



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ  
HELLENIC REPUBLIC



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# Accreditation Report for the Internal Quality Assurance System (IQAS)

**Institution Name: National Technical University of Athens**

**Date: 12 December 2021**



Επιχειρησιακό Πρόγραμμα  
Ανάπτυξη Ανθρώπινου Δυναμικού,  
Εκπαίδευση και Διά Βίου Μάθηση  
Με τη συγχρηματοδότηση της Ελλάδας και της Ευρωπαϊκής Ένωσης



Report of the Panel appointed by the HAHE to undertake the review of the  
Internal Quality Assurance System (IQAS) of the **National Technical  
University of Athens (NTUA)** for the purpose of granting accreditation

## ABBREVIATIONS

<b>ΕΕΑΡ</b>	External Evaluation & Accreditation Panel
<b>ΕΔΙΠ</b>	Εργαστηριακό Διδακτικό Προσωπικό
<b>ΕΕΠ</b>	Ειδικό Εκπαιδευτικό Προσωπικό
<b>ΕΤΕΠ</b>	Ειδικό Τεχνικό Εργαστηριακό Προσωπικό
<b>ΕΛΚΕ</b>	Ειδικός Λογαριασμός Κονδυλίων Έρευνας (ΕΛΚΕ)
<b>ΗΑΗΕ</b>	Hellenic Authority for Higher Education
<b>GSRT</b>	General Secretariat of Research and Technology
<b>IQAS (ΕΣΔΠ)</b>	Internal Quality Assurance System
<b>KPIs</b>	Key Performance Indicators
<b>MODIP</b>	Quality Assurance Unit (ΜΟΔΙΠ)
<b>NTUA</b>	National Technical University of Athens
<b>ΟΜΕΑ</b>	Internal Evaluation Groups/School's Internal Evaluation Committee
<b>QA</b>	Quality Assurance

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## **PART A: BACKGROUND AND CONTEXT OF THE REVIEW**

### **I. The External Evaluation & Accreditation Panel**

The EEAP responsible for the Accreditation Review of the **Internal Quality Assurance System (IQAS)** of the **National Technical University of Athens (NTUA)** comprised the following five (5) members, drawn from the HAHE Registry, in accordance with Laws 4009/2011 & 4653/2020:

- 1. Prof. Fokion Egolfopoulos** (Chair)  
University of Southern California, Los Angeles, California, USA
  
- 2. Prof. Spyros Economides**  
California State University, East Bay, Berkeley, California, USA
  
- 3. Prof. Nicolas Spyrtos**  
University Paris-Saclay, Paris, France
  
- 4. Prof. Kimon Valavanis**  
University of Denver, Denver, Colorado, USA
  
- 5. Prof. Nicholas Vonortas**  
The George Washington University, Washington, DC, USA

## II. Review Procedure and Documentation

The Hellenic Authority for Higher Education (HAHE) formed an External Evaluation & Accreditation Panel (EEAP) of experts to assess the compliance of the Internal Quality Assurance System (IQAS) of the National Technical University of Athens (NTUA) in accordance with the HAHE Quality Assurance (QA) requirements. The assessment was conducted remotely via Zoom. The method used was based on sampling of NTUA's activities with the aim to evaluate the fulfilment of the HQA requirements of the relevant Quality Standard of the IQAS, and comment on its compliance, effectiveness, efficiency, and applicability with respect to the chosen requirements.

The review procedure and documentation were carried out during the December 7 to December 12, 2020 period.

### **On December 7, 2020:**

The EEAP members met and discussed the standards and guidelines of the QA accreditation process as well as the logistics associated with the compilation of the report.

### **On December 8, 2020:**

The 5-member EEAP met with:

#### **The Rector and the Vice-Rectors**

- *Rector, Professor A. Boudouvis*
- *Vice Rector of Finance, Planning, and Development, Professor E. Sapountzakis*
- *Vice-Rector of Research and Lifelong Education, Professor I. Chatjigeorgiou*
- *Vice Rector of Administrative, Academic, and Student Affairs, Professor D. Gintides*

During this meeting, NTUA Rector Boudouvis and Vice Rectors Sapountzakis and Chatjigeorgiou gave short but very useful presentations summarizing the history, mission, finances, teaching and research of the University. The presentations were followed by an informative discussion.

#### **The Quality Assurance Unit (QAU/MODIP)**

- *President of MODIP, Vice Rector Professor D. Gintides*
- *Mr. D. Mamais, Professor NTUA, member*
- *Ms. K. Nikita, Professor NTUA, member*
- *Mr. S. Tsvilis, Professor NTUA, member*
- *Ms. M. Papadopoulou, Professor NTUA, member*
- *Mr. E. Samouilidis, Professor NTUA, member*
- *Mr. S. Ponis, Associate Prof. NTUA, member*

- *Mr. K. Serraos, Professor NTUA, member*
- *Mr. G. Anastasakis, Professor NTUA, member*
- *Mr. A. Kyritsis, Associate Prof. NTUA, member*

The President of MODIP gave a very detailed presentation outlining the MODIP activities followed by an informative discussion that was mainly focused on questions raised by the EEAP members.

#### **On December 9, 2020:**

The EEAP members met with:

#### **The Deans of Schools and Internal Evaluation Groups (IEGs/OMEA) Representatives**

##### ***Deans***

- ***Dean of Civil Engineering:*** *Mr. N. Lagaros, Professor NTUA*
- ***Dean of Mechanical Engineering:*** *Mr. N. Marmaras, Professor NTUA*
- ***Dean of Electrical and Computer Engineering:*** *Mr. N. Koziris, Professor NTUA*
- ***Dean of Architecture:*** *Mr. P. Tournikiotis, Professor NTUA*
- ***Deputy Dean of Chemical Engineering:*** *Mr. E. Voutsas, Professor NTUA*
- ***Dean of Rural and Surveying Engineering:*** *Mr. Ch. Ioannidis, Professor NTUA*
- ***Dean of Mining and Metallurgical Engineering:*** *Mr. D. Kaliampakos, Professor NTUA*
- ***Dean of Naval Architecture and Marine Engineering:*** *Mr. G. Zarafonitis, Professor NTUA*
- ***Dean of Applied Mathematical and Physical Sciences:*** *Mr. S. Kourkoulis, Professor NTUA*

##### **Internal Evaluation Groups (IEGs/OMEA) Representatives**

- *Mr. A. Georgopoulos, Professor of Rural and Surveying Engineering*
- *Mr. L. Kaiktsis, Associate Professor of Naval Architecture and Marine Engineering*
- *Mr. I. Raptis, Professor of Applied Mathematical and Physical Sciences*

The Deans informed EEAP about specifics, procedures, and peculiarities of, and within, each School, as well as each School's input to MODIP. An informative discussion related to the Schools' role in ensuring quality with respect to the specific education and research objectives followed.

