10%	5%	133
ESF	0%	20%	50%	17%	10%	3%	728

Availability of general education courses

Faculty	NA	VS	S	N	D	VD	Number
ERFEG	7%	10%	30%	20%	22%	12%	60
PSE	4%	26%	39%	17%	13%		23
CMWPE	2%	8%	29%	29%	20%	12%	51
Engineering	4%	12%	31%	23%	19%	10%	134
ESF	4%	12%	38%	27%	13%	5%	728

Availability of internships

Faculty	NA	VS	S	N	D	VD	Number
ERFEG	35%	8%	18%	27%	8%	3%	60
PSE	4%	57%	30%	9%			23
CMWPE	25%	6%	24%	31%	12%	2%	51
Engineering	26%	16%	22%	25%	8%	2%	134
ESF	29%	12%	24%	24%	9%	3%	728

Career planning services

Faculty	NA	VF	F	S	R	N	Number
ERFEG	33%	2%	31%	20%	8%	7%	61
PSE	43%	26%	9%	13%	4%	4%	23
CMWPE	32%	2%	19%	30%	15%	2%	53
Engineering	34%	6%	23%	23%	10%	4%	137
ESF	34%	6%	25%	23%	7%	4%	758

Job placement services

Faculty	NA	VS	S	N	D	VD	Number
ERFEG	55%	5%	13%	16%	5%	6%	62
PSE	35%	39%	13%	4%	9%		23
CMWPE	45%	2%	19%	23%	9%	2%	53
Engineering	48%	9%	15%	17%	7%	4%	138
ESF	50%	6%	16%	19%	7%	3%	755

5. Faculty

The Faculty of Paper Science and Engineering has undergone a number of changes since the self-study was submitted in June 2006. Two faculty members, Dr. Steven Keller and Dr. Joseph Cornell, full-time and part-time, respectively, have resigned from the faculty to take positions elsewhere. Dr. Thomas Keenan has joined the PSE faculty with a 50% appointment (the other 50% is in Environmental and Forest Biology) in a full-time, tenure-track position. Drs. Biljana Bujanovic and Asif Hasan have joined the faculty full-time, on one-year visiting appointments. Two searches for tenure-track positions at the Assistant/Associate Professor level began in late September 2006.

The following information updates the appropriate tables from the self-study. The resignations did not adversely affect the ability of the faculty to offer courses and programs and, for the most part, the expertise of the departing faculty members was replaced and will be further enhanced as a result of the two searches. These positions are expected to be filled by August 2007.

Table 54 below updates the breadth of the degrees by the various faculty members in PSE. Table 55 updates the teaching interests of the faculty. Table 57 updates the competency areas of the faculty. Those faculty that resigned are represented in grey; the new faculty are highlighted in yellow. This table shows that no expertise was lost in the transition. The descriptions of the two positions available are given below.

Table 54 Number of faculty holding degrees by area of study. Part-time faculty are indicated in parentheses.

Area of Study	B.S./B.A.	M.S.	Ph.D.
Chemical engineering	4 (1)	4 (1)	5 (1)
Chemistry	(1)	1 (1)	(1)
Civil engineering	1		
Wood chemistry			1
Computer sciences		1	
Paper science and engineering	1	1	2
Silviculture and forest management/ forestry	3	3	2
Biology	(1)		(1)
Bioengineering		(1)	(1)

Table 55. Faculty teaching interests of full-time faculty as a function of highest degree date.

Subject Area	Number of faculty members expressing teaching interest	
	Highest Degree before 1980 (n=2)	Highest Degree after 1980 (n=7)
Paper physics/properties		2
Fiber	1	1
processes/papermaking		
Wood properties	1	2
Colloidal and surface chemistry		1
Wood chemistry	1	2
Pulping and bleaching	2	2
Transport phenomena		4
Environmental engineering		1
Engineering design		1
Simulation and control		2
Separations		2
Kinetics and reactor design		1
Bioprocess Engineering		3
Mathematics		2
Computing		1

Table 57. Competency areas for the Faculty of Paper Science and Engineering members.

