HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF APPLIED MATHEMATICS AND INFORMATICS

MATHEMATICS INFORMATICS PROGRAMME

EVIDENCE C. PROGRAMME SPECIFICATION

1. Mathematics Informatics Programme Specification
2. Popular the Mathematics Informatics Programme Specification
   - On the website of HUST
   - On the website of SAMI
   - MI Program Flyer
   - During the events such as: OPEN DAY, Welcome New Students
   - Seminars/Meetings/Conferences

MINISTRY OF EDUCATION AND TRAINING
HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

THE SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Hapiness

UNDERGTADUATE PROGRAMME

Name of program:	*Mathematics Informatics*
Education level:	*Bachelor*
Major:	*Mathematics Informatics*
Program codes:	*7460117*
Duration:	*4 years*
Degrees:	*Bachelor in Mathematics Informatics*
Credits in total:	*131 credits*

1. Program Goals

On successful completion of the Bachelor program, students will be able to:

1.1. *Have a strong knowledge base, enough capacity to participate in solving problems related to the field of applied Mathematics and computer science (both in theory and application)*

1.2. *Have professional and personal skills and attributes including lifelong learning and self-study abilities to pursue higher levels of education to get adapted to the ongoing scientific and technological development.*

1.3. *Have communication, foreign language and teamwork skills to work in interdisciplinary, cross-cultural, and multinational environments.*

1.4.*Have abilities to conceive ideas, participate in designing, implementing and operating systems in enterprises and society.*

2. Program Learning Outcomes

PLO1. Applying professional knowledge to be able to work efficiently in the field of mathematical applications to meet the requirements of modern society:

1.1. *Ability to understand and apply basic knowledge of mathematics, computing and fundamental sciences.*

1.2. *The ability to adopt core knowledge expertise, adapt well to various tasks in the field of mathematics (describe, define, calculate and simulate systems, processes and software construction; research, analysis, construction solutions, process design...).*

1.3. *The ability to teach and research mathematics in universities, research institutes; Ability to continue the Graduate School of Mathematics and computing majors.*

PLO2. *Have professional skills and personal qualities needed to be able to succeed in career:*

2.1. *Ability to argue, analyze, synthesize, set problems and solve problems in theory and in action.*

2.2. *Systematic, logical, critical and reflective thinking.*

2.3. *Dynamic, creative, persistent and serious, ethical and professional responsibilities.*

2.4. *Ability to research, test and discover knowledge, self-study skills and adapt quickly to the development of science and technology and with life practices.*

2.5. *Have the political qualities, the consciousness of serving people, having health, meeting the requirements of building and protecting the country.*

2.6. *Understanding contemporary issues and lifelong consciousness.*

PLO3. *Social skills needed to work effectively in interdisciplinary, multi-cultural and multinational work environments:*

3.1. Work independently and have teamwork skills.

3.2. Communicate effectively through writing, presenting, discussing, negotiating, and managing situations, using tools and means of modern information processing.

3.3. Good English proficiency at work with minimum TOEIC score of 500.

3.4. Understanding and respecting the working culture of agencies, organizations, and enterprises…

PLO4. *Conceive ideas for the purpose of design, development and operation in enterprise and social settings, including:*

4.1. *Ability to detect, synthesize, analyze, and exploit social and economic issues in the country and abroad.*

4.2. *Understanding the environment and activities of organizations, financial institutions, domestic and international legislation.*

4.3. *Ability to build and develop projects, systems as well as deploy application solutions, products mathematical applications-computing on demand of economic and social organizations.*

PLO5. *Political qualities, conscious people's service, health, meeting the requirements of building and protecting the country:*

5.1. Political reasoning under the general provisions of the Ministry of Education and Training.

5.2. With the certificate of Physical Education and Certificate of Defence education-security under the general provisions of the Ministry of Education and Training.

3. Admission requirements

Baccalaureates admitted to the relevant specialized sector of Hanoi University of Science and Technology (HUST) will be enrolled in a 4-year program or 4 + 1.5-year programme. Graduates of the “Bachelor in Mathematics Informatics” programme of HUST are optionally enrolled in the 1.5-year master programme.

Graduates from other Bachelor or Engineering programmes at HUST can enrol in the double- degree programme in accordance with HUST regulations on the second undergraduate programme.

Graduates of HUST or other universities can enrol in the second undergraduate program under the general regulations of the Ministry of Education and Training and specific regulations of HUST.