**A Group of Undergraduate Students.**

**A Group of Master Degree Students.**

**A Group of Doctoral Degree Students.**

**A Group of Post-Doctoral Researchers.**

During the meetings with the different groups of students and the post-doctoral researchers, valuable input was provided to EEAP regarding educational and research activities at NTUA.

#### **Chief Administration Officers**

- *Ms. E. Papagianni, General Directorate of Administrative Affairs & Directorate of Studies*
- *Mr. G. Dimou, General Directorate of Technical Services & Directorate of Facilities Maintenance*
- *Ms. E. Batzia, Directorate of Financial Services*
- *Mr. A. Kintis, Directorate of IT Services*
- *Ms. E. Vogiatzi, Directorate of Technical Services*
- *Ms. M. Thanou, ELKE*

During this meeting, the focus was on the impact of the pertinent documents (strategic plan, QA manual etc.) in the development of NTUA. Additionally, the modernization of the administrative and University infrastructure as well as topics related to the special research account (ELKE) were discussed in detail.

#### **On December 10, 2020:**

The EEAP members met with:

#### **Alumni**

- *Ms. K. Panopoulou, Alumna of Mechanical Engineering (Managing Director, OHB Hellas)*
- *Mr. D. Rokos, Alumnus of Rural and Surveying Engineering (Director of Planning, Hellenic CADASTRE)*
- *Mr. M. Kalogiannakis, Alumnus of Rural and Surveying Engineering (Vice President Council of European Geodetic)*
- *Ms. D. Vogiatzaki, Alumna of Architecture*
- *Mr. G. Patridas, Alumnus of Chemical Engineering (Analytical Instruments S.A.)*
- *Mr. K. Stamou, Alumnus of Naval Architecture and Marine Engineering (MARAN Gas)*
- *Mr. E. Aggelou, Alumnus of Naval Architecture and Marine Engineering (Helintec S.A.)*
- *Mr. G. Moschidis, Alumnus of Applied Mathematical and Physical (UC Berkeley)*

During this meeting the alumni discussed their experience during their studies at NTUA, brought up the positives, outlined issues that deserve attention, consideration and subsequently improvement, and they briefly described their professional career paths.

#### **External Stakeholders**

- *Mr. B. Bardakis, President, Association of Civil Engineers of Greece*
- *Mr. A. Gorogias, Chem. Eng., Hellenic Association of Chemical Engineers*
- *Mr. S. Lambropoulos, President of Hellenic Construction Industry Council*
- *Mr. G. Loukas, Human Resources Manager, Coral/Motor Oil group*
- *Mr. G. Nounesis, President of National Centre for Scientific Research "Demokritos"*
- *Mr G. Stasinou, President of Technical Chamber of Greece*
- *Mr. P. Toniolos, President of HELLASCO*



During this meeting, the relation of NTUA with external stakeholders from the private and/or the public sector were discussed. Valuable information was received regarding the quality of the students and the quality of the educational programs, points of strength, as well as the shortcomings that need to be addressed.

Subsequently, the EEAP members were given an on-line tour of the facilities, and they met again with the MODIP representatives to clarify some concerns the EEAP members had based on the discussions during their first meeting with MODIP. The EEAP visit ended on December 10<sup>th</sup> with an exit meeting with Rector Boudouvis and Vice Rector Gintides to discuss the key findings.

In addition, the following material and documentation was provided to EEAP for the report:

#### **Material provided by MODIP**

- A1. Πρόταση Πιστοποίησης ΕΣΔΠ-ΕΜΠ
- A2. ΦΕΚ ΕΣΔΠ-ΕΜΠ
- A3i. Εγχειρίδιο Ποιότητας ΕΣΔΠ-ΕΜΠ
- A3ii. Οργανωτική Δομή της ΜΟΔΙΠ-ΕΜΠ
- A4. Εσωτερικοί Κανονισμοί ΕΜΠ
- A5. Πολιτική Ποιότητας ΕΜΠ
- A6. Στοχοθεσία Ποιότητας ΕΜΠ
- A7. Στρατηγικός Προγραμματισμός ΕΜΠ
- A8.1. Δεδομένα Ποιότητας του ΟΠΕΣΠ ΕΜΠ 2015-2016
- A8.2. Δεδομένα Ποιότητας του ΟΠΕΣΠ ΕΜΠ 2016-2017
- A8.3. Δεδομένα Ποιότητας του ΟΠΕΣΠ ΕΜΠ 2017-2018
- A8.4. Δεδομένα Ποιότητας του ΟΠΕΣΠ ΕΜΠ 2018-2019
- A9. Λοιπό Υλικό Τεκμηρίωσης

#### **Material provided by ΗΑΗΕ**

- Quality Indicators NTUA 2017
- Quality Indicators NTUA 2018
- Quality Indicators NTUA 2019
- Quality Indicators NTUA 2020
- Standards for Quality Assurance of IQAS
- ODIGOS PISTOPOIISIS\_en
- E14\_Template for the Accreditation Report
- E13\_Mapping Grid
- E12a\_Guidelines for the Accreditation Panel
- Recommendations\_Ext Eval Report\_NTUA
- NTUA\_Ext Eval Report

Moreover, at the EEAP's request, the following information was made available during the visit:

- The presentation given by Rector Boudouvis
- The presentation given by Vice Rector Sapountzakis
- The presentation given by Vice Rector Chatjigeorgiou
- The presentation given by the MODIP President, Vice Rector Gintides

### III. Institution Profile

NTUA was founded in 1837 and it is the oldest and most recognized academic institution in Greece. It is also well known internationally, and it is ranked in the top 500 Universities in the world and in the top 200 Universities in Europe (QS 2019 ranking). Its mission is to provide high level education, to promote research and technological advancements, to contribute to the generation of new knowledge, and to support the synergistic activities leading to the scientific, technological, social, and cultural development of Greece and the world community. The first two Schools that were established in 1887, were the Schools of Civil and Mechanical Engineering, which were followed by the establishment of five more in 1917. Consequently, today, NTUA is comprised by 9 Schools as follows (alphabetically):

- School of Applied Mathematical and Physical Engineering
- School of Architecture
- School of Chemical Engineering
- School of Civil Engineering
- School of Electrical and Computer Engineering
- School of Mechanical Engineering
- School of Mining and Metallurgical Engineering
- School of Naval Architecture and Marine Engineering
- School of Rural and Surveying Engineering

The number of students varies among the nine Schools, also depending on the degrees offered by NTUA; the total number of registered students is around 23,321. Within the student population there are 1,437 post-graduates and 2,708 PhD candidates. Among the undergraduate students approximately 52.18% are active (within the normative time plus 2 years). As of 2018-2019, 20 post-graduate programs have already been established. The number of faculty is 447 and the supporting scientific and technological personnel, comprised of ΕΕΠ, ΕΔΙΠ, ΕΤΕΠ members, is 414.

