

66 of 6 #  
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# Approval Form

Proposal Title: Revising Senate in Electrical Engineering 0909

Sponsor(s) Dr. J. H. Finney and Elizabeth Kall Dept: Engineering Ext: 4332

Eng. Curriculum Advisory Committee

Check one:  Course  Specialization  Concentration  Minor  Achievement Certificate  
 Certification Program  Major Program  Minor Change (please name deletion or credit/title/catalog change)

Undergraduate  Graduate 132-133 Credit Hours

<p><b>Step 1 (Department)</b></p> <p><input type="checkbox"/> Approved _____ Date</p> <p><input type="checkbox"/> Not Approved</p> <p>_____ Dept. CC Chairperson</p> <p><input type="checkbox"/> Reviewed _____ Date</p> <p><u>N/A</u></p> <p>_____ Dept. Chairperson</p>	<p><b>Step 2 (Receipt)</b></p> <p><input type="checkbox"/> SCC# _____</p> <p>Proposal Received _____ Date</p> <p>_____ SCC Chairperson</p>	<p><b>Step 3 (School CC)</b></p> <p>Reviewed <u>10/19/04</u></p> <p><input checked="" type="checkbox"/> Approved <input type="checkbox"/> Not Approved</p> <p>Comments:</p> <p><u>[Signature]</u></p> <p>_____ School Curr Comm Chairperson</p>
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**Step 4 (Academic Dean)** **Comments:**

Recommend  
 Not Recommend  
 Conditionally Recommend (see comments)

Reviewed 10/21/04  
Date

[Signature]  
Signature, Dean of School

**Step 5 (SCC)**

Open Hearing 11/30/04  Approved by Senate Curriculum Committee 12/15/04  
Date Date

Returned to sponsor(s) for the following reasons:

**Step 6 (Senate)**

Presented to Senate 12/15/04  Approved  Not Approved

Notification to Executive Vice President [Signature]

[Signature]

Step 7 (Executive V.P./Provost)

Received 1/12/95  
Date

Approved  Yes  No

If no, reasons are as follows

Student credit hours \_\_\_\_\_

Faculty load hours \_\_\_\_\_

Equalized credit hours \_\_\_\_\_

Official copy and approval sheet filed 1/12/95  
Date

[Signature]  
Signature, Executive Vice-President/Provost

Registrar

Approved course description received 15 Mar. 95  
Date

Hegis Taxonomy and Course Number assigned Magr Code C909

[Signature]  
Signature, Registrar

15 Mar. 95  
Date

Notification forwarded:

- Senate Curriculum Committee Chairperson
- Department Chairperson(s)
- Academic Dean(s)
- Registrar
- Sponsor(s)

## Appendix A

### Engineering School Development Advisory Committee

**Dr. Gary Hunter, Co-Chair**  
**Engineering School Development**  
**Advisory Committee**  
**Chair, History Department**

**Mr. Richard Ambacher, President**  
**Faculty Senate**

**Dr. Pearl Bartelt, Dean**  
**School of Liberal Arts & Sciences**

**Dr. Michael Berman**  
**Computer Science**

**Dr. Robert Fleming**  
**School of Business Administration**

**Dr. John Gallagher**  
**Secondary Education**

**Dr. Donald Gephardt**  
**Acting Executive**  
**Vice President/Provost**

**Dr. Gary Itzkowitz, Chair**  
**Mathematics**

**Dr. David Kapel, Dean**  
**School of Education**  
**& Professional Studies**

**Dr. William Kushner**  
**Speech/Theater**

**Dr. Lynn Hankinson Nelson**  
**Philosophy-Religion**

**Dr. Robert Newland, Chair**  
**Chemistry/Physics**

**Dr. Gregory Potter, Associate Director**  
**Savitz Library**

**Dr. Karen Magee-Sauer**  
**Chemistry/Physics**

**Dr. Joanne Scott**  
**Life Sciences**

**Dr. Richard Scott, Chair**  
**Geography/Anthropology**

**Mr. Marvin Sills, Director**  
**Admissions**

**Ms. Marguerite Stubbs**  
**Associate Dean of Students**

**Mr. Dick Williams, Director**  
**Affirmative Action**

# ROWAN COLLEGE OF NEW JERSEY

## NATIONAL ADVISORY COUNCIL FOR THE DEVELOPMENT OF THE SCHOOL OF ENGINEERING

### CORPORATE COMMITTEE:

Douglas Huggard  
Chairman of the Board  
Atlantic Energy/Atlantic Electric

Frank Bradley  
Chairman of the Board, and CEO (ret.)  
Stone & Webster Management Consultants, Inc.