4. Training process, graduation conditions

The training process and graduation conditions apply the regulations on the University's credit- based higher education training and vocational training. Students enrolled in the doubledegree programme must also follow the regulation on studying the second undergraduate programme of HUST.

5. Grading system

The grades (A, B, C, D, F) and the corresponding 4-point scale are used to evaluate the official learning outcomes. The 10-Point scale is used for the explicit score of each component of a course.

	10-points systems	**4-point systems**	
		grade	*points*
Pass grade	from 9.5 to 10	A+	4.0
	from 8.5 to 9.4	A	4.0
	from 8.0 to 8.4	B+	3.5
	from 7.0 to 7.9	B	3.0
	from 6.5 to 6.9	C+	2.5
	from 5.5 to 6.4	C	2.0
	from 5.0 to 5.4	D+	1.5
	from 4.0 to 4.9	D	1.0
Fail grade	< 4.0	F	0

6. Program Content

6.1. General Program Structure

Professional component	**Credit**	**Note**
General Education	***51***	
Mathematics and basic sciences	33	*Major oriented*
Law and politics	12	*in accordance with regulations of Vietnam Ministry of Education and Training*
Physical Education/ Military Education *Military Education is for*	-	

Vietnamese student only.		
English	6	*02 basic English courses*
Professional Education	***80***	
Basic and Core of Engineering	47 (±2)	*consist of at least 1÷3 projects*
Soft skills	9	*Include of 02 compulsory modules:* - *Social/Start-up/other skill (6 credits);* - *Technical Writing and Presentation (3 credits).*
Elective Module	16	*Elective module provides specialized knowledge oriented towards different concentrations.*
Engineering Practicum	2	*scheduled for third year or above*
Bachelor Thesis	6	*Topic must be relevant to major and knowledge gained during engineering practicum.*
Total	***131 credits***	

6.2. Course list & Schedule

No.	Course ID	Course Name	Credit	Semester							
				1	2	3	4	5	6	7	8
Laws and politics			**12**								
1	SSH1110	*Fundamental Principles of Marxism-Leninism I*	2(2-1-0-4)	2							
2	SSH1120	*Fundamental Principles of Marxism-Leninism II*	3(2-1-0-6)		3						
3	SSH1050	*Ho-Chi-Minh's Thought*	2(2-0-0-4)			2					
4	SSH1130	*Revolution Policy of Vietnamese Communist Party*	3(2-1-0-6)				3				
5	EM1170	*General Law*	2(2-0-0-4)		2						
Physical Education			**5**								
6	PE1014	*Theory in Sport*	1(0-0-2-0)								
7	PE1024	*Swimming*	1(0-0-2-0)								
8	*Elective courses*	*Elective course 1*	1(0-0-2-0)								
9		*Elective course 2*	1(0-0-2-0)								
10		*Elective course 3*	1(0-0-2-0)								
Military Education											
11	MIL1110	*Vietnam Communist Party's Direction on the National Defense*	0(3-0-0-6)								
12	MIL1120	*Introduction to the National Defense*	0(3-0-0-6)								
13	MIL1130	*General Military Education*	0(3-0-2-8)								
English			**6**								
14	FL1100	*English I*	3(0-6-0-6)	3							

