UNIVERSITY OF DEBRECEN, FACULTY OF INFORMATICS

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Business Informatics BSc

curriculum – 2025

Debrecen
2026/2027.

BUSINESS INFORMATICS BSC CURRICULUM

Mode:	Full-time training
Program Coordinator:	Dr. Sándor Baran (baran.sandor@inf.unideb.hu)
Mentor:	Dr. Henrietta Tomán (toman.henrietta@inf.unideb.hu)

Qualification requirements

General requirements of the diploma are regulated by The Rules and Regulations of The University of Debrecen.

Work and Fire Safety and Physical Education

The courses of „Work and Fire Safety" and „Physical Education" are worth 1 - 1 credit, which must be completed in excess of the number of credits required for the diploma as specified in the training and outcome requirements of the degree.

Diploma credit requirements:

Natural Science:	39 credits
Human and Economic Knowledge:	36 credits
Compulsory topics:	66 credits
Differentiated knowledge topics:	42 credits
Professional Training:	12 credits
Thesis work:	15 credits
Free choice:	12 credits
Total:	**210 credits**
Work and Fire Safety:	1 credit
Physical Education (2 semesters):	2 credits

Professional training/Internship requirements

Professional training is a practice which is completed at a competent training place. It lasts for at least 8 weeks and 320 work hours.

It is a must to complete Professional training subject to issue the absolutorium (pre-degree certificate).

https://inf.unideb.hu/en/professional-training

Student can apply for Professional training after completing prerequisite subjects. Academic and Examination Rules and Regulations of the University of Debrecen contains those subjects.

Faculty of Informatics annex to the Academic and Examination Rules and Regulations of the University of Debrecen contains the procedure of the professional training.

The Thesis

During the studies, Student must write a thesis. Writing a thesis is a diploma requirement.

Thesis subject is mandatory to complete. The prerequisites to register for the Thesis subject are the followings:

- chose a thesis topic by the deadline.

  (Together with the supervisor the candidate writes a work plan in the maximum of two pages. The work plan describes the aim of the work, areas of expertise and the scheduling of the work.)

- the chosen topic is approved by the Educational Committee
- at least 100 completed credits.

Final Exam / State Exam

a., Requirements for Final Exam

1. Complete all the 210 credits required by the curriculum of program specialisation to have the degree of BSc program
2. Carry out the internship
3. Write and submit the Diploma Thesis

b., Process of the Final Exam

The Final Exam consists of an oral part only and the purpose is to examine the coherence of the professional knowledge.

F. The average from the grades of the oral exam (rounded to the nearest whole number) consists of an item of the Informatics and Natural Science Knowledge and an item of the Human and Economics Knowledge. If the grade for any item is failed, the grade is failed, and the final examination is failed.

D1. Thesis defence. During the defence the candidate has to sum up the Thesis in a short presentation then s/he answers the questions from the referee of the Thesis and the members of the Committee.

D2. The grade for the thesis, which is determined by the Final Examination Committee taking into account the grade proposed by the thesis assessor.

Calculation of the final examination grade (**ZV**): ZV = (F+D1+D2)/3

If the grade D2 is failed, the candidate will not be allowed to sit the final examination.

If any of the grades of F or D1 are unsatisfactory, the final exam is also unsatisfactory. Only the component graded as unsatisfactory must be retaken in the retake of the final examination.

Grade of Diploma:

Diploma grade: in the case of a successful final examination, it is determined based on the average of the following results:

a) **SZ**: average of the grades for the 'Thesis 2' subject, the grade for the examination of the thesis and the grades obtained for the defence of the thesis in the final examination, rounded to two decimal places
b) **F**: Average of the grades obtained in the final examination, rounded to a whole number
c) **T**: credit-weighted average to two decimal places of all compulsory and optional professional subjects completed during the course of training, except for the 'Thesis 2' subject weighted by credits, rounded to two decimal places.

Diploma grade = (SZ+F+T)/3

Based on the above average result, the qualification of the diploma is determined by the University of Debrecen's Academic and Examination Regulations, Section 31 (7).

