LA&PS Cognitive Science Program

Major Modification Proposal

YORK U

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Proposal for Major Modifications to the Cognitive Science Program

1. **Program**: Cognitive Science

2. **Degree Designation**: BA

3. **Type of Modification**: reorganizing the path through the major to create greater clarity for students.

4. **Effective Date**: Fall 2022

5. **Provide a general description of the proposed changes to the program**.

   The Problem with the Status Quo

   At present, Cognitive Science majors face three serious pitfalls as they try to navigate through the program.

   (1) *The Hidden Prerequisite Pitfall*. Many of the courses listed as part of the major have prerequisites that are not part of the major. As a result, students are surprised when they find that they cannot enroll in the courses that are part of the major, and often underestimate how many courses they need to complete the degree. This can add extra terms or even years to their undergraduate experience.

   Example #1: The first computer science we course we offer from EECS is EECS 1022. But in order to take that class you first need to take EECS 1012, which is not part of our major, and in order to take EECS 1012 you either need two grade 12 math classes or else one University math class.

   Example #2: We offer EECS 3401 as part of the major. In order to take that class you need not only EECS 1022, EECS 2030, and EECS 2011, all of which *are* part of the major, but also EECS 1012 (see above), EECS/MATH 1019, and MATH 1090, which are *not* part of our major.

   Example #3: We offer ITEC 3230, but it has eight prerequisites, six of which are not part of the cognitive science major.

   (2) *The Missing Prerequisites Pitfall*. Currently, the major requires students to choose 6 credits from courses that are mostly at the 2000 level, 9 credits from courses that are mostly at the 3000 level, and 6 credits from courses that are mostly at the 4000 level. But apart from requiring that some of these courses come from two different disciplines, there are no further constraints. While many courses at the 4000 (and 3000) level have specific courses as prerequisites that are part of the major, students often don't notice this. As a result, they find that they

haven't satisfied the prerequisites for the courses they want to take at the 4000 level even when they have already satisfied all of the other requirements for the major. Many students thus wind up having to go back to take additional courses within the major, extending their time in the program.

Example: A student needs to take a PSYC course at the 4000 level, but satisfied all of the other requirements for the major without taking PSYC 2021 (Statistics) or PSYC 2030 (Research Methods), which are required courses for taking any 4000-level PSYC courses. The student thus spends an extra year in the program.

(3) The ITEC Pitfall. A student who starts off taking ITEC courses faces two problems. The first is that there are no ITEC courses that satisfy the final 6.0 credit requirement for the major, so if they use ITEC courses to fulfill their other requirements, they may not have the necessary prerequisites in other disciplines (e.g. PSYC) to satisfy that final 6.0 of credits. Second, the ITEC courses on offer aren't good fits for the major.

These three pitfalls are exacerbated by the growth of the major. When there were only 30 majors, the Coordinator could meet individually with students to help them evade these pitfalls. With 200+ majors, that is no longer possible.

These pitfalls have been noticed not only by the students, but also by Academic Advising, who seem to find the major bewildering, and recommended doing something to make the student's path through the major clearer.

The Solution

To address these pitfalls, two groups of themes will be introduced to the Cognitive Science Program.

- **Group A Themes**: Philosophy; Psychology; Linguistics.
- **Group B Themes**: Artificial Intelligence; Human-Computer Interaction; Machine Learning.

Each Theme is 15 credits. In addition to taking all of the Core Courses (27 credits), students will be required to choose two themes, one from Group A and one additional theme from either Group (A or B), for a total of 57 credits (27 + 15 + 15). This is a slight increase in total credits over the current major, but still less than many Specialized Honours Majors. For a summary of the path through the major, see Appendix A.

By incorporating most prerequisites into each theme, we can minimize the Hidden

Prerequisite Pitfall. Because each theme lays out the precise courses that students need to take, the Missing Prerequisite Pitfall would also be largely avoided. And by altering and enriching ITEC's offerings in the Artificial Intelligence Theme, we can eliminate the ITEC Pitfall.

Detailed Changes

In addition to this big structural change, the actual course offerings have been brought up to date and amended as follows:

- Core Courses:
    - Students can no longer choose between LING 1000 and LING/COGS 2800. Instead, they must take LING/COGS 2800. This course was specifically designed for the Cognitive Science Major and better fits our program. We used to be concerned that it would not be offered regularly, and so maintained LING 1000 as an alternative. But Linguistics now offers 2800 regularly and has assured us that it will continue to meet our demand in the future. This simplifies things greatly since LING 1000 is 6.0 credits and LING/COGS 2800 is 3.0 credits, which created confusion about the number of credits required for the major.
    - We eliminated PHIL 3260 (Philosophy of Psychology) from the Core Courses. Given that we are increasing the total number of credits in the major, we need to make a cut somewhere, and we felt that of all the Core Courses, this course is the least central to the major. The course is still available to students taking the Philosophy Theme.
- PSYC Offerings:
    - Students can no longer choose between PSYC 2020 (6.0 credits; full-year statistics) and PSYC 2021 (3.0 credits; half-year statistics). Instead, PSYC 2021 is now required for anyone who chooses the Psychology Theme. We thus avoid having a choice between 3.0 credits or 6.0 credits, which creates trouble when calculating the total credits for the major. To make room for students who want a more rigorous introduction to statistics, we've added PSYC 2022 (3.0 credits; the second half-year stats course) as an optional course. Taken together, PSYC 2021 and PSYC 2022 are equivalent to PSYC 2020.
    - In addition to PSYC 2021, we also made PSYC 2030 (Research Methods) a required course for anyone choosing the Psychology Theme. Because PSYC 2021 and PSYC 2030 are prerequisites for all 4000-level Psychology courses, this will help students who choose the Psychology Theme to avoid the Missing Prerequisites Pitfall.

- We added PSYC 3255 (Reasoning, Judgment, and Decision-Making), which is an excellent new course that fits the Cognitive Science major extremely well.

- We eliminated PSYC 4230 (Human Performance in Systems), which changed in content since it was first added to the major and no longer makes sense as an offering.

- PHIL Offerings:

  - Because logic plays a foundational role in philosophy, including philosophy of mind and philosophy of artificial intelligence, there was a consensus among the faculty that PHIL 2100 (Introduction to Logic) should be required for anyone who choose the Philosophy Theme.

  - As mentioned above, PHIL 3260 was moved from the Core Courses to the Philosophy Theme.

  - We enriched our Philosophy offerings by adding PHIL 4350 (Seminar in Philosophy of Language) and PHIL 4085 (Philosophy of Psychiatry) to the courses that students can choose who take the Philosophy Theme. The study of language is an important aspect of cognitive science, so PHIL 4350 fits well with the program. PHIL 4085 also fits well with the program and was already part of the COGS minor; adding it to the major creates more consistency throughout the program.

  - We removed PHIL 4600 because it isn't offered regularly and will not be offered regularly in the future.

- LING Offerings:

  - Apart from the elimination of LING 1000 from the Core Courses, the Linguistics offerings remain the same.