15	FL1101	*English II*	3(0-6-0-6)		3						
Mathematics and basic sciences			**33**								
16	MI1111	*Calculus I*	4(3-2-0-8)	4							
17	MI1121	*Calculus II*	3(2-2-0-6)		3						
18	MI1131	*Calculus III*	3(2-2-0-6)		3						
19	MI1141	*Algebra*	4(3-2-0-8)	4							
20	MI3030	*Probability and Statistics*	4(3-2-0-8)				4				
21	PH1110	*Physics I*	3(2-1-1-6)		3						
22	PH1120	*Physics II*	3(2-1-1-6)			3					
23	IT1140	*Introduction to Computer Science*	4(3-1-1-8)			4					
24	MI3010	*Discrete Mathematics*	3(3-1-0-6)			3					
25	MI3041	*Numerical Analysis*	2(2-1-0-4)				2				
Basic and Core of Engineering			**47**								
26	MI2000	*Introduction to Mathematics Informatics*	3(2-0-2-6)	3							
27	MI2150	*General Algebra*	2(2-1-0-4)				2				
28	MI2060	*Fundamentals of Functional Analysis*	3(3-1-0-6)			3					
29	MI3060	*Data structure and Algorithms*	3(3-1-0-6)				3				
30	MI3090	*Database*	3(3-1-0-6)				3				
31	MI3310	*Programming Skills*	2(2-0-1-4)				2				
32	MI3380	*Project I*	3(0-0-6-6)						3		
33	MI3370	*Operating Systems*	2(2-1-0-4)			2					
34	MI3120	*System Analysis and Design*	3(2-2-0-6)					3			
35	MI4060	*Computer Networks*	3(2-1-1-6)						3		
36	MI3390	*Project II*	3(0-0-6-6)							3	
37	MI3050	*Optimization Methods*	4(4-1-0-8)						4		
38	MI3070	*Differential equations*	3(3-1-0-6)					3			
39	MI4090	*Object oriented programming*	3(2-2-0-6)					3			
40	MI3080	*Complex Analysis and Applications*	3(3-1-0-6)					3			
41	MI3342	*Computer Architecture*	2(2-1-0-4)					2			
42	MI3042	*Numerical Methods*	2(2-1-0-4)					2			
Soft skills			**9**								
43	EM1010	*Introduction to Management*	2(2-1-0-4)	2							
44	EM1180	*Business Culture and Entrepreneurship*	2(2-1-0-4)							2	
45	ED3280	*Applied Psychology*	2(1-2-0-4)							2	
46	ED3220	*Soft Skills*	2(1-2-0-4)							2	
47	MI2030	*Technical Writing and Presentation*	3(2-2-0-6)						3		
Elective Module											
Module: Calculations and Software Systems			**16**								
48	MI4414	*Information Technology*	2(2-1-0-4)							2	

		Project Management									
49	MI4314	*Combinatorial optimizations*	2(2-1-0-4)						2		
50	MI4104	*Security and Algorithm Complexity*	3(3-1-0-6)						3		
51	MI4364	*Parallel computation*	2(2-1-0-4)					2			
52	MI4374	*Network Design, Implementation and Administration*	2(2-0-1-4)							2	
53	MI4382	*Computer Graphic*	3(3-1-0-6)							3	
54	MI4214	*Data warehouse and business intelligence*	2(2-1-0-4)							2	
Module: Smart Data Analysis			**16**								
55	MI4024	*Data Analysis*	2(2-1-0-4)					2			
56	MI4304	*Distributed Systems*	2(2-1-0-4)							2	
57	MI4050	*Time series*	3(3-1-0-6)							3	
58	MI4104	*Security and Algorithm Complexity*	3(3-0-1-6)						3		
59	MI4216	*Decision Support Systems*	2(2-1-0-4)						2		
60	MI4214	*Data warehouse and business intelligence*	2(2-1-0-4)							2	
61	MI4364	*Parallel computation*	2(2-1-0-4)							2	
Module: Scientific computing			**16**								
62	MI4024	*Data Analysis*	2(2-1-0-4)					2			
63	MI4162	*Introduction to Calculus and Programming*	2(2-0-1-4)							2	
64	MI4314	*Combinatorial optimizations*	2(2-1-0-4)						2		
65	MI4364	*Parallel computation*	2(2-1-0-4)							2	
66	MI4032	*Mathematical Models in Economics*	2(2-1-0-4)							2	
67	MI4084	*Finite Difference and Finite Element Methods*	3(3-1-0-6)						3		
68	MI4050	*Time series*	3(3-1-0-6)							3	
Module: Applications of Mathematic in Economic and Industry			**16**								
69	MI4032	*Mathematical Models in Economics*	2(2-1-0-4)							2	
70	MI4341	*Some mathematical methods in finance*	3(3-1-0-6)							3	
71	MI4114	*Stochastic Simulations and Applications*	2(2-1-0-4)							2	
72	MI4314	*Combinatorial optimizations*	2(2-1-0-4)						2		
73	MI4024	*Data Analysis*	2(2-1-0-4)					2			
74	MI4162	*Introduction to Calculus and Programming*	2(2-0-1-4)							2	
75	MI4084	*Finite Difference and Finite Element Methods*	3(3-1-0-6)						3		
Engineering Practicum and Bachelor Thesis			**8**								
73	MI4800	*Engineering Practicum*	2(0-0-4-4)								2

