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## THE SYMBOLIC MIND in Fall 2019 (CS1091FB7)

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| <b>Course Code</b>    | CS1091FB7                  | <b>Professor(s)</b>     | Tomer Libal    |
| <b>Prerequisites</b>  | None                       | <b>Office Number</b>    |                |
| <b>Class Schedule</b> | MR: 13:45-15:05 in<br>PL-2 | <b>Office Hours</b>     | By appointment |
| <b>Credits</b>        | 4                          | <b>Email</b>            | tlibal@aup.edu |
| <b>Semester</b>       | Fall 2019                  | <b>Office Tel. Ext.</b> |                |

## Course Description

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This course explores the increasingly porous boundaries between computers and people. In an age where technology shows increasingly human characteristics, and human behavior and thought are increasingly manipulated using machines, this FirstBridge course provides students with practical and critical skills to navigate the latest developments in the man-machine matrix. Tomer Libal's classes will provide an introduction to key concepts in computational thought as well as establish students basic coding skills. Russell Williams' classes will consider how forms of writing, including essays, poems, novels, Tweets and Facebook posts strive to articulate what is uniquely human. In the reflective seminar, students and professors will collaborate on a digital project which seeks to practically interrogate the relationship between computing and literature and consider different attempts to digitalize different aspects of human thinking. Students will discuss, too, how contemporary thinkers and popular culture (including the TV series *Black Mirror*) articulate some of the pressing issues raised by the course. Professors Libal and Williams' classes will, from computational and literary standpoints, stage a series of encounters between key concepts such as 'stories', 'structures', 'logic', 'thinking', 'creativity', 'knowledge', 'influence' and 'experimentation'.

### 'The symbolic mind'

Can machines think? This course investigates the core characteristics of the digital mind and will analyze it from different human perspectives like thinking, intelligence, imagination and ethics. The course will touch upon key concepts in the ways machine work such as programming, logic and artificial intelligence in order to better understand the benefits and risks found in machines, technology and bots which are an inseparable part of our modern lives.

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# Course Learning Outcomes

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## General Education

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[PLEASE EDIT OR REMOVE THE FOLLOWING TEXT AS APPLICABLE]

The general education program at AUP consists of four requirements: Speaking the World, Modeling the World, Mapping the World, and Comparing Worlds Past and Present.

This course can be used to fulfill the [INDICATE THE REQUIREMENT(S) FULFILLED BY THE COURSE] requirement and as such has the following learning outcomes:

[INDICATE THE GENERAL EDUCATION LEARNING OUTCOMES]

1. use programming and computing tools in creative expression, creating and analyzing artifacts (creativity);
2. devise and use multiple levels of abstraction in computation, including the use of models and simulations to raise and answer questions (abstraction);
3. use computing to examine large datasets and facilitate exploration in order to gain insight and knowledge (data and information);
4. devise, express, and evaluate algorithms for solving computational problems (algorithms);
5. create and evaluate a correct program to implement an algorithm, using abstraction to manage complexity (programming);
6. explain characteristics of the Internet and systems built on it, including issues of cybersecurity and privacy (Internet);
7. analyze beneficial and harmful effects of computing, connecting computing to economic, social, and cultural contexts and innovations in other fields (impact).

## Course Outline

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This is a tentative course schedule

### September

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**Week I – 10th -14th**

**TOPICS: Introduction and Abstraction**

**September 16th – last day to drop/add courses online**

**Week II - 17th - 21th**

**TOPICS: Abstraction**

**Week III - 24th – 28nd**

**TOPICS: Creativity and Programming Paradigms**

**October**

**Week IV – 1st - 5th**

**TOPICS: Lists, Algorithms and HOF**

**Week V – 8nd - 12th**

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**TOPICS: The internet**

**Week VI - 15th - 19th**

**TOPICS: Global impact of computing**

**Week VII – 22nd – 26th**

**TOPICS: Data and Complexity**

**October 26th, Mid-semester grades due**

**Week VIII – 29th – Nov.2nd**

**TOPICS: Global impact of computing II**

**October 31ST - November 2nd, (included) fall break, No classes**

**November**

**Week IX – 5th – 9th**

**TOPICS: Saving the world with computing**

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**November 9th – last day to withdraw from a course/no credit option**

**Week X - 12th -16th**

**TOPICS: Recursion**

**Week XI -19th – 23rd**

**TOPICS: Lists and Lambdas**

**Week XII -26th - 30th**

**TOPICS: Artificial intelligence**

**December**

**Week XIII – 3rd – 7th**

**TOPICS: Human computer interaction**

**Week XIV - 10th - 14th**

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**Monday 10th - Session I**

**TOPICS: Wrap-up**

**December 12th, Last day of classes, December 13th -16th, Reading days**

**December 17th – 21st Final exams**

## **Textbooks**

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This course doesn't have any textbook.

## **Attendance Policy**

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Students studying at The American University of Paris are expected to attend ALL scheduled classes, and in case of absence, should contact their professors to explain the situation. It is the student's responsibility to be aware of any specific attendance policy that a faculty member might have set in the course syllabus. The French Department, for example, has its own attendance policy, and students are responsible for compliance. Academic Affairs will excuse an absence for students' participation in study trips related to their courses.

Attendance at all exams is mandatory.

IN ALL CASES OF MISSED COURSE MEETINGS, THE RESPONSIBILITY FOR COMMUNICATION WITH THE PROFESSOR, AND FOR ARRANGING TO MAKE UP MISSED WORK, RESTS SOLELY WITH THE STUDENT.

Whether an absence is excused or not is ALWAYS up to the discretion of the professor or the department. Unexcused absences can result in a low or failing participation grade. In the case of excessive absences, it is up to the professor or the department to decide if the student will receive an "F" for the course. An instructor may recommend that a student withdraw, if absences have made it impossible to continue in the course at a satisfactory level.

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Students must be mindful of this policy when making their travel arrangements, and especially during the Drop/Add and Exam Periods.

## Grading Policy

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- 20% midterm exam
- 30% labs and assignments
- 50% final exam

## Other

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