Accreditation Board for Engineering and Technology, Inc.

United Engineering Center
345 East 47th Street, New York, NY 10017-2397

Volume I

SELF-STUDY QUESTIONNAIRE FOR REVIEW of SCIENCE and ENGINEERING PROGRAMS

Submitted by

Korea Advanced Institute of Science and Technology

(NAME OF INSTITUTION)

July, 1992

(DATE)

to the
Engineering Accreditation Commission

Letter from the President

We are in an age when a nation's prowess is in direct proportion with its scientific and technological achievements. In the 21st century, planning of national strategies is expected to center around scientific and technological advances. The need for qualified manpower capable of developing independent technologies is greater than ever. Without such manpower, attaining the status of an advanced nation becomes impossible.

The Korean government, industries and academic institutions have joined hands to push scientific and technological developments in Korea. The goal is to make Korea one of the seven leading scientific and technological powers in the world by year 2000 for the nation's well-being and high culture. To this end, it is natural that advancements in science and technology have become the focus of national developmental strategies. In particular, there is a growing national interest in the training of high-caliber manpower needed to foster high-tech research activities.

Important personnel representing domestic and international academia, research and industries often point to KAIST as an exemplary success of Korea's scientific and technological endeavors. But as an institute ever-striving for higher goals, we at the KAIST feel that an objective, third-party evaluation of our programs is in order.

The timing is such that KAIST has celebrated its 21st anniversary last October. As a full "adult" of an institution, KAIST is in a turmoil of sort in its endeavors at two different levels: one involves a reflection of its achievements and pitfalls of the past two decades; the other has to do with searching for ways to bring improvements for the future.

The Korea Advanced Institute of Science and Technology (KAIST) is one of the nation's largest schools of engineering and science devoted to educating Korea's scientifically gifted talents. Contributing to Korea's prosperity through early and appropriate education of such talents remains KAIST's foremost goal since the institute's founding by the government in 1971.

As of March 1992, the student enrollment totals 5,728. Of them 2,402 are undergraduate students, 1,399 are M.S. students and 1,927 Ph.D. students. Since 1971, the total graduates are 9,414. Of them, 1,176 are undergraduate students, 6,930 are M.S. students and 1,308 Ph.D. students. The number of doctorate students has been on the increase every year, and of those who completed their Ph.D.s, 56 percent, or 739, received their degree while still in their 20s.

KAIST professors have published 3,545 papers in domestic journals as of the end of 1991. Overseas, they have published 4,377, bringing the total number of published works to 7,922. In certain fields, faculty members displayed their capacity by publishing works comparable to those at leading universities around the world.

Since KAIST's 1971 founding through 1991, KAIST has carried out a total of 2,698 research projects valued at 61.5 billion won (approximately 82 million U.S. dollars). In 1991 alone, the total research funds added up to 15.7 billion won (approximately 21 million U.S. dollars), of which 7.7 billion won or roughly 50 percent, had been funded by industries. Overall, industry-funded projects have been on the increase in recent years.

At present, the new KAIST campus has relocated inside the Taeduk Science Town from Hongreung campus in Seoul. At the midst of rapid change in recent years and government-provided strained budget, I stress three overlapping objectives which I believe should guide us in the future. These are:

- maintaining superb-quality education and research
- finding ways to sustain and improve international cooperation
- nurturing the development of key industrial technologies.

With precious tradition and international recognition which have been gained in the last 20 years, KAIST will strive forward to become "KAIST of the world."

I sincerely appreciate your visit to my university for the evaluation of our academic program and would welcome productive suggestions for the continued success of KAIST.

Soung Soon Chun
President
Korea Advanced Institute of Science and Technology

May 30, 1992

To: Accreditation Board for
Engineering and Technology, Inc.

From: Korea Advanced Institute of Science and Technology
373-1, Kusong-dong, Yusong-gu
Taejon, 305-701, Korea

This Self-Study Report is submitted for the purpose of assisting in the evaluation as to whether or not this institution should have proper academic program meeting its objectives, goal, and competitiveness.

I certify that there was broad participation by the campus community. We believe this report accurately reflects the nature and substance of the Korea Advanced Institute of Science and Technology.

Soung Soon Chun
President

Volume I

Self-Study Questionnaire For Review of Science and Engineering Programs Submitted by

Korea Advanced Institute of Science and Technology

Soung Soon Chun, President

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Tables - Volume I

Introductory Remarks

As the Korean government initiated five-year economic development plans in 1960s, there was a great demand for highly qualified scientists and engineers who could propel industrial growth. However, existing graduate schools in science and engineering in Korea at the time, could not supply such manpower. Thus, those who studied abroad and played an active part in foreign science and engineering circles were invited into Korea, but the result fell short of expectations.

The government authorities planned to establish an institution which would take a leading role in producing such manpower and fostering the growth of science and technology, realizing the growth of national economy hinges on advancement in these fields. The foresightedness of emphasizing science and technology education was materialized in 1971 in the form of the Korea Advanced Institute of Science (KAIS), a government-supported graduate school exclusively specializing in science and engineering disciplines. The funding for the KAIS's establishment came from the Korean Government and the AID (United States' Agency for International Development).

The KAIS grew steadily in the next 10 years, and in 1981, the institute merged with a government research institution, the Korea Institute of Science and Technology (KIST). The merge gave a birth to the Korea Advanced Institute of Science and Technology (KAIST), which served a double function of providing quality graduate education and R&D activities in science and technology. In 1989, however, the KIST portion of the KAIST was separated and returned to its previous form.

In order to foster a more systematic and creative education and research activities, KAIST merged in July of the same year with the former Korea Institute of Technology (KIT), a government-founded undergraduate college of science and engineering. With the merge, the KAIST has become a full-fledged educational institute of science and technology through its undergraduate, master's and doctorate programs. KAIST is also the largest institute of its kind, devoted to both the education and research of science and technology.

The basic objectives of KAIST are:

- To educate and develop high-caliber manpower with competence in both

abstruse theory and practical applications in the fields of science and engineering;

- To conduct research on frontier science and advanced technologies; and
- To carry out international cooperation in both academic affairs and R&D.

The 15 distinguished members of KAIST's Board of Trustees represent Korean government, academia and industries. Under the president, appointed by the board, KAIST contains 5 schools, 20 departments and the Division of the Humanities and Social Sciences, 5 affiliated research institutes, the Science and Engineering Library and Computer Science Research Center (CSRC).

As of February 1992, KAIST employs a manpower of 826, of which 311 are professors, 91 are administrative staffs, 380 are technical staffs and 44 are various other supporting staffs.

KAIST occupies land space of 270 acres (1,090,800 m^2) across the main Taeduk campus and the branch Seoul campus. Of the total space, 52.4 acres (212,100 m^2) houses educational, research and supporting facilities, while 22.5 acres (90,900 m^2) consists of residential facilities.

Student Enrollment:

As of March 1992, the student enrollment totals 5,405. Of them 2,383 are undergraduate students, 1,244 are M.S. students and 1,778 Ph.D. students.

Record of Graduates and Their Career Planning:

Since 1971, the total graduates are 9,414. Of them are 1,176 undergraduate students, 6,930 M.S. students and 1,308 Ph.D. students. The number of doctorate students has been on the increase every year, and of those who completed their Ph.D.s, 56 percent, or 739, received their degree while still in their 20s.

Among the KAIST alumni, 38 percent of B.S. degree holders went to work in industries, while 60 percent enrolled in advanced programs.

Among those with M.S. degree holders, 44 percent are working in industries, 23 percent in research institutes and 25 percent in Ph.D. programs.

Among those with Ph.D. degrees, 33 percent found jobs in industries, 35 percent in research institutions and 31 percent in academic institutions.

These graduates are leaders in their respective fields, and their contributions to Korea's economic and industrial growth are surmountable.

Of special interest is a large pool of alumni who have proven successful entrepreneurship based on the knowledge and skills acquired during their study at KAIST. One of such notables is a member of the first graduating class of the Department of Computer Science, Dr. Lee Bum-chun, who founded Qnix, a major computer manufacturer.

Other examples include Dr. Chung Chul of Human Computers, the founder of the nation's second largest venture capital company that exports a large volume of word processing programs to Japan, and Dr. Lee Min-hwa of Madison, a maker of ultrasonic sensing devices.

Dr. Chang Hung-soon of Turbo Tech also developed and exported machining automation systems to Japan. These are just few examples illustrating entrepreneurial and technological successes of the KAIST alumni.

KAIST's 1,300 additional alumni are working for Korea's scientific and technological advancement inside the Taeduk Science Town alone. Among them, Dr. Kim Yong-joo, class of '83, made Korea's name abroad by developing a fourth-generation antibiotics, the first of such kind in the world.

Publications:

As of the end of 1991, KAIST professors have published 3,545 papers in domestic journals. Overseas, they have published 4,377, bringing the total number of published works to 7,922. In certain fields, faculty members displayed their capacity by publishing works comparable to those at leading universities around the world.

Research Funds:

KAIST's joint research projects with governmental research groups, private industries and foreign institutes amount to the following.

Since KAIST's 1971 founding through 1991, KAIST has carried out a total of 2,698 research projects valued at 61.5 billion won (approximately 82 million U.S. dollars). In 1991 alone, the total research funds added up to 15.7 billion won (approximately 21 million U.S. dollars), of which 7.7 billion won or roughly 50 percent, had been funded by industries. Overall, industry-funded projects have been on the increase in recent years.

Representative R & D Activities:

Here are some representative research projects completed.

New Lead Frame Material, PMC-102 – This is an essential part of semiconductors used in computers, telecommunication equipment, the latest electronic goods and consumer electronic goods like, TV, VTR, etc. Following a five-year developmental period, the product went into mass production in Korea. By obtaining patents from the United States and Japan, this new type of alloy, proven for its superior quality, is being sold to leading semiconductor makers in the United States and Japan. The technique has also been licensed to a German semiconductor producer for royalty payments.

Nuclear Magnetic Resonance Computerized Tomography – A sophisticated system for medical-imaging, this instrument is based on the proton nuclear magnetic signal, which is generated by the hydrogen nuclei in an object like the human body through the integration of a magnetic field and computers. The technique allows for safe, thorough look at internal structures of parts and their chemical reactions. When used on the human body, the system, unlike the conventional CAT scanning using X-ray, doesn't pose health risks. The technique is expected to bring revolutionary changes in medical diagnoses and in fluid mechanics as well as in non-destructive testing. By investigating the distribution of elements of the human body, this advanced medical equipment detects aged or abnormal cells like cancer growth.

Artificial Intelligence Mobile Robot – This mobile robot equipped with computer-generated artificial intelligence is intended to replace man's repetitive and physical work in dangerous environments. Some of its wide-ranging applications include factory automation, cargo transportation, machine-driven tractors and atomic power plants. The robot can also carry out tasks in military defense and space exploration.

High-Strength Aluminum Alloy with Superior Weldability – This new type of alloy can be used on military equipment and other areas where light weight plays a crucial role, like the high-speed train, automobile structural material and material for pressurized vessel. The material's special feature is not only its high-strength but also its superior weldability.

Other developments cover a computer decoding system of Korean document capable of recognizing with speed and accuracy and laser-printing a mixture of Korean, Chinese, English characters and a document with simple graphics, voice-dialing telephone, a system for underground exploration, ultrasonic medical diagnostic devices and voice information system.

In addition, KAIST has made major progresses in the areas of new materials, alternative energy resources, automation technology, computers, life science, laser technology and solid physics among other areas.

And for the purpose of developing satellite communication technology, which promises to be an area of competition in the 21st Century, KAIST is now conducting active cooperation with American and British universities. Plans to launch an experimental satellite during 1992 are under way. In 1993, an experimental satellite will be manufactured and operated to contribute to the development of Korea's satellite technology.

In 1991, to mark KAIST's twentieth anniversary, a full-scale celebration was attended by the president of Korea. In light of the event, the KAIST Alumni Association also sponsored homecoming activities for graduates under the theme of "Creativity, Harmony and Great Challenge."

With its educational and research experiences of the past 20 years as the cornerstone, KAIST is now taking a second great step to become "KAIST of the world."

I. Information Related to the Entire Institution

A. General Information

1. Name and address of Institution:

Korea Advanced Institute of Science and Technology
373-1, Kusong-Dong, Yusong-gu
Taejon, 305-701, KOREA

2. Name and title of the chief executive officer of the institution:

Dr. Soung Soon Chun, President

3. Name and official position of the person submitting the completed Questionnaire:

Dr. Yong-Taek Im, Director of International Relations

B. Type of Control

Describe the type of managerial control of the institution:

KAIST is a government supported institution under the control of the Board of Trustees. Appointment of the members of the Board of Trustees is approved by the Minister of the Ministry of Science and Technology. The president of the institute is recommended by the Board of the Trustees and approved by the Ministry of Science and Technology.

C. Regional or Institutional Accreditation

N/A

D. Faculty and Students

For the entire institution, complete Table I for the most recent fall term:

Refer to Table I in the following.

Table I
FACULTY AND STUDENT COUNT FOR THE ENTIRE INSTITUTION

Fiscal Year: *Jan., 1991 - Dec., 1991*

	HEAD COUNT		FTE (see Note 2)	TOTAL STUDENT CREDIT HOURS
	FT	PT		
Tenure Track Faculty	311	4	313.4	
Other Teaching Faculty (excluding student assist's)	0	45	9.0	
Student Teaching Assistants	35	451	125.2	
Undergraduate Students	2,288	0	2,288.0	41,184
Graduate Students	2,312	459	2,618.0	23,562
Professional Degree Students	0	0	0	0

E. Operating Income for Institution

For the entire institution, submit a copy of the current year's Income and Expenditures and label it Table II :

Refer to Table II in the following.

Table II
Income and Expenditure as of 1992

Income		Expenditure	
Government Support	$56,138,897	Personnel Expenses	$14,751,432
Research	$14,241,333	Scholastic Expenses	$21,834,459
Student Fee	$2,470,195	Research Expenses	$14,085,333
Royalties	$133,334	Operations	$15,624,957
Others	$1,750,237	Constructions	$4,396,839
Total	$74,733,996	Others	$4,067,976
		Total	$74,733,996

II. Objectives and Self-Analysis

A. Preparation for Visit

Describe the process followed by the institution as part of the preparation for this accreditation visit. List the constituent groups which participated and the roles played by each. Explain the responsibilities and activities of any committees formed and indicate the chairpersons and other principal leaders in the analysis. Briefly summarize the major outcomes and any plans formulated or actions taken as a result:

In December 1991, an ad hoc ABET Steering Committee was appointed by the president. The purpose of the Committee was to coordinate all activities relative to the preparations for the ABET visit. The Committee set schedules for the preparation of draft reports and the final report. The members of the ABET Steering Committee were:

Dr. Soo Woo Nam, Ex-Dean, Academic Affairs, Ex-Chairman
Dr. Duk-In Choi, Dean, School of Natural Sciences
Dr. Byung Man Kwak, Dean, School of Mechanical Engineering
Dr. Jinjoo Lee, Dean, School of Industry & Management
Dr. Gil Chang Kim, Dean, School of Information & Electronics
Dr. Sung Chul Kim, Dean, School of Applied Engineering
Dr. Yoon Keun Kwak, Dean, Planning Affairs
Dr. Zeungnam Bien, Dean, Academic Affairs
Dr. Jung Wan Cho, Dean, Research Affairs
Dr. Dang-Moon Wee, Dean, Student Affairs
Dr. Hyun Bong Oh, Director, Science Library
Dr. Byung Chun Kim, Director, Computer Center
Dr. Yong-Taek Im, Director, International Relations.