Faculty Member	Highest degree and area of specialty
W. Amato	Ph.D., Chemical Engineering, Syracuse University Process control, thermodynamics, mathematics
T. Amidon	Ph.D., Silviculture, SUNY-ESF Pulping, bleaching, recycling, papermaking, renewable raw materials
B. Bujanovic	Ph.D., Paper Engineering, Western Michigan University Ph.D., Forestry Science, Belgrade University Wood chemistry, lignin/structure and reactivity, pulping and bleaching
S. Chatterjee	Ph.D., Chemical Engineering, Rensselaer Polytechnic Institute Environmental engineering, process and plant design
J. Cornell	Ph.D., Environmental and Forest Biology, SUNY-ESF Computing methods and programming
R. Francis	Ph.D., Chemical Engineering, University of Toronto Pulping, bleaching, wood chemistry
A. Hasan	Ph.D., Environmental Resource Engineering, SUNY-ESF Paper structure, wavelet transformation, inhomogeneity detection, sheet/fiber properties
D.S. Keller	Ph.D., Environmental and Resources Engineering, SUNY-ESF Surface chemistry, material science, paper properties, paper physics
T. Keenan	Ph.D., Biology, SUNY-ESF Bioprocessing, microbiology, polyhydroxyalkanoates, biodegradable plastics
Y.-Z. Lai	Ph.D., Wood Chemistry, University of Washington Alkaline pulping, bleaching, wood chemistry
S. Liu	Ph.D., Chemical Engineering, University of Alberta Chemical kinetics, fluid particle systems, process optimization, fiber properties, mass transfer, applied mathematics
B. Ramarao	Ph.D., Chemical Engineering, Clarkson University Transport Phenomena; Colloidal and Interface Science, Separations Processes, Control
G.M. Scott	Ph.D., Chemical Engineering, University of Wisconsin Biotechnology, recycling, process modeling, papermaking

Search Committee Charge Memo (2 Positions)

SUNY - ESF

Office of the Provost and Vice President for Academic Affairs

MEMORANDUM

DATE: September 26, 2006

TO: G. Scott (Chair), R. Francis, S. Liu, B. Ramarao, A. Stipanovic, L. Fagan (SPPF), T. Bolton (Grad. Stu.), SPPF Rep. (coordinated by Ms. Fagan), Bristol-Myer Squibb Rep. (coordinated by Dr. Ramarao)

FROM: B.C. Bongarten

RE: Search for Two Positions at the Assistant or Associate Professor Level in Faculty of Paper Science & Engineering – Bioprocess Engineering and Paper Engineering/Paper Science Areas

Two positions have been authorized at the Assistant or Associate Professor level in the Faculty of Paper Science & Engineering. The first position is in the area of Bioprocess Engineering and the second position is in the area of Paper Engineering/Paper Science.

I ask if you would serve on a Search Committee under the chairship of Dr. Gary Scott. Dr. Tom Amidon and Mr. Mark Scimone will serve ex officio. The positions are briefly described below:

Two academic-year, tenure-track positions at the Assistant or Associate Professor level in the Faculty of Paper Science & Engineering.

Bioprocess Engineering Position Description:

The successful candidate will: be part of the team implementing a new undergraduate degree program in Bioprocess Engineering and a new graduate area of study in Bioprocess Engineering and Renewable Energy in support of SUNY-ESF's mission as a leader to the ecologically-sound use of renewable resources; develop an appropriate balance between teaching and scholarly research; develop and teach both required and elective courses in the Bioprocess Engineering program at the undergraduate level; may also teach fundamental courses in engineering to students in this program as well as in the established programs of Paper Engineering and Paper Science offered by PS&E. [The Paper Engineering program is accredited by EAC/ABET.]; develop and teach courses in the candidate's area of expertise at the graduate level is expected, including teaching support for the newly developed certificate program in Bioprocessing currently being offered by ESF.

Research opportunities include collaboration with Faculty and College colleagues with interest in bioprocess engineering, biochemical engineering, renewable energy, biomass resources, pharmaceuticals, renewable liquid fuels, and biorefinery. Ability to establish a solid record of scholarship and work collaboratively on multidisciplinary research teams is essential. Contributions to the ESPRI (Empire State Paper Research Institute) program, an international consortium of industrial research sponsors, and support to SPPF (Syracuse Pulp and Paper Foundation) are expected.

Required Qualifications:

1. Candidates should have an earned doctorate in one of the following fields: bioprocess engineering, biochemical engineering, chemical engineering, or other appropriate engineering or science field.
2. Demonstrated research experience with a focus on the use of biotechnology and biological processes to the production of chemicals, energy, pharmaceuticals, and other products.

Paper Engineering/Paper Science Position Description:

The successful candidate will be part of the team delivering undergraduate degree programs in Paper Engineering and Paper Science and the graduate program in Environmental and Resource Engineering with focus areas of papermaking, paper physics, pulping and bleaching, bioprocess engineering, and renewable energy, among others. Responsibilities will include teaching undergraduate and graduate courses in one or more of the following areas: paper physics, papermaking, pulping, bleaching, or engineering as applied to the paper and bioproduct industries and may also teach fundamental courses in engineering to students in the Paper Engineering program, as well as in the new program of Bioprocess Engineering.

