

DIPLOMA SUPPLEMENT

Number of diploma in the registry of diplomas: BME-2552/2011, year: 2011

1 HOLDER OF THE QUALIFICATION

1.1 Family name(s)	1.2 Given name(s)
<u>Guszejnov</u>	<u>Dávid</u>
1.3 Date of birth (day/month/year)	1.4 Student identification number or code (if available)
<u>21/01/1990</u>	<u>B8L2HX 75459549541</u>

2 INFORMATION ON IDENTIFYING OF THE QUALIFICATION

2.1 Name of qualification and (if applicable) title conferred
<u>Physicist</u>
2.2 Main field(s) of study for the qualification
<u>Physics</u>
2.3 Name and status of awarding institution
<u>Budapest University of Technology and Economics State university, accredited by the Hungarian Accreditation Committee (HAC) with its resolution 1999/5/II/1.</u>
2.4 Name and status of institution (if different from 2.3) administering studies
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2.5 Language(s) of instruction/examination
<u>Hungarian</u>

3 INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1 Level of qualification	3.2 Official length of program
<u>Bachelor (first cycle)</u>	<u>6 semesters</u>
3.3 Access requirements	
<u>Secondary school leaving certificate (after 12 years of study), entrance procedure</u>	

4 INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1 Mode of study
<u>Full time training</u>

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4.2 Program Requirements

4.2.1 Program requirements act number

Decree 15/2006 (IV.3.) OM from the study and graduation requirements of the Majors in Bachelor's and Master's Programs.

4.2.2 Aim of study

Education of physicists

4.2.3 Required number of credit points

180

4.2.4 System of knowledge checking

Examinations, 2 comprehensive examinations, BSc. thesis and its defending at public final examination

4.2.5 Required professional practice, credit value

4.3 Program details (e.g. modules or units studied), and the individual grades/marks/credits obtained

2008/09/1, credit points: 32

Subject	Subject code	Lessons per week (W)/semester (S)	Requirement	Credit points	Grade	Date
English for Engineers	BMEGT63A051	W: 0/2/0	Mid-term mark	2	5	12/12/2008
Physical Education A.	BMEGT701007	W: 0/2/0	Signature	0	Sign	12/12/2008
Experimental Physics 1	BMETE13AF02	W: 4/0/0	Exam	4	5	20/12/2008
Practical Course in Experimental Physics 1	BMETE13AF05	W: 0/2/0	Mid-term mark	2	5	12/12/2008
Linear Algebra	BMETE91AK00	W: 4/0/0	Exam	4	5	14/01/2009
Practical Course in Linear Algebra	BMETE91AK01	W: 0/2/0	Mid-term mark	2	5	12/12/2008
Analysis for Physicists	BMETE93AF00	W: 4/2/0	Exam	6	5	06/01/2009
Chemistry	BMEVEFKA144	W: 4/0/0	Exam	4	5	20/01/2009
Programming	BMEVIEEA024	W: 2/0/2	Mid-term mark	4	5	12/12/2008
Basics of the Theory of Computing	BMEVIEEA025	W: 3/0/1	Mid-term mark	4	5	12/12/2008

2008/09/2, credit points: 30

Subject	Subject code	Lessons per week (W)/semester (S)	Requirement	Credit points	Grade	Date
Management and Business Economics	BMEGT20A003	W: 2/0/0	Mid-term mark	2	4	15/05/2009
Economics	BMEGT30A002	W: 2/0/0	Mid-term mark	2	5	14/05/2009
Physical Education B	BMEGT701008	W: 0/2/0	Signature	0	Sign	15/05/2009
Experimental Physics 2	BMETE13AF03	W: 4/0/0	Exam	4	5	26/05/2009
Practical Course in Experimental Physics 2	BMETE13AF06	W: 0/2/0	Mid-term mark	2	5	15/05/2009
Physics Laboratory 1	BMETE13AF07	W: 0/0/3	Mid-term mark	3	5	15/05/2009
Radiation Protection and its Regulatory Issues	BMETE80AF00	W: 2/0/0	Exam	2	5	26/05/2009
Fundamentals of Environmental Protection	BMETE80AF01	W: 2/0/0	Mid-term mark	2	5	15/05/2009
Introduction to Experimental Data Handling	BMETE80AF02	W: 2/0/0	Exam	2	5	10/06/2009

Subject	Subject code	Lessons per week (W)/semester (S)	Requirement	Credit points	Grade	Date
Numerical Computations for Physicists	BMETE92AF01	W: 0/0/2	Mid-term mark	2	5	15/05/2009
Multivariate Analysis for Physicists	BMETE93AF01	W: 4/2/0	Exam	6	5	03/06/2009
Chemistry Laboratory Practice	BMEVEFKA145	W: 0/0/3	Mid-term mark	3	5	15/05/2009