To maintain consistency in the reports from the schools and departments, the ABET Working Committee was established. The members of the Working Committee consists of 19 faculty members: 6 School representatives (two from the School of Natural Sciences and one each for the other 5 schools) and 13 Departmental representatives. The school representatives were responsible for preparation of some portions of Volume I of the report at school level, and the departmental representatives for Volume II. The members of the ABET Working Committee were:

Dr. Ki-Hyung Ko, Associate Professor, Mathematics
Dr. Jeong-Ro Yoon, Assistant Professor, Humanities and Social Sciences
Dr. Do-hyung Kwak, Associate Professor, Mathematics
Dr. Yong Hee Lee, Assistant Professor, Physics
Dr. Ryong Yu, Associate Professor, Chemistry
Dr. Jaehoon Chung, Assistant Professor, Life Science
Dr. Hak Seung Kim, Associate Professor, Biotechnology
Dr. Jae Ryoun Youn, Associate Professor, Production Engineering
Dr. Young Jin Park, Assistant Professor, Mechanical Engineering
Dr. Poonghyun Seong, Assistant Professor, Nuclear Engineering
Dr. Chun Gon Kim, Assistant Professor, Aerospace Engineering
Dr. Moo Shin Lee, Professor, Management Policies
Dr. Pyung Il Yoo, Assistant Professor, Management Science
Dr. Young Dae Kim, Assistant Professor, Industrial Engineering
Dr. Kyung Won Chung, Associate Professor, Industrial Design
Dr. Do Hyun Kim, Assistant Professor, Chemical Engineering
Dr. Kwangsoo No, Associate Professor, Ceramics Engineering
Dr. Hyuck Mo Lee, Assistant Professor, Materials Science and Engineering
Dr. Joung Yong Lee, Associate Professor, Electronics Materials Engineering
Dr. Seung Rae Lee, Associate Professor, Civil Engineering
Dr. Iickho Song, Associate Professor, Electrical Engineering
Dr. Sang Woo Kim, Associate Professor, Electrical Engineering
Dr. Kwangyeoun Won, Associate Professor, Computer Science.

Dr. Yong-Taek Im, the Director of International Relations and Mr. ChanSeok Park were responsible for the preparation of Volume I and II. The faculty members were responsible for preparing their own faculty information sheets and were assigned the preparation of course summaries by the departmental representative.

Draft copy of the report was reviewed by the members of the ABET Steering Committee, who provided comments and suggestions for improvement.

B. Pattern and Philosophy of Education

Discuss how, if at all, the pattern and philosophy of education have changed at this institution since the last EAC of ABET evaluation, or during the last five years if this is an initial evaluation:

Since this is the initial evaluation by ABET team, the important changes in pattern and philosophy during the last five years will be given.

The following traits mark education at KAIST:

KAIST's single most outstanding trait lies in putting its excellent faculties, educational system and frontier facilities into use for not only for theoretical education but also for on-site, application oriented education through frontier research and laboratory experiments.

In addition, for the purpose of attracting high-caliber manpower for teaching, KAIST appoints distinguished professors for research and instruction. Those with distinguished professorships are awarded financial grants for their educational and research activities.

The basic objectives of KAIST are:

- To educate and develop high-caliber manpower with competence in both abstruse theory and practical applications in the fields of science and engineering:
- To conduct research on frontier science and advanced technologies; and
- To carry out international cooperation in both academic affairs and R&D.

Undergraduate Programs:

For the first time ever in Korea, KAIST has successfully admitted a portion of its entering class in 1992 by waiving entrance examinations. The process was implemented to recruit and select scientifically gifted applicants by emphasizing their creativity and the ability to apply their talents to different tasks rather than their test-taking capabilities. The no-exam procedure was carried out on an experimental basis for the first time in 1991 for the admission of master's students.

Those students admitted to undergraduate program are guaranteed on-campus room and board, and access to libraries and laboratory facilities. In addition, they are guaranted full-scholarship.

The undergraduate program is highly flexible. Students may take graduate courses for credit and use those credits toward advanced degrees in the event when they enroll for graduate studies. Another flexible feature is

that the traditional four-year concept does not exist. Students thus may complete their course works according to their abilities, thus enabling them early graduation and/or the completion of their Ph.D.s in their 20s.

To support this system, academic semesters continue through summer and winter recesses, allowing year-round registration for students. Accelerated program is also carried out by the parallel implementation of courses that give credits through examination only.

Undergraduate students may decide on their major after three to four semesters during which they take basic and elective courses according to individual interests and abilities. There are no limitations in student enrollment at the department level.

In addition, computers are a required facet of undergraduate education. Integration of classroom and on-site instruction, experiment-oriented instruction and individual instruction to instill ability to carry out independent research, as well as group studies are readily available.

Graduate Programs:

The following are the characteristics marking graduate studies at the KAIST, for M.S. and Ph.D. degrees.

KAIST graduate students are divided into two groups, those supported on governmental or industrial scholarships, and research fellowship students with the status of researchers employed by the government research institutes, industries and universities.

KAIST provides all expenses for students on governmental scholarships. Industry-supported students, already with the basis on industries, receive their assistance, in exchange for an obligatory employment following graduation.

Research fellowship students with researcher status are working for governmental, academic and research institutions and may register on part- or full-time basis. This option leading to master's or Ph.D. degrees was implemented in 1982.

Programs leading to M.S. or Ph.D. degrees put their emphasis on individual instruction for thesis writing. In particular, all Ph.D.

candidates are required to publish their works in internationally recognized journals to ensure the quality of the thesis work.

Graduate students, whether working for M.S. or Ph.D. degrees are also allowed to take part in research projects which various governmental research groups and private industries assigned to KAIST, so that they may develop capacity for independent research and practical applications of their knowledge.

Post-Doctorate Program:

Korea's demand for high-tech manpower is fast-arising due to its rapid industrial development. But the supply of high-caliber manpower continues to be in shortage. To this end, KAIST seeks to lessen such manpower shortage and responds to national developmental strategy in science and technology. In doing so, KAIST places its utmost endeavors on its Ph.D. programs and is also working toward gradual increase of its student body. Another way of fostering quality education and training students to apply their knowledge to practical problems is through post doctorate programs, which extends Ph.D. degree holders' chance to prolong their independent research.

Branch Campuses:

In addition, for the purpose of boosting Korean industries' international competitiveness, KAIST has newly established on its Seoul branch campus a graduate program specifically catering to industrial needs. Participants can work toward their M.S. or Ph.D. degrees while continuing their employment.

In the southern city of Kwangju, KAIST also aims to establish another branch campus for the 1995 opening, in turn establishing the Seoul-Taejon-Kwangju networking of the cradle of high-tech education.

In 1991, KAIST introduced the five School system and newly established the Department of Industrial and Public Management. In addition, department of biology was divided into the Biotechnology and Life Science departments and Materials Science and Engineering divided into Electronic Materials Science and Engineering, Materials Science and Engineering, and Ceramic Science and Engineering. Aeronautical Engineering department was renamed into Aeronautics and Aerospace

Engineering.

Departments of Industrial Engineering, Nuclear Engineering, and Civil Engineering launched their undergraduate programs while Department of Industrial Design launched Master Programs.

Programs:

At present, number of departments grow to 20 departments offering degrees in Taejon Main Campus and five School systems are introduced as follows:

- School of Natural Sciences
  - Department of Physics,
  - Department of Biotechnology,
  - Department of Life Science,
  - Department of Mathematics, and
  - Department of Chemistry;
- School of Mechanical Engineering
  - Department of Mechanical Engineering,
  - Department of Production Engineering,
  - Department of Aerospace Engineering, and
  - Department of Nuclear Engineering;
- School of Industrial Management
  - Department of Industrial Engineering,
  - Department of Management Science,
  - Department of Industrial and Public Management, and
  - Department of Industrial Design;
- School of Applied Engineering
  - Department of Electronic Materials Science and Engineering,
  - Department of Materials Science and Engineering,
  - Department of Ceramic Science and Engineering,
  - Department of Chemical Engineering, and
  - Department of Civil Engineering;
- School of Information and Electronics
  - Department of Electrical Engineering and
  - Department of Computer Science.

For the goal of educating well-rounded scientists and engineers who will no doubt face the need for knowledge in numerous disciplines outside their majors, KAIST is currently trying to expand the Division of

Humanities and Social Sciences into School of Humanities and Social Sciences.

Research Directions:

Based on the knowledge and skills accumulated, KAIST's basic research directions are set for:

- Contributing to the advancement in national science and technology through both basic and applied research;
- Developing key industrial technologies that will play pivotal roles in the next century;
- Supplementing needed technologies to industries and furthering academic-industry cooperation; and
- Promoting joint projects with international organizations for strengthening international cooperation.

Research Institutes:

In line with the above goals, as a research-oriented educational institution, high-caliber research is in progress at KAIST's 5 affiliated research institutes, including the Natural Science Research Institute, the Mechanical Engineering Research Institute, the Research Institute of Industrial Engineering and Management, the Research Institute of Applied Science, and the Information and Electronics Research Institute, and the 18 research centers, among which are the Satellite Technology Research Center, the Biological Process Engineering Research Center, the Center for Artificial Intelligence Research, the Energy and Environment Research Center, the Center for Interface Science and Engineering of Materials, the Electronic Ceramic Material Research Center, the Center for Advanced Reactor Research, and the Molecular Science Research Center. These research centers are funded by the Korea Science & Engineering Foundation, the Ministry of Commerce and Industry, and the Ministry of Energy and Resources.

National and International Cooperation:

While KAIST cooperates with universities and research institutes of advanced nations like the United States, the United Kingdom and Japan, it puts equal emphasis on technological cooperation with developing countries.

The opening of Taeduk main campus in March 1990 signaled a full-fledged opening of the new era. For KAIST, the relocation to the Taeduk Science Town has meant ideal opportunities to cooperate with 28 other public and private research institutes in the vicinity. The geographic location and environment should allow for maximum benefits to both educational and research objectives.

C. Action to Correct Previous Weaknesses

N/A

D. Major Developments Since Previous Visit

N/A

E. Plans for Future Development

Indicate any significant plans which are being made by the educational unit as a whole for future development of its programs of instruction and related research activities:

In order to strengthen the undergraduate education in humanities, social sciences and basic-level sciences and engineering, an independent unit as a School level, yet to be formally named, will be established during the academic year of 1992. Among the participants will be all the faculty in the existing Division of Humanities and Social Sciences and distinguished faculty members from the basic science departments.

The school's size, presently 5,000 enrolled students and 9,000 alumni, is expected to grow into 10,000 students and 30,000 alumni in the next 10 years, making KAIST an internationally renowned educational and research institution. KAIST tries to maintain the ratio between students and faculty members as 10

to 1 in order to provide high-quality education.

KAIST is trying to build the Technical Innovation Center to incubate the prototype development of new ideas from the academia.

The research will be further activated in various ways: first, the cooperation with other research institutes located in the Taeduk Science Town will be actively sought. Second, the development of joint research projects with outside institutions, both government-supported and private, will be promoted. Third, interdisciplinary programs in research and other activities will be actively developed. In order to encourage theoretical research which is relatively poorly funded and to give firm theoretical background to strongly motivated students, a tentative plan for Theoretical Research Center for Basic Sciences as a member of the Research Institute of Natural Sciences is under consideration.

The Alumni Association plays an active role in further development of KAIST. The association's fund-raising drive among its more than 9,000 members is intended for the building of a memorial monument, the creation of library funds and contribution toward the KAIST Foundation.

F. Strengths of Educational Unit

Describe and discuss the principal strengths of the institute as a whole:

The following is a listing of some of the strong points of the institute:

1. Faculty members educated at the best of the Korean and/or international universities who are dedicated to providing sound education and various research experiences in science and engineering fields.
2. Ratio between students and faculties is low and about 17 to 1 including both undergraduates and graduates. National average is approximately 40 to 1 in universities.
3. Tuitions are free for undergraduates and government-supported graduate students. An Industry-supported graduate programs are available for those who are employed by the government research institutes, industries and universities.
4. Minimum requirement of faculties' teaching load is only 6 credit hours per year, which breaks down to two classes for the entire academic year.
5. The programs are oriented toward the practice of science and engineering.

6. Excellent students who are within top 3 percent and are willing to work very hard to pursue a career in science and technology.
7. All major courses are taught by full-time faculty members.
8. Experimental facilities are in good shape and are readily available.
9. Most of B.S. graduates (60 percent) enrolled in advance programs.
10. The graduates are in high demand from industries and the government. They are leaders in their respective fields, and their contributions to Korea's economic and industrial growth are surmountable.
11. The program is oriented toward the graduate study and 56 percent of Ph.D.s received their degree while still in their 20s.
12. Easy access to computer facilities and computer networking through LAN-system at institution level.
13. Active participation to professional technical meetings.

G. Limitations of Educational Unit

Describe and discuss the principal limitations of the institution as a whole:

Governmental support is reduced and personnel funding continues to be one of the major problems. The faculty salaries were very competitive in 70's and 80's, but are relatively low compared to private industries while staff salaries are competitive. Since KAIST has Engineering and Science programs only, the overall diversity of the program is lacking.

In addition, starting as an institution for graduate training and research, KAIST has been strongly oriented toward graduate education. The relatively new undergraduate programs in the curriculum of humanities and social sciences, therefore, need to be paid special attention. Many of the courses in humanities and social sciences are taught by part-time lecturers. The excessively large class size in some of the courses needs to be reduced.

More active development of interdisciplinary activities in research and education needs to be encouraged.

H. Short-Range Goals

Describe and discuss the principal short-range goals of the institution as a whole and the degree to which these goals are being met:

The institution has the following short range goals:

1. Maintaining superb-quality education and research
2. Finding ways to sustain and improve international corporation
3. Nurturing development of key basic sciences and industrial technologies
4. Maintaining a high-quality student body
5. Improving a diversity of educational environment in fields of humanities and social sciences
6. Improving the relationships with other research institutes in Taeduk science town
7. Developing computer networking and data base for administrative support.
8. Luring best of the applicants away from Seoul, which also produces the largest pool of the nation's top-quality high school graduates.

I. Long-Range Goals

Describe and discuss the principal long-range goals of the institution as a whole and the degree to which these goals are being met:

The long-range goal of KAIST is to build a world class university (such as MIT) of excellence in both research and education for the future. In order to accomplish this goal the most important things are maintaining top quality of faculty members, students, and supportive staffs. Thus, faculty salary should be competitive and living environment around campus should be convenient. For preparation of financial cut off from the Government, we have to develop long-term planning for self-financing.

III. General Information Related to the Educational Unit

A. Educational Units

Describe the educational unit listing those departments, divisions, programs, etc.:

The current academic structure includes five Schools: the School of Natural Sciences, the School of Mechanical Engineering, the School of Industry and Management, the School of Information and Electronics, and the School of Applied Engineering.

At present, number of departments grow to 20 departments offering degrees in Taejon Main Campus as follows:

- School of Natural Sciences
  - Department of Physics,
  - Department of Biotechnology,
  - Department of Life Science,
  - Department of Mathematics, and
  - Department of Chemistry;

- School of Mechanical Engineering
  - Department of Mechanical Engineering,
  - Department of Production Engineering,
  - Department of Aerospace Engineering, and
  - Department of Nuclear Engineering;

- School of Industrial Management
  - Department of Industrial Engineering,
  - Department of Management Science,
  - Department of Industrial and Public Management, and
  - Department of Industrial Design;

- School of Applied Engineering
  - Department of Electronic Materials Science and Engineering,
  - Department of Materials Science and Engineering,
  - Department of Ceramic Science and Engineering,
  - Department of Chemical Engineering, and
  - Department of Civil Engineering;

- School of Information and Electronics
  - Department of Electrical Engineering and
  - Department of Computer Science.