  - Linguistics has agreed to modify the prerequisites for their courses to make it easier for COGS majors. Most crucially, for COGS majors they allow COGS 2800 to serve in lieu of LING 1000 as a prerequisite for other courses. They also waive some requirements for other courses, as follows:

Course	**Prerequisites for COGS Majors**
AP/LING 2120	A grade of C or higher in AP/LING 2800 (AP/LING 1000 and AP/LING 2110 are NOT necessary)
AP/LING 2130	A grade of C or higher in AP/LING 2800 (AP/LING 1000 is NOT necessary)

AP/LING 2140	A grade of C or higher in AP/LING 2800 (AP/LING 1000 and AP/LING 2130 are NOT necessary)
AP/LING 3120	A grade of C or higher in AP/LING 2120
AP/LING 3140	A grade of C or higher in *either* AP/LING 2130 *or* AP/LING 2140
AP/LING 3150	A grade of C or higher in AP/LING 2800 (AP/LING 1000 is NOT necessary)
AP/LING 3210	A grade of C or higher in AP/LING 2800 (AP/LING 1000 is NOT necessary)
AP/LING 3220	A grade of C or higher in AP/LING 2800 (AP/LING 1000 is NOT necessary)
AP/LING 4120	A grade of C+ or higher in 3120 and a grade of C+ or higher in one other 3000-level LING course
AP/LING 4140	A grade of C+ or higher in 3140 and a grade of C+ or higher in one other 3000-level LING course
AP/LING 4150	A grade of C+ or higher in 3140 and a grade of C+ or higher in one other 3000-level LING course
AP/LING 4230	Can be taken with a grade of C+ or higher in 3220 and a grade of C+ or higher in one other 3000-level LING course
AP/LING 4250	Can be taken with a grade of C+ or higher in any two LING courses at the 3000-level)

- ITEC Offerings:
    - We eliminated ITEC 1000 and ITEC 1010 because they aren't good fits for the program.
    - We eliminated ITEC 3230 because it has too many prerequisites.
    - In collaboration with ITEC, we designed the Artificial Intelligence Theme, which culminates in ITEC 4310: Applied Artificial Intelligence. All of the courses in this Theme are new.
    - ITEC has agreed to waive all prerequisites for ITEC 3040 for COGS majors except for ITEC 1620, MATH 2565, and ITEC 2600, which are all part of the Artificial Intelligence Theme.
- EECS Offerings
    - EECS 1012 is no longer a hidden prerequisite since it is now part of the Human-Computer Interaction Theme and the Machine Learning Theme.

- EECS 3461 (User Interfaces) was added because it's a prerequisite for EECS 4441 and fits well into the Human-Computer Interaction Theme.
- EECS 4404 (Introduction to Machine Learning and Pattern Recognition) was added because machine learning has become a huge part of artificial intelligence in the past few years and because it fits well into a 15-credit theme.
- MATH 1131 and MATH 2030 were added because one of them is needed as a prerequisite for EECS 4404.
- EECS 2001 and EECS 2011 were eliminated because they don't fit into a coherent 15-credit theme.
- EECS 3401, EECS 4401, EECS 4421, and EECS 4422 were all eliminated because they have too many prerequisites to fit into a 15-credit theme.

- The Minor
  - PHIL 4350 was added because it's a great fit for the program and because it was also added to the major.

6. **Provide the rationale for the proposed changes**.

   The changes would clarify students' path through the major by avoiding the three pitfalls (see above).

7. **Comment on the alignment between the program changes with Faculty and/or University academic plans**.

   The major modification of the Cognitive Science program aligns well with York University's Academic Plan (UAP 2020-2025). It aligns with the following priority, **21st Century Learning**, as this priority calls us to "continually reinvent our programs to address emerging issues and labour market needs that call for new pedagogical approaches and cross-disciplinary thinking" and to "build essential 21st century skills into our programs, including digital fluencies, information literacies, critical thinking, and the ability to ask good questions, marshal evidence, and communicate effectively across varied media." The proposed program changes address this goal, as the program draws on various disciplines and fields of study (e.g., psychology, philosophy, and linguistics), and more specifically, takes traditional skills and (re) focuses them on emerging & current-day problems using new methods, solutions, and technologies in the fields of Artificial Intelligence, Human-Computer Interaction, and Machine Learning.

The goal of these curricular changes is to enhance the quality of the academic program and lessen the complexity of the degree requirements. Additionally, the program change will respond to one of the key Priority points, that is to "offer a wider range of credentials and flexible delivery options, from in-person to virtual, to expand access to learning for diverse individuals at multiple stages of their lives and careers."

The proposed program change aligns with the principles outlined in the LA&PS Academic Plan (2021-26). It aligns with **Principle 1: Prioritize student learning, excellence, and success,** which states, "Engage in a sustained effort to enhance the academic experience of LA&PS students…" and **Principle 4: Foster innovation in teaching and curriculum development**, which states "Promote and support curricular and pedagogical innovation across all units and all levels of study." As stated above, the major revisions to the degree structure will enhance the student experience.

The program changes will be beneficial to students in the following ways:

1) The curricular change would be clearer for students – students are surprised when they find that they cannot enroll in the courses that are part of the major, and often underestimate how many courses they need to complete the degree.

2) Students would not need to go back and take additional courses, and will be able to graduate on time/earlier.

3) The major will be less confusing to students and academic advising; the changes will make the student's path through the major clearer.

The proposed program changes will strengthen program quality. This aligns with the Strategic Mandate Agreement (SMA, 2020-25), as it states that "Our total enrolments in STEM areas have risen from 6500 to 12,600 since 2010, an increase of 94 per cent. These numbers will continue to grow as we launch new programs in technology, cybersecurity, neuroscience, applied health, environmental science, speech and language sciences and other emerging fields." More so, the institution has identified cognitive science as one of the significant drivers of enrolment in the coming years.

8. **Provide a detailed outline of the changes to the program and the associated learning outcomes, including how the proposed requirements will support the achievement of program learning objectives (i.e., the mapping of the requirements to the program learning outcomes)**.

There are some minor changes to the program's learning outcomes.

See Appendix C for details of the changes to the program learning outcomes.

See Appendix D for the curriculum maps.

9. **Summarize the consultation undertaken with relevant academic units, including commentary on the impact of the proposed changes on other programs. Provide individual statements from the relevant program(s) confirming consultation and their support**.

Prior to drafting the proposed changes, the proponent met with Academic Advising and the UPDs of each potential thematic area (i.e., Philosophy, Psychology, Linguistics, Computer Science, and ITEC). The proposed changes were then drafted in consultation with these UPDs, who were Karen Fergus (Psychology), Gabriela Alboiu (Linguistics), Duff Waring (Philosophy), Eric Ruppert and Suprakash Datta (Computer Science), and Stephen Chen and Zijiang Yang (ITEC). Finally, approval was also sought and attained from Hyejin Ku (UPD Mathematics) to include the math courses listed in the computer science stream. See Appendix E for emails confirming the approval of each of these units.

10. **Are changes to the program's admission requirements being proposed coincident with the program change(s)? If so, outline the admission changes, and comment on the appropriateness of the revised requirements to the achievement of the program learning outcomes**.

The admission requirements to the program are as follows:

- Ontario Secondary School Diploma (OSSD)
- ENG4U And five additional 4U or M courses
- To gain admission to this program, the applicant's academic average should be in the mid- to high-70's. (This requirement is changing based on CPR feedback to align the Cognitive Science and Philosophy programs to the same standard).

11. **Describe any resource implications and how they are being addressed (e.g., through a reallocation of existing resources). If new/additional resources are required, provide a statement from the relevant Dean(s)/Principal confirming resources will be in place to implement the changes**.

No additional resources are required to accommodate this curricular change. The changes are primarily organizational in nature, to make the path through the major clearer.

12. **Is the mode of delivery of the program changing? If so, comment on the appropriateness of the revised mode(s) of delivery to the achievement of the program learning outcomes**.

The delivery of the program is not changing. The changes will adhere to the program as it is already delivered. The program is course-based. The material will be delivered in classroom (or online, as needed and according to the University's process for changing the delivery mode of existing courses) settings through structured course work. This will vary by course, as per the learning outcomes. While some courses will use primarily classroom instruction, other courses will be infused with significant experiential learning, including case analysis and discussion, simulations, and field visits. These delivery methods will help students achieve the learning outcomes.

13. **Is the assessment of teaching and learning within the program changing? If so, comment on the appropriateness of the revised forms of assessment to the achievement of the program learning outcomes**.

The assessment of the program is not changing. The revised program will adhere to how the program is already assessed. Formative assessment will be used throughout and takes a wide variety of forms e.g. interaction in class; peer feedback on in-class presentations; workshop activity with feedback; online quizzes, and instructor feedback on project work.

The curriculum maps presented in Appendix D show that program learning outcomes are assessed throughout all years of the program to reflect that these courses provide students with opportunities to demonstrate higher-order learning—such as the ability to synthesize diverse concepts—in a culminative way (i.e. which requires students to have integrated what they have learned throughout the program to be successful in the third and fourth years).

14. **Provide a summary of how students currently enrolled in the program will be accommodated**.

