POSTGRADUATE SCHOOL OF THINKING

- Building capacity for cultivation of extraordinary intelligence in individuals and groups
- Toolkit for progressive cutting-edge methods and frameworks of thinking
- Intense workout for the intellect: disciplined yet open-ended

@ The Center Leo Apostel (CLEA)
# TABLE OF CONTENTS

1. Motivation 3
2. Objectives 4
3. Participants 4
4. Curriculum 5  
   4.1. General characteristics 5  
   4.2. Courses 5  
   4.3. VUB research track 10  
   4.4. Study points 10  
   4.5. Completion requirements 11  
   4.6. Certificate 11  
5. Admission and fees 12  
   5.1. Admission requirements 12  
   5.2. Subscription fees 12  
   5.3. Group size 12  
6. Organisation 13  
   6.1. Center Leo Apostel (CLEA) 13  
   6.2. Programme management team 13  
7. Instructors (2019/2020) 14
1. MOTIVATION

At the most fundamental level many of the problems we face are the unfortunate outcome of the malpractice of thinking. Whichever complex problem one may consider – be it ecological, societal, political, economic, organisational etc. – one will likely find that it is caused by the clashing of incompatible or inadequate manners of thinking. Even when these are genuinely well intended and strongly self-justified, they often inadvertently contribute to composite problematics.

The inadequacies of our thinking are deeply entrenched in the way that we humans, perceive the world, ourselves in the world, and how we interact with it. Our professional, educational, cultural and metaphysical systems strongly dispose us towards outlining sharp boundaries, separating objects from backgrounds, 'us' from ‘them’, defining identities and curving out what is to be of significance from what can be dismissed, disposed of, or exploited. Such dispositions result in oversimplifications which are often apparent to us in the thinking of others, but much less in our own thinking. Yet, they are omnipresent and almost impossible to avoid. Once cohered by logical reasoning, anchored in captivating symbolism and encoded in algorithms, such simplifications turn into cages: mental, emotional, operational... Moving beyond them becomes literally unthinkable. We may repeat the mantra of ‘thinking outside the box’, we may praise critical, independent, creative and disruptive thinking, but these get deployed only in as far as they prove usable for the affirmation of our respective, deeply rooted worldviews.

Our intelligence has limits which are not always obvious and once we fail to address the complexity of a state of affairs we are confronted with, we quite seamlessly simplify it to fit to our limitations by introducing instead of it crude, black-and-white representations. In order to address the formidable challenges of contemporary ecological, societal, political, economic and organisational problems; in order for humanity to move forward, ordinary intelligence is therefore not sufficient. As societies, organisations, teams and individuals we need to progressively muster intelligence that is extraordinary — and make it our new norm.

This understanding cannot just be thrown in the face of ‘corporations and institutions’, or delegated to any other reified faulty ‘other’. Simply put, the much needed leap in the quality of thinking across global society will not happen if there is no one to take the responsibility and actively engage in achieving it. Evidently the advancement of thinking cannot be externally prescribed, it must be intimately carried out by engaged individuals. For that, key influencers, leaders and managers, intellectuals and artists, politicians and activists, entrepreneurs and philanthropists, need to bring the quality of their individual thinking to the top of their priorities. The practice of thinking is too impactful, its consequences too potent, for us to afford not to pay attention to how it can be continuously advanced and refined. For exactly this purpose the VUB has created a novel academic project — Welcome to the Postgraduate School of Thinking!
2. OBJECTIVES

The primary aim of the programme is for the participants to **develop the capacity for cultivating extraordinary intelligence**: individually, as well as in their communities, teams and organisations.

‘Extraordinary’ is a progressive term. It points to a performance of thinking of a quality which continues to surprise. A thinking that proves to be more insightful, more far-sighted, and more potent, than one could have normally expected or assumed. Learning how to bring one’s thinking performance beyond the threshold of the expected ‘ordinary’, again and again, results in an intelligence capacity that continuously exceeds its own limits.

To develop such capacity, the participants will acquire a combination of skills, theoretical knowledge and above all the experience of integrating these into their unique everyday practice. This informs the following specific objectives of the programme:

- **Provide a comprehensive toolkit of powerful, advanced thinking frameworks, methods and tools.** The students will be able to fluently select from a rich array of advanced thinking frameworks, methods and tools (such as complexity thinking, systems thinking, design thinking, collective intelligence tools etc.), apply them in real-world circumstances, and guide others (collaborators, teams, organisations) in joining in and thinking together.