2009/10/1, credit points: 30

Subject	Subject code	Lessons per week (W)/semester (S)	Requirement	Credit points	Grade	Date
Physical Education C	BMEGT1701009	W: 0/2/0	Signature	0	Sign	11/12/2009
Practical Course in Mechanics	BMETE11AF07	W: 0/2/0	Mid-term mark	2	3	11/12/2009
Experimental Physics 3	BMETE13AF04	W: 3/1/0	Exam	4	5	14/01/2010
Physics Laboratory 2	BMETE13AF08	W: 0/0/4	Mid-term mark	4	5	11/12/2009
Mechanics	BMETE13AF12	W: 4/0/0	Exam	4	5	22/01/2010
Choice of Specialization	BMETE15AF10	0/0/0	Signature	0	Sign	28/01/2010
Differential Equations for Physicists	BMETE93AF02	W: 4/2/0	Exam	6	5	16/12/2009
Probability Theory for Physicists	BMETE95AF00	W: 2/2/0	Exam	4	5	27/01/2010
Measurement Techniques	BMEVIHIA028	W: 2/0/0	Mid-term mark	2	4	11/12/2009
Measurement Techniques Laboratory	BMEVIHIA029	W: 0/0/2	Mid-term mark	2	5	11/12/2009
Electronics 1.	BMEVIMIA026	W: 2/0/0	Mid-term mark	2	4	18/12/2009

2009/10/2, credit points: 30

Subject	Subject code	Lessons per week (W)/semester (S)	Requirement	Credit points	Grade	Date
Fluid Mechanics	BMEGEÁTAMP4	W: 2/0/0	Mid-term mark	2	4	20/05/2010
Physical Education D	BMEGT701010	W: 0/2/0	Signature	0	Sign	14/05/2010
Practical Course in Electrodynamics and Theory of Relativity	BMETE11AF08	W: 0/2/0	Mid-term mark	2	2	14/05/2010
Physics Laboratory 3	BMETE13AF09	W: 0/0/4	Mid-term mark	4	5	14/05/2010
Mathematical Methods in Physics	BMETE13AF13	W: 4/0/0	Exam	4	5	31/05/2010
Practical Course in Mathematical Methods in Physics	BMETE13AF14	W: 0/2/0	Mid-term mark	2	5	14/05/2010
Electrodynamics and Theory of Relativity	BMETE13AF15	W: 4/0/0	Exam	4	5	11/06/2010
Experimental Nuclear Physics	BMETE80AF18	W: 2/1/0	Exam	3	5	17/06/2010
Functional Analysis for Physicists	BMETE92AF02	W: 4/2/0	Exam	6	5	25/05/2010
Comprehensive Examination in Mathematics for Physicists	BMETE92AF14	0/0/0	Comprehensive exam	0	5	26/02/2010
Electronics 2	BMEVIMIA027	W: 2/0/0	Mid-term mark	3	5	14/05/2010

2010/11/1, credit points: 33

Subject	Subject code	Lessons per week (W)/semester (S)	Requirement	Credit points	Grade	Date
Introduction to Solid State Physics	BMETE11AF05	W: 2/0/0	Exam	2	5	24/01/2011
Practical Course in Solid State Physics	BMETE11AF06	W: 0/2/0	Mid-term mark	2	3	10/12/2010
Optics	BMETE12AF01	W: 2/1/0	Exam	3	4	03/01/2011
Physics Laboratory 4	BMETE13AF10	W: 0/0/4	Mid-term mark	4	5	10/12/2010

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Subject	Subject code	Lessons per week (W)/semester (S)	Requirement	Credit points	Grade	Date
Comprehensive Examination in Experimental Physics	BMETE13AF11	0/0/0	Comprehensive exam	0	5	08/09/2010
Introduction to the Theory of General Relativity	BMETE139154	W: 2/0/0	Exam	2	5	21/12/2010
Quantum Mechanics	BMETE15AF00	W: 4/0/0	Exam	5	5	20/01/2011
Practical Course in Quantum Mechanics	BMETE15AF01	W: 0/2/0	Mid-term mark	2	5	17/12/2010
Introduction to Theoretical Plasma Physics	BMETE155315	W: 2/0/0	Exam	3	5	03/01/2011
Laboratory of Electronics	BMETE80AF03	W: 0/0/2	Mid-term mark	2	5	10/12/2010
Introduction to Fusion Plasma Physics	BMETE805312	W: 2/0/0	Exam	2	5	05/01/2011
Numerical Methods for Physicists	BMETE92AF03	W: 4/0/0	Exam	4	5	15/12/2010
Numerical Methods Laboratory for Physicists	BMETE92AF04	W: 0/0/2	Mid-term mark	2	5	10/12/2010

