

# TECHNICAL UNIVERSITY OF NORTHERN ARMENIA

## MEMORANDUM OF UNDERSTANDING

Thursday August 3, 1989

Los Angeles, California

### 1. INTRODUCTION

1.1 As a part of the earthquake aid to Armenia, it has been proposed to establish a Technical University of Northern Armenia (hereafter called the University) that is based on modern concepts of higher education, as exemplified by the American system of technical universities or institutes of technology. The proposal has received the endorsement and support of the Ministry of Public Education and the Council of Ministers of the Armenian S.S.R. and the United Nations Educational, Scientific and Cultural Organization, UNESCO. The project is to be carried out with the mutual cooperation of the Ministry of Public Education and organizations and agencies in the United States and Europe that are affiliated with educational programs. The Armenian General Benevolent Union, AGBU, headquartered in the United States, intends to partially finance the project.

1.2 This Memorandum of Understanding, agreed upon and signed by representatives from the Armenian S.S.R. and the Armenian Diaspora in the United States, establishes a set of principles and guidelines upon which the plans and programs of the University are to be founded. These guidelines call for an immediate establishment of a Board of Governors of the University to direct the development of detailed plans necessary for the construction of the facilities and the formation of the administrative body and academic programs of the University.

### 2. THE PURPOSE

2.1 The Technical University of Northern Armenia is to train scientists, engineers and managers, and to prepare them for leadership roles for improving the earthquake safety of Armenia's urban and rural communities, combating environmental hazards and pollution, and for developing Armenia's energy resources, industrial and economic productivity, and information technology. The University will have up-to-date educational facilities and a strong academic program, including courses in mathematics, basic and applied sciences, humanities and social studies, and engineering with specializations in

- Earthquake Engineering and Seismology
- Environmental Sciences and Engineering
- Industrial and Systems Engineering
- Electrical and Electronic Engineering
- Computer Science and Information Technology
- Business and Management

Other areas of specialization will be added in accordance with the needs of Armenia and the growth potential of the University in future years. Through a vigorous training in English, and through a program of exchange visits with universities in the U.S. and Europe, the graduates of the University will become fluent in English, at least to the extent necessary for the reading and

writing of technical articles and for communicating with engineers and scientists abroad. They will also be trained in the methods of scientific research and experimentation, and the basic principles of economics and management of engineering systems. A career development program will prepare the students for early entry into the work force in Armenia.

2.2 It is an important precept of this undertaking that the University become a model as a modern institution of higher learning. Towards that end, in planning the facilities and administrative and academic programs of the University, special emphasis will be given to promoting a spirit of academic openness and free flow of information, to shared governance by administration and faculty, and to establishing a system that awards excellence and provides unrestricted opportunity for advancement and learning.

### 3. FACILITIES PLAN

3.1 It is proposed that the buildings and other facilities of the University be designed jointly by Armenian and American architects in a manner that enhances the Armenian character of the buildings and accommodates the requirements for the facilities of a modern technical university. The specifications for the buildings and facilities will be prepared with the help of a Committee of Educators with members from Armenia, the United States and Europe, appointed by the Board of Governors, giving due recognition to the conditions and needs of Armenia as well as to the modern educational concepts currently utilized in the United States and Europe.

3.2 Construction of the buildings and facilities will be carried out by the Armenian Government, with supervision and inspection by architects, engineers, the Committee of Educators and the Board of Governors. It is proposed that educational facilities, including laboratories, libraries, computers, audio-visual equipment, educational tools and other furnishings be provided through funds established in the United States and Europe. All equipment donations will be made with due respect to and concurrence with the rules and regulations of the United States and European export laws.

3.3 Research facilities appropriate for an educational institution, including experimental and computer laboratories with the necessary data processing and reproduction equipment, will be constructed on campus.

3.4 The facilities of the University, such as libraries, reading rooms, computers, laboratories, reproduction equipment, and administrative offices will be designed and managed in such a manner as to promote free flow of information and provide unrestricted access to the students, faculty, and visiting scholars.

3.5 It is proposed that special funds be established in Armenia for the maintenance, repair and refurbishing of the buildings and facilities of the University, in order to keep the campus in good condition, and special funds be established in the United States to upgrade the equipment from time to time in order to avoid the obsolescence of the equipment and facilities.

3.6 Special residential facilities will be constructed on the campus of the University or nearby to host visiting scholars and students from abroad.

### 4. ADMINISTRATIVE PLAN

4.1 The administrative structure of the University will consist of a President

(or Rector), Vice President(s), the faculty, other administrative officers, and the secretarial, clerical and janitorial staff. The Academic Senate, consisting of all the full-time faculty involved in teaching and research, will have control over all academic matters, including the course contents, degree requirements, grading system, etc. The Administration, consisting of the President, Vice Presidents and other administrative officers, will manage the facilities and budget of the University and will address all personnel matters, including hiring, firing and promotions.