- **Facilitate an intense workout for thought.** By applying and evaluating diverse thinking frameworks, the students will learn to disassociate their activity of thinking from specific patterns and methods that their thought is in habit of using. This is how they will learn to approach frameworks they are familiar with merely as a ‘training infrastructure’ for exercising the power, plasticity and movability of thought.

- **Instil the habit of observing the quality of thinking.** By learning to observe and appreciate the extraordinary thinking of others as well as of oneself, the students will learn to affirm and support the paths and stances which expand the horizons of thought.

- **Provide a general, a-disciplinary ground for thinking about thinking.** The students will become fluent in crossing all kinds of boundaries, in particular those maintained by the academic disciplines and professional identities. They will learn how all historically evolved academic, professional, organisational, cultural and ideological worldviews, disciplines and categories can be deployed by the thinker, without anymore imposing on thought their impassable boundaries.

3. PARTICIPANTS

The programme is addressed to working professionals whose primary responsibility and interests are focused on tackling complex, ‘wicked’, multidisciplinary or un-
precedented problems — and particularly to those, for whom the outcome of their work critically depends on the quality of thinking, performed individually or by a larger team or organisation.

The (non-exhaustive) list of the professional roles, whose performance can be greatly enhanced by participating in the programme includes: intellectual and organisational leaders, think-tank members, politicians, activists, entrepreneurs, intellectuals, artists, philanthropists, managers, as well as consultants, coaches, trainers, and teachers who support such professionals in their development.

An additional learning track is planned for a small group of selected research students / researchers of the VUB.

4. CURRICULUM

4.1. General characteristics

The curriculum is conducted entirely in English. It takes one academic year (two semesters) to accomplish. The curriculum comprises of 750 hours of study, which includes 174 instruction /contact hours and 576 hours of flexibly scheduled individual and group work.

Students are required to be physically present at the VUB campus in Etterbeek Brussels for 2 – 2.5 days per month (see ‘Schedule’). The additional individual and group work, which does not require presence in Brussels and can be scheduled in a flexible manner, is estimated to take about 3 to 5 days per month.

4.2. Courses

The curriculum comprises of the following five large components (courses):

4.2.1. Thinking About Thinking (6 study points)

If we want intelligence to continuously exceed its limits, our thinking must become fluent in crossing all kinds of boundaries. Some of the most seemingly impassable ones are those instilled by academic disciplines and professional identities in framing what kind of cognitive operations are expected and allowable within their respective confinements – and which do count as ‘thinking’ at all. The ‘Thinking about Thinking’ part of the curriculum serves to provide a background for an understanding of thinking which is in itself a-disciplinary.

This part of the curriculum is composed of six knowledge-intense modules. The modules aim to foster the meta-cognitive flexibility of the students by enriching their understanding of a selection of interrelated concepts and approaches sourced from cognitive science, philosophy, psychology, sociology, neuroscience, information science and cybernetics:
Each module is arranged according to the following general schema:

<table>
<thead>
<tr>
<th>Module</th>
<th>Teaching / contact hours</th>
<th>Individual / group work hours</th>
<th>Study points</th>
</tr>
</thead>
<tbody>
<tr>
<td>The brain</td>
<td>6 hours</td>
<td>20 hours</td>
<td>1</td>
</tr>
<tr>
<td>What is thinking</td>
<td>6 hours</td>
<td>20 hours</td>
<td>1</td>
</tr>
<tr>
<td>Worldviews and identities</td>
<td>6 hours</td>
<td>20 hours</td>
<td>1</td>
</tr>
<tr>
<td>Embodied cognition</td>
<td>4 hours</td>
<td>22 hours</td>
<td>1</td>
</tr>
<tr>
<td>Symbolic cognition</td>
<td>4 hours</td>
<td>22 hours</td>
<td>1</td>
</tr>
<tr>
<td>Intelligence</td>
<td>6 hours</td>
<td>20 hours</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>32 hours</td>
<td>124 hours</td>
<td>6</td>
</tr>
</tbody>
</table>

The entire ‘Thinking about Thinking’ course comprises 32 hours of instruction and 124 hours of individual work (reading and writing). Instruction is carried out in a high quality academic style, featuring a dynamic mixture of lectures, seminar-style discussions, reading assignments and quizzes.

4.2.2. Thinking Toolkit (12 study points)

The largest part of the curriculum provides the students with a rich array of advanced thinking frameworks, methods and tools (such as complexity thinking, systems thinking, design thinking, collective intelligence tools etc.)