Students who are currently enrolled in the program will have the option of continuing to follow the program requirements as they existed when they enrolled. Unless they choose to opt into the new requirements, there will be no change for them.

All students--current and new—will have to meet the Faculty's existing graduation requirements to complete the stream:

Progression and graduation requirements for the program align to the University’s new Grading Scheme Policy, which is detailed below and is set to take effect in fall 2023 at the same time as the proposed program’s launch. It is important to note that a foundational revision to the University’s grading scheme is the transition from a 9.00 GPA scale to a 4-point scale. The details below are consistent with the Senate-approved 4.00 GPA scale:

The policy stipulates the following progression requirements for Honours programs:

1. Students who have earned between 0-53 credits remain in their honours program provided they meet the University and program minimums honours program; if the CGPA is between 1.70 and 1.99, the student may continue on a warning for a review period of 30 credits; and, if the CGPA falls below 1.70 by 53 credits, the student is exited from the honours and switched to the 90-credit program.

3. At 83 credits, the student must have at least a 2.00 CGPA to continue; if the CGPA is less than 2.00, the student is exited from the honours program and switched to the 90-credit program.

Graduation Requirements:

Graduation requirements are set out by the Faculty Rules for all undergraduate programs in the Faculty of Liberal Arts & Professional Studies and align to relevant University policies such as the established grading schemes, some of which will be modified for MC:

• Residency requirement: a minimum of 30 course credits and at least half (50 per cent) of the course credits required in each undergraduate degree program major/minor must be taken at York University;

• Graduation requirement: students must successfully complete (pass) at least 120 credits which meet the Faculty's degree and program requirements with a cumulative grade point average of at least 2.00 and a major grade point average of at least 2.3;

• General education: to fulfill the liberal arts & professional studies general education requirements students must take 21 credits of general education including: 6.00 credits in natural science (NATS); A 9.00 credit approved general education course in the social science or humanities categories; and a 6.00 credit approved general education course in the opposite category to the 9.00 credit course in the social science or humanities already taken.

• Upper-level credits: at least 36 credits at the 3000 or 4000 level including at least 18 credits at the 4000 level;

• Credits outside the major: at least 18 credits

15. **Provide as an appendix a side-by-side comparison of the existing and**

proposed program requirements as they will appear in the Undergraduate or Graduate Calendar.

See Appendix B.

Appendix A Summary of the Path Through the Major, Graphic

COGS Major 57 credits

1. Complete all Core Courses
2. Choose one Group A Theme
3. Choose any additional Theme (Group A or B)

Core Courses

27 credits

PSYC 1010 COGS 2160 COGS 2800
PHIL 2240 PSYC 2260 COGS 3750
COGS 4750 or 4901

Group A Themes

15 credits

Psychology

PSYC 2021
+
PSYC 2030
+
3 credits from
PSYC 2022
PSYC 2110
PSYC 2120
PSYC 2220
PSYC 2240
+
3 credits from
PSYC 3250
PSYC 3255
PSYC 3265
PSYC 3280
PSYC 3290
+
3 credits from
PSYC 4010
PSYC 4020
PSYC 4080
PSYC 4260
PSYC 4270
PSYC 4285

Philosophy

PHIL 2100
+
12 credits from
PHIL 3200
PHIL 3260
PHIL 3265
PHIL 3635
PHIL 4080
PHIL 4082
PHIL 4083
PHIL 4084
PHIL 4085
PHIL 4350

Linguistics

6 credits from
LING 2120
LING 2130
LING 2140
+
6 credits from
LING 3120
LING 3140
LING 3150
LING 3210
LING 3220
+
3 credits from
LING 4120
LING 4140
LING 4150
LING 4230
LING 4250

Group B Themes

15 credits

Artificial Intelligence

ITEC 1620
MATH 2565*
ITEC 2600
ITEC 3040
ITEC 4310

Human-Computer Interaction

EECS 1012*
EECS 1022
EECS 2030
EECS 3461
EECS 4441

Machine Learning

EECS 1012*
EECS 1022
EECS 2030
MATH 1131* or 2030*
EECS 4404

* note prerequisites

Appendix B: Copy for the Academic Calendar, 2023-24

Calendar Copy	Calendar Copy
Major credits: students must complete 54 credits, as follows: ~~Note: students who opt to complete AP/LING 2800 3.00 must complete an additional 3 credits in the major to satisfy the program-specific degree requirements of the Specialized Honours BA.~~ All of the following Core Courses (30 or 33 credits): • ~~AP/LING 1000 6.00 or AP/LING 2800 3.00 (cross-listed to AP/COGS 2800 3.00);~~ • ~~HH/PSYC 1010 6.00;~~ • ~~AP/PHIL 2160 3.00 (cross-listed to: AP/COGS 2160 3.00);~~ • ~~AP/PHIL 2240 3.00;~~ • ~~AP/PHIL 3260 3.00;~~ • ~~HH/PSYC 2260 3.00~~ • ~~AP/COGS 3750 3.00 (cross-listed to: AP/PHIL 3750 3.00);~~ • ~~AP/COGS 4750 6.00 or AP/COGS 4901 6.00;~~ ~~Six credits chosen from the following:~~	Major credits: students must complete 57 credits, as follows: i) All of the following Core Courses (27 credits), as follows: • **HH/PSYC 1010 6.00;** • **AP/COGS 2160 3.00 (cross-listed to: AP/PHIL 2160 3.00;** • **AP/COGS 2800 3.00 (cross-listed to AP/LING 2800 3.00);** • AP/PHIL 2240 3.00; • HH/PSYC 2260 3.00; • **AP/COGS 3750 3.00 (cross-listed to: AP/PHIL 3750 3.00);** • AP/COGS 4750 6.00 or AP/COGS 4901 6.00; **ii) Group A Themes** **15 credits chosen from the following:** **1) Psychology:** **6 credits as follows:** • HH/PSYC 2021 3.00; • HH/PSYC 2030 3.00; **3 credits chosen from the following:** • **HH/PSYC 2022 3.00;** • **HH/PSYC 2110 3.00;** • **HH/PSYC 2120 3.00;** • **HH/PSYC 2220 3.00;**

- ~~LE/EECS 1022 3.00~~
- ~~LE/EECS 2030 3.00~~
- ~~LE/EECS 2001 3.00~~;
- ~~AP/ITEC 1000 3.00~~;
- ~~AP/ITEC 1010 3.00~~;
- ~~AP/LING 2120 3.00~~;
- ~~AP/LING 2130 6.00~~;
- ~~AP/LING 2140 3.00~~;
- ~~AP/PHIL 2100 3.00~~;
- ~~HH/PSYC 2020 6.00~~ or ~~HH/PSYC 2021 3.00~~;
- ~~HH/PSYC 2030 3.00~~;

~~Nine credits chosen from the following and including at least two different disciplines (departments):~~

- ~~LE/EECS 2011 3.00~~;
- ~~LE/EECS 3401 3.00~~;
- ~~AP/ITEC 3230 3.00~~;
- ~~AP/LING 3120 3.00~~;
- ~~AP/LING 3140 3.00~~;
- ~~AP/LING 3150 3.00~~;
- ~~AP/LING 3210 3.00~~;
- ~~AP/LING 3220 3.00 (cross-listed to: HH/PSYC 3290 3.00)~~;
- ~~AP/PHIL 3265 3.00~~;
- ~~HH/PSYC 2110 3.00~~;
- ~~HH/PSYC 2120 3.00~~;
- ~~HH/PSYC 2220 3.00~~;
- ~~HH/PSYC 2240 3.00~~;
- ~~HH/PSYC 3250 3.00~~;
- ~~HH/PSYC 3265 3.00~~;
- ~~HH/PSYC 3280 3.00~~

- **HH/PSYC 2240 3.00;**

3 credits chosen from the following:

- **HH/PSYC 3250 3.00;**
- **HH/PSYC 3255 3.00;**
- **HH/PSYC 3265 3.00;**
- **HH/PSYC 3280 3.00;**
- **HH/PSYC 3290 3.00 (cross-listed to: AP/LING 3220 3.00);**

3 credits chosen from the following:

- **HH/PSYC 4010 3.00/6.00;**
- **HH/PSYC 4020 3.00/6.00;**
- **HH/PSYC 4080* 6.00;**
- **HH/PSYC 4260 3.00;**
- **HH/PSYC 4270 3.00;**
- **HH/PSYC 4285 3.00;**

2) Philosophy:

AP/PHIL 2100 3.00;

12 credits chosen from the following:

- **AP/PHIL 3200 3.00;**
- **AP/PHIL 3260 3.00;**
- **AP/PHIL 3265 3.00;**
- **AP/PHIL 3635 3.00;**
- **AP/PHIL 4080 3.00;**
- **AP/PHIL 4082 3.00;**
- **AP/PHIL 4083 3.00;**
- **AP/PHIL 4084 3.00;**

- ~~HH/PSYC 3290 3.00 (cross-listed to: AP/LING 3220 3.00);~~

~~At least six credits chosen from the following and including at least two different disciplines (departments):~~

- ~~LE/EECS 4401 3.00;~~
- ~~LE/EECS 4421 3.00;~~
- ~~LE/EECS 4422 3.00;~~
- ~~LE/EECS 4441 3.00;~~
- ~~AP/LING 4120 3.00;~~
- ~~AP/LING 4140 3.00;~~
- ~~AP/LING 4150 3.00;~~
- ~~AP/LING 4230 3.00;~~
- ~~AP/LING 4250 3.00;~~
- ~~AP/PHIL 3200 3.00;~~
- ~~AP/PHIL 3635 3.00;~~
- ~~AP/PHIL 4080 3.00;~~
- ~~AP/PHIL 4082 3.00;~~
- ~~AP/PHIL 4083 3.00;~~
- ~~AP/PHIL 4084 3.00;~~
- ~~AP/PHIL 4600 3.00;~~
- ~~HH/PSYC 4010 3.00;~~
- ~~HH/PSYC 4010 6.00;~~
- ~~HH/PSYC 4020 3.00;~~
- ~~HH/PSYC 4020 6.00;~~
- ~~HH/PSYC 4080 6.00;~~
- ~~HH/PSYC 4230 3.00;~~
- ~~HH/PSYC 4260 3.00;~~
- ~~HH/PSYC 4270 3.00;~~
- ~~HH/PSYC 4285 3.00.~~

Upper-level credits: at least 36 credits at the 3000 or 4000 level,

- **AP/PHIL 4085 3.00;**
- **AP/PHIL 4350 3.00;**

3) Linguistics:

6 credits chosen from the following:

- **AP/LING 2120 3.00;**
- **AP/LING 2130 3.00;**
- **AP/LING 2140 3.00;**

6 credits chosen from the following:

- **AP/LING 3120 3.00;**
- **AP/LING 3140 3.00;**
- **AP/LING 3150 3.00;**
- **AP/LING 3210 3.00;**
- **AP/LING 3220 3.00 (cross-listed to: HH/PSYC 3290 3.00);**

3 credits chosen from the following:

- **AP/LING 4120 3.00;**
- **AP/LING 4140 3.00;**
- **AP/LING 4150 3.00;**
- **AP/LING 4230 3.00;**
- **AP/LING 4250 3.00;**

ii) Group B Themes
15 credits chosen from the following:

1) Artificial Intelligence chosen from:

including at least 18 credits at the 4000 level. Credits outside the major: at least 18 credits. (Note: students who are completing a double major or major/minor are deemed to have fulfilled this requirement.) Honours Double Major BA The Honours BA program described above may be pursued jointly with approved Honours Double Major degree programs in the Faculty of Environmental and Urban Change, the Faculty of Health, the Faculty of Liberal Arts and Professional Studies, the Faculty of Science, the School of the Arts, Media, Performance and Design, or the Lassonde School of Engineering. For further details on requirements, refer to the listings for specific Honours programs that may be pursued jointly with other Faculties. Note: in a double major program, a course may count only once toward major credit. Honours Double Major Interdisciplinary (Linked) BA	• **AP/ITEC 1620 3.00;** • **SC/MATH 2565 3.00;** • **AP/ITEC 2600 3.00;** • **AP/ITEC 3040 3.00;** • **AP/ITEC 4310 3.00;** **2) Human-Computer Interaction chosen from:** • **LE/EECS 1012 3.00 or 1530 3.00;** • **LE/EECS 1022 3.00;** • **LE/EECS 2030 3.00;** • **LE/EECS 3461 3.00;** • **LE/EECS 4441 3.00;** **3) Machine Learning chosen from:** • **LE/EECS 1012 3.00 or 1530 3.00;** • **LE/EECS 1022 3.00;** • **LE/EECS 2030 3.00;** • **SC/MATH 1131 3.00 or SC/MATH 2030 3.00;** • **LE/EECS 4404 3.00;** * Indicates courses with prerequisites outside of the major. Note: students must choose two themes, one from Group A and one additional theme from either Group A or Group B. Upper-level credits: at least 36 credits at the 3000 or 4000 level, including at least 18 credits at the 4000 level.

The program described above may be linked with any Honours Double Major Interdisciplinary BA program in the Faculty of Liberal Arts and Professional Studies. Courses taken to meet cognitive science requirements cannot also be used to meet the requirements of the interdisciplinary program. Note: in a double major program, a course may count only once toward major credit. Major credits: students must take at least 36 credits in the interdisciplinary program. Students in these interdisciplinary programs must take a total of at least 18 credits at the 4000 level. For further details of requirements, refer to the listings for specific Honours Double Major Interdisciplinary BA programs. Honours Major/Minor BA The Honours BA program described above may be pursued jointly with approved Honours Minor degree programs in the Faculty of Environmental and Urban Change, the Faculty of Health, the Faculty of Liberal Arts and Professional Studies,	Credits outside the major: at least 18 credits. (Note: students who are completing a double major or major/minor are deemed to have fulfilled this requirement.) Honours Double Major BA The Honours BA program described above may be pursued jointly with approved Honours Double Major degree programs in the Faculty of Environmental and Urban Change, the Faculty of Health, the Faculty of Liberal Arts and Professional Studies, the Faculty of Science, the School of the Arts, Media, Performance and Design, or the Lassonde School of Engineering. For further details on requirements, refer to the listings for specific Honours programs that may be pursued jointly with other Faculties. Note: in a double major program, a course may count only once toward major credit. Honours Double Major Interdisciplinary (Linked) BA The program described above may be linked with any Honours Double Major Interdisciplinary BA program in the Faculty of Liberal Arts and Professional Studies. Courses taken to meet cognitive science requirements cannot also be used to meet the requirements of the interdisciplinary program. Note: in a double major program, a course may count only once toward major credit. Major credits: students must take at least 36 credits in the interdisciplinary program.

the Faculty of Science, the School of the Arts, Media, Performance and Design, or the Lassonde School of Engineering. For further details on requirements, refer to the listings for specific Honours programs that may be pursued jointly with other Faculties. Note: in a major/minor program, a course may count only once toward major credit or minor credit. Honours Minor BA The Honours Minor BA program described may be combined with any approved Honours BA program that offers a major/minor option in the Faculty of Environmental and Urban Change, the Faculty of Health, the Faculty of Liberal Arts and Professional Studies, the Faculty of Science, the School of the Arts, Media, Performance and Design, or the Lassonde School of Engineering. For further details on requirements, refer to the listings for specific Honours programs that may be pursued jointly with other Faculties.	Students in these interdisciplinary programs must take a total of at least 18 credits at the 4000 level. For further details of requirements, refer to the listings for specific Honours Double Major Interdisciplinary BA programs. Honours Major/Minor BA The Honours BA program described above may be pursued jointly with approved Honours Minor degree programs in the Faculty of Environmental and Urban Change, the Faculty of Health, the Faculty of Liberal Arts and Professional Studies, the Faculty of Science, the School of the Arts, Media, Performance and Design, or the Lassonde School of Engineering. For further details on requirements, refer to the listings for specific Honours programs that may be pursued jointly with other Faculties. Note: in a major/minor program, a course may count only once toward major credit or minor credit. Honours Minor BA The Honours Minor BA program described may be combined with any approved Honours BA program that offers a major/minor option in the Faculty of Environmental and Urban Change, the Faculty of Health, the Faculty of Liberal Arts and Professional Studies, the Faculty of Science, the School of the Arts, Media, Performance and Design, or the Lassonde School of Engineering. For further details on requirements, refer to the