The successful candidate is expected to: develop a strong, externally-funded research program in any of the areas of paper physics, papermaking, pulping, bleaching, natural product engineering, or others consistent with the goals and future direction of the Faculty; complement the strengths of the faculty's teaching and research program in the areas of Paper Engineering, Paper Science, and Bioprocess Engineering; contribute to the ESPRI (Empire State Paper Research Institute) program, an international consortium of industrial research sponsors; support SPPF (Syracuse Pulp and Paper Foundation).

Required Qualifications:

1. Candidates should have an earned doctorate in one of the following fields: paper engineering, paper science, materials science, chemistry, chemical or biochemical engineering, or other appropriate engineering or science field.
2. Demonstrated research experience with a focus on paper physics, papermaking, pulping, bleaching, recycling, or other appropriate field.

Both positions:

Required Qualifications:

- A strong commitment to undergraduate instruction, advising, and interaction with students and support of the Faculty's continuing efforts in outcomes-based assessment and initiatives in communication and professional skills across the undergraduate curriculum.
- Demonstration of ability to work effectively in a team environment, excellent oral and written communication skills, and ability to lead and publish high quality research.
- Support the mission of the Faculty and College by recruiting and advising undergraduate and graduate students, fulfilling committee assignments, and providing leadership to the profession through national and international society participation.

Desired Qualifications:

- Professional registration or being on track to obtain professional registration and at least one engineering degree are highly desirable.

Salary and Rank: Commensurate with qualifications.

Availability: August 2007

The committee is expected to routinely advise Dr. T. Amidon and me of the planned schedule and critical points of progress. Recommendations are to be provided to B. Bongarten via Chair T. Amidon and when such candidates indicate that he or she will accept an offer, President Murphy will be requested to make the official offering of employment.

Please affirm your willingness to serve on this important committee by signing the enclosed copy of this letter and returning it to me at your earliest convenience.

Thank you in advance for your willingness to serve in this most important endeavor. We look forward to working with you toward the timely and successful completion of this search.

cc: T. Amidon

M. Scimone

Results from Student Opinion Survey

Ten questions from the SOS were related to the performance of the course instructors including such items as availability, preparedness, effectiveness in communication. For 8 of the questions, PSE was rated above the college average, 1 question was rated average, and 1 question was rated below the college average.

Availability of instructors outside of class

Faculty	NA	VS	S	N	D	VD	Number
ERFEG	5%	20%	53%	18%	3%		60
PSE		30%	57%	13%			23
CMWPE		8%	55%	35%		2%	51
Engineering	2%	17%	54%	24%	1%	1%	134
ESF	3%	18%	53%	21%	4%	1%	726

Quality of Instruction

Faculty	NA	VS	S	N	D	VD	Number
ERFEG		28%	43%	23%	5%		60
PSE		35%	57%	9%			23
CMWPE		10%	59%	16%	12%	4%	51
Engineering		22%	51%	18%	7%	1%	134
ESF	0%	24%	55%	16%	4%	1%	729

How frequently have you been intellectually stimulated by the material covered in class?

Faculty	NA	VF	F	S	R	N	Number
ERFEG		19%	56%	18%	6%		62
PSE		35%	57%	9%			23
CMWPE		6%	34%	51%	9%		53
Engineering		17%	48%	29%	7%		138
ESF		22%	46%	28%	4%		764

How frequently have you had discussions, meetings, or conversations with instructors outside of class?

Faculty	NA	VF	F	S	R	N	Number
ERFEG		3%	35%	42%	19%		62
PSE		17%	39%	30%	13%		23
CMWPE		4%	28%	57%	9%	2%	53
Engineering		6%	33%	46%	14%	1%	138
ESF		10%	25%	44%	18%	3%	761

How frequently have you received feedback (written or oral) from instructors on the quality of your work?

Faculty	NA	VF	F	S	R	N	Number
ERFEG		8%	45%	34%	13%		62
PSE		13%	30%	43%	9%	4%	23
CMWPE		11%	36%	36%	15%	2%	53
Engineering		10%	39%	36%	13%	1%	138
ESF		16%	38%	35%	9%	2%	762

How frequently have you had faculty members who communicated ineffectively in class?