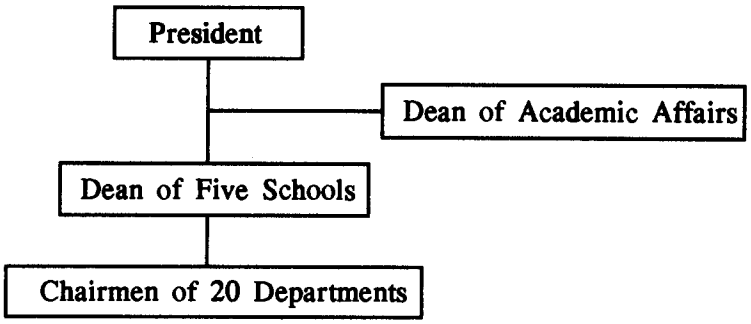
B. Administrative Head

Give the name and title of the administrative head of the principal educational unit:

Dr. Duk-In Choi, Dean, School of Natural Sciences
Dr. Byung Man Kwak, Dean, School of Mechanical Engineering
Dr. Jinjoo Lee, Dean, School of Industrial Management
Dr. Sung Chul Kim, Dean, School of Applied Engineering
Dr. Gil Chang Kim, Dean, School of Information and Electronics

C. Position of Educational Programs in Organization

Provide an organizational chart listing each official by title. Describe the role of each in (a) the budget process, and (b) faculty hiring, promotion, tenure, and salary adjustments.



All of the administrators are involved in the budget process. Budget requests are initiated by the department chairmen and forwarded to the president by the dean of five schools. The budget requests are then reviewed by the Planning & Management Committee. The members of the Planning & Management Committee are Dean of Academic Affairs, Dean of Institute Planning Affairs, Manager of Institute Budget Division. The Chairman of the Planning & Management Committee is the President. The Planning & Management Committee submits a budget to the Chairman of the Board of Trustees for final approval.

For hiring new faculty members, faculty members in the department, in conjunction with the institution's opening, have primary responsibility. Letters of appointments for new faculty signed by the Department Personnel Review Committee members and Department Chair forwarded to the Institution

Personnel Review Committee through the School Personnel Review Committee. The Chairmen of the School and Institution Personnel Review Committees are the Dean of each School and the president, respectively. Final approval should be obtained by the Board of Trustees.

The Department, School, and Institution Personnel Review Committees are involved in promotion and tenure decision based on faculty's performance in teaching, research, and community service.

Salary adjustments are based on the salary schedule established by the Ministry of Science and Technology.

D. Research Organization

List and describe all research organizations, institutions, or other related facilities which are part of the education unit and indicate how they relate to the operation of the program:

School of Natural Sciences has the following research centers:

- The Natural Science Research Institute:
  - Mathematics Research Center
  - Applied Mathematics Research Center
  - Laser Science Research Center
  - High Energy Physics Research Center
  - Catalytic Processing Research Center, and
- Molecular Science Research Center is funded by KOSEF(Korea Science and Engineering Foundation).

School of Mechanical Engineering has the following research centers and laboratories:

- The Mechanical Engineering Research Institute:
  - Center for Production Technology Innovation
  - Center for Noise and Vibration Control
  - Laboratory for Mechanical Systems Design
  - Laboratory for Computational Stress Analysis and Strength
  - Laboratory for Energy Conversion Systems
  - Laboratory for Fluid Engineering
  - Laboratory for Automation and Robotics
  - Laboratory for Precision Machining Systems
  - Laboratory for Precision Machine Systems
  - Laboratory for Net-Shape Manufacturing

- Laboratory for Aerospace Engineering
- Laboratory for Nuclear Safety, and

● Center for Advanced Reactor Research is funded by KOSEF (Korea Science and Engineering Foundation).

School of Industrial Management has the following research centers:

● The Research Institute of Industrial Engineering and Management:
- Technology and Economy Research Laboratory
- Systems Design and Operation Management Laboratory
- CAM Research Laboratory
- Management of Information and Telecommunication Laboratory
- Industrial Policy Analysis Laboratory
- Management of Technology and Strategy Laboratory
- Product - Environment System Design Laboratory
- Computer Graphics Research Laboratory.

School of Applied Engineering has the following research centers:

● The Research Institute of Applied Science:
- Electronic Ceramic Material Research Center, and

● Biological Process Engineering Research Center and

● Center for Interface Science and Engineering of Materials are sponsored by KOSEF (Korea Science and Engineering Foundation).

● Energy and Environment Research Center is sponsored by the Ministry of Energy and Resources.

● Electronic Ceramic Material Research Center is sponsored by the Ministry of Commerce and Industry.

School of Information and Electronics has the following research centers:

● The Information and Electronics Research Institute:
- Center for Industrial Electronics Technology
- Center for High-Speed Integral Circuit, and

● Satellite Technology Research Center and

● Center for Artificial Intelligence Research are operated by funds from KOSEF (Korea Science and Engineering Foundation).

The areas of research of the above research centers should be implicated by their names.

Except for the Molecular Science Research Center, the Center for Advanced Reactor Research, the Biological Process Engineering Research Center, the Center for Interface Science and Engineering of Materials, the Energy and Environment Research Center, the Electronic Ceramic Material Research

Center, the Satellite Technology Research Center, and the Center for Artificial Intelligence Research, all other research centers and laboratories are operated by funds from KAIST and research projects of participating professors.

Undergraduate and graduate students who are interested in joining research work in one of theses areas can work as a Research Assistant. Some facilities at these centers can be used for course work.

E. Programs Offered and Degrees Granted

List the full titles of all degrees in programs - undergraduate, graduate, and professional - granted by the institution:

Bachelor of Science in Physics
Bachelor of Science in Mathematics
Bachelor of Science in Chemistry
Bachelor of Science in Biotechnology
Bachelor of Science in Life Science
Bachelor of Science in Mechanical Engineering
Bachelor of Science in Production Engineering
Bachelor of Science in Aerospace Engineering
Bachelor of Science in Nuclear Engineering
Bachelor of Science in Industrial Engineering
Bachelor of Science in Management Science
Bachelor of Science in Industrial and Public Management
Bachelor of Science in Industrial Design
Bachelor of Science in Materials Science and Engineering
Bachelor of Science in Electronic Materials Science and Engineering
Bachelor of Science in Ceramic Science and Engineering
Bachelor of Science in Chemical Engineering
Bachelor of Science in Civil Engineering
Bachelor of Science in Electrical Engineering
Bachelor of Science in Computer Science

All departments offer day programs only and Master of Science and Doctor of Philosophy programs except for Industrial Design which offers Master of Science only.

Refer to Table III (part 1) in page 26.

Refer to Table III (part 2) in page 27.

Table III (Part1)
PROGRAMS OFFERED AS OF FALL 1991

Table III (Part2)

F. Information regarding administrators

Refer to curriculum vitae in pages of 28 - 32.

G. Supporting Departments

Complete Table IV for all academic supporting units that provide any required portion of the instruction for students:

Refer to Table IV in page 33.

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TABLE IV
SUPPORTING ACADEMIC DEPARTMENTS OR UNITS

IV. Finances

A. Fiscal Year

Define your fiscal year:

January 1 - December 31

B. Expenditures for Support Functions

Using the format of Table V, report the expenditures for support functions of the educational unit as a whole and for each program evaluated. The information is to be supplied for each of the three most current fiscal years. An updated report is to be provided at the time of the visit:

Refer to Table V in pages from 34 to 42.

TABLE V
SUPPORT EXPENDITURES OF EDUCATIONAL UNIT OR PROGRAM

Unit or Program *The Institution as a whole*

Fiscal Year *1989 - 1992*

	1	2	3	4
Fiscal Year	*Jan. 1,1989- Dec. 31,1989*	*Jan. 1,1990- Dec. 31,1990*	*Jan. 1,1991- Dec. 31,1991*	*Jan. 1,1992- Dec. 31,1992*
Expenditure Category	(prior to previous year)	(previous year)	(current year)	(year) "of visit"
Operations (not including staff)	*$57,445*	*$149,764*	*$129,264*	*$151,400*
Travel	*$44,769*	*$64,714*	*$63,338*	*$53,258*
Equipment	*$3,596,300*	*$4,293,300*	*$9,821,300*	*$6,558,400*
Institutional Funds	*$3,596,300*	*$4,293,300*	*$9,821,300*	*$6,558,400*
Grants and Gifts	*0*	*0*	*0*	*0*
Graduate Teaching Assistants	*$911,017*	*$867,216*	*$892,960*	*$964,662*
Part-time Assistance (Other than teaching)	*$36,480*	*$39,520*	*$42,560*	*$45,600*

Unit or Program *Dept. of Physics*
Fiscal Year *1989 - 1992*

	1	2	3	4
Fiscal Year	*Jan. 1,1989- Dec. 31,1989*	*Jan. 1,1990- Dec. 31,1990*	*Jan. 1,1991- Dec. 31,1991*	*Jan. 1,1992- Dec. 31,1992*
Expenditure Category	(prior to previous year)	(previous year)	(current year)	(year) "of visit"
Operations (not including staff)	*$3,591*	*$11,339*	*$9,872*	*$9,981*
Travel	*$3,655*	*$6,115*	*$5,049*	*$4,399*
Equipment	*$279,442*	*$333,600*	*$763,141*	*$509,606*
Institutional Funds	*$279,442*	*$333,600*	*$763,141*	*$509,606*
Grants and Gifts	*0*	*0*	*0*	*0*
Graduate Teaching Assistants	*$66,795*	*$64,151*	*$67,584*	*$75,727*
Part-time Assistance (Other than teaching)	*$1,920*	*$2,080*	*$2,240*	*$2,400*

Unit or Program *Dept. of Biological Science & Engineering*
Fiscal Year *1989 - 1992*

	1	2	3	4
Fiscal Year	*Jan. 1,1989- Dec. 31,1989*	*Jan. 1,1990- Dec. 31,1990*	*Jan. 1,1991- Dec. 31,1991*	*Jan. 1,1992- Dec. 31,1992*
Expenditure Category	(prior to previous year)	(previous year)	(current year)	(year) "of visit"
Operations (not including staff)	*$3,783*	*$9,883*	*$8,032*	*$10,975*
Travel	*$1,643*	*$3,847*	*$2,743*	*$3,687*
Equipment	*$206,544*	*$246,574*	*$564,061*	*$376,665*
Institutional Funds	*$206,544*	*$246,574*	*$564,061*	*$376,665*
Grants and Gifts	*0*	*0*	*0*	*0*
Graduate Teaching Assistants	*$55,453*	*$50,864*	*$48,023*	*$50,668*
Part-time Assistance (Other than teaching)	*$1,920*	*$2,080*	*$2,240*	*$2,400*

Unit or Program *Dept. of Mathematics*

Fiscal Year *1989 - 1992*

	1	2	3	4
Fiscal Year	Jan. 1,1989-Dec. 31,1989	Jan. 1,1990-Dec. 31,1990	Jan. 1,1991-Dec. 31,1991	Jan. 1,1992-Dec. 31,1992
Expenditure Category	(prior to previous year)	(previous year)	(current year)	(year) "of visit"
Operations (not including staff)	$2,903	$9,800	$8,272	$8,337
Travel	$1,337	$4,916	$4,211	$3,047
Equipment	$218,694	$261,078	$597,241	$398,822
Institutional Funds	$218,694	$261,078	$597,241	$398,822
Grants and Gifts	0	0	0	0
Graduate Teaching Assistants	$40,385	$41,969	$44,165	$54,223
Part-time Assistance (Other than teaching)	$3,840	$4,160	$4,480	$4,800

Unit or Program *Dept. of Chemistry*

Fiscal Year *1989 - 1992*

	1	2	3	4
Fiscal Year	Jan. 1,1989-Dec. 31,1989	Jan. 1,1990-Dec. 31,1990	Jan. 1,1991-Dec. 31,1991	Jan. 1,1992-Dec. 31,1992
Expenditure Category	(prior to previous year)	(previous year)	(current year)	(year) "of visit"
Operations (not including staff)	$3,935	$11,256	$9,632	$9,589
Travel	$8,789	$6,964	$12,073	$3,531
Equipment	$279,442	$333,600	$763,141	$509,606
Institutional Funds	$279,442	$333,600	$763,141	$509,606
Grants and Gifts	0	0	0	0
Graduate Teaching Assistants	$70,203	$68,485	$68,061	$73,380
Part-time Assistance (Other than teaching)	$1,920	$2,080	$2,240	$2,400

Unit or Program *Dept. of Mechanical Engineering*

Fiscal Year *1989 - 1992*

	1	2	3	4
Fiscal Year	*Jan. 1,1989- Dec. 31,1989*	*Jan. 1,1990- Dec. 31,1990*	*Jan. 1,1991- Dec. 31,1991*	*Jan. 1,1992- Dec. 31,1992*
Expenditure Category	(prior to previous year)	(previous year)	(current year)	(year) "of visit"
Operations (not including staff)	*$4,775*	*$11,389*	*$10,432*	*$10,769*
Travel	*$3,725*	*$3,945*	*$4,816*	*$4,980*
Equipment	*$328,041*	*$391,617*	*$895,861*	*$598,233*
Institutional Funds	*$328,041*	*$391,617*	*$895,861*	*$598,233*
Grants and Gifts	*0*	*0*	*0*	*0*
Graduate Teaching Assistants	*$79,964*	*$77,422*	*$78,994*	*$88,316*
Part-time Assistance (Other than teaching)	*$1,920*	*$2,080*	*$2,240*	*$2,400*

Unit or Program *Dept. of Nuclear Engineering*

Fiscal Year *1989 - 1992*

	1	2	3	4
Fiscal Year	*Jan. 1,1989- Dec. 31,1989*	*Jan. 1,1990- Dec. 31,1990*	*Jan. 1,1991- Dec. 31,1991*	*Jan. 1,1992- Dec. 31,1992*
Expenditure Category	(prior to previous year)	(previous year)	(current year)	(year) "of visit"
Operations (not including staff)	*$3,551*	*$5,836*	*$5,392*	*$5,837*
Travel	*$2,575*	*$2,439*	*$1,309*	*$1,566*
Equipment	*$109,347*	*$130,539*	*$298,620*	*$199,411*
Institutional Funds	*$109,347*	*$130,539*	*$298,620*	*$199,411*
Grants and Gifts	*0*	*0*	*0*	*0*
Graduate Teaching Assistants	*$22,028*	*$20,177*	*$18,079*	*$18,606*
Part-time Assistance (Other than teaching)	*$1,920*	*$2,080*	*$2,240*	*$2,400*

Unit or Program *Dept. of Production Engineering*

Fiscal Year *1989 - 1992*

	1	2	3	4
Fiscal Year	*Jan. 1,1989- Dec. 31,1989*	*Jan. 1,1990- Dec. 31,1990*	*Jan. 1,1991- Dec. 31,1991*	*Jan. 1,1992- Dec. 31,1992*
Expenditure Category	(prior to previous year)	(previous year)	(current year)	(year) "of visit"
Operations (not including staff)	*$3,551*	*$10,165*	*$8,272*	*$8,445*
Travel	*$1,975*	*$3,649*	*$4,211*	*$3,242*
Equipment	*$218,694*	*$261,078*	*$597,241*	*$398,822*
Institutional Funds	*$218,694*	*$261,078*	*$597,241*	*$398,822*
Grants and Gifts	*0*	*0*	*0*	*0*
Graduate Teaching Assistants	*$56,539*	*$61,267*	*$67,977*	*$76,904*
Part-time Assistance (Other than teaching)	*$1,920*	*$2,080*	*$2,240*	*$2,400*

