

## MEi:CogSci Curriculum Information

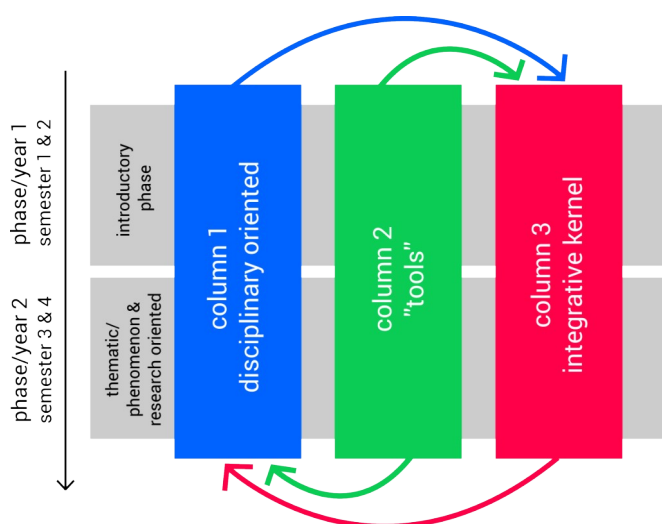
### NOTICE

This is a preliminary document, i.e. more specific information may be added at a later point in time. Its purpose is to provide information and guidance for MEi:CogSci students or others interested in MEi:CogSci Vienna. Thus, it is meant to be used as a source of information regarding the MEi:CogSci curriculum which is not (fully) legally binding; it does *not* fully represent the official formal curriculum document (see [https://senat.univie.ac.at/fileadmin/user\\_upload/s\\_senat/konsolidierte\\_Masterstudien/MA\\_CogSci.pdf](https://senat.univie.ac.at/fileadmin/user_upload/s_senat/konsolidierte_Masterstudien/MA_CogSci.pdf)) and only features the curriculum contents most relevant to students. (The official MEi:CogSci curriculum is available in German at the University of Vienna website.)

## 1 General information – curriculum architecture

MEi:CogSci is a research-based joint master's programme. It is a full-time study programme (comprising 120 ECTS/4 semesters) entirely taught in English language.

Graduates of MEi:CogSci receive a joint academic degree ("Master of Science", MSc) from all participating partner universities (status December 2018: Comenius University Bratislava, Eötvös Loránd University Budapest, University of Ljubljana, University of Vienna). For successful completion it is necessary that the student completes 30 ECTS at one of the partner universities.



Curriculum architecture

The MEi:CogSci curriculum follows a two-dimensional architecture. Vertically, it is organised in two phases, the "introductory phase" and the "thematic/phenomenon & research oriented phase". This is referred to as the "temporal organisation". Horizontally, it is organised along three core themes relevant to MEi:CogSci: disciplines, methods, and integration. These comprise the "functional organisation", referred to as "columns" within the curriculum. They are called the "disciplinary oriented column", "tools column", and the "integrative kernel column", respectively. (for details see below).

### 1.1 Temporal organisation

The curriculum consists of two phases: the "introductory phase" and the "phenomenon and research oriented phase", consisting of two semesters each.

#### 1.1.1 Introductory phase (semester 1 & 2)

The introductory phase enables students to orient themselves in the field of cognitive science and provides a foundation for interdisciplinary research.

Students entering the programme differ greatly in terms of their disciplinary backgrounds and research interests. In the first year, students become familiar with theoretical concepts, methods, and cultures of the core disciplines of cognitive science.

Moreover, students are introduced to the current work of research groups from Vienna and the MEi:CogSci network.

#### 1.1.2 Phenomenon & research oriented phase (semester 3 & 4)

The phenomenon oriented phase builds on the (inter)disciplinary foundations laid in the first year. Through the integration of multiple disciplines, students gain specialised knowledge of a chosen topic, focussing on a cognitive phenomenon. This phase is research and project oriented, and students conduct research based on their individual topic/phenomenon of interest.

This phase also includes a mobility semester at one of our partner universities. The mobility semester allows students to further their studies and get to know other (scientific) cultures. (Consult the MEi:CogSci Vienna website for details on the mobility semester.)

