

Human-Centred Artificial Intelligence Master's at BME VIK

*Announcement for students of the Faculty of Electrical Engineering and Informatics (VIK), Budapest
University of Technology and Economics (BME), Hungary*

*Human-centred artificial intelligence (AI) seeks to put human values at the heart of development, deployment, use and supervision of AI systems by respecting fundamental human rights. Ten organizations from five countries – four universities, three centres of excellence, and three business companies – have formed the HCAIM¹ consortium to develop a 60 ECTS² credit *Master's programme* for universities. By completing the programme, students will gain knowledge that will enable them to create and apply AI innovations that respect and support the protection of human rights, while exploiting the potential and advantage of AI for the benefit of today's digital society.*

Thanks to the HCAIM project started in 2021 with EU support, the *HCAI Master's will start as early as 2022* in the partner countries, either alone or embedded in an existing programme. As a consortium member, BME is now announcing HCAI Master's as a *complementary programme for VIK students*.

The fulfilment of the requirements of the HCAI Master's will be certified by a Diploma Supplement³, namely by the following entries in section 6.1.1. További információ/Additional information of the Diploma:

In Hungarian: „A hallgató teljesítette a Human-Centred Artificial Intelligence Master's (HCAIM) programban előírt kimeneti követelményeket, melyeket az INEA/CEF/ICT/A2020/2267304 azonosítójú EU projekt dolgozott ki.”

In English: "The student completed the requisite learning outcomes of the Human-Centred Artificial Intelligence Master's (HCAIM) programme, defined by the INEA/CEF/ICT/A2020/2267304 EU project."

Because of their training programme and current pattern curriculum, those students of Computer Engineering Master's at VIK who have taken either the *intelligent systems* minor or the *data and media informatics* minor are in an exceptional position as they need at most 2 or 10 more credits, respectively, in surplus to the 120 credits of their Master's in order to fulfil the HCAIM requirements. (In the Computer Engineering Master's programme, 108 out of the 120 credits must be obtained by completing the required subjects, and the remaining 12 by completing a few electives.) The table in the appendix shows which subjects in the current curriculum entitle students in these two minors to the HCAIM Diploma Supplement.

More information: <https://hcaim.bme.hu>.

Interested in the HCAI Master's? Then fill in the form at <https://forms.office.com/r/5UYHB1uLDr>, in Hungarian (you need a BME Sharepoint / Directory account). Completing the form does not imply any obligation and does not in any way constitute an application for the Master's programme. Those who fill in the form will be regularly informed about developments in the HCAIM project that concern them and about the latest information on the Master's programme.

Budapest, August 24, 2022

1 Human-Centred Artificial Intelligence Master's

2 European Credit Transfer and Accumulation System

3 Human-Centred Artificial Intelligence Diploma Supplement, HCAIM Certificate

Appendix to the announcement „Human-Centred Artificial Intelligence Master's at BME VIK”

<i>Subject type</i>		<i>Subject title</i>	<i>Neptun code</i>	<i>ECTS credit</i>	<i>IS minor</i>		<i>DM minor</i>	
<i>HCAIM</i>	<i>BME</i>				<i>Req</i>	<i>Elec</i>	<i>Req</i>	<i>Elec</i>
I Core	Common	Applied Algebra and Mathematical Logic	TE90MX57	4	4		4	
	Minor	Probabilistic Inference and Decision Support Systems	VIMIMA06	4	4			4
		Machine Learning	VIMIMA05	4	4			4
	Elective	Deep Learning in Practice with Python and LUA	VITMAV45	4		4		4
		Privacy-Preserving Technologies	VIHIAV35	2		2		2
		Security in Machine Learning	VIHIAV45	2		2		2
		Ethics for Engineers	GT41M004	2		2		2
		Ethics of Artificial Intelligence	GT41V105	2		2		2
	Common	Artificial Intelligence and Law	GT55V106	2		2		2
		Project laboratory 2		5	5		5	
	Thesis work		15	15		15		
A. HCAIM core, TOTAL				46	32	14	24	22
II Optional	Common	Project laboratory 1		5	5		5	
	Minor	Complex AI Applications	VIMIMB01	4	4			
		Cooperation and Machine Learning Laboratory	VIMIMB02	4	4			
		Data Analytics Platforms	VITMMA05	4			4	
		Text and Web Mining	VITMMA06	4			4	
		Multimedia Content Technologies	VITMMB01	4			4	
	Data and Multimedia Mining Laboratory	VITMMB02	4			4		
B. HCAIM optional, TOTAL					13		21	
HCAIM core + possible optional, TOTAL						32+14+13=59	24+22+21=67	
III Optional	Elective	Neural Networks	VIMIJV07	4				
		Software and Systems Verification	VIMIMA01	4				
		Deep Learning in Visual Computing	VIIIIV20	4				
		Security and Privacy: an Economic Approach	VIHIAV34	2				
		Complex Federated Models in Machine Learning	VIMIIV25	2				
		Media and Text Mining	VITMM275	5				
		Artificial General Intelligence	VIMIIV22	2				
		Software Ergonomics	GT528802	2				
	Intelligent Text Analysis in Real-Life Applications	VIMIIV18	2					

Abbreviations. Req = Required, Elec = Elective, IS minor = Intelligent Systems minor, DM minor = Data and Media Informatics minor

In blocks I and II, columns *IS minor* and *DM minor* show the amount of ECTS credits students of the given minor can gain to fulfil the HCAIM requirements.

Block I shows how students of IS and DM minors can obtain a total of 46 credits for the HCAIM requirements by completing the HCAIM core subjects currently available at BME VIK (see total A). Some of them are required common or minor subjects, others elective in the given minor. 14 and 22 in cells *Elec*, row *A. TOTAL* indicate that in addition to the 12 credits assigned to electives, students in the given minor must obtain 2 and 10 additional credits, respectively, to meet the HCAIM requirements.

Block II shows that, in addition to the 46 credits obtainable in block I, by completing their required courses

- students of IS minor can get further 13, in total 59 credits, i.e. they need only one more credit to fulfil the 60 credit requirement of HCAI Master's which can be satisfied by an optional course from block III (cf. total B);
- students of DM minor can get further 21 credits, which is more than enough to fulfil the 60 credit requirement (cf. total B).

At the request of the student, based on individual assessment

- completion of other electives with significantly overlapping content is acceptable instead of some of the electives in block I;
- in case of schedule conflicts preventing the admission of certain HCAIM subjects, requirements of these subjects may be fulfilled by individual schedule.