The diploma shall be assessed based on the calculation of the grade average as follows:

outstanding	4,81-5,00
excellent	4,51-4,80
good	3,51-4,50
satisfactory	2,51-3,50
pass	2,00-2,50

Natural Science – needed 39 credits

Code	Subject name	Credit	Type and number			Assessment	Prerequisites	Period	Semester
			lec.	practice					
				sem.	lab				
INBGA0101-17 INBGA0101E INBGA0101G	Foundations of computer science	6	2	2		PM		1	1
INBGA0102-17 INBGA0102E INBGA0102G	Mathematics for business and economics 1	6	2	2		E S		1	1
INBGA0208-17 INBGA0208E INBGA0208G	Mathematics for business and economics 2	6	2	2		E S	INBGA0102-17	2	2
INBGA0313-17 INBGA0313E INBGA0313L	Statistics 1	6	2		2	PM	INBGA0208-17	1	3
INBGA0419-17 INBGA0419E INBGA0419L	Statistics 2	6	2		2	PM	INBGA0313-17	2	4
INBGA0420-17 INBGA0420E INBGA0420L	Numerical mathematics	6	2		2	PM	INBGA0208-17	2	4
INBGA0525-17 INBGA0525L	Operations research	3			2	PM	INBGA0208-17	1	5

Human and Economic Knowledge – needed 36 credits

Code	Subject name	Credit	Type and number			Assessment	Prerequisites	Period	Semester
			lec.	practice					
				sem.	lab				
INBGA0103-17 INBGA0103E	Introduction to management	3	2			E		1	1
INBGA0104-17 INBGA0104E	Fundamentals of business law	3	2			E		1	1
INBGA0209-17 INBGA0209E INBGA0209G	Microeconomics	6	2	2		E S		2	2
INBGA0210-17 INBGA0210E INBGA0210G	International financial accounting	6	2	2		E S		2	2
INBGA0314-17 INBGA0314E INBGA0314G	Macroeconomics	6	2	2		E S	INBGA0209-17	1	3
INBGA0315-17 INBGA0315E INBGA0315G	Introduction to finance	6	2	2		E S		1	3
INBGA0416-21 INBGA0416G	Organizational behaviour	3		2		PM		2	4
INBGA0527-21 INBGA0527G	Controlling	3		2		PM	INBGA0210-17 INBGA0315-17	1	5

Compulsory topics – needed 66 credits

Code	Subject name	Credit	Type and number			Assessment	Prerequisites	Period	Semester
			lec.	practice					
				sem.	lab				
INBGA0105-17 INBGA0105L	Introduction to programming	3			2	PM		1	1
INBGA0106-17 INBGA0106E INBGA0106L	Operating systems	6	2		2	PM		1	1
INBGA0107-17 INBGA0107E	Data management, copyright law	3	2			E		1	1
INBGA0211-17 INBGA0211E INBGA0211L	Data structures and algorithms	6	2		2	PM		2	2
INBGA0212-17 INBGA0212E INBGA0212L	Programming 1	6	2		2	PM	INBGA0105-17	2	2
INBGA0317-17 INBGA0317E INBGA0317L	Programming 2	6	2		2	PM	INBGA0212-17	1	3
INBGA0318-17 INBGA0318E INBGA0318L	Database systems	6	2		2	E S	INBGA0101-17	1	3
INBGA0422-21 INBGA0422E INBGA0422L	Information and knowledge management	6	2		2	E S		2	4
INBGA0423-17 INBGA0423E INBGA0423L	Data management	6	2		2	PM	INBGA0318-17	2	4
INBGA0424-17 INBGA0424L	Business intelligence in practice	3			2	PM		2	4
INBGA0528-17 INBGA0528L	Developing data handling programs	3			2	PM	INBGA0212-17 INBGA0318-17	1	5
INBGA0530-21 INBGA0530E INBGA0530L	Foundations of computer security	6	2		2	E S	INBGA0212-17	1	5
INBGA0545-25 INBGA0545E INBGA0545L	Foundations of artificial intelligence	6	2		2	PM	INBGA0101-17 INBGA0212-17	1	5

Thesis work – needed 15 credits

Code	Subject name	Credit	Type and number			Assessment	Prerequisites	Period	Semester
			lec.	practice					
				sem.	lab				
INBGA0631-21 INBGA0631X	Thesis 1	6				PM		2	6
INBGA0731-21 INBGA0731X	Thesis 2	9				PM		1	7