According to the December 8, 2020 presentation made by Vice Rector Gintides to EEAP, NTUA has currently over € 60 Million in research contracts from a variety of private, public (GSRT, etc.), and European Union (EU) funding agencies, which support nearly 1,400 research programs. The research funding has a notable positive slope since 2017 and it is likely to exceed € 70 Million in the near future.

## PART B: COMPLIANCE WITH THE PRINCIPLES

### Principle 1: Institution Policy for Quality Assurance

**INSTITUTIONS SHOULD APPLY A QUALITY ASSURANCE POLICY AS PART OF THEIR STRATEGIC MANAGEMENT. THIS POLICY SHOULD BE DEVELOPED AND ADJUSTED ACCORDING TO THE INSTITUTIONS' AREAS OF ACTIVITY. IT SHOULD ALSO BE MADE PUBLIC AND IMPLEMENTED BY ALL PARTIES INVOLVED.**

*The quality assurance policy is the guiding document which sets the operating principles of the Internal Quality Assurance System (IQAS), the principles for the continuous improvement of the Institution, as well as the Institution's obligation for public accountability. It supports the development of quality culture, according to which, all internal stakeholders assume responsibility for quality and engage in quality assurance. This policy has a formal status and is publicly available.*

*The policy for quality is implemented through:*

- *the commitment for compliance with the laws and regulations that govern the Institution;*
- *the establishment, review, redesign and redefinition of quality assurance objectives, that are fully in line with the institutional strategy.*

*This policy mainly supports:*

- *the organisation of the internal quality assurance system;*
- *the Institution's leadership, departments and other organisational units, individual staff members and students to take on their responsibilities in quality assurance;*
- *the integrity of academic principles and ethics, guarding against discriminations, and encouragement of external stakeholders to be involved in quality assurance;*
- *the continuous improvement of learning and teaching, research and innovation;*
- *the quality assurance of the programmes and their alignment with the relevant HAHE Standards;*
- *the effective organisation of services and the development and maintenance of infrastructure;*
- *the allocation and effective management of the necessary resources for the operation of the Institution;*
- *the development and rational allocation of human resources.*

*The way in which this policy is designed, approved, implemented, monitored and revised constitutes one of the processes of the internal quality assurance system.*

### Institution Compliance

NTUA has established a QA policy and processes that are appropriate for the University's overall operation. The policy complies with the laws and regulations that govern NTUA within an environment of ongoing frequent changes regarding legislation and regulations. In spite of such substantial barriers to continuity, MODIP (at NTUA) defined, reviewed, and evaluated pertinent procedures, redesigned and redefined QA objectives, and established a comprehensive process that enables and allows for continuous improvement of institutional quality and strategy. Many Key Performance Indicators (KPIs) reflect NTUA's mission and are aligned with its goals. EEAP accessed internal and external data and evaluation reviews.

Coordination between the Internal Evaluation Groups (OMEAs) and MODIP occurs through the exchange of data that are used to subsequently recommend actions in response to identified issues, as well as on feedback used to measure success of interventions.

Continuous improvement is supported by the online system of data collection, measurement, and potentially detailed analysis. Communication between the different OMEAs and MODIP appears to be effective. The online information is available and accessible using a hierarchical system of access to protect any personal data. MODIP also appears to have procedures in place to ensure continuity of the QA process.

QA, as a process, appears to be accepted by most faculty members and all Schools. The examples mentioned during our meetings include formation of committees to enhance collaboration and support for access to educational programmes.

EEAP also recognized that the involved administrative staff members provide notable assistance towards incorporating the MODIP and HAHE work to help create a culture of continuous improvement and QA commitment – this is, again, accomplished by staff members. The input EEAP received from NTUA is as follows: MODIP is providing a process and develops customized indicators of QA. Also, MODIP activities provide measurement, feedback, tracking, and follow up for rectification of indicators.

It became clear to EEAP that the role and input of students requires attention. For example, while the students provide input (largely informal) for course instruction effectiveness, in many cases corrective actions are not considered and taken. Also, as it is described in the documents and was discussed with MODIP, and with a group of undergraduate and graduate students, their involvement in strategy formation could be further improved. Similarly, among the alumni and external stakeholders, involvement in goal formation and in the QA process, requires improvement and a more active engagement.

A relative independence (financial and programmatic) of NTUA is of paramount importance for QA and the ability to achieve excellence. Strict constraints and constant changes in regulations make it impossible to provide the necessary resources (human and otherwise). For example, NTUA’s general operation budget is well below the minimum operating threshold, and the building maintenance and modernization require resources that may not be available in the foreseeable future. Moreover, MODIP urgently needs additional permanent staff to support the QA and Accreditation functions.

### Panel Judgement

<b>Principle 1: Institution Policy for Quality Assurance</b>	
Fully compliant	
Substantially compliant	<b>X</b>
Partially compliant	
Non-compliant	

## **Panel Recommendations**

- Improve the student engagement process towards improving quality in classroom activities and in course and teacher evaluations, as well as in campus/student life.
- Enhance collaboration with and encourage the engagement of external stakeholders whose input will greatly facilitate QA.
- Establish a reliable alumni network in order to receive input, which will play a key role towards improving the QA process of NTUA.

## Principle 2: Provision and Management of the Necessary Resources

**INSTITUTIONS SHOULD ENSURE APPROPRIATE FUNDING FOR LEARNING AND TEACHING ACTIVITIES, RESEARCH, AND ACADEMIC ACTIVITIES IN GENERAL. RELEVANT REGULATIONS SHOULD BE IN PLACE TO ASSURE THAT ADEQUATE INFRASTRUCTURE AND SERVICES FOR TEACHING AND RESEARCH ARE AVAILABLE AND READILY ACCESSIBLE (E.G. CLASSROOMS, LABORATORIES, LIBRARIES, IT INFRASTRUCTURE, PROVISION OF FREE MEALS, DORMITORIES, CAREER GUIDANCE AND SOCIAL WELFARE SERVICES, ETC.).**

### Funding

*The Institution ensures adequate funding to cover not only the overhead and operational costs (regular budget and public investment budget) but also costs related to research, innovation and development (Special Account for Research Funds, Property Development and Management Company). The financial planning and the operation of an effective financial management system constitute necessary tools for the full exploitation of the resources.*