Faculty	NA	VF	F	S	R	N	Number
ERFEG		3%	19%	55%	21%	2%	62
PSE			4%	65%	30%		23
CMWPE		2%	17%	58%	19%	4%	52
Engineering		2%	16%	58%	22%	2%	137
ESF		5%	15%	50%	28%	2%	754

How frequently have you had faculty members who came to class unprepared?

Faculty	NA	VF	F	S	R	N	Number
ERFEG			3%	31%	48%	18%	62
PSE			4%	9%	39%	48%	23
CMWPE			11%	23%	53%	13%	53
Engineering			7%	24%	49%	21%	138
ESF		1%	4%	22%	51%	22%	762

Faculty respect for students

Faculty	NA	VS	S	N	D	VD	Number
ERFEG	2%	32%	51%	11%	5%		63
PSE		35%	52%		9%	4%	23
CMWPE		13%	51%	30%	4%	2%	53
Engineering	1%	25%	51%	17%	5%	1%	139
ESF	0%	25%	54%	15%	5%	1%	769

Non-teaching staff respect for students

Faculty	NA	VS	S	N	D	VD	Number
ERFEG	5%	29%	49%	17%			63
PSE	4%	30%	61%	4%			23
CMWPE		15%	48%	31%	4%	2%	52
Engineering	3%	24%	51%	20%	1%	1%	138
ESF	2%	24%	52%	18%	3%	1%	769

I have developed a mentoring relationship with a faculty/staff member.

Faculty	NA	SA	A	N	D	SD	Number
ERFEG		10%	37%	34%	15%	3%	59
PSE		9%	35%	43%	13%		23
CMWPE		4%	30%	47%	15%	4%	53
Engineering		7%	34%	41%	15%	3%	135
ESF		14%	23%	33%	21%	9%	758

6. Facilities

Results from Student Opinion Survey

Five of the questions on the SOS related to the facilities available for PSE-related and more general instruction. For all five questions, the ratings were above the college average.

Classroom facilities

Faculty	NA	VS	S	N	D	VD	Number
ERFEG	2%	10%	67%	20%	2%		60
PSE		32%	59%	9%			22
CMWPE		25%	57%	14%	2%	2%	51
Engineering	1%	20%	62%	16%	2%	1%	133
ESF	0%	16%	60%	18%	5%	1%	729

Library Resources

Faculty	NA	VS	S	N	D	VD	Number
ERFEG	3%	12%	53%	27%	3%	2%	59
PSE		35%	52%	13%			23
CMWPE	6%	10%	41%	37%	6%		51
Engineering	4%	15%	48%	29%	4%	1%	133
ESF	3%	20%	52%	21%	4%	0%	726

Library Services

Faculty	NA	VS	S	N	D	VD	Number
ERFEG	12%	12%	47%	28%		2%	60
PSE	4%	39%	39%	17%			23
CMWPE	10%	10%	37%	43%			51
Engineering	10%	16%	42%	32%		1%	134
ESF	7%	21%	48%	22%	2%	0%	727

Availability of computers

Faculty	NA	VS	S	N	D	VD	Number
ERFEG	5%	23%	45%	12%	12%	3%	60
PSE		57%	22%	17%	4%		23
CMWPE	2%	39%	51%	4%	4%		51
Engineering	3%	35%	43%	10%	7%	1%	134
ESF	3%	33%	40%	14%	9%	2%	728

Course-related laboratories

Faculty	NA	VS	S	N	D	VD	Number
ERFEG	3%	12%	47%	35%	2%	2%	60
PSE	9%	26%	52%	13%			23
CMWPE		16%	49%	24%	8%	4%	51
Engineering	3%	16%	49%	27%	4%	2%	134
ESF	6%	16%	51%	20%	6%	1%	728

7. Institutional Support

Results of Student Opinion Survey

Two questions from the survey reflect on the institutional support as a whole. In both cases, PSE students ranked these aspects above average.

Quality of Education

Faculty	NA	VS	S	N	D	VD	Number
ERFEG		33%	58%	9%			64
PSE		30%	70%				23
CMWPE		13%	42%	40%	4%	2%	53
Engineering		25%	54%	19%	1%	1%	140
ESF		32%	51%	15%	2%	0%	774

Library facilities

Faculty	NA	VS	S	N	D	VD	Number
ERFEG	3%	19%	49%	25%	2%	2%	63
PSE	9%	39%	48%	4%			23
CMWPE	6%	9%	49%	23%	13%		53
Engineering	5%	19%	49%	21%	6%	1%	139
ESF	2%	21%	55%	18%	4%	1%	770

Appendix

A. Tabular Data for Program

Table I-4 (Faculty analysis) and Table I-5 (Support Expenditures are updated in the tables following.