4.2 A Board of Governors of the University, with half its members from Armenia and another half from the United States and Europe, will oversee the affairs of the University and will evaluate its progress from time to time. This body will be responsible for securing endowments for the University and will have control over the disbursement of the endowed funds. The Board may appoint various committees (e.g., Education Committee, Finance Committee) to assist it in its duties.

4.3 The faculty of the University will consist of Assistant Professors, Associate Professors, and (Full) Professors. Advancement from one rank to the next will be based solely on the quality of teaching, research and University and public service of each individual faculty member. Assistant and Associate Professors will have full opportunity for advancement, regardless of the existence of Full Professors in their field of study. A minimum standard of performance for continued employment at the University (i.e., a tenure system) will be established.

4.4 Special funds will be established to bring students to the United States and Europe to study in graduate programs in leading universities. These students will be selected from the top graduates of the Polytechnic Institute of Yerevan, the Yerevan State University, or other Universities of the Soviet Union. They will be expected to return upon their graduation and teach at the University. Other qualified faculty will be recruited from Armenia, other republics of the Soviet Union, and from abroad. Arrangements will be made to bring these faculty to the United States and Europe as visiting scholars in order for them to become familiar with the American and European system of higher education.

4.5 Visiting professors will be recruited from the United States and Europe, who will participate in the teaching and research at the University. However, the core teaching will be done by the Armenian graduates of American and European universities.

4.6 To encourage and promote excellence, funds for research and educational travel will be awarded to faculty and students based on the quality of their work and by review of their proposals. These funds will be provided out of two endowments: one established in Armenia in the local currency, and one established in the United States in foreign currency. Decisions on the grants will be made by the Board of Governors based on the recommendation of the University Administration. Funds from the local currency will be used to support visiting scholars from abroad.

## 5. ACADEMIC PLAN

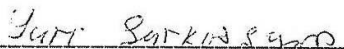
5.1 It is proposed that the academic program be based on a semester system, and 150 units be required for graduation. Each unit will be equivalent to one hour of lecture per week, or three hours of laboratory or exercise session. Graduates will be awarded Master of Science (M.S.) degrees in their field of specialization upon completion of the unit requirement and a written

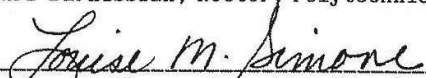
6.5 Appoint an Education Committee to prepare a detailed academic program and specifications for the facilities of the University.


6.6 Appoint a Finance Committee to establish endowment funds and make recommendations for disbursement of funds.

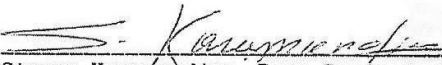
6.7 Appoint an Ad Hoc Committee to prepare the by laws and various administrative policies and guidelines of the University.

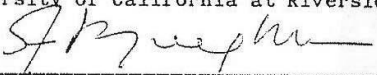
  
Edvard Kazarian, Vice Minister, Ministry of Public Education of Armenia

  
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APPENDIX A

EXAMPLE ACADEMIC PLAN  
EARTHQUAKE ENGINEERING AND SEISMOLOGY

Course	Units
<b>Year 1:</b>	
Mathematics	6
Physics	8L
Chemistry	4L
English	6
Humanities & Social Studies	6
	30
<b>Year 2:</b>	
Mathematics	6
Physics	4L
English	6
Humanities & Social Studies	6
Engineering graphics	2C
Statistics and Probability for Engineers	3C
Computer Science	3C
	30
<b>Year 3:</b>	
Advanced Mathematics	3
Mechanics of Rigid Bodies	6L
Mechanics of Deformable Bodies	3
Engineering Properties of Materials	3L
Surveying	3L
Engineering Geology	3L
Engineering Seismology	3C
Humanities and Social Studies	3
English	3
	30
<b>Year 4:</b>	
Theory of Structures	3C
Design of R/C Structures	3C
Design of Steel Structures	3C
Structural Dynamics	3C
Soil Mechanics and Foundation Engineering	3C
Technical Electives	6
Economics	3
Humanities and Social Studies	3
English	3
	30

Year 5:	
Advanced Structural Mechanics	3
Finite Element Methods	3C
Earthquake-Resistant Design	3C
Wave Propagation and Strong-Motion Seismology	3C
Soil Dynamics	3C
Stochastic Processes and Random Vibrations	3C
Computer Methods for Linear and Nonlinear Structures	3C
Management of Engineering Systems	3
English	3
Individual Study (thesis)	3CL
	30

Total Units in Five Years: 150

NOTE:

- L: Courses involving laboratory sessions
- C: Courses involving computer applications