### Infrastructure

*Based on the requirements and needs arising during its operation, the Institution has determined ways to define, allocate and maintain all the necessary resources to ensure its smooth and proper functioning, i.e. teaching, research and auxiliary facilities, equipment and software, support facilities (cleaning, transportation, communication) etc. The scope of the IQAS should include a suitable managing and monitoring system to safeguard the infrastructure. Compliance to the internal regulations is also necessary.*

### Working environment

*The Institution ensures -as far as possible- that the working environment has a positive effect on the performance of all members of the academic community (students and staff). Factors that are taken into consideration towards the creation of such a favorable environment are, among others, the sanitary facilities, the lighting/heating/ventilation system, the cleanliness and the overall appearance of the premises, etc. The scope of the IQAS should include an appropriate managing and monitoring system to promote a favorable working environment and to ensure compliance with the existing provisions.*

### Human resources

*The Institution and the academic units are responsible for the human resources development.*

*The subject areas, as well as the competences and tasks of the staff members are defined by the corresponding job descriptions that are established within the operation scope of each academic or administrative unit. These posts are filled following the requirements set by the law, on the basis of transparent, fair and published processes. The continuous training and evaluation of the staff is considered necessary for the enhancement of the performance, which is recorded and monitored as provided in the context of the IQAS.*

*The Institution should acknowledge and provide the necessary resources for the implementation of the IQAS, its enhancement and the provision of services that assist the satisfaction of the quality assurance requirements. Moreover, the Institution (Quality Assurance Unit-QAU) should properly organise the administrative structure and staffing of the IQAS, with a clear allocation of competences and tasks to its staff members.*

## Institution Compliance

For Accreditation, the Quality Policy of NTUA must ensure compliance with the 8 basic principles of the IQAS as dictated by HAHE.

The activity categories subject to the Provision and Management of the Necessary Resources, as required by the ΕΣΔΠ system of any higher education institution center on appropriate funding related to:

- Learning and teaching
- Research
- Other academic activities
- Infrastructure and services to support teaching and research
- IT infrastructure
- Student facilities and services

With respect to the overall annual funding, EEAP believes that the funding received by the Government is insufficient and inadequate to cover learning and teaching needs, and it has been reduced annually during the past years. However, funding received through contracts and grants is very substantial and has increased during the past few years. Funding from contracts and grants, which are handled by ELKE, is often used to cover education-support needs, and other related substantial costs, although such costs should have been covered by Government funding. Classroom facilities and established laboratories are sufficient to support teaching.

With respect to research funding, NTUA demonstrates continuous excellence and sustainability in receiving external contracts and grants from a spectrum of sources (national, EU, private sector, etc.). ELKE is an efficient and effective organization that supports all research activities related to pre- and post- award monitoring. Moreover, ELKE offers several annual scholarships to graduate students. EEAP feels that focused efforts to connect with the private sector and industry will further increase funding and will result in a closer collaboration between NTUA and industry, which will also help graduates to pursue careers in industry.

With respect to the IT infrastructure, EEAP acknowledges that substantial efforts have been made during the last 10 years to establish an up-to-date network. However, IT support centers seem not to be well integrated as there are three on campus that service and support different entities. This seems to be problematic preventing efficiency and effectiveness, as well as cost increase due to the necessary equipment redundancy.

With respect to the building facilities, EEAP acknowledges that efforts are made to maintain, improve, and upgrade all campus buildings. However, in general, the external building appearance has been and still is very problematic if not unacceptable due to a variety of well-known reasons (this is obviously an issue no NTUA administration can currently solve), which may even prevent or discourage faculty to invite visitors, organize conferences and workshops, etc. Campus appearance may also have a negative impact on student and faculty/staff morale.



## Panel Judgement

<b>Principle 2: Provision &amp; Management of the Necessary Resources</b>	
<b>2.1 Funding</b>	
Fully compliant	<b>X</b>
Substantially compliant	
Partially compliant	
Non-compliant	
<b>2.2 Infrastructure</b>	
Fully compliant	
Substantially compliant	<b>X</b>
Partially compliant	
Non-compliant	
<b>2.3 Working Environment</b>	
Fully compliant	<b>X</b>
Substantially compliant	
Partially compliant	
Non-compliant	
<b>2.4 Human Resources</b>	
Fully compliant	
Substantially compliant	<b>X</b>
Partially compliant	
Non-compliant	

<b>Principle 2: Provision &amp; Management of the Necessary Resources (overall)</b>	
Fully compliant	
Substantially compliant	<b>X</b>
Partially compliant	
Non-compliant	

## Panel Recommendations

- Work closely with the other Universities so that, in unison, to support and present a solid case to the Ministry of Education for increased annual funding that will be at least sufficient to support all or most of the educational requirements and facilities.
- Create a framework and develop a working process that encourages continuous and close collaboration between NTUA and the private sector / industry, which also facilitates and encourages technology transfer and startup creation. Included should also be well-documented procedures to better connect with graduates, also monitoring their career advancement - this will also help the closer connection with the private sector.
- Integrate the three separate IT centers into one network that serves the whole campus.

### Principle 3: Establishing Goals for Quality Assurance

**INSTITUTIONS SHOULD HAVE CLEAR AND EXPLICIT GOALS REGARDING THE ASSURANCE AND CONTINUOUS UPGRADE OF THE QUALITY OF THE OFFERED PROGRAMMES, THE RESEARCH AND INNOVATION ACTIVITIES, AS WELL AS THE SCIENTIFIC AND ADMINISTRATIVE SERVICES. THESE GOALS MAY BE QUALITATIVE OR QUANTITATIVE AND REFLECT THE INSTITUTIONAL STRATEGY.**

*The Institution's strategy on quality assurance should be translated into time-specific, qualitative and quantitative goals which are regularly monitored, measured and reviewed in the context of the IQAS operation, and following an appropriate procedure.*

*Examples of quality goals:*

- *rise of the average annual graduation rate of the Institution's Undergraduate Programmes to x%;*
- *upgrade of the learning environment through the introduction of digital applications on .....*;
- *improvement of the ratio of scientific publications to teaching staff members to .....*;
- *rise of the total research funding to y%*

*The goals are accompanied by a specific action plan for their achievement, and entail the participation of all stakeholders.*

#### **Institution Compliance**

The nine NTUA strategic goals (document A7 – Στρατηγικός Προγραμματισμός ΕΜΠ) are clearly reflected in the IQAS, as seen in the document A6 (Στοχοθεσία Ποιότητας ΕΜΠ) and in the detailed Indicators (Excel sheet 2017 data) provided to EEAP.

There is a genuine effort made by MODIP to accurately reflect several correct core KPIs as they relate to teaching and research excellence objectives.

EEAP understands that the members of MODIP are doing their best in communicating the goals and KPIs to the OMEAs of the various Schools to achieve a level of standardization across NTUA.