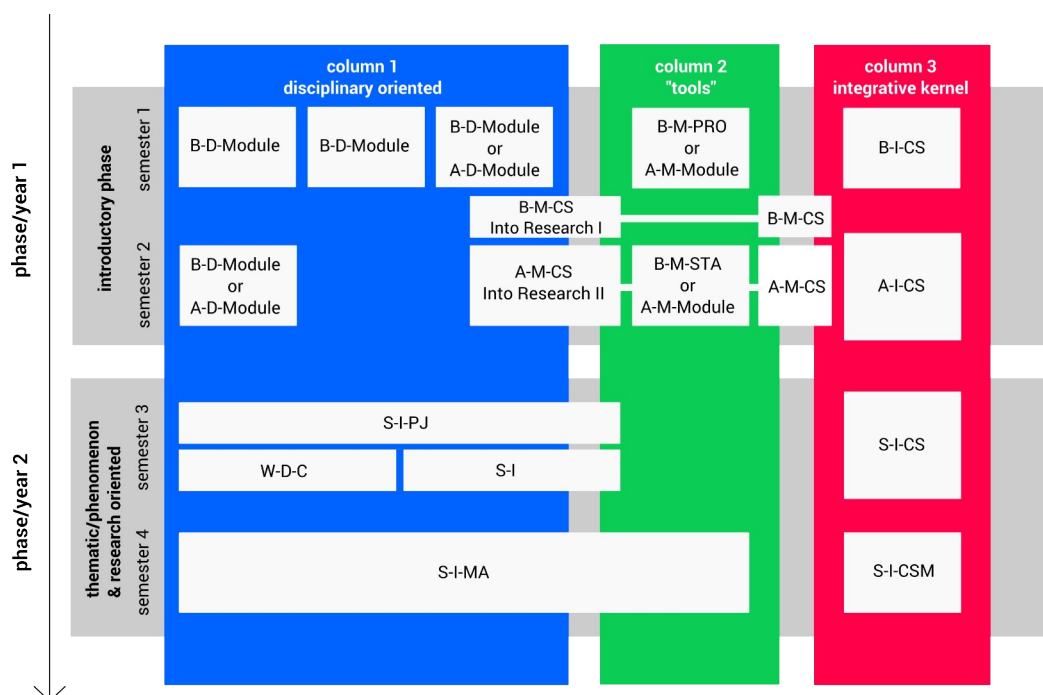
## 1.2 Functional organisation

Programme modules are depicted as three interconnecting columns: disciplinary oriented, "tools", and the integrative kernel.

The disciplinary oriented and the tools column provide students with conceptual, methodological, practical, and cultural experience of the core disciplines in cognitive science. The integrative kernel comprises courses for collaboratively reflecting upon, relating, and integrating these experiences, and provides training in cognitive science.

## 2 Detailed information – modular architecture

The modular architecture outlines the curriculum in more detail. Like the general curriculum architecture, the modular architecture too is based on a temporal organisation (introductory phase in the first year, phenomenon & research oriented phase in the second year), and a functional organisation (the three "columns": disciplinary oriented, tools, and integrative kernel). Each semester comprises 30 ECTS.



Detailed illustration of curriculum - modular architecture

Meaning of module abbreviations and names			
B-D-Module ...	Basic Disciplinary Module	S-I-PJ ...	Special Topic of Interest (Project) Module
A-D-Module ...	Advanced Disciplinary Module	S-I ...	Special Topic of Interest Module
B-M-Module ...	Basic Methods Module	W-D-C ...	Elective Module
A-M-Module ...	Advanced Methods Module	S-I-CS ...	New Trends in Cognitive Science
B-I-CS ...	Introduction to Cognitive Science I	S-I-MA ...	Master Thesis
B-M-CS ...	Into Research I – Basic Methods in Cognitive Science	A-M-CS ..	Into Research II – Advanced Methods in Cognitive Science
A-I-CS ...	Introduction to Cognitive Science II	S-I-CSM ..	Master Thesis Seminar

## 2.1 Introductory phase (semester 1 & 2)

### 2.1.1 Disciplinary oriented & “tools” column

In the first year, students complement their disciplinary background knowledge by learning about other core disciplines of cognitive science. Thus, laying the foundation for interdisciplinary work. Students need to take four disciplinary modules. Selection of disciplinary modules depends on students' previous studies.

Depending on their background and previous studies, students choose a methods module: either programming (B-M-PRO), statistics (B-M-STA), or advanced methods modules (A-M-modules, e.g. advanced topics in programming, computational modelling, fMRI, EEG, philosophical argumentation, etc.).