The objectives of the ‘Toolkit’ modules are two-layered. The basic objectives are for the students to become fluent in understanding and selecting the relevant methods and tools, applying them in real-world circumstances, and guiding others (collaborators, teams, organisations) in joining in and thinking together. The deeper aims, however, are flexibility and freedom. By knowing and confidently applying more than one thinking framework, and by being able to observe and evaluate affordances and limitations of each, the students will exercise the power, plasticity, and movability of thought itself – vis a vis any specific framework or method.
The twelve competency building modules provide a wide selection of advanced thinking frameworks, methods and tools while facilitating an intense workout for the agility of thought. The modules include:

<table>
<thead>
<tr>
<th>Module</th>
<th>Teaching / contact hours</th>
<th>Individual / group work hours</th>
<th>Study points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logical thinking and reasoning</td>
<td>6 hours</td>
<td>20 hours</td>
<td>1</td>
</tr>
<tr>
<td>Fallacies and biases</td>
<td>6 hours</td>
<td>20 hours</td>
<td>1</td>
</tr>
<tr>
<td>Critical thinking</td>
<td>6 hours</td>
<td>20 hours</td>
<td>1</td>
</tr>
<tr>
<td>Extended mind</td>
<td>6 hours</td>
<td>20 hours</td>
<td>1</td>
</tr>
<tr>
<td>Divergent and lateral thinking</td>
<td>6 hours</td>
<td>20 hours</td>
<td>1</td>
</tr>
<tr>
<td>Co-thinking</td>
<td>6 hours</td>
<td>20 hours</td>
<td>1</td>
</tr>
<tr>
<td>Ethical thinking</td>
<td>6 hours</td>
<td>20 hours</td>
<td>1</td>
</tr>
<tr>
<td>Dialectical thinking</td>
<td>6 hours</td>
<td>20 hours</td>
<td>1</td>
</tr>
<tr>
<td>Systems thinking</td>
<td>6 hours</td>
<td>20 hours</td>
<td>1</td>
</tr>
<tr>
<td>Complexity thinking</td>
<td>6 hours</td>
<td>20 hours</td>
<td>1</td>
</tr>
<tr>
<td>Design thinking and research</td>
<td>6 hours</td>
<td>20 hours</td>
<td>1</td>
</tr>
<tr>
<td>Game thinking</td>
<td>6 hours</td>
<td>20 hours</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>72 hours</td>
<td>240 hours</td>
<td>12</td>
</tr>
</tbody>
</table>

Each module is arranged according to the following general schema:

- Instructor's letter (1h)
- Assigned exercise (6h)
- Student's response letter (12h)
- In-class training (6h)
- Instructor's feedback letter (1h)

The ‘Thinking Toolkit’ course comprises 72 hours of instruction and 240 hours of individual work (individual exercises and writing). Instruction is carried out in an interactive, hands(heads)-on manner. The teaching methods include group exercises, in-
individual and group experimentation, mini-lectures, discussions, teamwork, games and practical assignments. Each module is preceded by a short exercise assignment documented in a correspondence between the participants and the instructor.

4.2.3. Engaged Thinking (3 study points)

From its inception the VUB has always prided itself on its guiding philosophy of Free Thinking, as reflected in its mottos ‘Thinking should never submit itself’, ‘Reason and Engage’ and ‘Nothing is unthinkable’, and more generally in its striving for diversity of perspectives, interdisciplinary collaboration, and engagement with contemporary issues. The free, critical, creative and independent thinking, being the focus of our programme, constitutes a core element of the university’s DNA and is consistently taught in several well established open seminar series, organised around the campus.

Our programme interlinks these initiatives, making the participation in the selected series into an integral part the curriculum. The students select at least one among the on-going series and follow it throughout one semester. In addition to the regular participation, the students carry out an observation assignment designed to advance their understanding of the processes of co-thinking.

The list of available seminars includes:

- **Crosstalks**: a series of open dialogues between academic and corporate researchers, philosophers, artists, designers, policymakers and citizens;
- **Back to Thinking**: an online podcast series of the VUB Engage, a broad participatory trajectory of the VUB.
- **Reason and Engage**: a university-wide course that stimulates students to reflect about controversial, contemporary issues.
- **Food for Thought**: a series of lunch meetings in which global, present-day issues are discussed by academics from different disciplines;
- **Think-tank Poincaré**: a flexible group of VUB researchers reflecting about contemporary issues, such as cities, that touch on many disciplines;
- **Mindblowers**: a series of performances by scientists and artists intended to inspire the public to reflect about revolutionary new ideas;
- **The VUB Honours programme**: selected students from all faculties debate and reflect with experts on important scientific developments and their relation to society;
- **ECCO seminars**: a long-running series of weekly interdisciplinary seminars and discussions organized by the Center Leo Apostel with presenters from around the world.
This component of the curriculum assumes that the students will allocate 26 hours to the participation in the seminar series of their choice and 48 hours to the assignment. Additionally, each student receives 1 hour of individual consultation.