Unit or Program *Dept. of Aerospace Engineering*

Fiscal Year *1989 - 1992*

	1	2	3	4
Fiscal Year	*Jan. 1,1989- Dec. 31,1989*	*Jan. 1,1990- Dec. 31,1990*	*Jan. 1,1991- Dec. 31,1991*	*Jan. 1,1992- Dec. 31,1992*
Expenditure Category	(prior to previous year)	(previous year)	(current year)	(year) "of visit"
Operations (not including staff)	*$3,015*	*$5,940*	*$5,392*	*$5,837*
Travel	*$956*	*$1,439*	*$1,972*	*$2,304*
Equipment	*$109,347*	*$130,539*	*$298,620*	*$199,411*
Institutional Funds	*$109,347*	*$130,539*	*$298,620*	*$199,411*
Grants and Gifts	*0*	*0*	*0*	*0*
Graduate Teaching Assistants	*$29,502*	*$25,942*	*$27,810*	*$29,475*
Part-time Assistance (Other than teaching)	*$1,920*	*$2,080*	*$2,240*	*$2,400*

Unit or Program *Dept. of Management Science*

Fiscal Year *1989 - 1992*

	1	2	3	4
Fiscal Year	*Jan. 1,1989- Dec. 31,1989*	*Jan. 1,1990- Dec. 31,1990*	*Jan. 1,1991- Dec. 31,1991*	*Jan. 1,1992- Dec. 31,1992*
Expenditure Category	(prior to previous year)	(previous year)	(current year)	(year) "of visit"
Operations (not including staff)	*$3,895*	*$10,213*	*$8,112*	*$12,113*
Travel	*$2,293*	*$3,399*	*$3,507*	*$4,107*
Equipment	*$230,843*	*$275,583*	*$630,421*	*$420,979*
Institutional Funds	*$230,843*	*$275,583*	*$630,421*	*$420,979*
Grants and Gifts	*0*	*0*	*0*	*0*
Graduate Teaching Assistants	*$31,127*	*$28,968*	*$29,342*	*$31,324*
Part-time Assistance (Other than teaching)	*$1,920*	*$2,080*	*$2,240*	*$2,400*

Unit or Program *Dept. of Industrial Engineering*

Fiscal Year *1989 - 1992*

	1	2	3	4
Fiscal Year	*Jan. 1,1989- Dec. 31,1989*	*Jan. 1,1990- Dec. 31,1990*	*Jan. 1,1991- Dec. 31,1991*	*Jan. 1,1992- Dec. 31,1992*
Expenditure Category	(prior to previous year)	(previous year)	(current year)	(year) "of visit"
Operations (not including staff)	*$3,399*	*$6,420*	*$6,192*	*$6,421*
Travel	*$1,347*	*$2,017*	*$1,719*	*$1,726*
Equipment	*$145,796*	*$174,052*	*$398,160*	*$265,881*
Institutional Funds	*$145,796*	*$174,052*	*$398,160*	*$265,881*
Grants and Gifts	*0*	*0*	*0*	*0*
Graduate Teaching Assistants	*$48,546*	*$43,103*	*$41,777*	*$45,861*
Part-time Assistance (Other than teaching)	*$1,920*	*$2,080*	*$2,240*	*$2,400*

Unit or Program *Dept. of Industrial Design*

Fiscal Year *1989 - 1992*

	1	2	3	4
Fiscal Year	Jan. 1,1989-Dec. 31,1989	Jan. 1,1990-Dec. 31,1990	Jan. 1,1991-Dec. 31,1991	Jan. 1,1992-Dec. 31,1992
Expenditure Category	(prior to previous year)	(previous year)	(current year)	(year) "of visit"
Operations (not including staff)	N/A	$3,380	$4,832	$5,490
Travel	N/A	$996	$1,461	$1,143
Equipment	$72,898	$87,026	$199,080	$132,941
Institutional Funds	$72,898	$87,026	$199,080	$132,941
Grants and Gifts	0	0	0	0
Graduate Teaching Assistants	0	0	$3,719	$6,379
Part-time Assistance (Other than teaching)	$1,920	$2,080	$2,240	$2,400

Unit or Program *Dept. of Materials Science & Engineering*

Fiscal Year *1989 - 1992*

	1	2	3	4
Fiscal Year	Jan. 1,1989-Dec. 31,1989	Jan. 1,1990-Dec. 31,1990	Jan. 1,1991-Dec. 31,1991	Jan. 1,1992-Dec. 31,1992
Expenditure Category	(prior to previous year)	(previous year)	(current year)	(year) "of visit"
Operations (not including staff)	$4,139	$11,787	$10,032	$15,661
Travel	$3,812	$5,629	$4,531	$4,246
Equipment	$291,592	$348,104	$796,321	$531,763
Institutional Funds	$291,592	$348,104	$796,321	$531,763
Grants and Gifts	0	0	0	0
Graduate Teaching Assistants	$73,558	$69,180	$72,390	$73,133
Part-time Assistance (Other than teaching)	$3,840	$4,160	$4,480	$4,800

Unit or Program *Dept. of Civil Engineering*

Fiscal Year *1989 - 1992*

	1	2	3	4
Fiscal Year	*Jan. 1,1989- Dec. 31,1989*	*Jan. 1,1990- Dec. 31,1990*	*Jan. 1,1991- Dec. 31,1991*	*Jan. 1,1992- Dec. 31,1992*
Expenditure Category	(prior to previous year)	(previous year)	(current year)	(year) of visit"
Operations (not including staff)	*$3,095*	*$5,340*	*$5,152*	*$5,598*
Travel	*$1,460*	*$1,272*	*$1,084*	*$1,317*
Equipment	*$85,048*	*$101,530*	*$232,260*	*$155,097*
Institutional Funds	*$85,048*	*$101,530*	*$232,260*	*$155,097*
Grants and Gifts	*0*	*0*	*0*	*0*
Graduate Teaching Assistants	*$33,644*	*$30,871*	*$30,460*	*$32,618*
Part-time Assistance (Other than teaching)	*$1,920*	*$2,080*	*$2,240*	*$2,400*

Unit or Program *Dept. of Chemical Engineering*

Fiscal Year *1989 - 1992*

	1	2	3	4
Fiscal Year	*Jan. 1,1989- Dec. 31,1989*	*Jan. 1,1990- Dec. 31,1990*	*Jan. 1,1991- Dec. 31,1991*	*Jan. 1,1992- Dec. 31,1992*
Expenditure Category	(prior to previous year)	(previous year)	(current year)	(year) "of visit"
Operations (not including staff)	*$3,839*	*$10,160*	*$8,192*	*$8,887*
Travel	*$2,341*	*$3,711*	*$2,864*	*$3,087*
Equipment	*$230,843*	*$275,583*	*$630,421*	*$420,979*
Institutional Funds	*$230,843*	*$275,583*	*$630,421*	*$420,979*
Grants and Gifts	*0*	*0*	*0*	*0*
Graduate Teaching Assistants	*$54,283*	*$50,717*	*$54,735*	*$50,108*
Part-time Assistance (Other than teaching)	*$1,920*	*$2,080*	*$2,240*	*$2,400*

Unit or Program *Dept. of Electrical Engineering*

Fiscal Year *1989 - 1992*

	1	2	3	4
Fiscal Year	*Jan. 1,1989- Dec. 31,1989*	*Jan. 1,1990- Dec. 31,1990*	*Jan. 1,1991- Dec. 31,1991*	*Jan. 1,1992- Dec. 31,1992*
Expenditure Category	(prior to previous year)	(previous year)	(current year)	(year) "of visit"
Operations (not including staff)	*$5,735*	*$15,752*	*$14,592*	*$16,106*
Travel	*$5,545*	*$10,216*	*$8,495*	*$6,870*
Equipment	*$510,285*	*$609,182*	*$1,393,562*	*$930,585*
Institutional Funds	*$510,285*	*$609,182*	*$1,393,562*	*$930,585*
Grants and Gifts	*0*	*0*	*0*	*0*
Graduate Teaching Assistants	*$158,318*	*$148,161*	*$146,342*	*$159,827*
Part-time Assistance (Other than teaching)	*$1,920*	*$2,080*	*$2,240*	*$2,400*

Unit or Program *Dept. of Computer Science*

Fiscal Year *1989 - 1992*

	1	2	3	4
Fiscal Year	*Jan. 1,1989- Dec. 31,1989*	*Jan. 1,1990- Dec. 31,1990*	*Jan. 1,1991- Dec. 31,1991*	*Jan. 1,1992- Dec. 31,1992*
Expenditure Category	(prior to previous year)	(previous year)	(current year)	(year) "of visit"
Operations (not including staff)	*$4,239*	*$11,104*	*$6,864*	*$11,354*
Travel	*$3,316*	*$4,160*	*$3,293*	*$4,006*
Equipment	*$279,442*	*$333,600*	*$763,141*	*$509,606*
Institutional Funds	*$279,442*	*$333,600*	*$763,141*	*$509,606*
Grants and Gifts	*0*	*0*	*0*	*0*
Graduate Teaching Assistants	*$90,672*	*$85,939*	*$93,502*	*$98,113*
Part-time Assistance (Other than teaching)	*$1,920*	*$2,080*	*$2,240*	*$2,400*

C. Categories of Expenditures for Operations

List the categories of expenditures included under Operations in Table V :

The items included under operations in Table V consist of the following:

Educational Supplies,
Maintenance Contracts,
Office Supplies,
Postage,
Printing,
Telephone and Fax, and
Work-Study Assistants.

The budgets for equipment repair, postage, and printing are nominally included in the budget for the Dean's office.

V. Personnel and Policies

A. Personnel

Indicate number of personnel, both full-time and part-time, for the entire institution and for each program being evaluated:

Refer to Table VI in pages from 44 to 60.

Table VI
PERSONNEL AND STUDENTS

Units or Program: *The Institution as a whole*

Year: *Fall, 1991*

	HEAD COUNT		FTE	RATIO TO FACULTY
	FT	PT		
Administrative	16	0	16.0	
Faculty(tenure-track)	311	4	313.4	
Other Faculty(excluding student assistants)	0	45	9.0	
Student Teaching Assistants	35	451	125.2	0.40
Student Research Assistants	0	430	86.0	0.27
Technicians/Specialists	23	0	23.0	0.07
Office/Clerical Employees	41	9	43.7	0.14
Others	0	0	0	0
Undergraduate Students	2288*	0	2288.0	7.3
Graduate Students	2312	459	2618.0	8.35

* Freshmen and sophomores are INCLUDED.

Units or Program: *Dept. of Physics*

Year: *Fall, 1991*

	HEAD COUNT		FTE	RATIO TO FACULTY
	FT	PT		
Administrative	1	0	1	
Faculty(tenure-track)	23	1	23.6	
Other Faculty(excluding student assistants)	0	5	1.0	
Student Teaching Assistants	7	48	16.6	0.70
Student Research Assistants	0	45	9.0	0.38
Technicians/Specialists	2	0	2	0.08
Office/Clerical Employees	3	1	3.3	0.14
Others	0	0	0	0

Undergraduate Students	103*	0	103.0	4.4
Graduate Students	164	26	181.3	7.7

* Freshmen and sophomores are **NOT** included since they do not have to declare yet.

Units or Program: *Dept. of Biological Science & Engineering*

Year: *Fall, 1991*

	HEAD COUNT		FTE	RATIO TO FACULTY
	FT	PT		
Administrative	1	0	1	
Faculty(tenure-track)	17	1	17.6	
Other Faculty(excluding student assistants)	0	1	0.2	
Student Teaching Assistants	0	25	5.0	0.27
Student Research Assistants	0	23	4.6	0.25
Technicians/Specialists	1	0	1.0	0.06
Office/Clerical Employees	3	1	3.3	0.19
Others	0	0	0	0

Undergraduate Students	42*	0	42	2.4
Graduate Students	119	19	131.7	7.5

* Freshmen and sophomores are NOT included since they do not have to declare yet.

Units or Program: *Dept. of Mathematics*

Year: *Fall, 1991*

	HEAD COUNT		FTE	RATIO TO FACULTY
	FT	PT		
Administrative	1	0	1	
Faculty(tenure-track)	18	0	18	
Other Faculty(excluding student assistants)	0	5	1.0	
Student Teaching Assistants	5	34	11.8	0.66
Student Research Assistants	0	0	0	0.0
Technicians/Specialists	0	0	0	0.0
Office/Clerical Employees	2	2	2.7	0.15
Others	0	0	0	0

Undergraduate Students	38*	0	38	2.1
Graduate Students	58	5	61.3	3.4

* Freshmen and sophomores are NOT included since they do not have to declare yet.

Units or Program: *Dept. of Chemistry*

Year: *Fall, 1991*

	HEAD COUNT		FTE	RATIO TO FACULTY
	FT	PT		
Administrative	1	0	1	
Faculty(tenure-track)	23	0	23	
Other Faculty(excluding student assistants)	0	0	0	
Student Teaching Assistants	4	49	13.8	0.60
Student Research Assistants	0	33	6.6	0.29
Technicians/Specialists	2	0	2.0	0.09
Office/Clerical Employees	3	1	3.3	0.14
Others	0	0	0	0

Undergraduate Students	53*	0	53	2.3
Graduate Students	142	18	154	6.7

* Freshmen and sophomores are **NOT** included since they do not have to declare yet.

Units or Program: *Dept. of Mechanical Engineering*

Year: *Fall, 1991*

	HEAD COUNT		FTE	RATIO TO FACULTY
	FT	PT		
Administrative	1	0	1	
Faculty(tenure-track)	27	0	27	
Other Faculty(excluding student assistants)	0	1	0.2	
Student Teaching Assistants	3	38	10.6	0.39
Student Research Assistants	0	44	8.8	0.33
Technicians/Specialists	3	0	3	0.11
Office/Clerical Employees	3	1	3.3	0.12
Others	0	0	0	0

Undergraduate Students	141*	0	141	5.2
Graduate Students	227	64	269.7	10.0

* Freshmen and sophomores are **NOT** included since they do not have to declare yet.

Units or Program: *Dept. of Industrial Engineering*

Year: *Fall, 1991*

	HEAD COUNT		FTE	RATIO TO FACULTY
	FT	PT		
Administrative	1	0	1	
Faculty(tenure-track)	12	0	12	
Other Faculty(excluding student assistants)	0	4	0.8	
Student Teaching Assistants	0	19	3.8	0.32
Student Research Assistants	0	18	3.6	0.30
Technicians/Specialists	1	0	1	0.08
Office/Clerical Employees	2	1	2.3	0.19
Others	0	0	0	0

Undergraduate Students	31*	0	31	2.6
Graduate Students	101	47	132.3	11.0

* Freshmen and sophomores are **NOT** included since they do not have to declare yet.

Units or Program: *Dept. of Production Engineering*

Year: *Fall, 1991*

	HEAD COUNT		FTE	RATIO TO FACULTY
	FT	PT		
Administrative	1	0	1	
Faculty(tenure-track)	18	0	18	
Other Faculty(excluding student assistants)	0	2	0.4	
Student Teaching Assistants	1	28	6.6	0.37
Student Research Assistants	0	17	3.4	0.18
Technicians/Specialists	3	0	3.0	0.17
Office/Clerical Employees	3	1	3.3	0.18
Others	0	0	0	0

Undergraduate Students	114*	0	114	6.3
Graduate Students	138	27	156.0	8.7

* Freshmen and sophomores are NOT included since they do not have to declare yet.