NTUA has been responsive (to a substantial extent) to the previous external evaluation report. Most Schools (except two) have already implemented Programme restructuring and curricula upgrades during the past few years. This development is quite welcomed, and it was certainly done with utmost professional care by the faculty.

EEAP feels that the connection of the NTUA strategic goals with the corresponding KPIs could be improved.

There is detailed information (i.e., KPIs) scattered across several NTUA and individual School documents. One such important document for EEAP (and certainly for the higher administration) is document A6, which attempts connecting strategic objectives and KPIs and describes the few critical indicators that support the nine (9) strategic objectives of NTUA. EEAP

mentions some perceived weaknesses that are also supported by discussions with the various NTUA constituents. For example:

- i. The term "innovation" appears explicitly in the core strategic objectives Σ2 and Σ3. The words "new" and "application" appear in the core objective Σ4. Objective Σ5 calls for "εξωστρέφεια". The top higher education institution in engineering in the country should use in document A6 an improved set of relevant KPIs to indicate the strength of NTUA link with the private sector and industry. Such indicators could include collaboration with companies, patent filing, graduate placement in industry (all sectors), prominent positions of graduates, entrepreneurship, start-up companies, etc. EEAP heard that there is substantial activity across the nine Schools, yet such activity is not reflected in the core KPIs.
- ii. Some of the most important indicators related to the quality of teaching result from course evaluations done by the students. However, the presented data up to 2019 are not satisfactory because the results are unreliable due to very low response rates (by students). EEAP heard that things have improved greatly this year in terms of the student response rate (about 19%), but the latest data became available only after the accreditation process.
- iii. Strategic objectives Σ3 and, especially, Σ4 appear to be reflected inadequately by the corresponding KPIs. Σ4 has only one KPI of questionable accuracy (due to the lack of NTUA-wide standards for course annotation). Yet, much discussion during the meetings centered around this subject matter.
- iv. Objective Σ5 ("εξωστρέφεια") needs serious attention as pointed out by the various constituents, including partner organizations to NTUA.

## Panel Judgement

<b>Principle 3: Establishing Goals for Quality Assurance</b>	
<b>3.1 Study Programmes / education activities</b>	
Fully compliant	
Substantially compliant	<b>X</b>
Partially compliant	
Non-compliant	
<b>3.2 Research &amp; Innovation</b>	
Fully compliant	
Substantially compliant	<b>X</b>
Partially compliant	
Non-compliant	
<b>3.3 Administration (funding, human resources, infrastructure management)</b>	
Fully compliant	<b>X</b>
Substantially compliant	
Partially compliant	
Non-compliant	
<b>3.4 Resources (funding, human resources, infrastructure)</b>	
Fully compliant	<b>X</b>
Substantially compliant	
Partially compliant	
Non-compliant	

<b>Principle 3: Establishing Goals for Quality Assurance (overall)</b>	
Fully compliant	
Substantially compliant	<b>X</b>
Partially compliant	
Non-compliant	

## Panel Recommendations

- Revisit and improve the correspondence between the strategic goals of NTUA with suitable KPIs, especially as mentioned in Challenge i.
- Establish an NTUA-wide process of peer-to-peer mentoring for faculty in the context of both teaching and research. It appears that faculty is evaluated at the time of professional advancement, but not on an annual basis, as should be.
- Establish clear standards and effective procedures across the nine Schools for individual programme restructure and upgrades that meet the fast technological changes of today. While such differences are expected among Schools because of the variety of thematic areas, the apparent lack of explicit standards beyond

decreasing the number of courses (an externally imposed criterion as such) is problematic.

- Establish a clear and to be followed course prerequisite structure. Even after the most recent programme restructuring, there are no enforced prerequisite courses. This is rather unusual in modern curricula and, certainly, do not serve student needs.

## Principle 4: Structure, Organisation and Operation of the IQAS

**INSTITUTIONS SET UP AND ESTABLISH AN INTERNAL QUALITY ASSURANCE SYSTEM, WHICH INCLUDES PROCESSES AND PROCEDURES COVERING ALL AREAS OF ACADEMIC ACTIVITIES AND FUNCTIONS. SPECIAL FOCUS IS GIVEN ON THE QUALITY OF TEACHING AND LEARNING, INCLUDING THE LEARNING ENVIRONMENT, RESEARCH, INNOVATION AND GOVERNANCE.**

*The key goal of the internal quality assurance system (IQAS) is the development, effective operation and continuous improvement of the whole range of the Institution's activities, and particularly, of teaching, research, innovation, governance and relevant services, according to the international practices - especially those of the European Higher Education Area - and the HAHE principles and guidelines described in these Standards.*

### Structure and organisation

*In each Institution, the Quality Assurance Unit (QAU) holds the responsibility for the administration and management of the IQAS. The QAU is set up according to the existing legislative framework and is responsible for:*

- *the development of specialised policy, strategy and relevant processes towards the continuous improvement of the quality of the Institution's work and provisions;*
- *the organisation, operation and continuous improvement of the Institution's internal quality assurance system;*
- *the coordination and support of the evaluation process of the Institution's academic units and other services, and;*
- *the support of the external evaluation and accreditation process of the Institution's programmes and internal quality assurance system in the context of the HAHE principles and guidelines.*

*The Institution's IQAS and its implementation processes are determined by the decisions of the competent bodies, as provided by the law, and are published in the Government Gazette, as well as on the Institution's website. The above are reviewed every six years, at the latest.*

*To achieve the above goals, the QAU collaborates with HAHE, develops and maintains a management information system to store the evaluation data, which are periodically submitted to HAHE, according to the latter's instructions. The QAU is responsible for the systematic monitoring of the evaluation process and for the publication of evaluation-related procedures and their results on the Institution's website.*

*The QAU structure has been approved by the Institution's competent bodies, as provided by the law, while all competences and tasks accruing from this structure are clearly defined.*

### Operation

*The Institution takes action for the design, establishment, implementation, audit and maintenance of the Internal Quality Assurance System (IQAS), taking into account the Standards' requirements, while making any necessary amendments to ensure fitness to achieve its aims.*

*The above actions include:*

- *provision of all necessary processes and procedures for the successful operation of the IQAS, as well as implementation of the above processes and procedures on all of the Institution's parties involved ;the Institution's areas of activity can constitute the IQAS processes, e.g. teaching, research and innovation, governance, services etc. An IQAS process is an area of activity including data input, data processing and outputs. A procedure defines the way an action is implemented and includes a course of stages or steps, e.g. the curriculum design procedure;*
- *determination of how the IQAS procedures / processes are audited, measured and assessed, and how they interact;*
- *provision of all necessary resources to enable the IQAS function.*

### Documentation

*The IQAS documentation includes, among other things, a series of key documents demonstrating its structure and organisation, such as the Quality Manual, which describes how the Standards' requirements are met.*

*The Annexes of the Quality Manual include:*

- *the Quality Policy and the Quality Assurance Objectives;*
- *the necessary written Procedures, along with the entailed forms;*
- *the necessary Guides, External Documents (e.g. pertinent legislation), as well as any other supporting data;*
- *the standing organisational structure of the QAU, with a detailed description of the competences, the required qualifications and the goals for each post. The organisational chart is structured in a manner that ensures that the IQAS organisational requirements are fully and properly met.*

### **Institution Compliance**

NTUA has in place an IQAS, which is managed by MODIP. Three MODIP committees have been instituted that cover the periods 2010-2014, 2014-2019, 2020-2024.

