



**NATIONAL  
TECHNICAL  
UNIVERSITY  
OF ATHENS**



**SCHOOL  
OF  
APPLIED  
MATHEMATICAL  
AND PHYSICAL  
SCIENCES**

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This Diploma Supplement follows the model developed by the European Commission, Council of Europe and UNESCO/CEPES. The purpose of the supplement is to provide sufficient independent data to improve the international 'transparency' and fair academic and professional recognition of qualifications (diplomas, degrees, certificates, etc.). It is designed to provide a description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. It should be free from any value judgments, equivalence statements or suggestions about recognition. Information in all eight sections should be provided. Where information is not provided, an explanation should give the reason why.

# Diploma SUPPLEMENT

## 1. INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION

<b>1.1.</b>	<i>Family name(s):</i>
<b>1.2.</b>	<i>Given name(s):</i>
<b>1.3.</b>	<i>Date of birth (Day/Month/Year):</i>
<b>1.4.</b>	<i>Student identification number or code (if available):</i>
	09

## 2. INFORMATION IDENTIFYING THE QUALIFICATION

<b>2.1</b>	<i>Name of the qualification and (if applicable) title conferred (in original language):</i>
	DIPLOMA IN APPLIED MATHEMATICAL AND PHYSICAL SCIENCES (Δίπλωμα Εφαρμοσμένων Μαθηματικών και Φυσικών Επιστημών)
<b>2.2</b>	<i>Main field(s) of study for the qualification:</i>
	APPLIED MATHEMATICAL AND PHYSICAL SCIENCES
<b>2.3</b>	<i>Name and status of awarding institution (in original language):</i>
	NATIONAL TECHNICAL UNIVERSITY OF ATHENS (ΕΘΝΙΚΟ ΜΕΤΣΟΒΙΟ ΠΟΛΥΤΕΧΝΕΙΟ), PUBLIC UNIVERSITY
<b>2.4</b>	<i>Name and status of institution (if different from 2.3) administering studies (in original language):</i>
	As in 2.3
<b>2.5</b>	<i>Language(s) of instruction/examination:</i>
	Greek

## 3. INFORMATION ON THE LEVEL OF THE QUALIFICATION

<b>3.1</b>	<i>Level of qualification:</i>	ONE-TIER DEGREE (5 YEARS)								
<b>3.2</b>	<i>Official length of programme:</i>	<table> <tr> <td><i>Full-time studies:</i></td> <td>5 years</td> </tr> <tr> <td><i>Semesters:</i></td> <td>10</td> </tr> <tr> <td><i>ECTS credits:</i></td> <td>300</td> </tr> <tr> <td></td> <td></td> </tr> </table>	<i>Full-time studies:</i>	5 years	<i>Semesters:</i>	10	<i>ECTS credits:</i>	300		
<i>Full-time studies:</i>	5 years									
<i>Semesters:</i>	10									
<i>ECTS credits:</i>	300									
<b>3.3</b>	<i>Access requirement(s):</i>	Unified upper secondary degree and success in national level examinations								



#### 4. INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1	Mode of study:	Full-time
4.2	Programme requirements	<p>In order to obtain the Diploma in Applied Mathematical and Physical Sciences, students are required to successfully complete all requirements regarding compulsory and elective courses offered by the Programme of Studies:</p> <ol style="list-style-type: none"> <li>56 semester courses (26 compulsory core courses (including 1 compulsory foreign language course) + 30 compulsory specialisation and elective courses). ECTS credits for all courses are provided in 4.3.</li> <li>A Diploma Thesis.</li> </ol>

#### 4.3 Programme details (e.g. modules or units studied), and individual grades/marks/credits obtained (if this information is available on an official transcript, it should be used here):

*A. Modules which the student has successfully completed  
and courses for which the student has received recognition or exemption:*