Bruce Coe  
New Jersey Business  
and Industry Association

Charles E. Crocker  
Executive Vice President  
Stone & Webster Engineering Corp.

William Dalton, Chairman  
South Jersey Transportation Authority

Larry DiVietro, President  
Land Dimensions

Richard Klein, Ph.D.  
President and CEO  
Sybron Chemicals, Inc.

Alfred C. Koeppel  
President and CEO  
Bell Atlantic Corporation

Edward Kondis, Ph.D.  
Vice President, U.S.  
Manufacturing and Refining  
Mobil Corporation

Jack Lipinski  
Vice President - Refining  
Coastal Corporation

John H. Mortimer, P.E., President  
Inductotherm Corporation

Stanson Nimiroski, Senior Vice President  
Sony Entertainment, Inc.

Marcel Rohr, President and CEO  
K-Tron International, Inc.

Harvey Safer, Director  
FAA Technical Center, ACT 1

Ian M. Ross  
President Emeritus  
AT&T Bell Laboratories

John S. Sieg, Jr.  
Works Manager  
E.I. Du Pont De Nemours & Co.

**EDUCATION COMMITTEE:**

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 (Chair, Education Committee)  
 Case Western Reserve University

Betsy Ancker-Johnson, Ph.D.  
 Vice President, General Motors (ret.)

Arden Bement, Jr., Ph.D.  
 Purdue University

Bruno Boley, Ph.D.  
 Professor of Civil Engineering  
 Columbia University

Blake Cherrington, Ph.D., Dean  
 Erik Jonsson School of Engineering  
 & Computer Science  
 University of Texas at Dallas

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 President, EED Inc.

Alexander Flax, Ph.D., Senior Fellow  
 National Academy of Engineering

Alvin T. Greenspan  
 Professor Emeritus  
 Temple University

Franklin Moore, Ph.D.  
 Director, Sibley School of Engineering  
 Cornell University

Joel Moses, Ph.D., Dean  
 Massachusetts Institute of Technology

Robert M. Nerem, Ph.D.  
 Parker H. Petit Professor for  
 Engineering in Medicine  
 Georgia Institute of Technology

Alfonso Ratcliffe, Ph.D.  
 Dean Emeritus  
 California State University, Northridge

William Schowalter, Ph.D., Dean  
 University of Illinois at Urbana-Champaign

A. Richard Seebass, Ph.D., Dean  
 University of Colorado at Boulder

Clifford Smith, Ph.D., President  
 GE Foundation

Samuel B. Tanenbaum, Ph.D.  
 Harvey Mudd College

Chang-Lin Tien, Ph.D., Chancellor  
 University of California-Berkeley

John G. Truxal  
 Distinguished Teaching Professor Emeritus  
 State University of New York at Stony Brook

## Appendix B

**Preliminary Program Announcement  
Engineering Programs**

**Estimated Budget Details  
February 10, 1994**

**General Assumptions:**

- A total of 600 students (75% undergraduate, 25% graduate). Graduate students are considered part-time students taking all engineering courses. Undergraduate students are considered full-time students taking a half-load of engineering courses throughout the four or five years at the College. A student to faculty ratio of approximately 15 FTE/faculty. The Engineering faculty is assumed to teach two courses per semester. Student retention rates are not included in these calculations.
- An inflation rate of 3% is assumed for most non-salary calculations. Salary increases are estimated at 7%.
- It is assumed that major equipment and computers will be replaced or upgraded every five years. Since this budget does not include more than a five year period, equipment replacement and upgrade costs are not included here.