Although IQAS is relatively new, it has improved significantly over time. MODIP is now headed by a Vice Rector (Prof. Gintides). This reflects the importance of its existence and related functions. EEAP was impressed that the NTUA Rector (Prof. Boudouvis) is also unequivocally in support of the role of MODIP in communicating and advocating the strategic objectives of NTUA.

The internal quality system described in Section 5 of the document A1 (*Πρόταση Πιστοποίησης*) is well-written and supported.

The Quality Manual is annotated, and it is in general up to date. Procedures and quality objectives are well described.

EEAP was provided with massive data, excessive at times, which included detailed and important information. The various interviewed bodies made a genuine effort to address the concerns of EEAP.

MODIP is certainly underfunded and overworked. There is one person for secretarial support, while the rest of the members are volunteer non-professional evaluators; that is, NTUA faculty whose focus of activity should not be centered around MODIP. Faculty members from all schools should, of course, have an advisory role to MODIP but, long-term, they should not shoulder the full burden of this committee. As impressive as this sounds, it also presents a challenge that may prevent involved faculty from focusing on their normal duties.

## Panel Judgement

<b>Principle 4: Structure, Organization and Operation of the IQAS</b>	
Fully compliant	<b>X</b>
Substantially compliant	
Partially compliant	
Non-compliant	

## Panel Recommendations

- MODIP funding must increase, and full-time core professional personnel must be hired.
- Continue emphasizing the value of IQAS as it pertains to improving strategic objectives and improving the international rankings of NTUA.
- The Rector's office (Πρυτανεία) must pledge its strong support to the IQAS process through:
  - i. the implementation of received feedback and results to the extent possible
  - ii. establishing budgetary control for Schools based on incentives towards continuous improvement according to the IQAS principles.



## Principle 5: Self-Assessment

**THE INTERNAL QUALITY ASSURANCE SYSTEM COMPRISES PROCEDURES PROVIDING THE IMPLEMENTATION OF THE ANNUAL SELF-ASSESSMENT OF THE INSTITUTION'S ACADEMIC AND ADMINISTRATIVE UNITS, ADDRESSING AREAS OF OVERSIGHTS OR SHORTCOMINGS, AND DEFINING REMEDIAL ACTIONS TOWARDS THE ACHIEVEMENT OF THE SET GOALS, AND EVENTUAL IMPROVEMENT.**

*The QAU conducts, on an annual basis, a self-assessment of the IQAS, following the written procedure provided for each area of activity, which is implemented by a certain academic or administrative unit, as appropriate. The procedure determines the timing, the participants, the data under consideration, and the expected outcomes. The self-assessment aims at a final estimation of the suitability of the IQAS in force, as well as at basing decisions concerning the necessary remedial or precautionary actions for improvement.*

*The data considered in the context of the self-assessment of a programme may, for example, include:*

- *students performance;*
- *feedback from students / teaching staff;*
- *assessment of learning outcomes;*
- *graduation rates;*
- *feedback from the evaluation of the facilities / learning environment;*
- *report of any remedial or precautionary actions undertaken;*
- *suggestions for improvement.*

*The outcomes of the self-assessment are recorded in internal reports drawn up by the QAU. The reports identify any areas of deviation or non-compliance with the Standards, and are communicated to the interested parties (if appropriate). The Institution's resolutions concerning any modification, compliance, or enhancement of the IQAS operation might include actions related to:*

- *the upgrade of the IQAS and the pertinent processes;*
- *the upgrade of the services offered to the students;*
- *the reallocation of resources;*
- *the introduction of new quality goals, etc.*

*The outcomes of the self-assessment are recorded and, along with the source data, are archived as quality files.*

*A special procedure is followed for the compliance check of newly launched programmes (of all three cycles), or programmes that are to be reviewed shortly, prior to the institutional approval of the programme.*

### Institution Compliance

For Accreditation, the Quality Policy of the University must ensure compliance with the 8 basic Principles of the IQAS as dictated by HAHE.

The activity categories subject to the Principle of Self-Assessment, as required by the IQAS of any institution are:

- Instructional Activity

- Research and innovation activity
- Economic activity and financial management
- Human resources
- Facilities and infrastructure

HAHE further breaks down each one of these categories into subcategories, supplies relevant KPIs, 156 in total, which are annually updated with associated mean values computed using data from all institutions of higher learning. Each institution uses a subset of these KPIs, as they may relate to their strategic goals, to compare and assess their own performance and compliance with the HAHE quality standards.

NTUA has defined its own set of KPIs relevant to its strategic goals that are compatible with the above stated categories:

- Excellence in the delivery of education integrated with research at all study levels.
- High level research output combined with innovation for the benefit of the economic and social development of the country.
- Promotion of excellence and innovation.
- Development of new knowledge and applications.
- Strengthening of outreach activities (extroversion) and internationalization.
- Improve human resources staffing.
- Maintenance and improvement of infrastructure.
- Improvement of administrative effectiveness.
- Interaction with scientific organizations and its graduates.

MODIP, responsible for managing and enforcing the institutional Quality Policy, reported the procedure and actions associated with the Self-Assessment Principle in the submitted Proposal for Accreditation. In doing so, MODIP followed, in principle, the procedures and sub-procedures suggested in the institutional Quality Manual.

Of interest to the EEAP was the Quality Targeting (Στοχοθεσία Ποιότητας) Table submitted by NTUA, in the format required by HAHE. It includes a combination of selected KPIs from (a) the set that HAHE tracks which the institution recognizes as being relevant to their strategic goals and (b) a set which included KPIs defined by the institution as they feel are best measuring their strategic goal categories and subcategories.

NTUA has implemented a process for assessing the performance of the strategic goals that have been set and uses relevant metrics to a significant extent. It uses the information for adjustments, improvements, and modifications, as needed, on the related key areas of endeavor. Moreover, the strategic goals are reviewed at least once a year by the administration and adjustments and modifications are implemented, if necessary. This is a good practice for quality control purposes.