Minor credits: the Honours Minor in Cognitive Science comprises at least 30 credits in philosophy, distributed as follows: Students must take all of the following courses (18 credits): • HH/PSYC 1010 6.00 • AP/LING 2800 3.00 (cross-listed to: AP/COGS 2800 3.00) • AP/PHIL 2160 3.00 (cross-listed to: AP/COGS 2160 3.00) • AP/PHIL 2240 3.00 • HH/PSYC 2260 3.00 Students must take 6 credits from the following list: • AP/PHIL 3260 3.00 • AP/PHIL 3265 3.00 • AP/PHIL 3635 3.00 • AP/COGS 3750 3.00 (cross-listed to: AP/PHIL 3750 3.00) Students must take 6 credits from the following list: • AP/PHIL 4080 3.00 • AP/PHIL 4082 3.00 • AP/PHIL 4083 3.00 • AP/PHIL 4084 3.00 • AP/PHIL 4085 3.00	listings for specific Honours programs that may be pursued jointly with other Faculties. Minor credits: the Honours Minor in Cognitive Science comprises at least 30 credits in philosophy, distributed as follows: Students must take all of the following courses (18 credits): • HH/PSYC 1010 6.00 • AP/LING 2800 3.00 (cross-listed to: AP/COGS 2800 3.00) • AP/PHIL 2160 3.00 (cross-listed to: AP/COGS 2160 3.00) • AP/PHIL 2240 3.00 • HH/PSYC 2260 3.00 Students must take 6 credits from the following list: • AP/PHIL 3260 3.00 • AP/PHIL 3265 3.00 • AP/PHIL 3635 3.00 • AP/COGS 3750 3.00 (cross-listed to: AP/PHIL 3750 3.00) Students must take 6 credits from the following list: • AP/PHIL 4080 3.00 • AP/PHIL 4082 3.00 • AP/PHIL 4083 3.00 • AP/PHIL 4084 3.00 • AP/PHIL 4085 3.00 • AP/PHIL 4350 3.00

Appendix C: Program Learning Outcomes – Cognitive Science

By the end of this program, students will be able to:

Breadth and depth of knowledge	-present the philosophical positions about the nature of mind -present the psychological positions about the study of the mind -present the theoretical perspectives on the nature of mind given computer models of the mind -present theories about the relationship between language and thought -understand principles of language structure and interpretation -critically analyze the theories -critically analyze empirical research -engage in theoretical or empirical research aimed at discovering aspects of the mind -integrate research from psychology, philosophy, linguistics, artificial intelligence, human-computer interaction, and machine learning. -speak across disciplines and translate the technical terms of the disciplines so as to make research accessible to researchers and students in other areas
Knowledge of Methodologies	-engage in critical analysis of empirical and theoretical claims about the nature of mind -articulate theories about the nature of mind -discuss the current theories about the nature of mind, including evolution of mind; students should know the landscape and history of the various approaches to the study of mind -produce original research in philosophy, psychology, linguistics, artificial intelligence, human-computer interaction, and machine learning. -demonstration of the skills associated with some of the different methods used in cognitive science
Applications of knowledge	-engage in original research in other disciplines of cognitive science that incorporates the findings and methods of other disciplines (i.e., psychology, philosophy, linguistics, artificial

	intelligence, human-computer interaction, machine learning)
Communication skills	-give oral arguments and summaries of articles, including critical analysis -present original material to an audience in a conference setting
Awareness of limits of knowledge	-work with other students and professors in different disciplines -communicate their ideas to people from other academic backgrounds -realize the difficulties with communicating across disciplines given the different jargons in these disciplines
Autonomy and professional capacity	-design and complete an independent research project -communicate the findings of the research project to others in philosophy, psychology, linguistics, artificial intelligence, human-computer interaction, and machine learning.

Appendix D: Curriculum Maps

Curriculum Map – Cognitive Science

The Cognitive Science degree is composed of **57 credits**, **27 Cr** of which are core, including **15** additional credits from Group A themes and **15** additional credits from either (Group A or B) (i.e., students are required to choose **two themes**, one from Group A and one additional theme from either Group A or B).

1) **Curriculum Map – Core** (**27** Cr.)
2) **Curriculum Map A – Group A Themes** (**15** Cr., Psychology, Philosophy, Linguistics)
3) **Curriculum Map B – Group B Themes** (**15** Cr., Artificial Intelligence, Human-Computer Interaction, Machine Learning)

i. Curriculum Map – Core

Program Learning Outcomes	**Core Courses (27 credits)**							**Group A Themes Courses (15 credits)**	**Group B Themes Courses (15 credits)**
	PSYC 1010	COGS 2160	COGS 2800	PHIL 2240	PSYC 2260	COGS 3750	COGS 4750 or COGS 4901	See Curriculum **Map A**	See Curriculum **Map B.**
Depth and Breadth of Knowledge									
-present the philosophical positions about the nature of mind		I	I/D	I/D	I/D	D	D/A		
-present the psychological positions about the study of the mind	I	I	I		I/D	D	D/A		

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	Core Courses (27 credits)							Group A Themes Courses (15 credits)	Group B Themes Courses (15 credits)
	PSYC 1010	COGS 2160	COGS 2800	PHIL 2240	PSYC 2260	COGS 3750	COGS 4750 or COGS 4901	See Curriculum **Map A**	See Curriculum **Map B.**
-present the theoretical perspectives on the nature of mind given computer models of the mind	I	I/D	I/D	D	D	D/A	A		
-present theories about the relationship between language and thought	I	I/D	I/D	D	D	D/A	A		
-understand principles of language structure and interpretation	I	I/D	I/D	D	D	D/A	A		
-critically analyze the theories	I	I/D	I/D	D	D	D/A	A		
-critically analyze empirical research	I	I/D	I/D	D	D	D/A	A		
-engage in theoretical or empirical research aimed at discovering aspects of the mind	I	I/D	I/D	D	D	D/A	A		
-integrate research from psychology, philosophy,	I	I/D	I/D	D	D	D/A	A		

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	Core Courses (27 credits)							Group A Themes Courses (15 credits)	Group B Themes Courses (15 credits)
	PSYC 1010	COGS 2160	COGS 2800	PHIL 2240	PSYC 2260	COGS 3750	COGS 4750 or COGS 4901	See Curriculum **Map A**	See Curriculum **Map B.**
linguistics, artificial intelligence, human-computer interaction, and machine learning.									
-speak across disciplines and translate the technical terms of the disciplines so as to make research accessible to researchers and students in other areas							D/A		
Knowledge of Methodologies									
-engage in critical analysis of empirical and theoretical claims about the nature of mind	I	I/D	I/D	D	D	D/A	A		
-articulate theories about the nature of mind	I	I/D	I/D	D	D	D/A	A		
-discuss the current theories about the nature of mind, including evolution of mind;	I	I/D	I/D	D	D	D/A	A		

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	Core Courses (27 credits)							Group A Themes Courses (15 credits)	Group B Themes Courses (15 credits)
	PSYC 1010	COGS 2160	COGS 2800	PHIL 2240	PSYC 2260	COGS 3750	COGS 4750 or COGS 4901	See Curriculum **Map A**	See Curriculum **Map B.**
students should know the landscape and history of the various approaches to the study of mind									
-produce original research in philosophy, psychology, linguistics, artificial intelligence, human-computer interaction, and machine learning.							D/A		
-demonstration of the skills associated with some of the different methods used in cognitive science		I/D	I/D			D	A		
Application of Knowledge									
-engage in original research in other disciplines of cognitive science that incorporates the findings and methods of other disciplines (i.e.,	I	I/D	I/D	D	D	D/A	A		

