

P81C062857

Certificate Number: BME-0134/2022
Institution Identification Number: FI23344
HUQF Level: 6
EQF Level: 6



DEGREE CERTIFICATE

It is hereby certified that

Dominik Frey

(born Dominik Frey, on 11 August 1998 in Budapest, Hungary) having completed an approved bachelor's degree programme and fulfilled the academic requirements of the

Budapest University of Technology and Economics

was duly admitted to the degree of Bachelor of Science in Computer Science Engineering and has qualified as a(n)

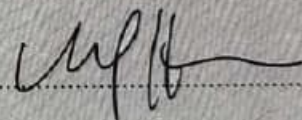
Computer Science Engineer.

The duration of the programme of study was 7 semesters.

Overall classification of the qualification: excellent with highest honours

Budapest, 4 January 2022




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DIPLOMA SUPPLEMENT



Number of diploma: BME-0134/2022

1. HOLDER OF THE QUALIFICATION

1.1. Family name(s)
Frey

1.2. Given name(s)
Dominik

1.3. Country and place of birth, Date of birth (day/month/year)
Hungary, Budapest, 11.08.1998

1.4. Student identification number or code (if available)
[REDACTED]

1.5. Registration number
[REDACTED]

2. INFORMATION ON THE QUALIFICATION

2.1. Name of qualification and (if applicable) inherent title
Computer Science Engineer

2.2. Main field(s) of study for the qualification
Computer Science Engineering

2.3. Name, status and identification number of awarding institution
Budapest University of Technology and Economics, FI23344, state university, accredited by the Hungarian Accreditation Committee with its resolution 2014/9/VIII/1.

2.4. Name and status of institution (if different from 2.3) administering studies

2.5. Language(s) of instruction/examination
Hungarian

3. INFORMATION ON THE LEVEL OF THE QUALIFICATION

3.1. Level of qualification, EQF level
Bachelor (first cycle), Level 6

3.2. Official length of program
7 semesters

3.3. Access requirements
Secondary school leaving certificate (after 12 years of study), entrance procedure

4. INFORMATION ON THE CONTENTS AND RESULTS GAINED

4.1. PROGRAM REQUIREMENTS

4.1.1. Program requirements act number

The academic and final requirements of the university special training programs, BSc and MSc programs, the common requirements of the teacher trainings and the academic and final requirements of the teacher training programs are determined by ministerial decree which is available here: <https://kormany.hu/dokumentumtar/kepzesi-es-kimeneti-kovetelmenyek-1>

4.1.2. Aim of study

Education of computer engineers

4.1.3. Required number of credit points

210

4.1.4. System of knowledge assessment

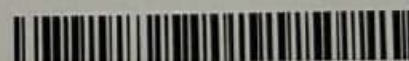
Examinations, BSc. thesis and its defending at public final examination

4.1.5. Required professional practice, credit value

4.2. PROGRAM DETAILS AND THE INDIVIDUAL GRADES / MARKS / CREDITS OBTAINED

4.2.1. Knowledge acquired during the program of study (requirement designation, credit points, grades)

Subject	Subject code	Lessons	Requirement	Credit	Grade	Term
Physical Education 1/A	BMEGT70BS1A	W: 0/2/0	Signature	0	Signed	2018/19/1
University Experience	BMEVIDHKONI	W: 0/2/0	Signature	0	Signed	2018/19/1
Becoming an Engineer	BMEGT52A400	W: 1/0/0	Mid-term mark	2	Excellent	2018/19/1
Introductory Physics	BMETE11AX12	W: 0/2/0	Mid-term mark	2	Good	2018/19/1
Digital Design	BMEVIMIAA02	W: 2/1/2	Exam	6	Good	2018/19/1
Basics of Programming 1	BMEVIEEA00	W: 2/2/2	Mid-term mark	7	Excellent	2018/19/1
Physics 1i	BMETE11AX23	W: 2/1/0	Exam	4	Excellent	2018/19/1
Calculus 1 for Informaticians	BMETE90AX21	W: 4/2/0	Exam	6	Excellent	2018/19/1
Introduction to the Theory of Computing 1	BMEVISZAA03	W: 2/2/0	Exam	5	Good	2018/19/1
Physical Education 2/B	BMEGT70BS2B	W: 0/2/0	Signature	0	Signed	2018/19/2
Programming 2	BMEVIMIAA03	W: 2/0/2	Mid-term mark	6	Excellent	2018/19/2
Calculus 2 for Informaticians	BMETE90AX22	W: 4/2/0	Mid-term mark	6	Excellent	2018/19/2
Logic of Emotions	BMEVITMAK48	W: 2/0/0	Mid-term mark	2	Excellent	2018/19/2
Starting and Managing Innovative Businesses	BMEGT20V100	W: 2/0/0	Mid-term mark	2	Good	2018/19/2
French Grammar Practice (A2)	BMEGT622025	W: 0/2/0	Mid-term mark	0	Satisfactory	2018/19/2
University Experience	BMEVIDHTF02	W: 0/2/0	Signature	0	Signed	2018/19/2
System Modeling	BMEVIMIAA00	W: 2/1/0	Mid-term mark	4	Excellent	2018/19/2
Computer Architectures	BMEVIHIAA02	W: 2/1/0	Exam	4	Excellent	2018/19/2
Comprehensive Examination in Calculus	BMETE90AX20	S:	Comprehensive exam	0	Excellent	2018/19/2
Physics 2i	BMETE11AX24	W: 3/1/0	Exam	4	Excellent	2018/19/2
Introduction to the Theory of Computing 2	BMEVISZAA04	W: 2/2/0	Exam	5	Good	2018/19/2