Differentiated knowledge topics – needed 42 credits

Code	Subject name	Cre-dit	Type and number			Asses-ment	Prerequisites	Period	Semes-ter*
			lec.	practice					
				sem.	lab				
INBGA9926-21 INBGA9926E	World economy and economic integration	3	2			E		1	5
INBGA9929-25 INBGA9929E INBGA9929L	Fundamentals of software development and software testing	6	2		2	PM	INBGA0212-17	1	5
INBGA9932-17 INBGA9932E INBGA9932L	Financial mathematics	6	2		2	E S	INBGA0315-17	1	5
INBGA9933-17 INBGA9933L	Introduction to SAP - End user level	3			2	PM		1	5
INBGA9937-17 INBGA9937L	Computer statistics	3			2	PM	INBGA0419-17 INBGA0424-17	1	5
INBGA9921-21 INBGA9921E	Marketing	3	2			E		2	6
INBGA9934-17 INBGA9934L	Advanced spreadsheets	3			2	PM	INBGA0212-17	2	6
INBGA9935-17 INBGA9935E INBGA9935L	Big Data analysis	6	2		2	PM		2	6
INBGA9936-17 INBGA9936L	Data visualization	3			2	PM		2	6
INBGA9938-17 INBGA9938E INBGA9938G	Corporate finance	6	2	2		E S	INBGA0315-17	2	6
INBGA9939-17 INBGA9939E	Strategic management	3	2			E	INBGA0103-17	2	6
INBGA9940-17 INBGA9940L	Introduction to SAP - Developer level	3			2	PM		2	6
INBGA9941-17 INBGA9941E	International business	3	2			E		2	6
INBGA9942-17 INBGA9942L	Decision support systems	3			2	PM	INBGA0208-17	2	6
INBGA9947-17 INBGA9947E	Fundamentals of Information and Coding Theory	3	2			E	INBGA313-17	2	6
INBGA9949-17 INBGA9949L	Introduction to Cloud Technologies	3			2	PM	INBGA0212-17	2	6
INBGA9997-21 INBGA9997G	Professional Training	12				PM	INBGA0317-17 INBGA0210-17	I	6
INBGA9943-21 INBGA9943E	Advanced data security	3	2			E	INBGA0530-21	1	7
INBGA9944-17 INBGA9944L	Digital marketing	3			2	PM	INBGA9921-21	1	7
INBGA9946-17 INBGA9946E INBGA9946G	Management of value creating processes	6	2	2		E S	INBGA0103-17	1	7

Code	Subject name	Cre-dit	Type and number			Asses-ment	Prerequisites	Period	Semes-ter*
			lec.	practice					
				sem.	lab				
INBGA9952-17 INBGA9952L	Ethical hacking I.	3			2	PM	INBGA0212-17	I	
INBGA9953-17 INBGA9953E	Blockhain technology	3	2			E		I	
INBGA9958-17 INBGA9958L	Introduction to the AWS Cloud	3			2	PM		I	
INBGA9959-21 INBGA9959L	Network and System Security	3			2	PM	INBGA0106-17	I	
INBGA9960-21 INBGA9960L	Ethical hacking 2.	3			2	PM	INBGA9952-17	I	
INBGA9961-21 INBGA9961L	DevSecOps	3			2	PM	INBGA0106-17	I	
INBGA9962-21 INBGA9962L	Introduction to Generative AI	3			2	PM		I	
INBGA9963-21 INBGA9963L	Introduction to quantum computing	3			2	PM	INBGA0208-17 INBGA0212-17	I	

* The recommended semester can be changed occasionally.

Free choice * – needed 12 credits

Code	Subject name	Cre-dit	Type and number			Asses-ment	Prerequisites	Period	Semes-ter
			lec.	practice					
				sem.	lab				

* "Free choice" - Professional electives offered by the Faculty of Informatics and institutional electives offered by other faculties of the University of Debrecen.

Work and Fire Safety and Physical Education – needed 3 credits

must be completed in excess of the number of credits required
for the diploma as specified in the training and outcome requirements of the degree

Code	Subject name	Cre-dit	Type and number			Asses-ment	Prerequisites	Period	Semes-ter
			lec.	practice					
				sem.	lab				
	Work and Fire Safety	1				PM			1
	Physical Education	1				PM			
	Physical Education	1				PM			

Exam types:
E exam
S signature
PM practical mark