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	Core Courses (27 credits)							Group A Themes Courses (15 credits)	Group B Themes Courses (15 credits)
	PSYC 1010	COGS 2160	COGS 2800	PHIL 2240	PSYC 2260	COGS 3750	COGS 4750 or COGS 4901	See Curriculum **Map A**	See Curriculum **Map B.**
psychology, philosophy, linguistics, artificial intelligence, human-computer interaction, machine learning)									
Communication Skills									
-give oral arguments and summaries of articles, including critical analysis	I	I/D	I/D	D	D	D/A	A		
-present original material to an audience in a conference setting						D/A	A		
Awareness of Limits of Knowledge									
-work with other students and professors in different disciplines	I	I/D	I/D	D	D	D/A	A		
-communicate their ideas to people from other academic backgrounds	I	I/D	I/D	D	D	D/A	A		
-realize the difficulties with communicating across	I	I/D	I/D	D	D	D/A	A		

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	Core Courses (27 credits)							Group A Themes Courses (15 credits)	Group B Themes Courses (15 credits)
	PSYC 1010	COGS 2160	COGS 2800	PHIL 2240	PSYC 2260	COGS 3750	COGS 4750 or COGS 4901	See Curriculum **Map A**	See Curriculum **Map B.**
disciplines given the different jargons in these disciplines									
Autonomy and Professional Capacity									
-design and complete an independent research project						D	A		
-communicate the findings of the research project to others in philosophy, psychology, linguistics, artificial intelligence, human-computer interaction, and machine learning.	I	I/D	I/D	D	D	D/A	A		

I	Introduce
D	Develop
A	Achieve/Assess

Curriculum Map – Group A Themes (Philosophy, Linguistics, and Psychology)

i. Philosophy

Program Learning Outcomes	(15 Cr)										
	(3 Cr)	(12 Cr) free choice from the following:									
	PHIL 2100	PHIL 3200	PHIL 3260	PHIL 3265	PHIL 3635	PHIL 4080	PHIL 4082	PHIL 4083	PHIL 4084	PHIL 4085	PHIL 4350
Depth and Breadth of Knowledge											
-present the philosophical positions about the nature of mind	I	D	D	D	D	A	A	A	A	A	A
-present the psychological positions about the study of the mind											
-present the theoretical perspectives on the nature of mind given computer models of the mind											
-present theories about the relationship between language and thought	I	D	D	D	D	A	A	A	A	A	A
-understand principles of language structure and interpretation	I	D	D	D	D	A	A	A	A	A	A
-critically analyze the theories	I	D	D	D	D	A	A	A	A	A	A
-critically analyze empirical research	I	D	D	D	D	A	A	A	A	A	A

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	(15 Cr)										
	(3 Cr)	(12 Cr) free choice from the following:									
	PHIL 2100	PHIL 3200	PHIL 3260	PHIL 3265	PHIL 3635	PHIL 4080	PHIL 4082	PHIL 4083	PHIL 4084	PHIL 4085	PHIL 4350
-engage in theoretical or empirical research aimed at discovering aspects of the mind	I	D	D	D	D	D/A	D/A	D/A	D/A	D/A	D/A
-integrate research from psychology, philosophy, linguistics, artificial intelligence, human-computer interaction, and machine learning.	I	D	D	D	D	D/A	D/A	D/A	D/A	D/A	D/A
-speak across disciplines and translate the technical terms of the disciplines so as to make research accessible to researchers and students in other areas									D/A	D/A	D/A
Knowledge of Methodologies											
-engage in critical analysis of empirical and theoretical claims about the nature of mind	I	D	D	D	D	D/A	D/A	D/A	D/A	D/A	D/A
-articulate theories about the nature of mind	I	D	D	D	D	D/A	D/A	D/A	D/A	D/A	D/A
-discuss the current theories about the nature of mind, including evolution of mind; students should know the landscape and history of the various approaches to the study of mind	I	D	D	D	D	D/A	D/A	D/A	D/A	D/A	D/A
-produce original research in philosophy, psychology, linguistics,						D/A	D/A	D/A	D/A	D/A	D/A

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	(15 Cr)										
	(3 Cr)	(12 Cr) free choice from the following:									
	PHIL 2100	PHIL 3200	PHIL 3260	PHIL 3265	PHIL 3635	PHIL 4080	PHIL 4082	PHIL 4083	PHIL 4084	PHIL 4085	PHIL 4350
artificial intelligence, human-computer interaction, and machine learning.											
-demonstration of the skills associated with some of the different methods used in cognitive science	I	D	D	D	D	D/A	D/A	D/A	D/A	D/A	D/A
Application of Knowledge											
-engage in original research in other disciplines of cognitive science that incorporates the findings and methods of other disciplines (i.e., psychology, philosophy, linguistics, artificial intelligence, human-computer interaction, machine learning)						D/A	D/A	D/A	D/A	D/A	D/A
Communication Skills											
-give oral arguments and summaries of articles, including critical analysis	I	D	D	D	D	A	A	A	A	A	A
-present original material to an audience in a conference setting						D/A	D/A	D/A	D/A	D/A	D/A
Awareness of Limits of Knowledge											
-work with other students and professors in different disciplines	I	D	D	D	D	A	A	A	A	A	A
-communicate their ideas to people from other academic backgrounds	I	D	D	D	D	A	A	A	A	A	A
-realize the difficulties with communicating across disciplines	I	D	D	D	D	A	A	A	A	A	A

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	(15 Cr)										
	(3 Cr)	(12 Cr) free choice from the following:									
	PHIL 2100	PHIL 3200	PHIL 3260	PHIL 3265	PHIL 3635	PHIL 4080	PHIL 4082	PHIL 4083	PHIL 4084	PHIL 4085	PHIL 4350
given the different jargons in these disciplines											
Autonomy and Professional Capacity											
-design and complete an independent research project						D/A	D/A	D/A	D/A	D/A	D/A
-communicate the findings of the research project to others in philosophy, psychology, linguistics, artificial intelligence, human-computer interaction, and machine learning.	I	D	D	D	D	A	A	A	A	A	A

I	Introduce
D	Develop
A	Achieve/Assess

ii. Linguistics

Program Learning Outcomes	15 Cr												
	(6 Cr) free choice from the following:			**(6 Cr)** free choice from the following:					**(3 Cr)** free choice from the following:				
	LING 2120	**LING 2130**	**LING 2140**	**LING 3120**	**LING 3140**	**LING 3150**	**LING 3210**	**LING 3220**	**LING 4120**	**LING 4140**	**LING 4150**	**LING 4230**	**LING 4250**
Depth and Breadth of Knowledge													
-present the philosophical positions about the nature of mind													
-present the psychological positions about the study of the mind													
-present the theoretical perspectives on the nature of mind given computer models of the mind													
-present theories about the relationship between language and thought	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A
-understand principles of language structure and interpretation	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A
-critically analyze the theories	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	15 Cr												
	(6 Cr) free choice from the following:			**(6 Cr)** free choice from the following:					**(3 Cr)** free choice from the following:				
	LING 2120	**LING 2130**	**LING 2140**	**LING 3120**	**LING 3140**	**LING 3150**	**LING 3210**	**LING 3220**	**LING 4120**	**LING 4140**	**LING 4150**	**LING 4230**	**LING 4250**
-critically analyze empirical research	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A
-engage in theoretical or empirical research aimed at discovering aspects of the mind	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A
-integrate research from psychology, philosophy, linguistics, artificial intelligence, human-computer interaction, and machine learning.	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A
-speak across disciplines and translate the technical terms of the disciplines so as to make research accessible to researchers and students in other areas	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A
Knowledge of Methodologies													
-engage in critical analysis of empirical and	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	15 Cr												
	(6 Cr) free choice from the following:			**(6 Cr)** free choice from the following:					**(3 Cr)** free choice from the following:				
	LING 2120	**LING 2130**	**LING 2140**	**LING 3120**	**LING 3140**	**LING 3150**	**LING 3210**	**LING 3220**	**LING 4120**	**LING 4140**	**LING 4150**	**LING 4230**	**LING 4250**
theoretical claims about the nature of mind													
-articulate theories about the nature of mind	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A
-discuss the current theories about the nature of mind, including evolution of mind; students should know the landscape and history of the various approaches to the study of mind	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A
-produce original research in philosophy, psychology, linguistics, artificial intelligence, human-computer interaction, and machine learning.									D/A	D/A	D/A	D/A	D/A
-demonstration of the skills associated with some of the different methods used in cognitive science													
Application of Knowledge													