Subject	Subject code	Lessons	Requirement	Credit	Grade	Term
Server Side JavaScript	BMEVITMAV42	W: 1/1/0	Mid-term mark	2	Excellent	2019/20/2
Crosscultural Communication - French B2 level	BMEGT62AF01	W: 0/2/0	Mid-term mark	2	Good	2019/20/2
Management and Business Economics	BMEGT20A001	W: 4/0/0	Mid-term mark	4	Excellent	2019/20/2
Computer Graphics	BMEVITAB07	W: 3/0/0	Mid-term mark	3	Excellent	2019/20/2
Communication Networks II.	BMEVITMAB01	W: 3/0/1	Exam	4	Excellent	2019/20/2
Software Project Lab	BMEVITAB06	W: 0/0/2	Mid-term mark	3	Excellent	2019/20/2
Operating Systems	BMEVIMAB00	W: 3/0/1	Exam	5	Excellent	2019/20/2
Software Techniques	BMEVIAUAB00	W: 2/0/2	Exam	5	Good	2019/20/2
Theory of Algorithms	BMEVISZAB03	W: 2/2/0	Exam	5	Excellent	2019/20/2
Data Protection and Freedom of Information	BMEVIETAK49	W: 2/0/0	Mid-term mark	2	Excellent	2020/21/2
Project Laboratory	BMEVITIAL01	W: 0/0/4	Mid-term mark	5	Excellent	2020/21/2
IT Security	BMEVIHAC01	W: 3/0/0	Mid-term mark	3	Excellent	2020/21/2
Information Systems Management	BMEVITMAC02	W: 3/0/1	Mid-term mark	4	Satisfactory	2020/21/2
Systems Engineering Laboratory 1	BMEVIMAC11	W: 0/0/2	Mid-term mark	3	Good	2020/21/2
Application Development Environments	BMEVIAUAC04	W: 3/1/0	Exam	4	Excellent	2020/21/2
AUTOSAR Based Automotive Software Systems	BMEVIMIAV15	W: 2/0/2	Exam	4	Satisfactory	2020/21/2
Distributed Intelligent Systems	BMEVIMAC02	W: 3/1/0	Exam	4	Good	2020/21/2
Communication Networks I.	BMEVIHAB01	W: 3/0/1	Mid-term mark	4	Good	2019/20/1
Programming 3	BMEVITAB00	W: 2/0/2	Mid-term mark	5	Excellent	2019/20/1
Communication Skills - French - B2	BMEGT62AF61	W: 0/2/0	Mid-term mark	2	Good	2019/20/1
System Theory	BMEVIHVAB00	W: 3/1/0	Mid-term mark	4	Excellent	2019/20/1
Databases	BMEVITMAB04	W: 2/0/2	Exam	5	Excellent	2019/20/1
Probability Theory	BMEVISZAB02	W: 2/2/0	Exam	5	Good	2019/20/1
Software Engineering	BMEVITAB01	W: 3/0/0	Exam	4	Satisfactory	2019/20/1
Coding Technology	BMEVIHAB00	W: 3/0/0	Exam	4	Good	2019/20/1
Technology of IT Devices	BMEVIEEAC00	W: 3/0/1	Mid-term mark	4	Pass	2020/21/1
Training Project Laboratory	BMEVIAUAL00	W: 0/0/2	Mid-term mark	3	Excellent	2020/21/1
Business Law	BMEGT55A001	W: 2/0/0	Mid-term mark	2	Excellent	2020/21/1
Communication	BMEGT43A001	W: 2/0/0	Mid-term mark	2	Good	2020/21/1
Mobile- and Web-based Software	BMEVIAUAC00	W: 3/0/1	Exam	5	Excellent	2020/21/1
Programming of Linux	BMEVIAUJV57	W: 2/2/0	Exam	4	Excellent	2020/21/1
Micro- and Macroeconomics	BMEGT30A001	W: 4/0/0	Exam	4	Good	2020/21/1
Artificial Intelligence	BMEVIMAC10	W: 3/0/0	Mid-term mark	3	Excellent	2020/21/1
Industrial Informatics	BMEVITAC02	W: 3/1/0	Exam	4	Satisfactory	2020/21/1
IT System Design	BMEVIMAC01	W: 3/1/0	Exam	4	Satisfactory	2020/21/1
Internship	BMEVIAUAS00	S:	Signature	0	Signed	2021/22/1
BSc Thesis Project	BMEVIAUAT00	W: 0/10/0	Mid-term mark	15	Excellent	2021/22/1
Embedded Information Systems	BMEVIMIAD00	W: 3/0/0	Mid-term mark	3	Good	2021/22/1
Systems Engineering Laboratory 2	BMEVIMIAD02	W: 0/0/2	Mid-term mark	3	Excellent	2021/22/1