MODULES/COURSES		SEME-STER	GRADE	ECTS CREDITS
CODE	TITLE			
9001	MATHEMATICAL ANALYSIS I	1		6
9002	ANALYTIC GEOMETRY AND LINEAR ALGEBRA	1		6
9003	INTRODUCTION TO COMPUTER PROGRAMMING	1		5
9004	PHYSICS I (MECHANICS) AND LABORATORY	1		7
9006	MECHANICS I (STATICS)	1		4
9007	INTRODUCTION TO PHILOSOPHY	3		3
9012	MATHEMATICAL ANALYSIS II	2		5
9013	ORDINARY DIFFERENTIAL EQUATIONS	3		5
9014	DESIGN AND DEVELOPMENT OF COMPUTER APPLICATIONS	2		5
9015	PHYSICS II (ELECTROMAGNETISM I)	2		6
9029	LINEAR ALGEBRA AND APPLICATIONS	2		5
9030	MATHEMATICAL ANALYSIS III	3		5
9033	PHYSICS III (OSCILLATIONS AND WAVES) AND LABORATORY	3		6
9036	ECONOMICS I (MICROECONOMICS)	4		3
9037	ENGLISH LANGUAGE	3		
9041	NUMERICAL ANALYSIS I AND LABORATORY	3		7
9042	COMPLEX ANALYSIS	4		5
9045	PHYSICS IV (QUANTUM MECHANICS I)	4		5
9049	ENGLISH LANGUAGE	4		2
9074	CONDENSED MATTER PHYSICS	6		5
9075	GENERAL CHEMISTRY	5		4
9077	QUANTUM MECHANICS II	5		6
9092	THERMODYNAMICS	3		4
9093	ELECTROMAGNETISM II	5		6



9094	ATOMIC AND MOLECULAR PHYSICS	6	5
9095	OPTICS AND LABORATORY	5	5
9098	SOLID STATE CHEMISTRY	6	5
9106	SOFTWARE FOR MATHEMATICS AND PHYSICS	2	3
9110	DIELECTRIC OPTICAL AND MAGNETIC PROPERTIES OF MATERIALS	7	5
9123	STATISTICAL PHYSICS	5	5
9125	APPLICATION OF IONIZING RADIATION IN MEDICINE AND BIOLOGY	8	5
9134	MECHANICS II (DEFORMABLE BODY)	2	4
9135	MECHANICS IV (KINEMATICS AND DYNAMICS)	4	5
9158	PHYSICS SEMINAR - PROJECT	8	5
9159	NUCLEAR PHYSICS AND APPLICATIONS	8	5
9160	TECHNOLOGY OF PARTICLE ACCELERATION AND DETECTION SYSTEMS	7	5
9161	PHYSICS AND TECHNOLOGY OF LASER	6	5
9162	POLYMERS AND NANOCOMPOSITE MATERIALS	8	5
9166	PHYSICS OF MICROELECTRONIC DEVICES	8	5
9167	SIGNAL ANALYSIS	6	5
9170	HISTORY OF PHYSICS 19TH AND 20TH CENTURY	8	3
9171	TEACHING METHODOLOGY IN PHYSICS - PHYSICS EDUCATION	6	4
9197	NUCLEAR TECHNOLOGY	9	5
9200	NEW TECHNOLOGICAL MATERIALS	9	5
9204	PATTERN RECOGNITION AND NEURAL NETWORKS	9	5
9206	FLUID MECHANICS	6	5
9301	TECHNIQUES FOR GEOMETRIC DESIGN	1	4
9302	MECHANICS III (STRENGTH OF MATERIALS)	3	4
9323	MODERN PHYSICS LABORATORY	5	4
9324	NUCLEAR PHYSICS	7	6
9325	ELEMENTARY PARTICLES I	7	6
9326	MATERIALS SCIENCE	7	5
9334	ELECTRONICS AND LABORATORY II	9	5
9335	ELECTROMAGNETIC FIELDS	9	5
9344	EXPERIMENTAL PHYSICS	2	2
9345	SPECIAL THEORY OF RELATIVITY	2	3
9346	INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS	4	5
9347	APPLIED STATISTICS	4	5
9348	COMPUTER PROGRAMMING WITH APPLICATIONS IN ENGINEERING SCIENCE	4	5
9537	ELECTRONICS AND LABORATORY I	8	5