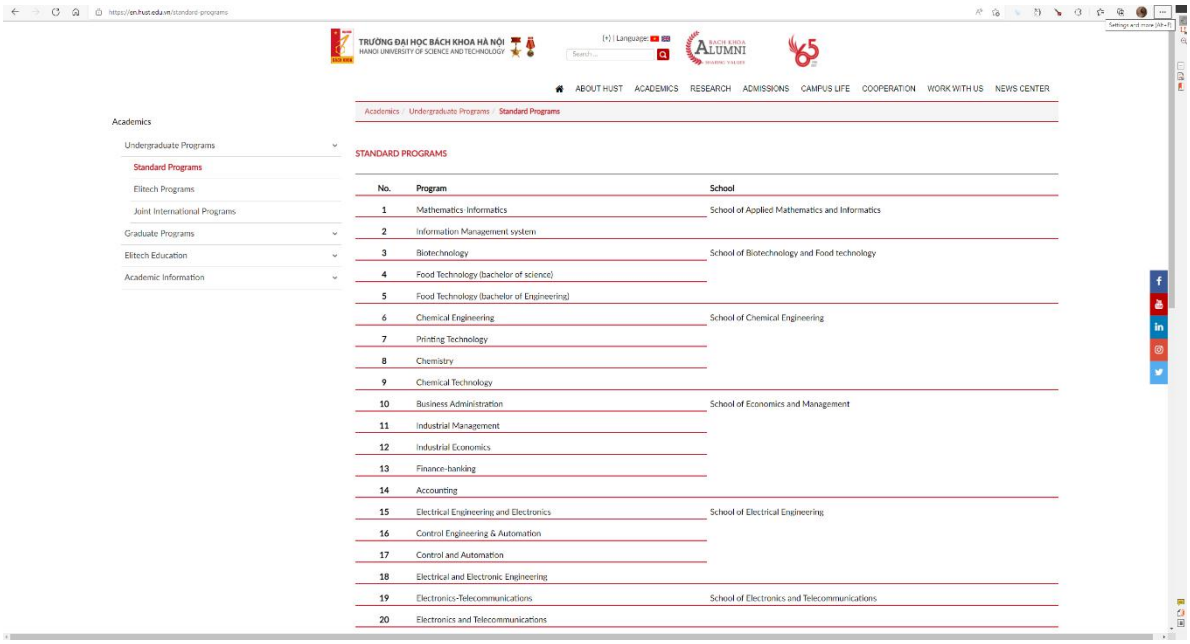
74	MI4900	*Bachelor Thesis*	6(0-0-12-12)								6

7. Date of issue and revision

The programme was firstly issue in 2009. A minor revise was done in 2013 when SAMI was allowed to put in experiment the Bachelor on Mathematics Informatics. In 2017, with Training programme development project in the 2017-2025 period, the MI programme has been re-born and used until today.

8. Popular the Mathematics Informatics Bacherlor Programme Specification

- On the website of HUST [HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY (https://en.hust.edu.vn/standard-programs)](https://en.hust.edu.vn/standard-programs)



TRƯỜNG ĐẠI HỌC BÁCH KHOA HÀ NỘI
HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