*Lessons per week (W) / semester (S) *If the number of lessons contains / marks, like in la/p/ly, its meaning is: number of lectures/class practices/laboratories.

Number of credits: 216

4.2.2. Knowledge acquired earlier and during parallel or exchange programmes of study
(requirement designation, credit points, grades)

Subject name	Subject code	Recognised	Requirement	Credit	Grade	Date
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Number of credits: 0

4.2.3. Recognised knowledge acquired informally or during work and other experience
(requirement designation, credit points, grades)

Subject name	Subject code	Recognised	Requirement	Credit	Grade	Date
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Number of credits: 0

4.3. Grading scheme and, if available, grade distribution guidance

All grades at least pass (2).

4.4. Overall classification of the qualification

excellent with highest honours (4,85)

5. INFORMATION ON THE ENTITLEMENT 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. Information concerning the holder of the diploma

Participant of the Integrated BSc-MSc (IMSc) Program at BME-VIK. Semester of commencement: 2018/19/1. Expected semester of completion: 2022/23/1.

6.2. 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. Faculties in order of their foundation: Faculty of Civil Engineering (ÉMK) - 1782, Faculty of Mechanical Engineering (GPK) - 1871, Faculty of Architecture (ÉPK) - 1873, Faculty of Chemical Engineering and Bioengineering (VBK) - 1873, Faculty of Electrical Engineering and Informatics (VIK) - 1949, Faculty of Transportation Engineering and Vehicle Engineering (KJK) - 1951, Faculty of natural Sciences (TTK) - 1998, Faculty of Economic and Social Sciences (GTK) - 1998. Home page: www.bme.hu/

6.3. Further information sources

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

7. CERTIFICATION OF THE SUPPLEMENT

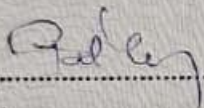
7.1. Date

21. 01. 2022

7.4. Official stamp or seal

7.2. Name and signature

Erika Pál



7.3. Capacity

Director of Central Academic Office



8. INFORMATION ON THE HUNGARIAN HIGHER EDUCATION SYSTEM

(modified in April 2020)

8.1. Types of Institutions and Institutional Control

The establishment and operation of higher education institutions are regulated by Act No. 204 of 2011 (National Higher Education Act). Operating within the legal framework of the National Higher Education Act, Hungarian higher education institutions are recognized state (public) or non-state (church or private) institutions. The list of recognized institutions is indicated in Annex 1 of the National Higher Education Act. Higher education studies are offered at two types of higher education institutions, *egyetem* (university) and *főiskola* (college). Universities and colleges may offer courses in all three training cycles. The programmes are identical at both types of institutions.

8.2. Types of Programmes and Degrees Awarded

The consecutive training cycles of higher education leading to a higher education degree are *alapképzés* (Bachelor course), *mesterképzés* (Master course) and *doktori képzés* (Doctoral course). In cases set by government decree or legislation, Master degrees can also be awarded after the completion of integrated, one-tier training.

In addition to the aforementioned, higher education institutions may conduct non-degree vocational higher education programmes and postgraduate specialist trainings and may offer adult education within the

framework of lifelong learning as well.

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

8.3. Approval/Accreditation of Programmes and Degrees

In the case of each vocational higher education programme, Bachelor and Master course, the programme and outcome requirements are set in legal regulations, i.e. the level of the training, the professional qualification that can be obtained and all the competencies the acquisition of which are the preconditions for obtaining the diploma in the given programme.