<table>
<thead>
<tr>
<th>Component</th>
<th>Teaching / contact hours</th>
<th>Individual / group work hours</th>
<th>Study points</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-campus engagement - Participation in a selected VUB seminar series</td>
<td>26 hours</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>On-campus engagement - Observation report and consultation</td>
<td>1 hour</td>
<td>48 hours</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>27 hours</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

4.2.4. Beautiful Minds (3 study points)

To continuously advance, thinking must select between the possible patterns and paths, discerning ones that are more promising, less explored etc. For that, one needs to be able to observe the potentials of various stances and notice when they expand the horizons of thought. By learning to notice, observe, affirm, and celebrate the extraordinary thinking of others, the thinker develops a fundamental competence necessary for fostering the extraordinary intelligence.

‘Beautiful Minds’ is a course focused entirely on the development of the habit and skill to affirm the extraordinary quality of the cognitive performance in others. The course comprises 14 hours of workshops and 60 hours of team work dedicated to a group assignment. Each group receives a 1-hour consultation to support their study.

<table>
<thead>
<tr>
<th>Component</th>
<th>Teaching / contact hours</th>
<th>Individual / group work hours</th>
<th>Study points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beautiful minds - Workshops</td>
<td>14 hours</td>
<td></td>
<td>0.5</td>
</tr>
<tr>
<td>Beautiful minds - Interview assignment and consultation</td>
<td>1 hour</td>
<td>60 hours</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>15 hours</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

4.2.5. Thinking Studio (5 study points)

An integrative baseline of the programme is provided by the ‘Thinking Studio’: a series of interactive workshops conducted according to the methodology of experiential learning. The workshops provide a group learning environment for integrating the teaching and learning processes happening in the entire programme.
Special emphasis is put on the integration of the new knowledge, ideas, and skills into the unique everyday practice of each student. Towards this goal, two major (exercise and writing) assignments will be carried out.

This component comprises 26 hours of workshops, 2 hours of consultations, 52 hours dedicated to the exercises and 52 hours dedicated to writing the final reports.

<table>
<thead>
<tr>
<th>Module</th>
<th>Teaching / contact hours</th>
<th>Individual / group work hours</th>
<th>Study points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinking studio - Workshops</td>
<td>26 hours</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Thinking studio - Co-thinking observation assignment</td>
<td>26 hours</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Thinking studio - Co-thinking observation report and consultation</td>
<td>1 hour</td>
<td>26 hours</td>
<td>1</td>
</tr>
<tr>
<td>Thinking studio - Individual observation assignment</td>
<td>26 hours</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Thinking studio - Individual observation report and consultation</td>
<td>1 hour</td>
<td>26 hours</td>
<td>1</td>
</tr>
</tbody>
</table>

|                                      | 28 hours | 104 hours | 5 |

4.3. VUB research track

In addition to the regular curriculum of the programme an alternative participation track is available for a small group of selected students and researchers of the VUB. This formula allows students and researchers of the VUB to participate in the programme with a reduced price and workload, while obtaining the full postgraduate certificate. Due to budget constraints the number of places available in this track is limited to 6 per year. The track is open to the VUB research students (MA, MSc, Phd) and VUB researchers, who are pursuing an academic study on a topic closely related to the topics addressed in our programme.

While applying, the candidates are asked to present an Individual Study Plan (ISP), which briefly describes their planned research activities and indicates which courses and activities from the general curriculum of the programme they wish to participate in. The ISP should be constructed such that it ensures collection of 22 study points, of which 14 study points through the participation in the regular components of the programme (classes, assignments) and 8 study points obtained upon successful completion of the research activities described in the ISP. The ISP proposed upon application must be accepted of a VUB-based research advisor of the applicant.

4.4. Study points
The full programme comprises of 29 study points assigned in a manner provided in the five tables above (points 4.2.1-4.2.5).