Units or Program: *Dept. of Aerospace Engineering*

Year: *Fall, 1991*

	HEAD COUNT		FTE	RATIO TO FACULTY
	FT	PT		
Administrative	1	0	1	
Faculty(tenure-track)	9	0	9	
Other Faculty(excluding student assistants)	0	0	0	
Student Teaching Assistants	0	15	3.0	0.33
Student Research Assistants	0	13	2.6	0.29
Technicians/Specialists	1	0	1.0	0.11
Office/Clerical Employees	1	1	1.3	0.14
Others	0	0	0	0

Undergraduate Students	20*	0	20	2.2
Graduate Students	68	21	82	9.1

* Freshmen and sophomores are **NOT** included since they do not have to declare yet.

Units or Program: *Dept. of Nuclear Engineering*

Year: *Fall, 1991*

	HEAD COUNT		FTE	RATIO TO FACULTY
	FT	PT		
Administrative	1	0	1	
Faculty(tenure-track)	9	1	9.6	
Other Faculty(excluding student assistants)	0	3	0.6	
Student Teaching Assistants	0	11	2.2	0.23
Student Research Assistants	0	22	4.4	0.46
Technicians/Specialists	1	0	1.0	0.10
Office/Clerical Employees	1	1	1.3	0.14
Others	0	0	0	0

Undergraduate Students	6*	0	6	0.6
Graduate Students	70	73	118.7	12.4

* Freshmen and sophomores are **NOT** included since they do not have to declare yet.

Units or Program: *Dept. of Materials Science & Engineering*

Year: *Fall, 1991*

	HEAD COUNT		FTE	RATIO TO FACULTY
	FT	PT		
Administrative	1	0	1	
Faculty(tenure-track)	24	0	24	
Other Faculty(excluding student assistants)	0	0	0	
Student Teaching Assistants	2	36	9.2	0.38
Student Research Assistants	0	48	9.6	0.4
Technicians/Specialists	3	0	3.0	0.13
Office/Clerical Employees	3	2	3.7	0.15
Others	0	0	0	0

Undergraduate Students	117*	0	117	4.9
Graduate Students	205	38	230.3	9.6

* Freshmen and sophomores are **NOT** included since they do not have to declare yet.

Units or Program: *Dept. of Civil Engineering*

Year: *Fall, 1991*

	HEAD COUNT		FTE	RATIO TO FACULTY
	FT	PT		
Administrative	1	0	1	
Faculty(tenure-track)	7	0	7	
Other Faculty(excluding student assistants)	0	3	0.6	
Student Teaching Assistants	0	17	3.4	0.49
Student Research Assistants	0	15	3.0	0.43
Technicians/Specialists	0	0	0	0
Office/Clerical Employees	1	1	1.3	0.19
Others	0	0	0	0
Undergraduate Students	0*	0	0	0
Graduate Students	77	19	89.7	12.8

* Freshmen and sophomores are **NOT** included since they do not have to declare yet.

Units or Program: *Dept. of Chemical Engineering*

Year: *Fall, 1991*

	HEAD COUNT		FTE	RATIO TO FACULTY
	FT	PT		
Administrative	1	0	1	
Faculty(tenure-track)	19	0	19	
Other Faculty(excluding student assistants)	0	0	0	
Student Teaching Assistants	2	23	6.6	0.35
Student Research Assistants	0	33	6.6	0.35
Technicians/Specialists	0	0	0	0.0
Office/Clerical Employees	3	1	3.3	0.17
Others	0	0	0	0

Undergraduate Students	62*	0	62	3.3
Graduate Students	167	56	204.3	10.7

* Freshmen and sophomores are NOT included since they do not have to declare yet.

Units or Program: *Dept. of Management Science*

Year: *Fall, 1991*

	HEAD COUNT		FTE	RATIO TO FACULTY
	FT	PT		
Administrative	1	0	1	
Faculty(tenure-track)	19	0	19	
Other Faculty(excluding student assistants)	0	3	0.6	
Student Teaching Assistants	1	13	3.6	0.19
Student Research Assistants	0	33	6.6	0.35
Technicians/Specialists	1	0	1.0	0.05
Office/Clerical Employees	3	1	3.3	0.17
Others	0	0	0	0

Undergraduate Students	82*	0	82	4.3
Graduate Students	137	41	164.3	8.6

* Freshmen and sophomores are NOT included since they do not have to declare yet.

Units or Program: *Dept. of Industrial Design*

Year: *Fall, 1991*

	HEAD COUNT		FTE	RATIO TO FACULTY
	FT	PT		
Administrative	1	0	1	
Faculty(tenure-track)	6	0	6	
Other Faculty(excluding student assistants)	0	0	0.0	
Student Teaching Assistants	1	0	0	0.16
Student Research Assistants	0	0	0	0
Technicians/Specialists	1	0	1	0.17
Office/Clerical Employees	1	1	1.3	0.22
Others	0	0	0	0

Undergraduate Students	99*	0	99	16.5
Graduate Students	9	0	9	1.5

* Freshmen and sophomores are **INCLUDED.**

Units or Program: *Dept. of Electrical Engineering*

Year: *Fall, 1991*

	HEAD COUNT		FTE	RATIO TO FACULTY
	FT	PT		
Administrative	1	0	1	
Faculty(tenure-track)	42	1	42.6	
Other Faculty(excluding student assistants)	0	1	0.2	
Student Teaching Assistants	6	53	16.6	0.39
Student Research Assistants	0	57	11.4	0.27
Technicians/Specialists	4	0	4.0	0.09
Office/Clerical Employees	4	1	4.3	0.1
Others	0	0	0	0.0

Undergraduate Students	316*	0	316	7.4
Graduate Students	382	93	444	10.5

* Freshmen and sophomores are **NOT** included since they do not have to declare yet.

Units or Program: *Dept. of Computer Science*

Year: *Fall, 1991*

	HEAD COUNT		FTE	RATIO TO FACULTY
	FT	PT		
Administrative	1	0	1	
Faculty(tenure-track)	23	0	23	
Other Faculty(excluding student assistants)	0	3	0.6	
Student Teaching Assistants	0	42	8.4	0.37
Student Research Assistants	0	29	5.8	0.25
Technicians/Specialists	0	0	0	0
Office/Clerical Employees	3	1	3.3	0.14
Others	0	0	0	0

Undergraduate Students	150*	0	150	6.5
Graduate Students	194	73	242.7	10.6

* Freshmen and sophomores are **NOT** included since they do not have to declare yet.

B. Faculty Salaries, Benefits, and Other Policies

1. Describe briefly the promotion and tenure system:

The KAIST Rules and By-laws Bulletin provides the basic criteria and guidelines for promotion and tenure. The Board of Trustees and the Personnel Review Committee for the institution have approved additions to the basic criteria and procedures to be followed. All new faculty are notified the promotion and tenure procedures.

At three levels, Department, School, and Institution, the Personnel Review Committees are formulated. The Personnel Review Committee at the Department level is elected by the faculty members at the department. It is consisted of 5-7 members at the rank of Associate or Full Professor. The Personnel Review Committee at the School level is consisted of the Chairman of the Personnel Review Committee at the Department level. The chairman is the Dean of the School. The Personnel Review Committee at the Institution level is appointed by the president, who is the Chairman and the Vice-Chairman is the Dean of Academic Affairs.

An application for promotion and/or tenure must be filed with the Personnel Review Committee by the end of last week of Spring or Fall semester. The guidelines used by the Committee are excellence in teaching, professional and scholarly activities and recognition, significant service to the school community, experience in higher education and at the institution, publications and research, potential for continued professional growth, and service to the technical community and industry. The Department Personnel Review Committee, and the department chairman make their recommendations to the Personnel Review Committee of the School and the Institution, who then, using the same guidelines, make their recommendation and passes all information to the Board of Trustees.

2. Describe briefly the policy regarding faculty salaries, merit adjustments, and performance review procedures:

Faculty salaries and salary increases are dependent upon government budget which will be reviewed by Economic Planning Board and approved by the Korean National Assembly. Economic Planning Board

then allocates to the Ministry of Science and Technology, which distributes the total annual personnel funds for KAIST. Every year, the Ministry of Science and Technology sets the flat rule for salary increase of the affiliated institutions.

Total salary consists of the basic salary (refer to Table B.1 in the following) and other fringe benefits explained later.

Table B.1
Basic Salary per Month (US Dollars per Month)

Salary Step	Professor	Associate Professor	Assistant Professor	Instructor
1	$1,159	$919	$791	$644
2	$1,192	$957	$828	$680
3	$1,229	$995	$864	$715
4	$1,265	$1,033	$901	$751
5	$1,303	$1,067	$937	$785
6	$1,339	$1,101	$957	$817
7	$1,357	$1,135	$976	$848
8	$1,377	$1,153	$995	$879
9	$1,396	$1,173	$1,013	$911
10	$1,415	$1,192	$1,033	$941
11	$1,433	$1,211	$1,052	$973
12	$1,451	$1,231	$1,071	$1,004
13	$1,468	$1,249	$1,091	$1,036
14	$1,485	$1,268	$1,109	$1,067
15	$1,504	$1,287	$1,128	$1,099
16	$1,519			
17	$1,533			
18	$1,548			
19	$1,564			
20	$1,579			
21	$1,593			
22	$1,608			
23	$1,623			
24	$1,639			
25	$1,653			

Funds for merit adjustments are available from the overhead of contract research funds and the budget saving. Those are distributed based on merit. Four hundred percent of basic salary excluding other fringe benefits will be paid for a bonus. Twenty percent of basic salary will be paid for working outside of Seoul.

Those who are very prominent in their fields are appointed as a Distinguished Professor. At present, KAIST has five distinguished

professors.

Faculty evaluation procedures are governed by the rule of the Board of Trustees and the Personnel Review Committee of the Institute. The evaluations are made by the Personnel Review Committee of department and the department chair based on the performance of faculty members in teaching, research, service for the department, institution and community. Non-tenured faculties are evaluated every year, and tenured faculty are evaluated every 5 years. Contract of assistant professors are renewed every 3 years while contract of associate professors and full professors are renewed every 5 years until being tenured. Only tenured full professors are exempted from contract renewal.

3. *Describe the faculty benefits associated with salary compensation:*

All faculty members are required to participate in the government retirement system up to certain amount of their salaries. They are eligible to participate in the medical insurance and work-related casualty insurance programs.

There are several fringe benefits that are available in the following:

1. Funding for evaluating textbook - refer to Table B.2
2. Funding for research expenses - refer to Table B.2
3. Funding for academic advising in general - refer to Table B.2
4. Payment for administrative duties - refer to Table B.2

Since the housing cost is extremely expensive, KAIST arrange the special house-renting loan of up to $38,460 (40,000,000 won), or the faculty housing is provided if available until spring semester of 1990. When new faculty is hired from a foreign country, moving expenses are supported until spring semester of 1990.

Table B.2
Faculty Benefits Associated with Salary Compensation

Faculty Benefits	Professor	Associate Professor	Assistant Professor	Instructor
Evaluating Textbook	$547	$507~$513	$333~$360	$333
Research Expenses	$547	$473	$360	$227
Academic Advising	$88~$117	$73~$96	$59~$73	$44~$59
Administrative Duties	$292	$219	$147	$96

KAIST also supports the children's fee of up to 70 percent from elementary school through undergraduate education.

All faculty members are eligible for a sabbatical leave every four years of service.

4. Complete Table VII for the institution as a whole and each program:

Refer to Table VII in pages from 64 to 71.

TABLE VII
FACULTY SALARY DATA

Academic Year *Fall, 1991*

1. For the Institution as a Whole

(U.S. Dollars per Month)

	Professor	Associate Professor	Assistant Professor	Instructor
Number	*113*	*124*	*69*	*5*
High	*$3,631*	*$2,643*	*$2,134*	*$1,843*
Mean	*$3,076*	*$2,396*	*$1,946*	*$1,562*
Low	*$2,693*	*$2,170*	*$1,681*	*$1,208*

2. For the School of Natural Sciences

(U.S. Dollars per Month)

	Professor	Associate Professor	Assistant Professor	Instructor
Number	*33*	*37*	*11*	*0*
High	*$3,631*	*$2,614*	*$2,019*	
Mean	*$3,139*	*$2,375*	*$1,951*	
Low	*$2,693*	*$2,170*	*$1,724*	

3. For the School of Mechanical Engineering

(U.S. Dollars per Month)

	Professor	Associate Professor	Assistant Professor	Instructor
Number	27	25	11	0
High	$3,352	$2,586	$2,134	
Mean	$2,990	$2,454	$1,989	
Low	$2,749	$2,171	$1,688	

4. For the School of Industrial Management

(U.S. Dollars per Month)

	Professor	Associate Professor	Assistant Professor	Instructor
Number	12	12	12	1
High	$3,285	$2,557	$2,120	$1,208
Mean	$3,066	$2,334	$1,942	
Low	$2,804	$2,170	$1,681	

5. For the School of Applied Engineering

(U.S. Dollars per Month)

	Professor	Associate Professor	Assistant Professor	Instructor
Number	23	18	9	0
High	$3,329	$2,557	$2,134	
Mean	$3,097	$2,420	$1,968	
Low	$2,804	$2,227	$1,736	

6. For the School of Information & Electronics

(U.S. Dollars per Month)

	Professor	Associate Professor	Assistant Professor	Instructor
Number	*17*	*30*	*15*	*3*
High	*$3,375*	*$2,557*	*$2,134*	*$1,843*
Mean	*$3,090*	*$2,372*	*$1,952*	*$1,717*
Low	*$2,749*	*$2,170*	*$1,681*	*$1,608*

7. Average Percent Salary Raises Given to Continuing Faculty Members for the Past Six Years

Unit	Year *1987*	Year *1988*	Year *1989*	Year *1990*	Year *1991*	Year *1992*
Institution as a Whole	*7%*	*7%*	*7%*	*5%*	*5%*	*5%*
Engineering Education Unit as a Whole	*7%*	*7%*	*7%*	*5%*	*5%*	*5%*

TABLE VII (Continued)

(U.S. Dollars per Month)

Program		Professor	Associate Professor	Assistant Professor	Instructor
Physics	Number	*11*	*9*	*3*	*0*
	High	*$3,628*	*$2,585*	*$2,019*	
	Mean	*$3,086*	*$2,317*	*$1,995*	
	Low	*$2,693*	*$2,227*	*$1,976*	
Biological Science & Engineering	Number	*9*	*7*	*1*	*0*
	High	*$3,240*	*$2,477*	*$1,724*	
	Mean	*$3,043*	*$2,343*		
	Low	*$2,860*	*$2,170*		
Mathematics	Number	*2*	*10*	*6*	*0*
	High	*$3,217*	*$2,614*	*$2,048*	
	Mean	*$3,039*	*$2,359*	*$1,986*	
	Low	*$2,860*	*$2,170*	*$1,921*	
Chemistry	Number	*11*	*11*	*1*	*0*
	High	*$3,631*	*$2,586*	*$1,839*	
	Mean	*$3,288*	*$2,456*		
	Low	*$2,915*	*$2,285*		
	Number				
	High				
	Mean				
	Low				

(U.S. Dollars per Month)

Program		Professor	Associate Professor	Assistant Professor	Instructor
Mechanical Engineering	Number	*13*	*10*	*4*	*0*
	High	*$3,164*	*$2,586*	*$2,048*	
	Mean	*$2,962*	*$2,181*	*$2,010*	
	Low	*$2,804*	*$2,341*	*$1,935*	
Nuclear Engineering	Number	*6*	*2*	*1*	*0*
	High	*$3,352*	*$2,557*	*$1,976*	
	Mean	*$3,016*	*$2,492*		
	Low	*$2,749*	*$2,426*		
Production Engineering	Number	*5*	*9*	*4*	*0*
	High	*$3,352*	*$2,528*	*$2,134*	
	Mean	*$3,053*	*$2,339*	*$1,965*	
	Low	*$2,804*	*$2,171*	*$1,688*	
Aerospace Engineering	Number	*3*	*4*	*2*	*0*
	High	*$3,027*	*$2,477*	*$2,077*	
	Mean	*$2,953*	*$2,361*	*$1,999*	
	Low	*$2,804*	*$2,285*	*$1,921*	
	Number				
	High				
	Mean				
	Low				