EEAP feels that besides quantifiable and measurable goals, a comprehensive Quality Policy requires some processes, practices, and even adoption of a culture that cannot necessarily be expressed numerically.

There was not enough evidence presented regarding the process of using the findings to provide feedback for improvements and adjustments.

The support systems for data gathering, processing, and analyzing are in need of improvement.

As such, even though the efforts of MODIP, with limited resources, are commendable, a number of improvements and enhancements related to quality are apparent, some noted by self-assessment, others observed by EEAP and others revealed through the interactive teleconferencing sessions with various “stakeholder” groups.

### Panel Judgement

Principle 5: Self-Assessment	
Fully compliant	
Substantially compliant	X
Partially compliant	
Non-compliant	

### Panel Recommendations

- Adopt a continuous effort of formally defining and documenting as many of the institutional and School processes as possible to eventually lead to a standardization of practices and procedures.
- Integrate all independent academic, administrative and financial information processing modules, as it may be appropriate for preservation of security and privacy, to an integrated information processing system to facilitate and enhance information exchange and operations, as recommended also in Principle 2. This could also significantly reduce the workload of MODIP.
- Establish well-defined procedures, on both University and School levels, to implement the process of improvements and adjustments based on self-assessment findings.

## Principle 6: Collection of Quality Data: Measuring, Analysis and Improvement

**INSTITUTIONS ARE FULLY RESPONSIBLE FOR THE COLLECTION, ANALYSIS AND USE OF INFORMATION IN AN INTEGRATED, FUNCTIONAL AND READILY ACCESSIBLE MANNER, AIMING AT THE EFFECTIVE MANAGEMENT OF THE QUALITY DATA RELATED TO TEACHING, RESEARCH AND OTHER ACADEMIC ACTIVITIES, AS WELL AS OF THOSE RELATED TO THE ADMINISTRATION.**

*The QAU should establish and operate an information system to manage the data required for the implementation of the Internal Quality Assurance System.*

*The QAU measures and monitors the performance of the various activities of the Institution, through appropriate procedures established in the context of the IQAS structure, and assesses their level of effectiveness. The measuring and monitoring is conducted on a basis of indices and data provided by HAHE in the pertinent guidelines and forms, which are part of the National Information System for Quality Assurance in Higher Education (NISQA). These measurements may concern: the size of the student body, the size of the teaching and administrative staff, the infrastructure, the structural components of the curricula, students' performance, research activity performance, financial data, feedback on student and faculty satisfaction surveys, data related to the teaching and research activity, services, infrastructure, etc.*

*The QAU makes use of the figures and presents the results for consideration using statistical analysis. Outcomes are displayed through histograms and charts. This sort of information is used by the Institution for decision making, at all levels, pursuing improvement, as well as for setting, monitoring, assessing and reviewing the Institution's strategic and operational goals.*

### Institution Compliance

MODIP puts significant effort in collecting quality data for the performance indicators relative to teaching, research, and other academic activities in a way that the nine NTUA strategic goals (and in particular, Strategic Planning and Goal Setting) are reflected in the IQAS procedures.

In some cases, however, the methods of collecting quality data needs to be improved. This is the case of student evaluations as reflected by the very low percentage of participation – it is noted that this percentage has increased from 3% to currently 19%.

MODIP coordinates all data collection activities across the nine Schools and strives to achieve standardization in data collection across NTUA. Much of the data collected by MODIP across the Schools could be used to establish an effective communication channel with the NTUA's industrial stakeholders. The need for such a communication channel was amply expressed by virtually all industrial stakeholders during their meeting with EEAP.

EEAP feels that the establishment of a communication channel at the overall NTUA/Institution level is a must. This could take the form of an advisory board or of a forum to support collaborations with the private sector and industry, such as feedback regarding improvement of undergraduate programmes, placement of graduates, placement of undergraduates for their internships, and/or joint projects.

## Panel Judgement

<b>Principle 6: Collection of Data: Measuring, Analysis &amp; Improvement</b>	
<b>6.1 Study Programmes / education activities</b>	
Fully compliant	
Substantially compliant	<b>X</b>
Partially compliant	
Non-compliant	
<b>6.2 Research &amp; Innovation</b>	
Fully compliant	
Substantially compliant	<b>X</b>
Partially compliant	
Non-compliant	
<b>6.3 Activities related to the administration (funding, human resources, infrastructure management)</b>	
Fully compliant	<b>X</b>
Substantially compliant	
Partially compliant	
Non-compliant	
<b>6.4 Human Resources</b>	
Fully compliant	
Substantially compliant	<b>X</b>
Partially compliant	
Non-compliant	

<b>Principle 6: Collection of Data: Measuring, Analysis &amp; Improvement (overall)</b>	
Fully compliant	
Substantially compliant	<b>X</b>
Partially compliant	
Non-compliant	

## Panel Recommendations

- Improve the process of student evaluation even further (having at least 50% student participation would be a reasonable goal).
- Institute an advisory board that includes all stakeholders such as external academics, representatives of public and private sectors, research institutes, and alumni.

## Principle 7: Public Information

**INSTITUTIONS SHOULD PUBLISH INFORMATION ABOUT THEIR TEACHING AND ACADEMIC ACTIVITIES IN A DIRECT AND ACCESSIBLE MANNER. ALL PERTINENT INFORMATION SHOULD BE UP-TO-DATE, CLEAR AND OBJECTIVE.**

*The QAU publishes data related to IQAS structure, organisation and operation. Furthermore, the QAU publishes data pertinent to the institutional quality policy and objectives, as well as information and data relevant to the Institution's internal and external evaluation. In the context of the self-assessment process, the QAU verifies that adequate information regarding the teaching activities and, particularly, the programmes' profile and the overall institutional activity is publicly available. QAU makes recommendations for improvement, where appropriate.*

### Institution Compliance

NTUA has a rather comprehensive website, yet with a design that makes it difficult to navigate through. It has both Greek and English versions but there is disparity between the two regarding the information that is displayed in each one. The website includes information on NTUA's history, mission, administrative organizational structure, academic departmental personnel and functions, information on both undergraduate and graduate programmes, scientific laboratories and research, facilities infrastructure, computer and network centers, support services and facilities especially for students, social clubs and activities, scholarly, cultural, and physical activities in general, as well as up to date announcements about seminars and presentations.

Each School, and the areas of specialization within it, have their own website with specific information about their programmes and resources. They also include news, announcements, awards, distinctions, publications, and noteworthy accomplishments of the School.