2010/11/2, credit points: 33

Subject	Subject code	Lessons per week (W)/semester (S)	Requirement	Credit points	Grade	Date
Theoretical Solid State Physics	BMETE11AF09	W: 4/0/0	Exam	4	5	02/06/2011
Physical Laboratory 5	BMETE12AF02	W: 0/0/4	Mid-term mark	4	5	13/05/2011
Statistical Physics	BMETE15AF04	W: 4/0/0	Exam	5	5	23/05/2011
Practical Course in Statistical Physics	BMETE15AF05	W: 0/2/0	Mid-term mark	2	4	23/05/2011
BSc Thesis Project	BMETE15AF11	W: 0/0/10	Mid-term mark	10	5	09/06/2011
Magnetohydrodynamics in Low Dimensional Systems	BMETE15MF32	W: 2/0/0	Exam	3	5	17/06/2011
Selected Topics in Quantum Mechanics	BMETE154232	W: 2/0/0	Exam	3	5	07/06/2011
Probability Theory 2	BMETE95AM06	W: 1/1/0	Mid-term mark	2	5	13/05/2011

If the number of lessons contains / marks, like in le/p/ly, its meaning is: number of lectures/class practices/laboratories.

Total number of credits: 188

4.4 Grading scheme and, if available, grade distribution guidance

All grades at least pass (2).

4.5 Overall classification of the qualification

excellent

5 INFORMATION ON THE FUNCTION OF THE QUALIFICATION

5.1 Access to further study

Continuation of the studies is in Master's Program.

5.2 Professional status (if applicable)

6 ADDITIONAL INFORMATION

6.1 ADDITIONAL INFORMATION

6.1.1 Information concerning the holder of the diploma

6.1.2 Information on the Institution

The predecessor in title of the Budapest University of Technology and Economics (BME) was founded in 1782. It is a state university, presently the largest technical university in Hungary. The faculties: Civil Engineering, Mechanical Engineering, Architecture, Chemical Technology and Biotechnology, Electrical Engineering and Informatics, Transportation Engineering, Natural Sciences, Economic and Social Sciences. Presently, there are about 17000 full-time, (including 1100 foreign) students, and 5000 corresponding students. 2700 students participate in distance learning. There are 850 PhD/DLA students. The university has about 1300 staff members, including 175 full professors. The courses are offered in Hungarian, English, German, French and Russian. Home page: www.bme.hu/

6.2 Further information sources

<http://www.ttk.bme.hu>

Information concerning the Diploma Supplements in Hungary is available from the DS home page of the Hungarian Ministry of Education (when issuing this document, this is <http://www.om.hu/ds/>), or from that of the Hungarian Europass Centre (when issuing this document, this is <http://www.europass.hu/ds/>). Verification of a printed diploma supplement can be performed starting from the above pages. International information is available starting from the ENIC/NARIC home page: <http://www.enic-naric.net/>.

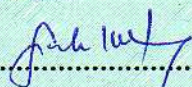
7 CERTIFICATION OF THE SUPPLEMENT

7.1 Date

07.07.2011

7.2 Name and signature

Dr. Mihály Szabó



7.3 Capacity

Director of Central Study Office

7.4 Official stamp or seal



8 Information on the Hungarian Higher Education System

Within the framework of the Bologna Process the gradual transition from a pre-Bologna higher education system resulting in Egyetemi oklevél (university-level degree) or Főiskolai oklevél (college-level degree) to a higher education system based on three consecutive cycles started in 2004 in Hungary. At the time of drafting this Diploma Supplement pre-Bologna and Bologna - type programmes run parallel.

This description presents the Bologna - type training, and was prepared in 2008 for diplomas awarded within the Bologna-type system.

8.1 Types of Institutions and Institutional Control

The establishment and operation of higher education institutions are regulated by the 2005 Higher Education Act. Operating within the legal framework of the Higher Education Act, Hungarian higher education institutions are autonomous, state-recognised, state or non-state (church or private)

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institutions. The state-recognised institutions are listed in the Annex of the Higher Education Act. There are two types of higher education institutions, egyetem (university) and főiskola (college). Both universities and colleges may offer courses in all three cycles. A university is a higher education institution that is eligible to provide Master courses in at least two fields of study, and to offer Doctorate course as well as to confer Doctoral degrees. The rules applying to universities offering courses in the field of art or religious education are different from the aforementioned.

8.2 Types of Programmes and Degrees Awarded

The consecutive training cycles of the higher education leading to a higher education degree are alapképzés (Bachelor course), mesterképzés (Master course) and doktori képzés (Doctorate course). Bachelor and Master courses are taught in consecutive cycles, in the form of divided training, or in cases specified by law in the form of undivided, one-tier training.

In addition to the aforementioned, higher education institutions may conduct higher-level vocational training and postgraduate specialist training, as well as can offer adult education within the framework of lifelong learning.