(U.S. Dollars per Month)

Program		Professor	Associate Professor	Assistant Professor	Instructor
Management Engineering	Number	7	6	6	0
	High	$3,217	$2,477	$2,120	
	Mean	$3,046	$2,317	$2,030	
	Low	$2,859	$2,171	$1,936	
Industrial Engineering	Number	5	3	4	0
	High	$3,285	$2,557	$2,048	
	Mean	$3,094	$2,457	$1,845	
	Low	$2,804	$2,285	$1,681	
Industrial Design	Number	0	3	2	1
	High		$2,285	$1,935	$1,208
	Mean		$2,246	$1,871	
	Low		$2,170	$1,806	
	Number				
	High				
	Mean				
	Low				
	Number				
	High				
	Mean				
	Low				

(U.S. Dollars per Month)

Program		Professor	Associate Professor	Assistant Professor	Instructor
Materials Science & Engineering	Number	*15*	*6*	*3*	*0*
	High	*$3,329*	*$2,557*	*$2,076*	
	Mean	*$3,094*	*$2,386*	*$1,995*	
	Low	*$2,804*	*$2,227*	*$1,853*	
Civil Engineering	Number	*2*	*3*	*2*	*0*
	High	*$3,084*	*$2,477*	*$2,134*	
	Mean	*$3,041*	*$2,413*	*$2,048*	
	Low	*$2,999*	*$2,285*	*$1,961*	
Chemical Engineering	Number	*6*	*9*	*4*	*0*
	High	*$3,285*	*$2,557*	*$2,019*	
	Mean	*$3,125*	*$2,444*	*$1,907*	
	Low	*$2,999*	*$2,284*	*$1,736*	
	Number				
	High				
	Mean				
	Low				
	Number				
	High				
	Mean				
	Low				

(U.S. Dollars per Month)

Program		Professor	Associate Professor	Assistant Professor	Instructor
Electrical Engineering	Number	*13*	*18*	*9*	*2*
	High	*$3,375*	*$2,528*	*$2,134*	*$1,843*
	Mean	*$3,106*	*$2,376*	*$1,991*	*$1,772*
	Low	*$2,804*	*$2,170*	*$1,743*	*$1,701*
Computer Science	Number	*4*	*12*	*6*	*1*
	High	*$3,307*	*$2,557*	*$2,105*	*$1,608*
	Mean	*$3,040*	*$2,367*	*$1,893*	
	Low	*$2,749*	*$2,171*	*$1,681*	
	Number				
	High				
	Mean				
	Low				
	Number				
	High				
	Mean				
	Low				
	Number				
	High				
	Mean				
	Low				

C. Faculty Workload

Describe the faculty workload policy for the institution and report in general terms the standard teaching, administrative, research, and other load of the faculty:

A full teaching load is customarily considered to be 3 semester credit hours per week. One semester credit hour represents one class hour or three laboratory hours per week. Similar to the ABET criteria one academic year represents at least 28 weeks of classes, excluding final examinations. They have to advise students more than 18 hours per week. In addition to teaching and advising of students, faculty are expected to participate in other essential activities such as serving on committees, developing laboratories, and consulting industries.

D. Faculty Competence

Describe how the institution assures the continued teaching competence and professional growth of the faculty. Indicate if the institution has a sabbatical leave program or equivalent, eligibility for participation, how budgeted, and what fraction of the faculty participates in it. Describe the process of faculty performance review:

Faculty are encouraged to maintain and improve competence by attending seminars, professional technical meetings, informal studies, consulting, developing new courses, and preparing publications. Consulting work and carrying out research projects are encouraged and are in line with our practice-oriented philosophy. In general, every professor attends an international conference at least once a year. In addition, since KAIST is located in the heart of the Taeduk Science Town, there are many visitors from all around the world and professors are encouraged to hold the international conferences.

As we mentioned earlier, all faculty members can take a sabbatical leave every four years of service. In terms of funding, there are no internal funds available. However, they can apply for the exchange program of KAIST with other international institutions and funds from other private and governmental sources such as Korea Science and Engineering Foundation. Most departments have one professor who is on a sabbatical leave every other year.

A general evaluation is conducted each year for non-tenured faculty. The Personnel Review Committee in a department meets to review performance of the non-tenured faculty until they receive tenure based on their contribution in general.

Student evaluation of faculty performance is not mandatory yet. However, depending on the faculty, student evaluation is conducted when the class is over. KAIST is considering of introducing student evaluation system in the future.

The primary faculty evaluation document is the five-part form outlined in the Rules and By-Laws of the Personnel Review Committee of the institution. Here are the primary components of the evaluation document:

Part I. Comprehensive Resume by Faculty Member
Part II. Teaching Records
Part III. Publication List
Part IV. Evaluation of Faculty Member by the Personnel Review Committee
Part V. Chair's Recommendations to the Administration.

E. Fluency of Communication

N/A

F. Consulting and Research Policies

Describe briefly policies on private consulting work, sponsored research projects, and extra compensation:

KAIST encourages faculty to accept outside consultation work because such outside practice is reflected in increased professional competence in the classroom. Any consultation activities involving the absence of regular faculty throughout the day must be reported to the department chairman and the dean of the School.

Funded research has been increased but still remains competitive. However, faculty are encouraged to pursue their research interests. Faculty members are permitted to make use of laboratory facilities and equipment for purposes of

their own research, insofar as such use does not interfere with class work. Faculty members are allowed digital computer time for personal research projects without charge. Laboratory equipment for instruction and personal research projects can be purchased. Applications for such equipment, however, must be screened by the Review Committee for equipment at an institution level for the consideration of budget and space. Faculty may make nominal use of the secretarial service, reproduction, duplicating, and printing facilities of the institution for personal research projects. They can hire part-time research and secretarial staffs upon approval from the institution.

According to the past records, KAIST has carried out a total of 2,698 research projects valued at approximately 80 million U.S. dollars since KAIST's 1971 founding through 1991. Accounting for the limited funded research, it is a remarkable record in Korea (Probably 60 percent of total funded research). In 1991 alone, the total research funds added up to approximately 20 million U.S. dollars, of which roughly 50 percent had been funded by industries. Overall, industry-funded projects have been on the increase in recent years.

All faculty members will receive certain amount of compensations for carrying out funded research as a fringe benefit (in general, less than 50 percent of their basic salary).

G. Professional Meetings and Travel

Describe briefly policies on attendance at meetings of local, state, and national professional societies and allowance of travel support for such meetings:

The institution encourages the faculty to participate in the programs of various professional organizations, national or international. Travel funds within each school limits are made available for supporting presentations at international professional meetings. The faculty is at liberty to make nominal use of the school secretarial services in connection with work in professional societies. Faculty members can charge their travel expenses to their research accounts, if possible. For local travel expenses, they can use the institution's Research Funds upon approval by the department chair and the dean of the school, which are available to every faculty member in the amount of $1,300.

H. Supervision of Part-time Faculty

Describe how part-time faculty personnel are supervised and evaluated relative to competence in teaching, course conduct, and availability to students:

The department chairman and faculty members in a relevant area are responsible for supervision and evaluation of part-time faculty. In general, there is no student evaluation. Part-time faculty have to maintain at least three hours of office hours per week. In order to improve the quality of the part-time faculty, the department faculty members evaluate their instruction and make their recommendations to the dean of the school.

VI. Supporting Facilities

A. Computer Facilities

1. Role of the Computing Center

The computing center has three major roles. The first role is to develop and maintain application programs for KAIST administration including payroll, accounting, student registration, and maintenance of academic record database. The second role is to maintain communication inside KAIST including telephone switching, and computer communication. The third role is to maintain and provide computing facilities for instruction and research. For instruction, the computing center provides access to proper computers for students who are involved in specific courses. For research of faculty, the computing center provides accounts in a computing server. Since a typical operating system of machines in the computing center is UNIX, the center does not provide consulting service for computer users.

One of the major duties of staffs is to make the facilities of the computing center keep running, so that users who have accounts in a computer of the center can access the facilities through terminals which are wide-spread in the campus. Another major duty is to maintain the campus-wide FDDI networking and the connection to outside world, especially to Internet. The computing center plays major role as a gateway between Internet and HANA/SDN, a nation-wide TCP/IP network. The center provides a PC room for undergraduate students, where 35 PC/ATs and 31 PC/386s are operating 24 hours a day and 7 days a week.

2. Organization of the Computing Center

The staff of the computing center are divided into two groups: Section for Management Information System and Section for Communication and Information. The staff members report to the head of the section or directly to the head of the center. Each section is advised by the member of the faculty of computer science department. The head of the center (Dr. Byungchun Kim), who is a member of the faculty, reports directly to the president.

The Section of Management Information System consists of 11 members: the chief of the section, one for secretarial service, 9 programmers for administrative supports including accounting, financial management, research activity management, payroll, and academic record management.

The Section for Communication and Information consists of 17 staff members: the chief of the section, one for secretarial service, two telephone receptionist, three for telephone service including switching system and the maintenance of campus-wide FDDI networking, and the others for instructional and research activity including computing facility maintenance and user consulting.

3. Computing Facilities

3.1 Facilities for Administration

To support MIS for KAIST administration, the center has IBM AS/400 and IBM RS/6000 computers. The configuration of two machines is listed in the following:

Machine Type	Main Memory	Disk Space	Other Devices
IBM AS/400	64 Mbyte	3.6 Gbyte	
IBM RISC/6000	64 Mbyte	1 Gbyte	

Seventeen staff members are dedicated to developing and maintaining application programs for financial management, payroll, purchasing management, and student registration. Maintenance of these machines is supported with the fund from KAIST administration budget. Usage of these machines is independent from any other instructional or research activities. These machines are not connected to the KAIST FDDI backbone network. They are accessed by the dedicated terminals which are allocated to several administrative departments.

3.2 Facilities for Instruction

The computing center supports laboratory sections of six courses per semester. Students in a laboratory section can access the computers through the terminals in the terminal room. In the terminal room, 40 dummy terminals are connected to the machines through multiplexer:

Machine Type	Main Memory	Disk Space	Number of Users (As of Fall 1991)
SUN 4/280	24 Mbyte	575 Mbyte	322 students
Micro VAX II	5 Mbyte	456 Mbyte	36 students
Micro VAX II	5 Mbyte	456 Mbyte	33 students
Micro VAX II	5 Mbyte	456 Mbyte	32 students

The computing center also operates a PC laboratory room in which 35 PC/ATs and 30 PC/386s are located. The students can access the PCs 24 hours a day, seven days a week and print their documents on dot printers or laser printers.

Among the laboratory section provided in the computer center, the largest lab section is the C programming course which is required for all undergraduate students. Since 550 students take the C programming course per year, the computer center operates the terminal room for about 200 students per semester during spring, summer, and fall semesters. Another laboratory section is the computer application course, which is required for the graduate students except for computer science majors. The topic of this course is how to use the Unix, its utility program, and C++. About 400 students take this laboratory section during spring or fall semester, so 200 students use the terminal room per semester.

The computer center provides the computing power for other courses such as numerical control, numerical analysis, system programming, and pattern recognition which are offered by the departments other than computer science. Overall, 500 students are using the center's computers in the laboratory sections of 5 or 6 courses during spring and fall semesters. This causes a serious lack of computing power and disk space.

3.3 Facilities for Research

The computing center provides the computing power for the faculty and students who need extensive CPU time. The major workhorse is the Convex machine which is connected to the campus FDDI backbone network. The faculty and students can access machines through their workstations or PCs which are connected to KAIST campuswide TCP/IP network. Students can also use the computing facilities through 100 dummy terminals which are widely spread in library, dormitories, and the

computing center.

The software packages for Convex are SAS and SPSS. Users may install their own software packages. The CPU time and disk space are free of charge for now. But the center will charge for CPU usage and disk space after a new CONVEX C/3420 machine will be installed at the end of 1992.

The faculty can use CRAY-2S which is located at SERI (Software Engineering Research Institute) located on campus. The CRAY supercomputer is connected to KAIST network via 56Kbps serial line. But, CPU time and disk space are not free of charge, since SERI is not the same institute with KAIST.

Approximately 100 users have accounts on Convex machine. But only 10 to 15 intensive users are utilizing most of CPU time. The SUNs are basically used by the faculty and students who are using and developing graphics packages. But the memory and disk space are very limited, so the utilization is not very high. The computing center has 17 dummy terminals at the workstation room in the library.

3.4 Facilities for KAIST Network

The great improvement of KAIST computing environment comes from the newly installed campus-wide TCP/IP network. The backbone of the KAIST net is the 100Mbps fiber-optic FDDI links which connect all buildings on campus. In each building, the 10 Mbps 10 base-2 ethernet cable runs into every room, so that a user can connect his machine to campus FDDI network by plugging his machine with ethernet board to the wall-plate in his room. This new network will provide easy access to the facilities of the computing center and encourage to use electronic mail and news. The computing center also plans to develop administration information exchange system among the office of schools, academic departments, and the administrative departments.

4. Maintenance of the Computer Facilities

The computing center has maintenance contract with several computer venders. IBM AS/400 is maintained by IBM. The maintenance fund is partially supported by the administrative expenditure. The machines for instructional and research activities are actually maintained by the revenue given by the government. Most of the computer usage is free of charge. But the expense of the course laboratory sections is usually paid by the budget for instructional laboratory. The main workhorse Convex is maintained by an on-call based maintenance contract. 116 dummy terminals, 34 PCs, and 9 SUNs are maintained by the regular maintenance contract. The contract expenditure is about $4,100 per month and is paid with the budget for the computing center from the government.

5. Future Plans for the Computing Center

A new Convex C3420 system is on order and will be installed at the end of 1992. It will be used as a primary computing server for the faculty and students who use the supercomputer at SERI. From the moment of the installation, the computing center will account the usage of Convex C3420 and support maintenance expense by the fund from the users. The center will purchase an dummy terminal server and more PCs in 1993 to provide better computing environment for the users, expose more students to the computer and provide the computing power for the undergraduate students.

By 1992, SUN 4/490 used by the SUN user group will be upgraded to SUN 4/690MP to provide better service not only for the students but also for all individual users who are affiliated to the KAIST.

B. Library

1. *Indicate in part 1 of Table VIII the approximate number of acquisitions in the past three years, and the total number of books and bound periodicals:*

Refer to Table VIII in page 82.

2. *In part 2 of Table VIII, report the library expenditures for the past*

Configuration of Machines for Networking

Machine Type	Main Memory	Disk Space	Primary Purpose
SUN 4/330	32 Mbyte	1 Gbyte	gateway to world
SUN 4/260	8 Mbyte	327 Mbyte	personal user support
SUN 4/60	4 Mbyte	670 Mbyte	personal user support
SUN 4/370	32 Mbyte	1 Gbyte	gateway
SUN 4/65	4 Mbyte	1 Gbyte	name server

3.5 Facilities for Computing Center Staff

The following table shows the machines for the staff of computing center. They are used for developing programs and maintaining the KAIST campus-wide network. Each staff member has at least one screen which may be a workstation, a dummy terminal or a PC.

Facilities for Computing Center Staffs

Machine Type	Main Memory	Disk Space	Number of Unit
SUN 3/80	4 Mbyte	327 Mbyte	2 sets
SUN 3/80	4 Mbyte	diskless	5 sets

3.6 Other Facilities for SUN User Group

The computing center supports a SUN User Group whose members are undergraduate students who are interested in SUN software. The SUN Korea donated the facility for SUN User Group. These machines in the following table are solely operated by the members of SUN User Group, but students or faculty members can get accounts if they want to use the facilities.