ABOUT HUST | ACADEMICS | RESEARCH | ADMISSIONS | CAMPUS LIFE | COOPERATION | WORK WITH US | NEWS CENTER

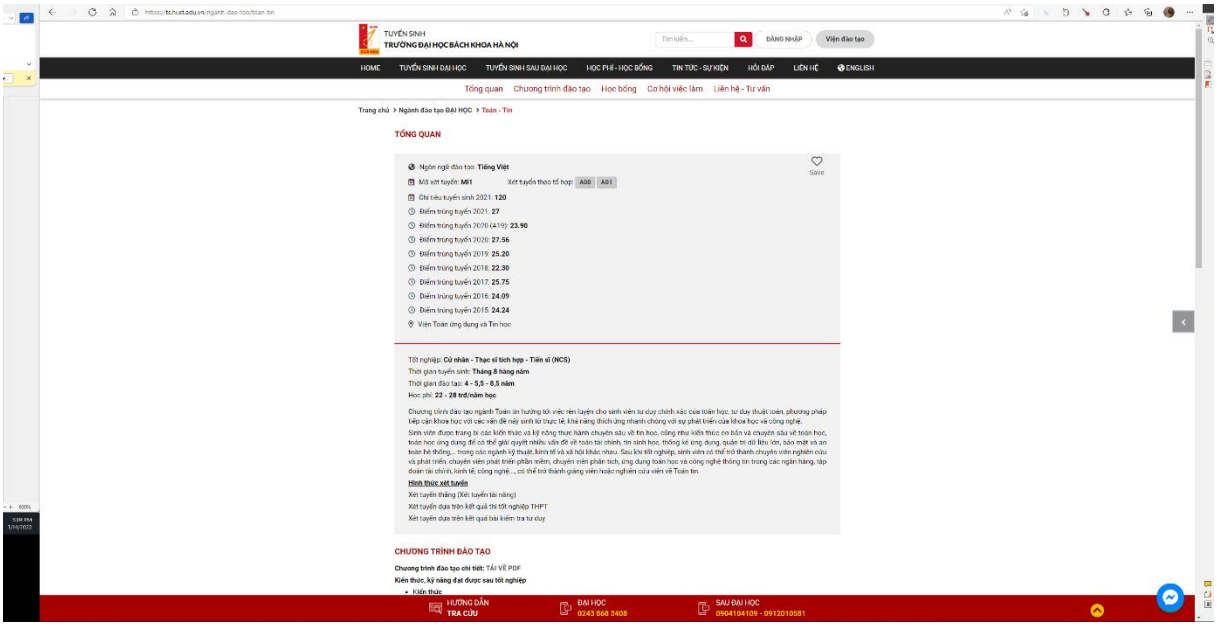
Academics / Undergraduate Programs / Standard Programs

Academics
- Undergraduate Programs
  - Standard Programs
  - Elitech Programs
  - Joint International Programs
- Graduate Programs
- Elitech Education
- Academic Information

STANDARD PROGRAMS

No.	Program	School
1	Mathematics-Informatics	School of Applied Mathematics and Informatics
2	Information Management system	
3	Biotechnology	School of Biotechnology and Food technology
4	Food Technology (bachelor of science)	
5	Food Technology (bachelor of Engineering)	
6	Chemical Engineering	School of Chemical Engineering
7	Printing Technology	
8	Chemistry	
9	Chemical Technology	
10	Business Administration	School of Economics and Management
11	Industrial Management	
12	Industrial Economics	
13	Finance-banking	
14	Accounting	
15	Electrical Engineering and Electronics	School of Electrical Engineering
16	Control Engineering & Automation	
17	Control and Automation	
18	Electrical and Electronic Engineering	
19	Electronics-Telecommunications	School of Electronics and Telecommunications
20	Electronics and Telecommunications	

- On the website of Admission Office – HUST [Toán - Tin (https://ts.hust.edu.vn/nganh-dao-tao/toan-tin)](https://ts.hust.edu.vn/nganh-dao-tao/toan-tin)



TUYỂN SINH
TRƯỜNG ĐẠI HỌC BÁCH KHOA HÀ NỘI

HOME | TUYỂN SINH ĐẠI HỌC | TUYỂN SINH SAU ĐẠI HỌC | HỌC PHÍ - HỌC BỔNG | TIN TỨC - SỰ KIỆN | HỎI ĐÁP | LIÊN HỆ | ENGLISH

Tổng quan | Chương trình đào tạo | Học bổng | Cơ hội việc làm | Liên hệ - Tư vấn

Trang chủ > Ngành đào tạo ĐẠI HỌC > Toán - Tin

TỔNG QUAN

Ngôn ngữ đào tạo: Tiếng Việt
Mã xét tuyển: MI1
Chỉ tiêu tuyển sinh 2021: 120
Điểm trúng tuyển 2021: 27
Điểm trúng tuyển 2020 (A1): 23.90
Điểm trúng tuyển 2020: 27.56
Điểm trúng tuyển 2019: 25.20
Điểm trúng tuyển 2018: 22.30
Điểm trúng tuyển 2017: 25.75
Điểm trúng tuyển 2016: 24.09
Điểm trúng tuyển 2015: 24.24
Viện Toán ứng dụng và Tin học

Tốt nghiệp: Cử nhân - Thạc sĩ tích hợp - Tiến sĩ (NCS)
Thời gian tuyển sinh: Tháng 8 hàng năm
Thời gian đào tạo: 4 - 5,5 - 8,5 năm
Học phí: 22 - 28 tr/năm học