For details regarding which modules to select please see “Selection criteria for disciplinary and method modules”.

### 2.1.2 Integrative kernel column

Students get to know the concepts and the culture of cognitive science in lectures, seminars, and interdisciplinary teamwork. The integrative kernel fosters cooperation and communication between students, and introduces them to current work and research from different core disciplines.

The first semester includes an introductory lecture, a lecture series, excursions to research labs (B-I-CS and B-M-CS Into Research I) and methods courses (B-M-PRO, B-M-STA, or A-M-modules).

The second semester furthers students' theoretical understanding of cognitive science and invites them to apply this knowledge to current cognitive phenomena (A-I-CS). Furthermore, students conduct project-based work at a lab or with a research group to gain first practical research experiences. Students also present their projects at the annual MEi:CogSci conference as a poster (A-M-CS Into Research II). The conference gives students to opportunity to connect to their peers and teachers/instructors from the MEi:CogSci network.

## 2.2 Phenomenon & research oriented phase (semester 3 & 4)

### 2.2.1 Disciplinary oriented and "tools" column

Drawing from their respective interests, background, and experiences of the first year, students choose a research topic focussing on a cognitive phenomenon.

In the third semester, students study abroad at one of our partner universities (student mobility, for details consult the MEi:CogSci Vienna website).

Depending on their research interest, students configure their special topic of interest to include practical research work and/or advanced courses from multiple disciplines (S-I-PJ, S-I).

Furthermore, they can take a foreign language course, or choose to take other courses to deepen their methodological or theoretical skills (W-D-C elective module).

In the fourth semester, students can pursue their master's thesis either back at their home university or at the mobility semester host university. The master's thesis builds on and extends the conceptual and practical research done in the third or second semester.

### 2.2.2 Integrative kernel column

In the third semester at their host university, students have the opportunity to interact with their peers from all over the MEi:CogSci network. Students develop their interests and present and discuss their individual interdisciplinary projects.

Specifically, students conduct a regular journal club seminar and attend a seminar exploring the implications of current trends in cognitive science (S-I-CS).

In the fourth semester, students present and critically discuss their projects in the master's thesis seminar and present their thesis at the annual MEi:CogSci conference at the end of the semester (S-I-MA, S-I-CSM).

### 3 MEi:CogSci module specification

#### 3.1 Module overview

Please note that not all modules are offered each semester, and that some modules have certain requirements/admission restrictions. (Consult the section “Module requirements/admission restrictions” and the schedule of courses on the MEi:CogSci Vienna website for more specific information.)

Disciplinary Modules			
Module abbreviation	Module name	ECTS	Semester
B-D-AI	Basic Disciplinary Module Artificial Intelligence	5	1 or 2
A-D-AI	Advanced Disciplinary Module Artificial Intelligence	5	1 or 2
B-D-ANT	Basic Disciplinary Module Anthropology	5	1 or 2
A-D-ANT	Advanced Disciplinary Module Anthropology	5	1 or 2
B-D-BIO	Basic Disciplinary Module Biology	5	1 or 2
A-D-BIO	Advanced Disciplinary Module Biology	5	1 or 2
B-D-LIN	Basic Disciplinary Module Linguistics	5	1 or 2
A-D-LIN	Advanced Disciplinary Module Linguistics	5	1 or 2
B-D-NEU	Basic Disciplinary Module Neuroscience	5	1 or 2
A-D-NEU	Advanced Disciplinary Module Neuroscience	5	1 or 2
B-D-PHI	Basic Disciplinary Module Philosophy	5	1 or 2
A-D-PHI	Advanced Disciplinary Module Philosophy	5	1 or 2
B-D-PSY	Basic Disciplinary Module Psychology	5	1 or 2
A-D-PSY	Advanced Disciplinary Module Psychology	5	1 or 2

Methods Modules			
Module abbreviation	Module name	ECTS	Semester
B-M-PRO	Basic Methods Module Programming	5	1 or 2
A-M-PRO	Advanced Methods Module Programming	5	1 or 2
B-M-STA	Basic Methods Module Statistics	5	1 or 2
A-M-STA	Advanced Methods Module Statistics	5	1 or 2
A-M-AI	Advanced Methods Module Artificial Intelligence	5	1 or 2
A-M-ANT	Advanced Methods Module Anthropology	5	1 or 2
A-M-BIO	Advanced Methods Module Biology	5	1 or 2
A-M-LIN	Advanced Methods Module Linguistics	5	1 or 2
A-M-NEU	Advanced Methods Module Neuroscience	5	1 or 2
A-M-PHI	Advanced Methods Module Philosophy	5	1 or 2
A-M-PSY	Advanced Methods Module Psychology	5	1 or 2