Facilities for SUN User Group

Machine Type	Main Memory	Disk Space	Number of Unit
SUN 4/490	32 Mbyte	1 Gbyte	1 set
SUN 4/75	16 Mbyte	diskless	3 sets
SUN 4/40	16 Mbyte	diskless	2 sets
SUN ELC	16 Mbyte	diskless	5 sets

three years and indicate the amounts allotted for library services:

Refer to Table VIII in the following.

Table VIII
LIBRARY ACQUISITIONS, RESOURCES, AND EXPENDITURES

1. ACQUISITIONS AND RESOURCES

	ACQUISITIONS DURING LAST THREE(3) YEARS		CURRENT COLLECTION RESOURCES	
	Books	Periodicals	Books	Periodicals
Entire Institutional Library	*9,580*	*1,472*	*98,216*	*1,472*
In the following fields(included above) Engineering	*1,850*	*654*	*42,430*	*654*
Chemistry	*420*	*68*	*6,300*	*68*
Mathematics	*280*	*110*	*4,200*	*110*
Physics	*450*	*104*	*6,100*	*104*
Other Specialty Areas	*6,580*	*536*	*39,186*	*536*

2. LIBRARY EXPENDITURES

	1989	1990	1991
	(year)	(year)	(year)
Total Library Current Funds	*$562,890*	*$598,610*	*$660,000*
Expenditures for the Engineering Unit(Total)	*$313,600*	*$337,710*	*$327,470*
Books	*$40,000*	*$46,670*	*$6,670*
Periodicals	*$273,600*	*$291,040*	*$320,800*
Other Engineering-related Services			

3. *Describe the location and arrangement of the collections:*

All volumes are housed in the main library.

4. *Describe reference services available to students and faculty:*

In addition to traditional reference services by two staff members, the science library offers the following automated reference services including,

(1) KITLAS (Korea Institute of Technology Library Automation System) for on-line bibliographical searches,
(2) on-line database search services using KINITI-IR (Korean Institute of Industrial & Technological Information - Information Retrieval), DIALOG, JOIS, and BRS at user's cost,
(3) CD-ROM Services such as Science Citation Index, Computer Library, Jaeger and Waldmann International Telex & Telefax database, PC-Blue, Public Domain Software On File, PC-SIG Library, MathSci Disc on File, Life Sciences Collection, NTIS (Silver Platter), McGraw-Hill Encyclopedia of Science & Technology, Biblio File, CAT CD450, Books in Print Plus, Serials Directory, etc.,
(4) copying and microfilm services,
(5) national and international interlibrary loans or cooperations which enable us in locating or copying the reference materials,
(6) educational reference loans (503 as of 1991),
(7) copying and distributing the list of publications of new volumes or numbers of the periodicals and
(8) Mac Academy and CAI (Computer Assisted Instruction) room which are equipped with 8 Macintoshs and 17 dummy terminals, respectively.

5. *Describe data-base computer search capabilities to students and faculty:*

As shown in the following figure which illustrates the computing system network for the science library, KITLAS was developed in 1987 by the former science library of Korea Institute of Technology is available for the data-base computer search. KITLAS is running on Micro VAX II with VMS operating system and is used for on-line searching of references, book loans and return. When the new computer system, PYRAMID workstation (64 Mbyte and 3.5 Gbyte hard disk) in the amount of $6,000,000 is available, and the local access from outside the

science library will be possible using FDDI local network.

OPAC (On-line Public Access Catalogue) based on Boolean search is available by typing access number, author, title, key word, or call number. Because of limited capacity of LAN system on campus and the incompatibility of operating system between the Micro VAX II and HWS-S200K, workstation, the on-line search from the outside of the science library is not available at present time.

6. *Describe the process by which acquisitions are made:*

The Budget Review Committee at the institution reviews the Library budget as a whole including the budget for book acquisition. The director of the Science library reports to the department chairs the amount available. Then, each department chair in cooperation with the faculty recommends a priority list of book needs by title, author, publisher, and cost. Book list submitted to the director of the Science library is reviewed by the Review Committee for the purpose of formulating an acquisition list. The list is then forwarded to the Director who will be responsible for processing book orders. The Director of the Science Library will report to the Dean's Council of the five Schools on the status of book orders.

7. *Indicate the hours when library facilities are available to students, when reference service is available, and when stacks are open:*

The Science Library is open 80 hours per week and employs open stack policy. The library closes on holidays. Reference service is always available when the library is open.

Library hours

Monday - Friday	9 a.m. - 10 p.m.
Saturday	9 a.m. - 5 p.m.
Sunday	1 p.m. - 8 p.m.

8. *Describe the professional library staff available:*

There are 19 professional staff members who had professional training in library science and management and one computer programmer.

9. *Report the seating capacity of the library. If more than one library, give the capacity of each:*

The seating capacities are 356 seats at the main Science Library and 734 seats at the branch Science Library. In addition, 16 individual study rooms, a seminar room, 4 group studies rooms, 2 copying rooms are available for concentrated studies and other purposes.

10. *Provide a self assessment of any limitations on the education of students resulting from the current library facilities. Discuss improvements that would be most beneficial:*

The Science Library has one of the finest collections in the areas of science and technology in the nation and offers adequate space for many years. However, funds are urgently needed to increase the number of acquisitions and update the collection. Improvements in computer networking at national and international levels and establishing the database system to automatically provide the necessary information to the users will be extremely beneficial.

11. *Describe other learning resources:*

Language laboratory equipped with the audio system for practicing a second language is available on campus.

VII. Enrollment and Degree Data

In Table IX, give enrollment and degree figures for the educational unit as a whole, and for each program being evaluated, for the current and preceding five academic years. Summarize future enrollment trends and perceived problems for the institution:

Refer to Table IX in pages from 88 to 96 for enrollment and degree data.

Regarding future enrollment trends, the total number of students is controlled by the government budget since KAIST is funded by the government. However, KAIST is trying to expand step by step the number of incoming students up to 3000 (B.S.: 1,000, M.S.: 1,000, and Ph.D.: 1,000) by 1996. Thus, total enrollment will be 8,100 and 10,000 by 1996 and 2000, respectively.

Table IX
ENROLLMENT AND DEGREE DATA

Program : The Institution as a whole

Current	Academic Year		Enrollment Year 1st	2nd	3rd	4th	5th	Total Undergr.	Total Graduate	Degree Conferred Bachelor	Master	Doctor	Other
	'92	FT	1411	1439	812	734	504	2383	2517	381	534	112	0
		PT	152	123	76	78	76	0	505	0	23	45	0
1	'91	FT	1446	1380	750	726	298	2288	2312	381	509	167	0
		PT	123	116	78	76	66	0	459	0	21	83	0
2	'90	FT	1385	1286	740	745	156	2148	2164	391	500	122	0
		PT	116	119	76	66	84	0	461	0	32	64	0
3	'89	FT	1286	1253	745	693	53	2023	2007	23	478	125	0
		PT	119	109	66	84	57	0	435	0	49	40	0
4	'88	FT	1278	1233	718	171	57	1564	1893	0	464	104	0
		PT	109	107	84	57	47	0	404	0	48	29	0
5	'87	FT	1233	1213	171	158	56	1067	1764	0	430	101	0
		PT	107	132	57	47	72	0	415	0	103	20	0

Program : Others, or Students who do not determine their programs

Current	Academic Year		Enrollment Year 1st	2nd	3rd	4th	5th	Others
	'92	FT	553	521	87	29	177	
		PT	0	0	0	0	0	
1	'91	FT	528	91	45	18	128	
		PT	0	0	0	0	0	
2	'90	FT	96	68	32	32	17	
		PT	0	1	0	0	0	
3	'89	FT	68	30	32	46	0	
		PT	1	0	0	0	0	
4	'88	FT	55	40	49	0	0	
		PT	0	0	0	0	0	
5	'87	FT	40	61	0	1	0	
		PT	0	0	0	0	4	

Program : Physics

Current	Academic Year		Enrollment Year 1st	2nd	3rd	4th	5th	Total Undergr.	Total Graduate	Degree Conferred Bachelor	Master	Doctor	Other
	'92	FT	63	63	52	60	22	68	192	32	35	8	0
		PT	11	5	7	4	6	0	33	0	0	3	0
1	'91	FT	63	86	60	54	17	111	169	34	27	15	0
		PT	5	8	4	6	5	0	28	0	0	7	0
2	'90	FT	86	88	54	66	7	147	154	32	28	16	0
		PT	8	4	6	5	5	0	28	0	1	5	0
3	'89	FT	88	83	66	55	1	152	141	6	26	14	0
		PT	4	6	5	5	3	0	23	0	2	4	0
4	'88	FT	83	93	61	15	0	121	131	0	24	16	0
		PT	6	7	5	3	2	0	23	0	0	4	0
5	'87	FT	93	87	15	16	4	85	130	0	20	12	0
		PT	7	6	3	2	1	0	19	0	4	2	0

Program : Biological Science & Engineering

Current	Academic Year		Enrollment Year 1st	2nd	3rd	4th	5th	Total Undergr.	Total Graduate	Degree Conferred Bachelor	Master	Doctor	Other
	'92	FT	46	37	29	29	19	27	133	11	31	11	0
		PT	6	8	2	3	2	0	21	0	1	0	0
1	'91	FT	37	61	29	30	4	42	119	16	28	12	0
		PT	8	4	3	2	3	0	20	0	1	4	0
2	'90	FT	61	56	30	32	3	61	121	23	27	8	0
		PT	4	3	2	3	2	0	14	0	0	3	0
3	'89	FT	56	58	32	33	8	71	116	0	27	6	0
		PT	3	3	3	2	1	0	12	0	1	0	0
4	'88	FT	58	58	33	14	0	63	100	0	27	10	0
		PT	3	4	2	1	1	0	11	0	4	2	0
5	'87	FT	58	60	14	9	6	46	101	0	22	9	0
		PT	4	7	1	1	6	0	19	0	1	2	0

Program : Mathematics

Current	Academic Year		Enrollment Year 1st	2nd	3rd	4th	5th	Total Undergr.	Total Graduate	Degree Conferred Bachelor	Master	Doctor	Other
	'92	FT	33	25	13	21	7	31	68	12	18	0	0
		PT	1	1	0	1	1	0	4	0	0	0	0
1	'91	FT	25	35	21	19	0	43	57	18	14	4	0
		PT	1	0	1	1	0	0	3	0	0	0	0
2	'90	FT	35	34	19	21	7	64	52	15	9	1	0
		PT	0	1	1	0	0	0	2	0	0	0	0
3	'89	FT	34	31	21	23	3	68	44	1	13	2	0
		PT	1	1	0	0	0	0	2	0	0	0	0
4	'88	FT	31	35	23	5	0	52	42	0	13	2	0
		PT	1	0	0	0	0	0	1	0	0	0	0
5	'87	FT	35	35	5	0	0	36	39	0	9	0	0
		PT	0	0	0	0	0	0	0	0	1	0	0

Program : Chemistry

Current	Academic Year		Enrollment Year 1st	2nd	3rd	4th	5th	Total Undergr.	Total Graduate	Degree Conferred Bachelor	Master	Doctor	Other
	'92	FT	58	55	43	36	17	41	168	18	34	14	0
		PT	7	3	2	3	4	0	19	0	1	5	0
1	'91	FT	55	79	36	35	3	61	147	12	28	16	0
		PT	3	3	3	4	7	0	20	0	2	4	0
2	'90	FT	79	67	35	31	6	76	142	15	26	11	0
		PT	3	5	4	7	5	0	24	0	2	7	0
3	'89	FT	67	66	31	29	5	70	128	0	29	14	0
		PT	5	7	7	5	3	0	27	0	1	4	0
4	'88	FT	66	63	29	19	11	51	137	0	26	13	0
		PT	7	8	5	3	3	0	26	0	3	1	0
5	'87	FT	63	60	19	24	5	32	139	0	22	23	0
		PT	8	8	3	3	6	0	28	0	4	0	0

Program : Mechanical Engineering

Current	Academic Year		Enrollment Year					Total Undergr.	Total Graduate	Degree Conferred			
			1st	2nd	3rd	4th	5th			Bachelor	Master	Doctor	Other
Current	'92	FT	82	90	85	58	30	102	243	40	60	4	0
		PT	21	14	8	9	6	0	58	0	2	4	0
1	'91	FT	90	144	58	70	5	147	220	41	54	21	0
		PT	14	13	9	6	4	0	46	0	2	6	0
2	'90	FT	144	112	70	63	16	198	207	18	54	8	0
		PT	13	12	6	4	7	0	42	0	1	4	0
3	'89	FT	112	124	63	42	8	161	188	3	43	3	0
		PT	12	7	4	7	6	0	36	0	6	4	0
4	'88	FT	124	108	45	11	1	126	163	0	44	10	0
		PT	7	8	7	6	9	0	37	0	5	3	0
5	'87	FT	108	89	11	11	8	77	150	0	44	11	0
		PT	8	10	6	9	13	0	46	0	10	5	0

Program : Nuclear Engineering

Current	Academic Year		Enrollment Year					Total Undergr.	Total Graduate	Degree Conferred			
			1st	2nd	3rd	4th	5th			Bachelor	Master	Doctor	Other
Current	'92	FT	25	23	12	16	7	9	74	0	16	4	0
		PT	16	21	7	5	10	0	59	0	6	3	0
1	'91	FT	23	30	16	7	3	9	70	0	18	6	0
		PT	21	13	5	10	8	0	57	0	2	8	0
2	'90	FT	30	34	7	9	4	9	75	0	21	3	0
		PT	13	13	10	8	6	0	50	0	6	4	0
3	'89	FT	34	28	9	7	1	7	72	0	22	1	0
		PT	13	17	8	6	7	0	51	0	8	2	0
4	'88	FT	28	31	7	2	0	0	68	0	24	0	0
		PT	17	11	6	7	3	0	44	0	3	0	0
5	'87	FT	31	32	2	0	0	0	65	0	19	1	0
		PT	11	9	7	3	3	0	33	0	12	0	0

Program : Production Engineering

Current	Academic Year		Enrollment Year 1st	2nd	3rd	4th	5th	Total Undergr.	Total Graduate	Degree Conferred Bachelor	Master	Doctor	Other
Current	'92	FT	56	60	71	52	24	106	157	36	36	2	0
		PT	6	3	3	4	3	0	19	0	2	3	0
1	'91	FT	60	110	52	60	15	156	141	28	29	10	0
		PT	3	5	4	3	2	0	27	0	0	4	0
2	'90	FT	110	81	60	53	8	190	122	45	25	5	0
		PT	5	5	3	2	7	0	22	0	3	0	0
3	'89	FT	81	86	53	58	1	180	99	0	17	6	0
		PT	5	5	2	7	3	0	22	0	4	2	0
4	'88	FT	86	73	58	7	2	142	84	0	23	2	0
		PT	5	9	7	3	0	0	24	0	1	0	0
5	'87	FT	73	82	7	4	0	93	73	0	22	5	0
		PT	9	8	3	0	5	0	25	0	6	0	0

Program : Materials Science & Engineering

Current	Academic Year		Enrollment Year 1st	2nd	3rd	4th	5th	Total Undergr.	Total Graduate	Degree Conferred Bachelor	Master	Doctor	Other
Current	'92	FT	69	88	47	70	31	74	231	35	40	17	0
		PT	8	6	7	7	7	0	35	0	1	5	0
1	'91	FT	88	96	70	66	15	117	218	41	42	20	0
		PT	6	8	7	7	9	0	37	0	2	9	0
2	'90	FT	96	114	66	76	14	166	200	28	36	17	0
		PT	8	11	7	9	10	0	45	0	0	8	0
3	'89	FT	114	107	76	59	0	169	187	1	33	16	0
		PT	11	8	9	10	8	0	46	0	2	1	0
4	'88	FT	107	112	60	14	2	130	165	0	30	17	0
		PT	8	12	10	8	1	0	39	0	4	5	0
5	'87	FT	112	96	14	19	5	86	160	0	28	9	0
		PT	12	11	8	1	4	0	36	0	9	0	0