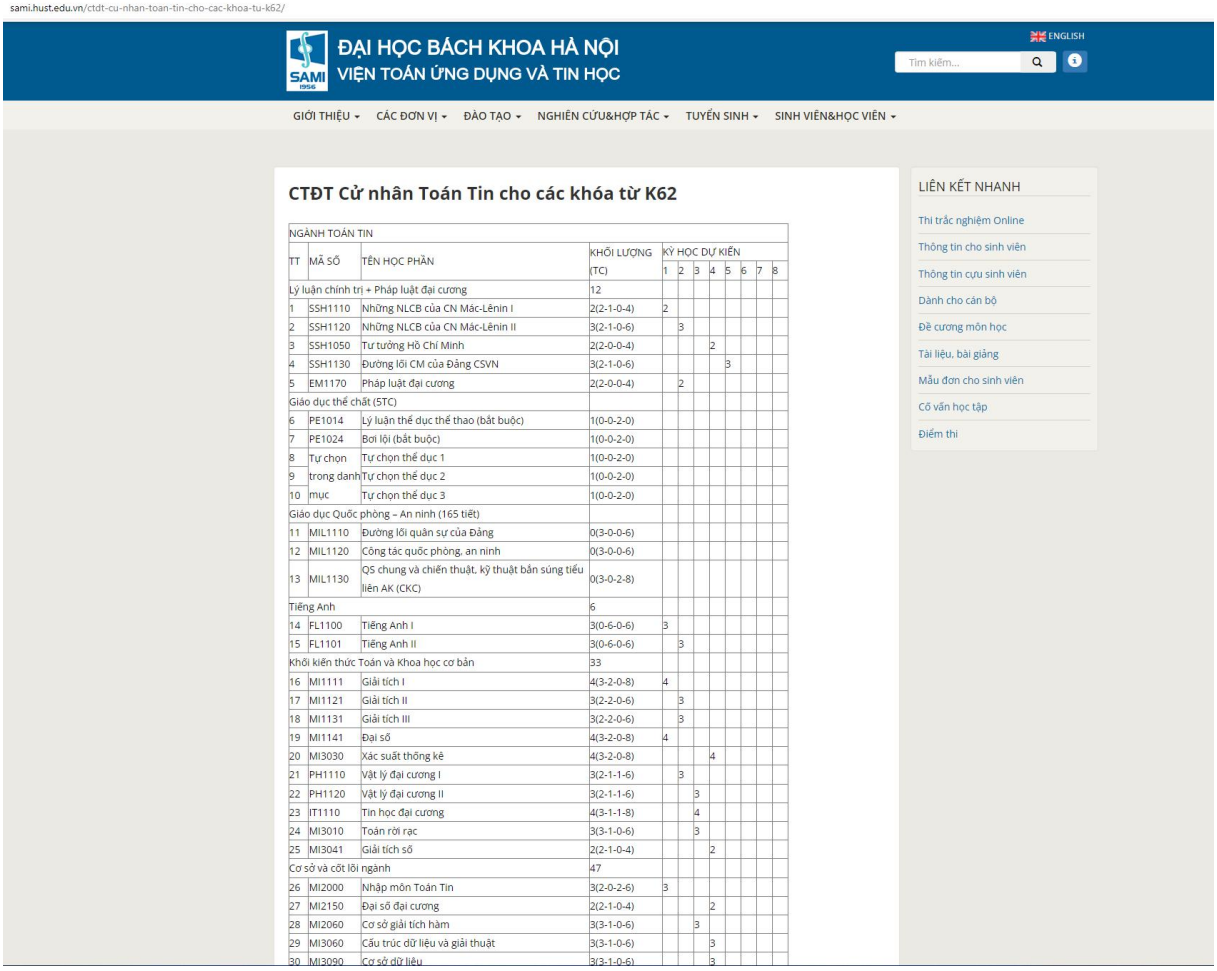
Hình thức xét tuyển
Xét tuyển thẳng (Xét tuyển tài năng)
Xét tuyển dựa trên kết quả thi tốt nghiệp THPT
Xét tuyển dựa trên kết quả bài kiểm tra tư duy

CHƯƠNG TRÌNH ĐÀO TẠO

Chương trình đào tạo chi tiết: TẢI VỀ PDF
Kiến thức, kỹ năng đạt được sau tốt nghiệp
- Kiến thức

HƯỚNG DẪN TRA CỨU | ĐẠI HỌC 0243 868 3408 | SAU ĐẠI HỌC 0904104109 - 0912010581

- On the wesite of SAMI



sami.hust.edu.vn/ctdt-cu-nhan-toan-tin-cho-cac-khoa-tu-k62/

ĐẠI HỌC BÁCH KHOA HÀ NỘI
VIỆN TOÁN ỨNG DỤNG VÀ TIN HỌC

ENGLISH

Tìm kiếm...