Upon request of the higher education institution, the Educational Authority - after having obtained the expert opinion of the Hungarian Accreditation Committee - licenses and registers the launching of all vocational higher education programmes, a Bachelor or Master courses or Doctoral schools. Also, the operating licenses of higher education institutions are revised by the Educational Authority in every 5 years, taking into account the expert opinion of the Hungarian Accreditation Committee. The above mentioned procedures apply for all recognized, state or non-state higher education institutions, except for religious studies, since the Hungarian Accreditation Committee and the Educational Authority have no competence over the quality assurance in this field. In the case of religious studies only the requirements in respect of infrastructure can be examined.

8.4. Organisation of Studies

Students studying in vocational higher education programmes, Bachelor and Master courses, as well as postgraduate specialist trainings complete their studies by passing a final examination. The final examination may consist of the defense of the degree thesis or diploma project, and additional oral, written or practical examinations.

8.4.1. Vocational Higher Education Programmes

The diploma obtained on completion of a vocational higher education programme testifies a vocational higher education qualification, but it is not per se an academic degree. A vocational higher education programme requires the completion of at least 120 credits, and the duration of the programme is a minimum of 4 semesters.

8.4.2. First/Second Cycle Degree Programmes

The first higher education degree is the *alapfokozat* (Bachelor degree) ending in a professional qualification. A Bachelor course requires the completion of 180 to 240 credits. The length of the programme is 6-8 semesters.

The second higher education degree is the *mesterfokozat* (Master degree) ending in a professional qualification. Based on a Bachelor course, Master courses require the completion of 60 to 120 credits. The length of the programme is 2-4 semesters.

8.4.3. Integrated Programmes

The integrated, one-tier programmes, which are based on the secondary school leaving examination (*érettségi vizsga*), lead to *mesterfokozat* (Master degree), have the length of 10-12 semesters and require the completion of 300 to 360 credits. Besides teacher education, religious studies and some programmes of arts, e. g. the following programmes are offered as integrated programmes: veterinary medicine, architecture, dentistry, pharmaceuticals, law and medicine.

8.4.4. Specialised Graduate Studies

Higher education institutions may also offer *szakirányú továbbképzés* (postgraduate specialist training) for Bachelor and Master degree holders in this type of a training. Through the completion of 60 to 120 credits a specialised qualification can be obtained. The length of the programme is 2-4 semesters.

8.4.5. Doctoral Programmes

Doctoral courses that began before 1 September 2016 require the completion of at least 180 credits. The duration of the programme is 36 months.

Doctoral courses beginning after 1 September 2016 require the completion of at least 240 credits. The duration of the programme is 8 semesters. During the programme, at the end of the fourth semester a complex examination must be completed. The doctoral thesis must be submitted within three years after the completion of the examination.



Regardless the date of entering a doctoral course, either within the framework of the doctoral course or following it, through a separate degree obtaining procedure, the scientific degree "Doctor of Philosophy" (abbreviated as PhD), or in the field of art "Doctor of Liberal Arts" (abbreviated as DLA) may be obtained. The maximum duration of the degree obtaining procedure is 2 years.

8.5. Grading Scheme

The performance of students is generally assessed following a five-grade scale: excellent (5), good (4), satisfactory (3), pass (2), and fail (1) or a three-grade scale: pass with merit (5), pass (3), and unsatisfactory (1). Nevertheless, higher education institutions may also use other systems for assessment if they are comparable to those mentioned above.

8.6. Access to Higher Education Programmes

The ranking of students applying for higher education programmes is primarily based on their secondary school grades and their *érettségi vizsga* (secondary school leaving examination) results or based solely on the latter. The requirement for admission to vocational higher education programmes, Bachelor and integrated 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 the *Érettségi bizonyítvány* (secondary school leaving certificate). The admission to certain programmes may also be based on health or professional requirements or aptitude tests. To Master courses students holding a Bachelor degree can be admitted. To postgraduate specialist trainings students holding a Bachelor or a Master degree may be admitted. To Doctoral courses only applicants holding a Master degree can be admitted. Higher education institutions may set additional requirements for admission to Master, postgraduate specialist and Doctoral courses.

8.7. Additional Sources of Information

Hungarian ENIC/NARIC⁵, Ministry for Innovation and Technology⁶, Educational Authority⁷, Hungarian Accreditation Committee⁸.

⁵ Web site: www.naric.hu

⁶ Web site: www.kormany.hu/hu/innovacios-es-technologiai-minisztterium

⁷ Web site: www.oktatas.hu, www.felvi.hu

⁸ Web site: www.mab.hu