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	15 Cr												
	(6 Cr) free choice from the following:			**(6 Cr)** free choice from the following:					**(3 Cr)** free choice from the following:				
	LING 2120	**LING 2130**	**LING 2140**	**LING 3120**	**LING 3140**	**LING 3150**	**LING 3210**	**LING 3220**	**LING 4120**	**LING 4140**	**LING 4150**	**LING 4230**	**LING 4250**
-engage in original research in other disciplines of cognitive science that incorporates the findings and methods of other disciplines (i.e., psychology, philosophy, linguistics, artificial intelligence, human-computer interaction, machine learning)									D/A	D/A	D/A	D/A	D/A
Communication Skills													
-give oral arguments and summaries of articles, including critical analysis	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A
-present original material to an audience in a conference setting									D/A	D/A	D/A	D/A	D/A
Awareness of Limits of Knowledge													
-work with other students and professors in different disciplines	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	15 Cr												
	(6 Cr) free choice from the following:			**(6 Cr)** free choice from the following:					**(3 Cr)** free choice from the following:				
	LING 2120	**LING 2130**	**LING 2140**	**LING 3120**	**LING 3140**	**LING 3150**	**LING 3210**	**LING 3220**	**LING 4120**	**LING 4140**	**LING 4150**	**LING 4230**	**LING 4250**
-communicate their ideas to people from other academic backgrounds	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A
-realize the difficulties with communicating across disciplines given the different jargons in these disciplines	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A
Autonomy and Professional Capacity													
-design and complete an independent research project									D/A	D/A	D/A	D/A	D/A
-communicate the findings of the research project to others in philosophy, psychology, linguistics, artificial intelligence, human-computer interaction, and machine learning.	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A

I	Introduce
D	Develop
A	Achieve/Assess

I. Psychology

Program Learning Outcomes	15 Cr																	
	(6 Cr)		**(3 Cr)** free choice from the following:					**(3 Cr)** free choice from the following:					**(3 Cr)** free choice from the following:					
	PSYC 2021	PSYC 2030	PSYC 2022	PSYC 2110	PSYC 2120	PSYC 2220	PSYC 2240	PSYC 3250	PSYC 3255	PSYC 3265	PSYC 3280	PSYC 3290	PSYC 4010	PSYC 4020	PSYC 4080	PSYC 4260	PSYC 4270	PSYC 4285
Depth and Breadth of Knowledge																		
-present the philosophical positions about the nature of mind																		
-present the psychological positions about the study of the mind	D	D	D	D	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A	A
-present the theoretical perspectives on the nature of mind given computer models of the mind																		
-present theories about the relationship between language and thought	D	D	D	D	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A	A
-understand principles of	D	D	D	D	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A	A

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	15 Cr																	
	(6 Cr)		**(3 Cr)** free choice from the following:					**(3 Cr)** free choice from the following:					**(3 Cr)** free choice from the following:					
	PSYC 2021	PSYC 2030	PSYC 2022	PSYC 2110	PSYC 2120	PSYC 2220	PSYC 2240	PSYC 3250	PSYC 3255	PSYC 3265	PSYC 3280	PSYC 3290	PSYC 4010	PSYC 4020	PSYC 4080	PSYC 4260	PSYC 4270	PSYC 4285
language structure and interpretation																		
-critically analyze the theories	D	D	D	D	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A	A
-critically analyze empirical research	D	D	D	D	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A	A
-engage in theoretical or empirical research aimed at discovering aspects of the mind	D	D	D	D	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A	A
-integrate research from psychology, philosophy, linguistics, artificial intelligence, human-computer interaction, and machine learning.	D	D	D	D	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A	A
-speak across disciplines and translate the technical terms of the disciplines so	D	D	D	D	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A	A

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	15 Cr																	
	(6 Cr)		**(3 Cr)** free choice from the following:					**(3 Cr)** free choice from the following:					**(3 Cr)** free choice from the following:					
	PSYC 2021	PSYC 2030	PSYC 2022	PSYC 2110	PSYC 2120	PSYC 2220	PSYC 2240	PSYC 3250	PSYC 3255	PSYC 3265	PSYC 3280	PSYC 3290	PSYC 4010	PSYC 4020	PSYC 4080	PSYC 4260	PSYC 4270	PSYC 4285
as to make research accessible to researchers and students in other areas																		
Knowledge of Methodologies																		
-engage in critical analysis of empirical and theoretical claims about the nature of mind	D	D	D	D	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A	A
-articulate theories about the nature of mind	D	D	D	D	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A	A
-discuss the current theories about the nature of mind, including evolution of mind; students should know the landscape and history of the various approaches to the study of mind	D	D	D	D	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A	A

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	15 Cr																	
	(6 Cr)		**(3 Cr)** free choice from the following:					**(3 Cr)** free choice from the following:					**(3 Cr)** free choice from the following:					
	PSYC 2021	PSYC 2030	PSYC 2022	PSYC 2110	PSYC 2120	PSYC 2220	PSYC 2240	PSYC 3250	PSYC 3255	PSYC 3265	PSYC 3280	PSYC 3290	PSYC 4010	PSYC 4020	PSYC 4080	PSYC 4260	PSYC 4270	PSYC 4285
-produce original research in philosophy, psychology, linguistics, artificial intelligence, human-computer interaction, and machine learning.													A	A	A	A	A	A
-demonstration of the skills associated with some of the different methods used in cognitive science	D	D	D	D	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A	A
Application of Knowledge																		
-engage in original research in other disciplines of cognitive science that incorporates the findings and methods of other disciplines (i.e., psychology, philosophy,													A	A	A	A	A	A

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	15 Cr																	
	(6 Cr)		**(3 Cr)** free choice from the following:					**(3 Cr)** free choice from the following:					**(3 Cr)** free choice from the following:					
	PSYC 2021	PSYC 2030	PSYC 2022	PSYC 2110	PSYC 2120	PSYC 2220	PSYC 2240	PSYC 3250	PSYC 3255	PSYC 3265	PSYC 3280	PSYC 3290	PSYC 4010	PSYC 4020	PSYC 4080	PSYC 4260	PSYC 4270	PSYC 4285
linguistics, artificial intelligence, human-computer interaction, machine learning)																		
Communication Skills																		
-give oral arguments and summaries of articles, including critical analysis	D	D	D	D	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A	A
-present original material to an audience in a conference setting													D/A	D/A	D/A	D/A	D/A	D/A
Awareness of Limits of Knowledge																		
-work with other students and professors in different disciplines	D	D	D	D	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A	A
-communicate their ideas to people from other academic backgrounds	D	D	D	D	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A	A
-realize the difficulties with	D	D	D	D	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A	A

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	15 Cr																	
	(6 Cr)		**(3 Cr)** free choice from the following:					**(3 Cr)** free choice from the following:					**(3 Cr)** free choice from the following:					
	PSYC 2021	PSYC 2030	PSYC 2022	PSYC 2110	PSYC 2120	PSYC 2220	PSYC 2240	PSYC 3250	PSYC 3255	PSYC 3265	PSYC 3280	PSYC 3290	PSYC 4010	PSYC 4020	PSYC 4080	PSYC 4260	PSYC 4270	PSYC 4285
communicating across disciplines given the different jargons in these disciplines																		
Autonomy and Professional Capacity																		
-design and complete an independent research project													D/A	D/A	D/A	D/A	D/A	D/A
-communicate the findings of the research project to others in philosophy, psychology, linguistics, artificial intelligence, human-computer interaction, and machine learning.	D	D	D	D	D	D	D	D/A	D/A	D/A	D/A	D/A	A	A	A	A	A	A