**Salaries:** All personnel listed per year are newly hired that year.

**Support Personnel:**

Year 1 (1996-97): Laboratory Coordinator @ \$40,000

Year 2 (1997-98): Shop Manager @ \$35,000

Year 3 (1998-99): Shop Technicians (2) @ \$55,000

**Faculty:** The hiring schedule for faculty is based on a 15 FTE/faculty ratio assuming that faculty teach two courses per semester. For years 4 and 5, additional faculty were hired (2 in year 4 and 1 in year 5). The additional hiring allowed for 30 faculty in the School of Engineering instead of 27. This number of faculty is necessary to staff technology focus groups of 10 faculty members each. Faculty are staffed as 80% full time tenure track and 20% adjunct faculty. Faculty are hired prior to admitting the first class of engineering students in 1996. Faculty are needed to develop engineering courses, write the course proposals, design the laboratories, prepare to teach courses and begin research activities.

**Salaries: (cont)**

Year 1 (1996-97): Senior faculty hired the previous year.  
 4 senior faculty @ \$85,600 each = \$342,400  
 2 faculty @ \$66,000 each = \$132,000  
 3 faculty @ \$55,000 each = \$165,000

Year 2 (1997-98): 3 faculty @ \$67,000 = \$201,000  
 1 faculty @ \$56,000 = \$ 56,000  
 2 adjunct @ \$28,000 = \$ 56,000

Year 3 (1998-99): 1 faculty @ \$69,000 = \$ 69,000  
 3 faculty @ \$58,000 = \$174,000  
 2 adjunct @ \$28,000 = \$ 56,000

Year 4 (1999-00): 3 faculty @ \$60,000 = \$180,000  
 2 adjunct @ \$28,000 = \$ 56,000

Year 5 (2000-01): 4 faculty @ \$62,000 = \$248,000

Total faculty : 30

**Administrative Personnel:**

Year 1 (1996-97): Dean (hired FY95) = \$108,800  
 Associate Dean (hired FY95) = \$ 74,900

**Clerical Personnel:**

Year 1 (1996-97): Clerk @ \$16,050 (hired in 1994-95)  
 Secretary @ \$26,750 (hired in 1994-95)

Administrative Assistant @ \$32,000  
 Clerk @ \$16,050 (hired in 1995-96)

**Non-Salaries:**

**Equipment:** This includes maintenance on laboratory equipment computed as 2% of the original cost of the capitalized equipment (\$5,000,000). This covers the purchase of small items associated with equipment (for example, chart paper). The capitalized cost also includes computers and workstations purchased

as follows: 5 students/computer, 1 computer/faculty member, 1 computer/office staff and 3 workstations/year. The upgrade and replacement costs of equipment is not included. Replacement and/or upgrade would begin on year 6 and is not covered in this budget.

Faculty laboratory costs are calculated at \$50,000/year-faculty. Each faculty member will receive laboratory start-up awards for two years, totalling \$100,000 per faculty. These costs are scaled with inflation (constant 1993 dollars). Laboratory start-up funding will begin in 1997 (all faculty hired in the first five years will have received their laboratory start-up funds by the year 2001).

Year 2(1997-98):

Faculty lab start-up : \$ 870,000  
(year 1 of funding 15 faculty @ \$58,000)

Year 3(1998-99):

Faculty lab start-up: \$ 1,260,000  
(year 2 of funding for 15 faculty @ \$60,000 each  
and year 1 of funding for 6 faculty @ \$60,000  
each)

Year 4(1999-00):

Faculty lab start-up: \$ 682,000  
(year 2 of funding for 6 faculty @ \$62,000 each  
and year 1 of funding for 5 faculty @ \$62,000  
each)

Year 5(2000-01):

Faculty lab start-up \$576,000  
(year 2 of funding for 5 faculty @ \$64,000 each  
and year 1 of funding for 4 faculty @ \$64,000  
each)

The budget for the sixth year of operation will need to include year 2 of funding for 4 faculty at \$66,000 each (\$264,000 total).

**Educational Supplies:** Costs for educational supplies are calculated at \$1000/class.

**Other Non-salary Items:** Library costs are included in this category. It is estimated that library maintenance costs will be approximately \$495/FTE student. This includes the purchase of 500

subscriptions to engineering and scientific journals (at approximately \$150/subscription - average price). Most libraries spend 50% of their acquisition budget on periodicals. The purchase of 500 subscriptions to periodicals will cover the main engineering and some scientific journals. The costs of subscriptions vary widely. For example, the most costly scientific journal is *Brain Research* at \$9000/year. There are some scientific and engineering journals that cost \$100-150/year.