**B. Diploma Thesis:**

XXXX



GRADE		ECTS	30
ECTS Total:			300

4.4	Grading scheme and, if available, grade distribution guidance:		
In Hellenic Higher Education a student's academic performance is measured on a scale from 1 to 10:	9-10,00	EXCELLENT (ΑΡΙΣΤΑ)	
	7 – 8,99	VERY GOOD (ΛΙΑΝ ΚΑΛΩΣ)	
	5 – 6,99	GOOD (ΚΑΛΩΣ)	
	0 – 4,99	FAIL (ΑΝΕΠΙΤΥΧΩΣ)	
Minimum passing grade: .	5.		
Minimum passing grade for the Diploma Thesis:	5.5		
The final grade for the Diploma degree is calculated as the sum of:	<ul style="list-style-type: none"><li>the mean value of all course grades, which contribute 80/100 to the final grade, and</li><li>the grade of the Diploma Thesis, which contributes 20/100 to the final grade.</li></ul>		
The practical training does not count towards the final grading of the Diploma degree			
4.5	Overall classification of the qualification (in original language):		
	(ie.: 7.06 (SEVEN POINT ZERO SIX) VERY GOOD (ΛΙΑΝ ΚΑΛΩΣ)		

5. INFORMATION ON THE FUNCTION OF THE QUALIFICATION		
<b>5.1</b>	<i>Access to further study:</i>	Access to post-graduate studies
<b>5.2</b>	<i>Professional status (if applicable):</i>	The Diploma degree of the School of Applied Mathematical and Physical Sciences entitles its holder to the professional fields of applied mathematical and physical sciences, as described and legally protected in Presidential Decree No 199, September 14, 2007

7. CERTIFICATION OF THE SUPPLEMENT			
<b>7.1.</b>	<b>Name</b>	STAVROS KOURKOULIS	
<b>7.2.</b>	<b>Capacity:</b>	DEAN OF SCHOOL OF APPLIED MATHEMATICAL AND PHYSICAL SCIENCES	
	<b>Date:</b>	<b>Signature:</b>	<b>Official stamp or seal:</b>



8. INFORMATION ON THE NATIONAL HIGHER EDUCATION SYSTEM	
<b>(i)</b>	<b>Structure</b>
	<p>According to Law n. 3549/2007, higher education in Greece comprises two parallel sectors:</p> <ol style="list-style-type: none"> <li>the University sector (Universities, Polytechnics, Fine Art Schools, the Open University) and</li> <li>the Technological sector (Technological Education Institutions (TEIs) and the School of Pedagogic and Technological Education).</li> </ol> <p>The same law regulates issues concerning governance of higher education along the general lines of increased participation, greater transparency, accountability and increased autonomy.</p> <p>There are also State Non-University Tertiary Institutes offering vocationally oriented courses of shorter duration (2 to 3 years), which operate under the authority of other Ministries.</p>
<b>(ii)</b>	<b>Access</b>
	<p>Entrance to the various Schools of the <b>Universities</b> and <b>Technological Education Institutions (TEIs)</b> depends on the score obtained in the students' Unified Upper Secondary Leaving Certificate, on the number of available places (numerus clausus) and on the candidates' ranked preferences among schools and sections.</p>
<b>(iii)</b>	<b>Qualifications</b>
	<p>Students who successfully complete their studies in universities and TEIs are awarded a <i>Degree</i> (or <i>Diploma</i> for Engineers). These programmes last for four years for most fields, five years for engineering and certain other applied science fields and six years for medicine. The <i>Degree</i> (or <i>Diploma</i>) leads to employment or further study at post-graduate level.</p> <p>Recent legislation on quality assurance in Higher Education, on the Credit Transfer System and on the Diploma Supplement defines the framework and criteria for evaluation of university departments and for certification of student degrees. These measures aim at promoting student mobility and contributing to the creation of a European Higher Education Area.</p> <p>A detailed description of the Greek Education System is offered in:</p> <ul style="list-style-type: none"> <li>• <b>EURYDICE</b> (<a href="http://www.eurydice.org">http://www.eurydice.org</a>) <b>database of the European Education Systems.</b></li> <li>• <a href="http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/122EN.pdf">http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/122EN.pdf</a> (pages 82,83)</li> <li>• <a href="http://www.eurydice.org">http://www.eurydice.org</a>.</li> </ul>