**4.5. Completion requirements**

In order to successfully graduate from the programme and obtain the certificate of completion the students are required to meet the following requirements within the respective allocated timeframes (as specified by each assignment):

**Regular track**
- Study points: minimum 27 out of 29.
- Attendance: minimum 80%.
- Assignments:
  - Pass at least 4 out of 5 online knowledge tests in the ‘Thinking about Thinking’ course (with at least 80% correct answers).
  - Conclude at least 8 out of 10 writing (correspondence) assignments in the ‘Thinking Toolkit’ course.
  - Complete the observation assignment in the ‘Engaged Thinking’ course (positive evaluation of the submitted report).
  - Complete the assignment in the ‘Beautiful Minds’ course (positive evaluation of the interview / presentation).
  - Complete the two observation assignments in the ‘Thinking Studio’ course (positive evaluation of both submitted reports).

**VUB research track**
- Study points: minimum 22 as specified in the ISP (Individual Study Plan, see ‘VUB Research Track’).
- Attendance: minimum 80% applicable to the classes indicated in the ISP.
- Assignments: all applicable to the classes indicated in the ISP.

**4.6. Certificate**

Upon successful fulfilment of the completion requirements listed in the point 4.5, a certificate of the ‘Postgraduate School of Thinking’ will be awarded by the Student Administration Centre (SAC) of the VUB, signed by the rector of the Vrije Universiteit Brussel, the director of the Center Leo Apostel VUB and the academic co-ordinator of the programme.
5. ADMISSION AND FEES

5.1. Admission requirements

Applicants to the programme must fulfil the following admission criteria:

**Regular track**

- Formal requirement: A Master’s degree or equivalent.
- Language proficiency: Fluent English is required and is subject of self-assessment of the applicant. Applicants do not need to submit a proof of their linguistic competence.
- Application: A short (e-mail) application letter in which the applicant (1.) provides the reasons for applying, (2.) explains their expectations, (3.) gives a short account of their academic and professional background, and (4.) provides a self-assessment of their English language proficiency.

**VUB research track**

- Formal requirement: An active status of a MA, MSc, PhD student of the VUB or of a researcher employed by the VUB.
- Language proficiency: Fluent English is required and is subject of self-assessment of the applicant. Applicants do not need to submit a proof of their linguistic competence.
- Application: An short (e-mail) application letter (acknowledged by the applicant’s research advisor) in which the applicant (1.) provides the reasons for applying, (2.) explains their expectations, (3.) gives a short account of their academic and professional background, (4.) provides a self-assessment of their English language proficiency and (5.) presents their proposed Individual Study Plan (see ‘VUB Research Track’).

5.2. Subscription fees

The regular price for the full postgraduate programme, if completed within one academic year, has been set at:

- **€4,490** for the students in the regular track,
- **€950** for the students in the VUB research track.

In case a student does not complete the program within one academic year and needs to continue a second year, a fee of €850 is charged for each additional year.

5.3. Group size
6. ORGANISATION

6.1. Center Leo Apostel (CLEA)

The programme is organised by Center Leo Apostel for Interdisciplinary Studies (CLEA): a transdisciplinary research centre at the Vrije Universiteit Brussel (VUB), which focuses on bringing together the different scientific, social and cultural disciplines. CLEA was founded in 1995, under the impetus of the Belgian philosopher Leo Apostel. Apostel saw the purpose of CLEA in integrating the results of the different disciplines so as to counteract the apparent fragmentation of ever more specialised approaches, and in attracting a variety of talented researchers from the humanities, social sciences, physical sciences and engineering to work together in an a-disciplinary academic environment. CLEA is internationally recognised as a unique, transdisciplinary research centre with a steady output of high-quality innovative publications. The main focus of CLEA research programme is transitions between ‘different layers of reality’ (e.g., quantum, physical, chemical, biological to cognitive and social), general metasystem transitions, creative processes, processes of self-organization and emergence.

6.2. Programme management team

The programme is managed by the team:

- Co-ordination: Dr. Marta Lenartowicz (Programme Chair; CLEA Director of Education), <marta.lenartowicz@vub.ac.be>,
- Supervision: Prof. Francis Heylighen (CLEA Scientific Director), <francis.heylighen@vub.ac.be>.

<table>
<thead>
<tr>
<th></th>
<th>minimum in one academic year</th>
<th>maximum in one academic year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular track</td>
<td>16</td>
<td>26</td>
</tr>
<tr>
<td>VUB research track</td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>
7. INSTRUCTORS (2019/2020)

Schedules: https://schoolofthinking.be/schedule