Unlike other institutional websites, the NTUA central website does not have a distinct link for the institutional Quality Policy and its objectives. Such information can be accessed through the sections of the sub-link "Organization & Administration". MODIP is one of these sections but is included only in the Greek language version of the website.

Once the MODIP site is accessed, it includes the sub-links of QA Units, QA System, Evaluation Reports, Other Useful Material, Distinctions, News and Contact information. Within the first three sub-links mentioned above one can access most of the typical material associated with IQAS, as is mandated by HAHE.

Other types and categories of public information about NTUA on the website are of marketing and promotional types and more closely associated with school activities and functions of academic or social nature.

## Panel Judgement

<b>Principle 7: Public Information</b>	
Fully compliant	<b>X</b>
Substantially compliant	
Partially compliant	
Non-compliant	

## Panel Recommendations

- Improve the correspondence of material content between the Greek and English language versions of the website.
- Improve the exposure of the MODIP functions and activity and establish a more direct website access link.

## Principle 8: External Evaluation and Accreditation of the IQAS

**INSTITUTIONS SHOULD BE PERIODICALLY EVALUATED BY COMMITTEES OF EXTERNAL EXPERTS SET BY HAHE, FOR THE PURPOSE OF ACCREDITATION OF THEIR INTERNAL QUALITY ASSURANCE SYSTEMS (IQAS). THE PERIODICITY OF THE EXTERNAL EVALUATION IS DETERMINED BY HAHE.**

*External quality assurance, in the case in point external evaluation aiming at accreditation, may act as a means of verification of the effectiveness of the Institution's internal quality assurance, and as a catalyst for improvement, while opening new perspectives. Additionally, it can provide information with a view to public acknowledgement of the positive course of the Institution's activities.*

*The Higher Education Institutions engage in periodic external quality assurance which is conducted taking into consideration any special requirements set by the legislation governing the operation of the Institutions and their academic units.*

*Quality assurance, in this case accreditation, is an on-going process that does not end with the external feedback, or report or its follow-up process within the Institution. Therefore, Institutions ensure that the progress made since the last external quality assurance activity is taken into consideration when preparing for the next one.*

### Institution Compliance

NTUA has responded to the recommendations of the 2016 External Evaluation Committee in a very professional manner. Probably the most important (and certainly the most complex) recommendation was the restructuring and upgrading of the Undergraduate Programmes for all nine Schools. This has already been achieved in all but two Schools. However, the response of NTUA in three items (as enumerated in the NTUA reply) needs to be clarified further, namely:

Item 2: Recommendation for establishing a School of Postgraduate Studies (response: the existing system serves better the post-graduate needs).

Item 3: Hospitality Center (no response by NTUA found in the Progress Report submitted to EEAP).

Item 5: Motives for increasing external funding (no response by NTUA found in the Progress Report submitted to EEAP).

Referring to Item 2, in a University with 9 Schools this seems to be a reasonable recommendation. Indeed, such an Institution could promote resource sharing, coordinate interdisciplinary studies and research, supervise and train doctoral candidates, and promote synergies in proposing EU projects and/or Industrial partnerships. Examples of interdisciplinary studies could be in Theoretical Computer Science, Bioinformatics, Quantum Computing, Geographical Information Systems, Energy and Environment, Space Technologies, and so on.

Referring to Item 5, EEAP notes that although the external research funding generated by the faculty is sizable, there is lack of response to this Item.



### Panel Judgement

<b>Principle 8: External Evaluation &amp; Accreditation of the IQAS</b>	
Fully compliant	
Substantially compliant	<b>X</b>
Partially compliant	
Non-compliant	

### Panel Recommendations

- Re-consider the response of the Institution to the above three items.

## PART C: CONCLUSIONS

### I. Features of Good Practice

- Overall NTUA has demonstrated a positive attitude towards evaluation and accreditation.
- The Administration both at the University and School levels are fully committed to the institutional strategic goals and in improving the QA process.
- NTUA has responded very professionally to a great extent to the recommendations of the 2016 external evaluation committee.
- There is a strategic plan with clearly defined objectives.
- MODIP is making a genuine effort to address the strategic objectives of the University.
- ELKE is an efficient and effective entity in handling contracts and grants as well as in covering expenses that should have been covered by the State.
- At the School level, seven out of nine Schools have made genuine efforts to update and restructure the undergraduate programmes.

### II. Areas of Weakness

- Insufficient State funding.
- Correspondence between strategic goals and associated KPIs.
- Interactions with the external stakeholders and social partners.
- Student feedback regarding educational and research activities.
- Inter-School (interdisciplinary) academic endeavors to address rapidly developing areas.
- IQAS process documentation.
- Lack of prerequisite course sequences.
- Lack of annual faculty evaluations.
- Lack of adequate staff support for MODIP and OMEAs.

### III. Recommendations for Follow-up Actions

- **Advisory Board:** NTUA should interact with the external stakeholders in a more formal and structured manner. A formal platform of communication such as an Advisory Board, including alumni and representatives of sectors of the broader society, should be established.
- **Administration Support:** Continue the commitment of the administration to the IQAS principles for meeting the programmatic and strategic goals.
- **MODIP:** Needs additional resources including professional personnel and secretarial assistance.
- **Correspondence Between Strategic Goals and Associated KPIs:** Continuous monitoring and improvements.
- **Prerequisite Courses in the Undergraduate Programmes:** Establish and implement well-defined sequences.

- **IT Centers:** Integrate into one network that serves the whole campus.
- **Enhancement of the International Engagement of the University:** Increase offerings of courses in English and provide incentives and/or support for mobility/exchange of faculty and students.
- **Standards Procedures Manual:** Establish formal documentation for all functions and procedures, preferably in an easy-to-follow flow-chart form, to assure consistency of implementation.
- **Student Involvement in QA:** Encourage a pro-active student involvement, in addition to the student course evaluation, in QA processes, as the students are the primary beneficiaries of the institutional quality.

#### IV. Summary & Overall Assessment

The Principles where full compliance has been achieved are:

- Principle 4: Structure, Organisation and Operation of the IQAS
- Principle 7: Public Information

The Principles where substantial compliance has been achieved are:

- Principle 1: Institution Policy for Quality Assurance
- Principle 2: Provision and Management of the Necessary Resources
- Principle 3: Establishing Goals for Quality Assurance
- Principle 5: Self-Assessment
- Principle 6: Collection of Quality Data: Measuring, Analysis and Improvement
- Principle 8: External Evaluation and Accreditation of the IQAS

The Principles where partial compliance has been achieved are: None

The Principles where failure of compliance was identified are: None

Overall Judgement	
Fully compliant	
Substantially compliant	<b>X</b>
Partially compliant	
Non-compliant	

## The members of the External Evaluation & Accreditation Panel

**Name and Surname**

**Signature**

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