Program : Civil Engineering

Current	Academic Year		Enrollment Year 1st	2nd	3rd	4th	5th	Total Undergr.	Total Graduate	Degree Conferred Bachelor	Master	Doctor	Other
	'92	FT	22	28	13	13	8	6	78	0	18	1	0
		PT	3	6	4	2	0	0	15	0	1	0	0
1	'91	FT	28	31	13	8	0	6	74	0	17	6	0
		PT	6	5	2	0	0	0	13	0	1	1	0
2	'90	FT	31	31	8	6	2	6	72	0	22	4	0
		PT	5	5	0	0	1	0	11	0	2	0	0
3	'89	FT	31	29	6	6	1	4	69	0	19	3	0
		PT	5	3	0	1	0	0	9	0	4	0	0
4	'88	FT	29	26	6	4	2	0	67	0	21	1	0
		PT	3	1	1	0	1	0	6	0	1	0	0
5	'87	FT	26	27	4	3	0	0	60	0	18	1	0
		PT	1	6	0	1	0	0	8	0	2	0	0

Program : Aerospace Engineering

Current	Academic Year		Enrollment Year 1st	2nd	3rd	4th	5th	Total Undergr.	Total Graduate	Degree Conferred Bachelor	Master	Doctor	Other
	'92	FT	25	27	31	8	6	25	72	0	19	3	0
		PT	4	7	5	1	2	0	19	0	2	0	0
1	'91	FT	27	51	8	6	1	26	67	0	14	5	0
		PT	7	7	1	2	2	0	19	0	1	2	0
2	'90	FT	51	22	6	6	1	26	60	0	16	7	0
		PT	7	2	2	2	4	0	17	0	3	2	0
3	'89	FT	22	22	6	8	4	2	60	0	16	3	0
		PT	2	6	2	4	1	0	15	0	1	4	0
4	'88	FT	22	22	8	7	1	1	59	0	14	4	0
		PT	6	3	4	1	3	0	17	0	3	0	0
5	'87	FT	22	22	7	5	2	1	57	0	11	3	0
		PT	3	7	1	3	0	0	14	0	1	0	0

Program : Chemical Engineering

Current	Academic Year		Enrollment Year					Total Undergr.	Total Graduate	Degree Conferred			
			1st	2nd	3rd	4th	5th			Bachelor	Master	Doctor	Other
Current	'92	FT	46	64	43	37	31	50	171	22	38	18	0
		PT	10	8	7	8	9	0	42	0	4	7	0
1	'91	FT	64	83	37	53	8	73	172	16	31	10	0
		PT	8	9	8	9	9	0	43	0	2	7	0
2	'90	FT	83	69	53	34	6	92	153	22	34	15	0
		PT	9	11	9	9	8	0	46	0	0	7	0
3	'89	FT	69	87	34	43	0	89	144	2	32	13	0
		PT	11	10	9	8	4	0	42	0	2	2	0
4	'88	FT	87	66	45	8	6	71	141	0	30	7	0
		PT	10	13	8	4	5	0	40	0	4	2	0
5	'87	FT	66	75	8	13	2	44	120	0	30	11	0
		PT	13	10	4	5	12	0	44	0	3	5	0

Program : Management Science

Current	Academic Year		Enrollment Year					Total Undergr.	Total Graduate	Degree Conferred			
			1st	2nd	3rd	4th	5th			Bachelor	Master	Doctor	Other
Current	'92	FT	53	46	30	40	17	43	143	27	36	4	0
		PT	10	2	3	5	4	0	24	0	1	0	0
1	'91	FT	46	65	40	44	23	84	134	21	29	3	0
		PT	2	7	5	4	3	0	21	0	2	8	0
2	'90	FT	65	71	44	47	9	109	127	22	31	2	0
		PT	7	8	4	3	11	0	33	0	3	2	0
3	'89	FT	71	76	47	33	9	116	120	4	29	3	0
		PT	8	8	3	11	5	0	35	0	5	3	0
4	'88	FT	76	76	37	12	0	92	109	0	32	9	0
		PT	8	6	11	5	7	0	37	0	6	3	0
5	'87	FT	76	69	12	8	8	65	108	0	29	4	0
		PT	6	16	5	7	10	0	44	0	12	0	0

Program : Industrial Engineering

Current	Academic Year		Enrollment Year 1st	2nd	3rd	4th	5th	Total Undergr.	Total Graduate	Degree Conferred Bachelor	Master	Doctor	Other
Current	'92	FT	42	44	31	25	10	38	114	0	26	2	0
		PT	10	3	2	9	3	0	27	0	0	6	0
1	'91	FT	44	57	25	10	7	38	105	0	30	5	0
		PT	3	4	9	3	4	0	23	0	2	3	0
2	'90	FT	57	55	10	12	8	38	104	0	28	1	0
		PT	4	11	3	4	5	0	27	0	2	8	0
3	'89	FT	55	38	12	9	5	16	103	0	28	3	0
		PT	11	4	4	5	6	0	30	0	1	3	0
4	'88	FT	38	40	9	8	8	1	102	0	31	1	0
		PT	4	6	5	6	4	0	25	0	3	1	0
5	'87	FT	40	39	8	9	6	0	102	0	31	2	0
		PT	6	8	6	4	2	0	26	0	6	2	0

Program : Industrial Design

Current	Academic Year		Enrollment Year 1st	2nd	3rd	4th	5th	Total Undergr.	Total Graduate	Degree Conferred Bachelor	Master	Doctor	Other
Current	'92	FT	23	34	24	28	10	104	15	10	0	0	0
		PT	1	0	0	0	0	0	1	0	0	0	0
1	'91	FT	34	24	28	20	4	101	9	11	0	0	0
		PT	0	0	0	0	0	0	0	0	0	0	0
2	'90	FT	24	28	20	15	10	97	0	21	0	0	0
		PT	0	0	0	0	0	0	0	0	0	0	0
3	'89	FT	28	20	15	31	0	94	0	0	0	0	0
		PT	0	0	0	0	0	0	0	0	0	0	0
4	'88	FT	20	15	31	0	0	66	0	0	0	0	0
		PT	0	0	0	0	0	0	0	0	0	0	0
5	'87	FT	15	31	0	0	0	46	0	0	0	0	0
		PT	0	0	0	0	0	0	0	0	0	0	0

Program : Electrical Engineering

Current	Academic Year		Enrollment Year 1st	2nd	3rd	4th	5th	Total Undergr.	Total Graduate	Degree Conferred Bachelor	Master	Doctor	Other
	'92	FT	140	156	125	145	62	193	435	93	77	19	0
		PT	22	20	12	14	12	0	80	0	0	7	0
1	'91	FT	156	209	145	155	38	311	392	103	92	31	0
		PT	20	17	14	12	5	0	68	0	2	11	0
2	'90	FT	209	238	155	172	36	429	381	109	97	18	0
		PT	17	17	12	5	5	0	56	0	6	14	0
3	'89	FT	238	249	172	163	0	464	358	3	83	32	0
		PT	17	16	5	5	5	0	48	0	3	10	0
4	'88	FT	249	258	166	32	18	367	356	0	83	12	0
		PT	16	10	5	5	8	0	40	0	7	6	0
5	'87	FT	258	250	32	30	9	255	324	0	88	7	0
		PT	10	10	5	8	4	0	37	0	14	3	0

Program : Computer Science

Current	Academic Year		Enrollment Year 1st	2nd	3rd	4th	5th	Total Undergr.	Total Graduate	Degree Conferred Bachelor	Master	Doctor	Other
	'92	FT	75	78	76	67	26	109	213	45	50	5	0
		PT	16	16	7	3	7	0	49	0	2	2	0
1	'91	FT	78	128	67	71	27	167	204	40	56	3	0
		PT	16	13	3	7	5	0	44	0	2	9	0
2	'90	FT	128	118	71	70	2	209	180	41	46	6	0
		PT	13	10	7	5	8	0	43	0	3	0	0
3	'89	FT	118	119	70	48	7	195	167	3	51	6	0
		PT	10	8	5	8	5	0	36	0	9	1	0
4	'88	FT	119	117	51	13	6	151	155	0	42	0	0
		PT	8	9	8	5	0	0	30	0	4	2	0
5	'87	FT	117	98	13	6	1	99	136	0	37	3	0
		PT	9	16	5	0	2	0	32	0	18	1	0

VIII. Admission and Graduation Requirements, Basic Programs

A. Admission of Students

1. General Criteria and Procedures for admitting students to programs:

To be admitted to any undergraduate program at KAIST, an applicant must meet one of the following requirements:

a. Among high school graduate candidates and graduates or those students who have been judged by the Minister of the Ministry of Education as equivalents, a successful KAIST applicant must have grade point average within top 10 percent in high school.

b. Graduate candidates and graduates from science high schools, specially established for putting an emphasis on education of science and technology.

c. Juniors of science high schools, who are within top 3 percent of the school and recommended by both the principal of the school and the Search Committee for gifted students at the institution.

d. Those who pass the special examination and whose average scores are above 85 out of 100. That examination exempts students from taking three year courses at the high school and gives them a permission to apply for taking college examination without having graduate certificate from a high school.

70 percent of the first year students are selected based on performance in the written entrance examinations (900 total, both objective and subjective tests) and the score of 90 based on his paper evaluation including their high school grades. The written examinations cover Korean (150), English – reading comprehension (150), Mathematics – algebra and calculus (300), and sciences (300) – Physics (150), Chemistry (75), and Biology (75). Thus, the total score will be 990 including scores from paper evaluation.

Those who attend the International Mathematics Olympiad and who win the first and the gold prizes at the National Science Contest and at the Korea Information Olympiad are exempted from the written examination.

540 of applicants who pass the written examination will take the oral and physical examinations.

Last year, KAIST selected 30 percent of the first year students by evaluating their high school performances from the selected high schools which have sent at least 7 students for the last 6 years. In addition, their average grades should be within top 3 percent or more in the high school. If they pass the paper evaluation, then they are required to take tests in written English, oral and physical examinations.

KAIST is trying to expand the portion of student quotas who will be selected by the paper evaluations step by step, if possible.

Transfer from another college is not available.

2. *Explain the policy of the institution in admitting students with conditions, and state how the conditions are met:*

N/A

3. *Describe the general policy and methods of the educational unit regarding admission to advanced placement:*

N/A

4. *Describe special admission requirements for entry into the upper division or professional programs in the educational unit. Indicate any differences among departments:*

N/A

5. *Complete Table X showing admission standards for students enrolled in the educational unit directly from high school for the last six academic years:*

N/A

6. *Describe the policies regarding admission of transfer students to the programs from other institutions. List such special requirements as minimum grade point average and course requirements:*

N/A

7. *Complete Table XI :*

N/A

B. Requirements for Graduation

1. *Describe the process used at the college and/or university levels to certify that graduation requirements complying with ABET criteria have been met by each graduate:*

The official records for all students are maintained by the Registrar's Office and computing center keeps all records as a database. The grades are recorded on the appropriate computer output for the student, and this computer output is used by the student's advisor:

Every student is required to have two graduation checks during his/her last year. The student must have a request for graduation check form signed by his/her advisor. The computer output to be used must be checked by year. The registrar counts these approved electives provided by the department chairman. If there are any questions, the registrar contacts the department chairman. The final graduation check after the end of the term is also made by the registrar.

2. *For regular programs, state the type of school term used and the number of weeks constituting a term, including only those portions of the academic year actually devoted to class work, excluding vacation periods. Describe the work effort associated with earning a credit hour:*

KAIST uses the standard semester system with 16 weeks per semester. The academic year at KAIST is composed of a spring (1st) semester, a fall (2nd) semester, and a summer session. The spring semester begins on March 1 and ends in late June, the fall semester begins on September 1 and ends in late December. Attendance in the summer session is not required. Lecture classes meet 50 minutes per week for each hour of credit.

3. *Co-operative Work/Study (CO-OP) Programs*

N/A

4. Programs Offered in Other Alternative Modes

N/A

5. Grade Point Averages Required for Graduation

Students must earn a overall grade point average of at least 2.0 out of 4.3.

Students who fail to earn in each semester a grade point average of at least 2.0 out of 4.3, or who get F grade(s) of 6 credits or 3 courses are warned. KAIST does not confer the degree of Bachelor of Science upon those candidates who receive 3 warnings.

C. Record of Graduates

The Office of Student Affairs maintains records on all students. The office tries to collect records concerning the employer, location, and salary when jobs are accepted.

All of the departments maintain address files on graduates and attempt to collect as much as information as possible before the students graduate. Information concerning location and job status of graduates is collected during any contact with alumni. The informal contact with alumni occurs at professional society meetings, seminars, home coming events, and many of the alumni will return to KAIST on informal visits.

Alumni addresses and general information form are included in all of the quarterly KAIST alumni bulletin. All address changes and corrections are given to the respective departments and to the alumni association.

IX. Admission and Graduation Requirements, Advanced Programs

A. Admission of Students

Indicate the mechanics of acceptance of students in the advanced program in terms of grades, examinations, and other related criteria:

Admissions to M.S. and Ph.D. programs are granted after the student passes the entrance examination given in November of each year. The examination consists of written tests of English and basic science aptitude and advanced tests of major fields (objective and subjective tests), oral test and evaluation of academic transcripts.

Graduates of the KAIST M.S. program who rank in the top half of the graduating class in each department are exempted from the entrance examination to the Ph.D. program.

An applicant for the M.S. program must be a graduate of a 4-year college in Korea or its equivalent as recognized by the Ministry of Education.

An applicant for the Ph.D. program must be a holder of an M.S. degree from the academic institutions recognized by the Ministry of Education.

B. Requirements for Graduation

Describe the minimum curricular requirements beyond the basic program. Indicate minimum and/or maximum time for program completion, if established. Describe thesis or independent project requirements and constraints:

Students who fail to earn in each semester a grade point average of at least 1.7 out of 3.0 or who got lower than C grade(s) of 2 courses are warned. Those M.S./Ph.D. candidates who receive 2 warnings are expelled from KAIST.

1. M.S. Program :

The M.S. program requires a minimum of 36 credits including at least 24 hours of course work and at most twelve hours of thesis work, and

passing of thesis evaluation.

2. Ph.D. Program :

The Ph.D. program requires a minimum of 72 credits including at least forty-two hours of course work and at least thirty hours of thesis work.

After receiving the advisory committee's approval of the program of course work, foreign language, and an oral test, and obtaining the consent of a faculty member to act as dissertation supervisor, a student will be recommended for admission to candidacy. The students should publish their work to the international referred journals related to their fields.

C. Record of Graduates

Explain what techniques are used to obtain information regarding positions initially accepted by graduates, how data are compiled concerning their professional advancement, and how their opinions regarding their educational program are taken into account:

The Office of Student Affairs maintains records on all students. The office tries to collect records concerning the employer, location, and salary when jobs are accepted.

All of the departments maintain address files on graduates and attempt to collect as much as information as possible before the students graduate. Information concerning location and job status of graduates is collected during any contact with alumni. The informal contact with alumni occurs at professional society meetings, seminars, home coming events, and many of the alumni will return to KAIST on informal visits.

An alumni address and general information form is included in all of the quarterly KAIST alumni bulletin. All address changes and corrections are given to the respective departments and to the alumni association.