<b>Integrative modules</b>			
<b>Module abbreviation</b>	<b>Module name</b>	<b>ECTS</b>	<b>Semester</b>
B-I-CS	Introduction to Cognitive Science I	5	1
A-I-CS	Introduction to Cognitive Science II	10	2
B-M-CS	Into Research I – Basic Methods in Cognitive Science	5	1
A-M-CS	Into Research II – Advanced Methods in Cognitive Science	10	2
S-I-PJ*	Special Topic of Interest (Project) Module	10/15/20	3
S-I*	Special Topic of Interest Module	5/10	3
S-I-CS	New Trends in Cognitive Science	10	3
S-I-MA	Master's Thesis	25	4
S-I-CSM	Master's Thesis Seminar	5	4

<b>Other modules</b>			
<b>Module abbreviation</b>	<b>Module name</b>	<b>ECTS</b>	<b>Semester</b>
W-D-C	Elective module	5	3

\*) See section "Further module specifications" for detailed information about ECTS.

### 3.2 Module requirements/admission restrictions

Please note that MEi:CogSci does *not* provide “pre-packaged” modules, i.e. pre-defined sets of courses making up a module, in all cases. However, course combinations available for models (e.g. A-D-modules and A-M-modules) are announced at the beginning of each semester, and course combinations for other modules may be “assembled” by students themselves. Students may suggest courses (e.g. related courses amounting to (at least) 5 ECTS for an A-M-module) from the University of Vienna, Medical University of Vienna, or in special cases even other Vienna universities. *The suggested courses/modules need to be approved by the MEi:CogSci Director of Studies!* Furthermore, be aware that not all courses/modules are offered each semester (please consult the schedule of courses on the MEi:CogSci Vienna website for more details).

#### 3.2.1 Disciplinary modules

Students need to take four disciplinary modules. Normally, basic disciplinary modules do not have admission restrictions.

##### **Basic disciplinary modules**

In total, students have to choose four disciplinary modules. *At least two out of these modules have to be basic disciplinary modules* (if your core/background discipline is *not* cognitive science). Selection of modules depends on the student’s background and prior studies.

<b>Criteria for B-D-Module selection</b>	B-D-AI	B-D-ANT	B-D-BIO or B-D-NEU or B-D-PSY	B-D-LIN or B-D-PHI
Background in Humanities (e.g. philosophy, linguistics)	<b>X</b>		<b>X</b>	
Background in Natural Sciences (e.g. biology, neuroscience, psychology)	<b>X</b>			<b>X</b>
Background in Social Sciences (e.g. cultural/social anthropology)	<b>X</b>		<b>X</b>	
Background in Formal Sciences (e.g. informatics)			<b>X</b>	<b>X</b>
Background in Cognitive Science				

Students may take either:

- two basic and two advanced disciplinary modules, or
- three basic and one advanced disciplinary module, or
- four basic disciplinary modules, or
- four advanced disciplinary modules (only if their background is cognitive science)

The B-D-modules implemented in the MEi:CogSci Vienna curriculum are:

- B-D-AI
- B-D-BIO
- B-D-LIN
- B-D-NEU
- B-D-PHI
- B-D-PSY

Notice: Currently, MEi:CogSci Vienna does not implement the B-D-ANT module. However, students may suggest courses for this module. *The suggested courses need to be approved by the MEi:CogSci Director of Studies!*

### **Advanced disciplinary modules**

Students may suggest courses for A-D-modules amounting to 5 ECTS. *These modules need to be approved by the MEi:CogSci Director of Studies!*

In some cases, MEi:CogSci Vienna offers sets of courses adequate for A-D-modules. These course combinations are announced at the beginning of each semester – please consult the schedule of courses on the MEi:CogSci Vienna website for more specific information.