Higher education institutions apply a credit system based on the European Credit Transfer System. Accordingly, one credit stands for 30 hours of student workload.

8.3 Approval/Accreditation of Programmes and Degrees

A higher education institution may launch Bachelor and Master courses after having obtained the consent thereto in the expert opinion of the Hungarian Accreditation Committee of Higher Education, and following the central registration of the given course. In the case of each Bachelor and Master course, the law determines the programme and graduation requirements, thus, all the knowledge and competencies whose acquisition is the precondition for the diploma to be awarded in respect to the given programme.

The launching of Doctorate courses is within the powers of the universities, having obtained the consent thereto in the expert opinion of the Hungarian Accreditation Committee of Higher Education and having fulfilled other conditions prescribed by law.

It is the task of the Hungarian Accreditation Committee of Higher Education to authorize and assess the quality of education and scientific activities of the higher education institutions. The Hungarian Accreditation Committee of Higher Education once in every eight years examines in which field of study, discipline of science and at what level of training does an institution fulfil accreditation requirements in respect of lecturers and infrastructure. The assessment also extends to examine the adequacy of the institutional quality development scheme. Within the framework of programme accreditation the Hungarian Accreditation Committee of Higher Education examines the institutional programme curricula, the fulfilment of programme and graduation requirements, as well as the adequacy of the lecturers' qualifications and the quality of the infrastructure in respect to the given programme.

8.4 Organisation of Studies

Students studying in Bachelor and Master courses complete their studies by passing a final examination. The final examination may consist of the defence of the degree thesis, and additional oral, written or practical examinations.

8.4.1 Integrated "Long" (One-tier) Programmes

An undivided one-tier programme resulting in mesterfokozat (Master degree) is a training with the length of 10-12 semesters, requiring the completion of 300-360 credits. Besides religious education and some programmes of arts, the following programmes are conducted within one-tier Master courses: veterinary medicine, architecture, dentistry, pharmaceuticals, law and medicine.

8.4.2 First/Second Degree Programmes (Two-tier)

The first higher education degree is the alapfokozat (Bachelor degree) along with a professional qualification. A Bachelor course requires gaining 180-240 credits. The length of the programme is 6-8

semesters.

The second higher education degree is the mesterfokozat (Master degree) along with a professional qualification. Built on a Bachelor course Master courses require gaining 60-120 credits. The length of the programme is 2-4 semesters.

8.5 Specialised Graduate Studies

Higher education institutions may also offer szakirányú továbbképzés (postgraduate specialist training) for Bachelor and Master degree holders. Through the completion of 60-120 credits a specialised qualification can be obtained. Students complete their studies by passing a final examination. The length of the programme is 2-4 semesters.

8.6 Doctorate

Built on a Master course and a Master degree the doktori képzés (Doctorate course) requires gaining at least 180 credits. The length of the programme is 6 semesters. Following a Doctorate course, in a separate degree awarding procedure, the scientific degree "Doctor of Philosophy" (abbreviation: PhD), or in art education "Doctor of Liberal Arts" (abbreviation: DLA) may be awarded.

8.7 Grading Scheme

The assessment of knowledge is generally carried out according to a five-grade scale: excellent (5), good (4), satisfactory (3), pass (2), and fail (1) or a three-grade scale: excellent (5), satisfactory (3), fail (1). Nevertheless, higher education institutions may also use other systems for assessing if they are comparable to those mentioned above.

8.8 Access to Higher Education

The number of students admitted to higher education is limited. Applicants' ranking is based on their secondary school grades and their érettségi vizsga (secondary school leaving examination) results or based solely on the latter, considering the interest of the applicant. The requirement for admission to Bachelor and undivided one-tier Master courses is the secondary school leaving examination taken – as a rule – after the completion of the 12th grade of a secondary school, certified by Érettségi bizonyítvány (secondary school leaving certificate). The admission to certain programmes is based on an additional aptitude test or a practical examination. To Master courses students can be admitted if they possess Főiskolai oklevél (college-level degree) or Egyetemi oklevél (university-level degree) or a Bachelor degree. To postgraduate specialist training students can be admitted if they possess college or university-level degree, or a Bachelor or a Master degree. Only applicants with university-level degree or Master degree may be admitted to Doctorate courses. Higher education institutions may set additional requirements for admission to Master, postgraduate specialist and Doctorate courses.

8.9 National Sources of Information

Ministry of Education and Culture¹, Hungarian ENIC/NARIC², Hungarian Accreditation Committee of Higher Education³, Educational Authority⁴, National Higher Education Information Centre⁵.

1 Web site: www.nefmi.gov.hu

2 Web site: www.naric.hu

3 Web site: www.mab.hu

4 Web site: www.oh.gov.hu

5 Web site: www.felvi.hu

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