GIỚI THIỆU | CÁC ĐƠN VỊ | ĐÀO TẠO | NGHIÊN CỨU&HỢP TÁC | TUYỂN SINH | SINH VIÊN&HỌC VIÊN

CTĐT Cử nhân Toán Tin cho các khóa từ K62

NGÀNH TOÁN TIN										
TT	MÃ SỐ	TÊN HỌC PHẦN	KHỐI LƯỢNG (TC)	KỲ HỌC DỰ KIẾN						
				1	2	3	4	5	6	7	8
Lý luận chính trị + Pháp luật đại cương			12								
1	SSH1110	Những NLCB của CN Mác-Lênin I	2(2-1-0-4)	2							
2	SSH1120	Những NLCB của CN Mác-Lênin II	3(2-1-0-6)		3						
3	SSH1050	Tư tưởng Hồ Chí Minh	2(2-0-0-4)				2				
4	SSH1130	Đường lối CM của Đảng CSVN	3(2-1-0-6)					3			
5	EM1170	Pháp luật đại cương	2(2-0-0-4)		2						
Giáo dục thể chất (5TC)											
6	PE1014	Lý luận thể dục thể thao (bắt buộc)	1(0-0-2-0)								
7	PE1024	Bơi lội (bắt buộc)	1(0-0-2-0)								
8	Tự chọn	Tự chọn thể dục 1	1(0-0-2-0)								
9	trong danh	Tự chọn thể dục 2	1(0-0-2-0)								
10	mục	Tự chọn thể dục 3	1(0-0-2-0)								
Giáo dục Quốc phòng – An ninh (165 tiết)											
11	MIL1110	Đường lối quân sự của Đảng	0(3-0-0-6)								
12	MIL1120	Công tác quốc phòng, an ninh	0(3-0-0-6)								
13	MIL1130	QS chung và chiến thuật, kỹ thuật bắn súng tiểu liên AK (CKC)	0(3-0-2-8)								
Tiếng Anh			6								
14	FL1100	Tiếng Anh I	3(0-6-0-6)	3							
15	FL1101	Tiếng Anh II	3(0-6-0-6)		3						
Khối kiến thức Toán và Khoa học cơ bản			33								
16	MI1111	Giải tích I	4(3-2-0-8)	4							
17	MI1121	Giải tích II	3(2-2-0-6)		3						
18	MI1131	Giải tích III	3(2-2-0-6)		3						
19	MI1141	Đại số	4(3-2-0-8)	4							
20	MI3030	Xác suất thống kê	4(3-2-0-8)				4				
21	PH1110	Vật lý đại cương I	3(2-1-1-6)		3						
22	PH1120	Vật lý đại cương II	3(2-1-1-6)			3					
23	IT1110	Tin học đại cương	4(3-1-1-8)			4					
24	MI3010	Toán rời rạc	3(3-1-0-6)			3					
25	MI3041	Giải tích số	2(2-1-0-4)				2				
Cơ sở và cốt lõi ngành			47								
26	MI2000	Nhập môn Toán Tin	3(2-0-2-6)	3							
27	MI2150	Đại số đại cương	2(2-1-0-4)				2				
28	MI2060	Cơ sở giải tích hàm	3(3-1-0-6)			3					
29	MI3060	Cấu trúc dữ liệu và giải thuật	3(3-1-0-6)				3				
30	MI3090	Cơ sở dữ liệu	3(3-1-0-6)				3				

LIÊN KẾT NHANH

- Thi trắc nghiệm Online
- Thông tin cho sinh viên
- Thông tin cựu sinh viên
- Dành cho cán bộ
- Đề cương môn học
- Tài liệu, bài giảng
- Mẫu đơn cho sinh viên
- Cố vấn học tập
- Điểm thi

- MI Programe flyer

- During the events such as: OPEN DAY, Welcome New Students

  Open Day

Welcome new students

Citizen week