Table I-4. Faculty Analysis (as of October 2006): Paper Engineering

Name	Rank	FT or PT	Highest Degree	Institution from which Highest Degree Earned & Year	Years of Experience			State in which Registered	Level of Activity (high, med, low, none)		
					Govt./ Industry Practice	Total Faculty	This Institution		Professional Society (Indicate Society)	Research	Consulting /Summer Work in Industry
Dr. Wayne Amato	AdjP	PT	Ph.D.	Syracuse University, 1970	29	34	11.5	PE (NY) EIT (NJ)	L-AIChE	M	H
Dr. Thomas E. Amidon	P	FT	Ph.D.	SUNY-ESF, 1974	23	6	6	None	H-Tappi H-PIMA	H	M
Dr. Biljana Bujanovic	vAsP	FT	Ph.D.	Western Michigan, 2003; Belgrade University, 2000	2	0	0	None	-	-	-
Dr. Siddharth Chatterjee	AP	FT	Ph.D.	Rensselaer Polytechnic Institute, 1987	5.5	12.5	11.5	None	N-Tappi N-ASEE	H	L
Dr. Joseph Cornell	AdjP	PT	Ph.D.	SUNY-ESF, 2003	0	2	3	None		L	L
Dr. Raymond C. Francis	RA	FT	Ph.D.	University of Toronto, 1987	0	19	19	None	M-Tappi L-ACS L-ASEE	H	M
Dr. Asif Hasan	vAsP	FT	Ph.D.	SUNY-ESF, 2005	1	0	0	None	-	-	-
Dr. Jose Iribarne	AdjP	PT	Ph.D.	SUNY-ESF, 1999	6	3	3	None	L-Tappi	L	H
Dr. D. Steven Keller	AP	FT	Ph.D.	SUNY-ESF, 1996	10	10	16	None	M-ACS M-Tappi	H	M
Dr. Thomas Keenan	AsP	PT	Ph.D.	SUNY-ESF, 2004	0	2	2	None	-	H	M
Dr. Yuan-Zong Lai	SRA	FT	Ph.D.	University of Washington, 1968	0	15	25	None	L-Tappi L-ACS	H	L
Dr. Shijie Liu	AsP	FT	Ph.D.	University of Alberta	1	11	1	P.Eng., Alberta	M-AIChE M-TAPPI H-PAPTAC	H	L

Dr. Bandaru V. Ramarao	P	FT	Ph.D.	Clarkson University, 1985	0	20	18	None	M-AIChE	H	L
Dr. Leland R. Schroeder	AdjP	FT	Ph.D.	Institute of Paper Chemistry, 1965	2	39.5	20.0	None	H-Tappi L-ACS	M	L
Dr. Gary M. Scott	P	FT	Ph.D.	University of Wisconsin, 1993	6	8.5	8.5	None	M-Tappi M-ASEE	M	M

¹The ranks are as follows: P=Professor; AsP=Associate Professor, AP=Assistant Professor, AdjP=Adjunct Professor, RA=Research Associate, SRA=Senior Research Associate, vAsP=Visiting Assistant Professor.

Instructions: Complete table for each member of the faculty of the program. Use additional sheets if necessary. Updated information is to be provided at the time of the visit. The level of activity should reflect an average over the current year (year prior to visit) plus the two previous years.

Table I-5. Support Expenditures: Paper Engineering

Fiscal Year	1	2	3	4
	2003-04	2004-05	2005-06	2006-07 (Budget)
Expenditure Category				
Operations ¹ (not including staff)	\$18,962	\$18,838	\$15,728	\$21,427
Travel	\$7,784	\$6,528	\$5,752	\$7,225
Equipment, Institutional	-	\$3,027	\$4,058	-
Research Grants ¹	\$403,262	\$604,516	\$1,037,605	\$1,500,000
SPPF Funds ²	\$167,789	\$237,077	\$241,812	\$262,465
Graduate Teaching Assistants ³	\$84,976	\$80,445	\$163,766	\$229,824
Part-time Assistance (other than teaching)	-	-	-	-

Notes:

1. Research Grants include all expenditure through the research foundation, which includes equipment, supplies, graduate research assistants, etc. This equipment is often also used to support the educational mission of the Faculty.
2. The Syracuse Pulp and Paper Foundation provides support for undergraduate scholarships, equipment, recruitment, travel, etc., primarily in support of the undergraduate educational mission of the Faculty.
3. Totals reflect college supported graduate assistants.