Possible A-D-modules:

- A-D-AI
- A-D-ANT
- A-D-BIO
- A-D-LIN
- A-D-NEU
- A-D-PSY
- A-D-PHI

Taking A-D-modules requires:

- a B-D-module (of this discipline), or
- a bachelor's degree (or higher) in an adequate discipline, or
- successful completion of introductory courses of at least 5 ECTS in this discipline from your previous studies, or
- a bachelor's degree (or higher) in cognitive science

### **3.2.2 Methods modules**

Students need to take two methods modules. Selection of modules depends on the students' individual disciplinary background/prior studies.

#### **Basic methods modules**

Students need to take two method modules.

Selection of method modules depends on students' background/prior studies:

- Students who did *not* have programming in their previous studies, have to take the basic programming module (B-M-PRO)
- Students who did *not* have statistics in their prior studies, need to take the basic statistics module (B-M-STA)
- Students who had either statistics *or* programming in their prior studies, have to choose the other corresponding basic method module, and can additionally choose one advanced methods module (A-M-Modules)
- Students who already had both statistics *and* programming can take two advanced method modules (A-M-Modules)

#### **Advanced methods modules**

Students may suggest courses for A-M-modules amounting to 5 ECTS. *These modules need to be approved by the MEi:CogSci Director of Studies!*

Furthermore, MEi:CogSci Vienna offers sets of courses adequate for A-M-modules. These course combinations are announced at the beginning of each semester – please consult the schedule of courses on the MEi:CogSci Vienna website for more specific information.

Possible A-M-modules:

- A-M-PRO
- A-M-STA
- A-M-AI
- A-D-ANT
- A-M-BIO
- A-M-LIN
- A-M-NEU
- A-M-PSY
- A-M-PHI

Taking A-M-modules requires:

- a B-M-module (of this discipline), or
- a bachelor's degree (or higher) in an adequate discipline, or
- successful completion of introductory courses of at least 5 ECTS in this discipline from your previous studies, or
- a bachelor's degree (or higher) in cognitive science

### 3.2.3 Integrative modules

According to the temporal organisation of the curriculum, some integrative modules require the completion or co-attendance of other integrative modules.

Module	Admission restrictions
A-I-CS	Successful completion of B-I-CS
B-M-CS	Successful completion or currently co-attending B-I-CS module.
A-M-CS	Successful completion or currently co-attending B-I-CS module.
S-I-PJ	Successful completion of two disciplinary modules (B-D-modules and/or A-D-modules)
S-I	Successful completion of two disciplinary modules (B-D-modules and/or A-D-modules)
S-I-CS	Successful completion of B-I-CS
S-I-MA	Successful completion of: B-I-CS, A-I-CS, B-M-CS, A-M-CS, four disciplinary modules (B-D-modules and/or A-D-modules amounting to 20 ECTS), and two methods modules (B-M-modules and/or A-D modules amounting to 10 ECTS)
S-I-CSM	Successful completion of: B-I-CS, A-I-CS, B-M-CS, A-M-CS, four disciplinary modules (B-D-modules and/or A-D-modules amounting to 20 ECTS), and two methods modules (B-M-modules and/or A-D modules amounting to 10 ECTS)



**Further specifications**

The **S-I-PJ** Special Topic of Interest (project) module allow students to focus on a phenomenon in cognitive science from the viewpoint of at least two different disciplines. This module must (mainly) include project work.

Students may “extend” this module by integrating the **S-I** and **W-D-C** module into their project (i.e. conducting a larger project, rather than two Special Topics of Interest and an elective module). This means that the ECTS used for the S-I and/or W-D-C module can be integrated into the S-I-PJ module, resulting in projects of either 10, 15, or 20 ECTS.

Depending on the ECTS students plan to use on their project, the possible combinations are:

	<b>S-I-CS</b>	<b>S-I-PJ</b>	<b>S-I</b>	<b>W-D-C</b>	<b>TOTAL ECTS</b>
<b>Combination 1</b>	10 ECTS	10 ECTS	5 ECTS	5 ECTS	30
<b>Combination 2</b>	10 ECTS	10 ECTS	10 ECTS	0 ECTS	30
<b>Combination 3</b>	10 ECTS	15 ECTS	5 ECTS	0 ECTS	30
<b>Combination 4</b>	10 ECTS	15 ECTS	0 ECTS	5 ECTS	30
<b>Combination 5</b>	10 ECTS	20 ECTS	0 ECTS	0 ECTS	30

No other combinations are possible.