**Other Supplies/Services:** Costs are calculated at \$1000 per employee, half for supplies and half for services.

**Recruitment and Retention Programs:** The costs of a Summer program and a two-year recruitment and retention program aimed at minorities and women students are included under this category. The cost of a two-week Summer program is approximately \$30,000/Summer (1993 dollars). The cost of the PRIME program was used as a basis for the cost of an engineering Summer Program. The cost of a two-year retention and recruitment program is estimated at \$50,000/year. These costs do not include salaries. It may be possible for faculty to assume some of the coordinating responsibilities for these programs in exchange for released time or payment per credit-hour.

**Costs to be capitalized:**

Engineering building:	\$22 million
Initial equipment:	\$ 5 million
Initial library acquisitions:	<u>\$ 3 million</u>
Total:	\$30 million
<b>Debt Service</b>	
Total capitalized cost	\$30.0 million
Less Higher Education	
Trust Fund	<u>\$ 6.6 million</u>
NJEFA Bonds	\$23.4 million
30 year Bonds Average	
Debt Service	\$1,659,481

The library acquisition costs are based on the purchase of 20,000 new volumes and 100 sets of back issues of the major journals.

Enrollments:	<u>1996-97</u>	<u>1997-98</u>	<u>1998-99</u>	<u>1999-00</u>	<u>2000-01</u>
FT undergrad.	75	225	375	413	450
PT grad. (12 sh/yr)	25	75	125	137	150
Total	100	300	500	550	600
FTE	88	262	438	482	525

**State Appropriation:** The State of New Jersey currently provides \$30,724,000 to Rowan college in support of 5950 budgeted FTE students. This is the equivalent of \$5,164 direct state support per FTE student.

The College is requesting \$5,500 per FTE student for the additional enrollment in the School of Engineering. Distribution of these funds across College programs will be as follows:

	Current Budget Distribution (%)	Additional State Funds for Engineering students (%)
Instruction	50	60
Institutional Support	19	9
Operation/ Maintenance	12	12
Student Services	10	10
Academic Support	9	9

Since costs of engineering programs are expected to be higher than those of current academic programs, an additional 10% of the funding will be designated to the instruction programs, with 40% to engineering and 20% to support service courses. Almost half the institutional support costs will be absorbed within the current budget. The remaining programs will receive a normal distribution of funds.

All of the additional tuition revenue generated by the increased enrollment in engineering will be used to directly support the School of Engineering. There will be no tuition differential for the engineering programs. The table below lists the above engineering program costs and appropriation requests for the first five years of operation.



(000)	<u>1996-97</u>	<u>1997-98</u>	<u>1998-99</u>	<u>1999-00</u>	<u>2000-01</u>
Engineering FTE Enrollment	88	262	438	482	528
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Direct Eng. Support* 40%	\$194	\$ 576	\$ 964	\$1060	\$1188
Other Instruction 20%	\$ 97	\$ 288	\$ 482	\$ 530	\$ 578
Institutional Support (9%)	\$ 44	\$ 130	\$ 217	\$ 239	\$ 260
Operation/ Maintenance(12%)	\$ 58	\$ 173	\$ 289	\$ 318	\$ 346
Student Services (10%)	\$ 48	\$ 144	\$ 241	\$ 265	\$ 289
Academic Support* (9%)	\$ 44	\$ 130	\$ 217	\$ 239	\$ 260
Total State Support (\$5,500/FTE)	\$484	\$1441	\$2409	\$2651	\$2888

\* included in state appropriation for engineering PPA budget

**Tuition:** A 10% increase each year starting with the 1994-95 fiscal year is assumed. Rates for each year are as follows.

	<u>1996-97</u>	<u>1997-98</u>	<u>1998-99</u>	<u>1999-00</u>	<u>2000-01</u>
Full time Undergraduate (annual)	\$ 2735	\$ 3010	\$ 3310	\$ 3640	\$ 4000
Part-time Graduate (cr. hr.)	\$ 194	\$ 213	\$ 235	\$ 259	\$ 285

**Rowan Endowment:** Estimates are based on an average earnings of 8% with 5% allotted to the College. The remaining 3% will offset the expected overall inflation factor.