I	Introduce
D	Develop
A	Achieve/Assess

Curriculum Map – Group B (Artificial Intelligence, Human-Computer Interaction, and Machine Learning)

i. Artificial Intelligence

Program Learning Outcomes	(15 Cr)				
	ITEC 1620	MATH 2565	ITEC 2600	ITEC 3040	ITEC 4310
Depth and Breadth of Knowledge					
-present the philosophical positions about the nature of mind					
-present the psychological positions about the study of the mind					
-present the theoretical perspectives on the nature of mind given computer models of the mind	I		I	D	D/A
-present theories about the relationship between language and thought					
-understand principles of language structure and interpretation					
-critically analyze the theories				D	D/A
-critically analyze empirical research				D	D/A
-engage in theoretical or empirical research aimed at discovering aspects of the mind	I		I	D	D/A
-integrate research from psychology,	I	I	I	D	D/A

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	(15 Cr)				
	ITEC 1620	MATH 2565	ITEC 2600	ITEC 3040	ITEC 4310
philosophy, linguistics, artificial intelligence, human-computer interaction, and machine learning.					
-speak across disciplines and translate the technical terms of the disciplines so as to make research accessible to researchers and students in other areas	I		I	D	D/A
Knowledge of Methodologies					
-engage in critical analysis of empirical and theoretical claims about the nature of mind	I		I	D	D/A
-articulate theories about the nature of mind	I		I	D	D/A
-discuss the current theories about the nature of mind, including evolution of mind; students should know the landscape and history of the various approaches to the study of mind					
-produce original research in philosophy, psychology, linguistics, artificial intelligence, human-computer interaction, and machine learning.					D/A
-demonstration of the skills associated with some of the different methods used in cognitive science					D/A
Application of Knowledge					
-engage in original research in other disciplines of cognitive science that incorporates the findings and methods of other disciplines (i.e., psychology, philosophy,					D/A

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	(15 Cr)				
	ITEC 1620	MATH 2565	ITEC 2600	ITEC 3040	ITEC 4310
linguistics, artificial intelligence, human-computer interaction, machine learning)					
Communication Skills					
-give oral arguments and summaries of articles, including critical analysis	I		I	D	D/A
-present original material to an audience in a conference setting					D/A
Awareness of Limits of Knowledge					
-work with other students and professors in different disciplines academic backgrounds	I	I/D	I/D	D	D/A
-communicate their ideas to people from other academic backgrounds	I	I/D	I/D	D	D/A
-realize the difficulties with communicating across disciplines given the different jargons in these disciplines	I	I/D	I/D	D	D/A
Autonomy and Professional Capacity					
-design and complete an independent research project					D/A
-communicate the findings of the research project to others in philosophy, psychology, linguistics, artificial intelligence, human-computer interaction, and machine learning.					D/A

I	Introduce
D	Develop
A	Achieve/Assess

ii. Human-Computer Interaction

Program Learning Outcomes	(15 Cr)				
	EECS 1012	EECS 1022	EECS 2030	EECS 3461	EECS 4441
Depth and Breadth of Knowledge					
-present the philosophical positions about the nature of mind					
-present the psychological positions about the study of the mind					
-present the theoretical perspectives on the nature of mind given computer models of the mind					
-present theories about the relationship between language and thought					
-understand principles of language structure and interpretation					
-critically analyze the theories					
-critically analyze empirical research					
-engage in theoretical or empirical research aimed at discovering aspects of the mind					
-integrate research from psychology, philosophy, linguistics, artificial intelligence, human-computer interaction, and machine learning.					
-speak across disciplines and translate the technical terms of the disciplines so as to make research accessible to researchers and students in other areas	I	I	I/D	D	D/A

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	(15 Cr)				
	EECS 1012	EECS 1022	EECS 2030	EECS 3461	EECS 4441
Knowledge of Methodologies					
-engage in critical analysis of empirical and theoretical claims about the nature of mind					
-articulate theories about the nature of mind					
-discuss the current theories about the nature of mind, including evolution of mind; students should know the landscape and history of the various approaches to the study of mind					
-produce original research in philosophy, psychology, linguistics, artificial intelligence, human-computer interaction, and machine learning.					
-demonstration of the skills associated with some of the different methods used in cognitive science					
Application of Knowledge					
-engage in original research in other disciplines of cognitive science that incorporates the findings and methods of other disciplines (i.e., psychology, philosophy, linguistics, artificial intelligence, human-computer interaction, machine learning)					
Communication Skills					
-give oral arguments and summaries of articles, including critical analysis	I	I	I/D	D	D/A
-present original material to an audience in a conference setting					

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	(15 Cr)				
	EECS 1012	EECS 1022	EECS 2030	EECS 3461	EECS 4441
Awareness of Limits of Knowledge					
-work with other students and professors in different disciplines academic backgrounds	I	I	I/D	D	D/A
-communicate their ideas to people from other academic backgrounds	I	I	I/D	D	D/A
-realize the difficulties with communicating across disciplines given the different jargons in these disciplines	I	I	I/D	D	D/A
Autonomy and Professional Capacity					
-design and complete an independent research project					D
-communicate the findings of the research project to others in philosophy, psychology, linguistics, artificial intelligence, human-computer interaction, and machine learning.					

iii. Machine Learning

Program Learning Outcomes	(15 Cr)				
	EECS 1012	EECS 1022	EECS 2030	MATH 1131 or 2030	EECS 4404
Depth and Breadth of Knowledge					
-present the philosophical positions about the nature of mind					

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	(15 Cr)				
	EECS 1012	EECS 1022	EECS 2030	MATH 1131 or 2030	EECS 4404
-present the psychological positions about the study of the mind					
-present the theoretical perspectives on the nature of mind given computer models of the mind					
-present theories about the relationship between language and thought					
-understand principles of language structure and interpretation					
-critically analyze the theories					
-critically analyze empirical research					
-engage in theoretical or empirical research aimed at discovering aspects of the mind					
-integrate research from psychology, philosophy, linguistics, artificial intelligence, human-computer interaction, and machine learning.					
-speak across disciplines and translate the technical terms of the disciplines so as to make research accessible to researchers and students in other areas	I	I	I/D	I/D	D/A
Knowledge of Methodologies					
-engage in critical analysis of empirical and theoretical claims about the nature of mind					
-articulate theories about the nature of mind					
-discuss the current theories about the nature of mind, including evolution of mind; students					D/A

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	(15 Cr)				
	EECS 1012	EECS 1022	EECS 2030	MATH 1131 or 2030	EECS 4404
should know the landscape and history of the various approaches to the study of mind					
-produce original research in philosophy, psychology, linguistics, artificial intelligence, human-computer interaction, and machine learning.					
-demonstration of the skills associated with some of the different methods used in cognitive science					
Application of Knowledge					
-engage in original research in other disciplines of cognitive science that incorporates the findings and methods of other disciplines (i.e., psychology, philosophy, linguistics, artificial intelligence, human-computer interaction, machine learning)					
Communication Skills					
-give oral arguments and summaries of articles, including critical analysis	I	I	I/D	I/D	D/A
-present original material to an audience in a conference setting					
Awareness of Limits of Knowledge					
-work with other students and professors in different disciplines academic backgrounds	I	I	I/D	I/D	D/A
-communicate their ideas to people from other academic backgrounds	I	I	I/D	I/D	D/A
-realize the difficulties with communicating	I	I	I/D	I/D	D/A

I	Introduce
D	Develop
A	Achieve/Assess

Program Learning Outcomes	(15 Cr)				
	EECS 1012	EECS 1022	EECS 2030	MATH 1131 or 2030	EECS 4404
across disciplines given the different jargons in these disciplines					
Autonomy and Professional Capacity					
-design and complete an independent research project					
-communicate the findings of the research project to others in philosophy, psychology, linguistics, artificial intelligence, human-computer interaction, and machine learning.					

I	Introduce
D	Develop
A	Achieve/Assess

Appendix E: Support Statements

From: **Duff R Waring** dwaring@yorku.ca
Subject: Re: Official Approval for COGS changes
Date: June 9, 2020 at 8:44 AM
To: Jacob S. Beck jbeck@yorku.ca

DW

Hello Jake:

Yes.

This is to reconfirm the approval of the Philosophy Department's Curriculum Committee which approved these changes on March 3, 2020.

Best,

Duff R. Waring
Professor
Chair, Philosophy Dept. Curriculum Committee
Faculty of Liberal Arts and Professional Studies
York University

From: Jacob S. Beck <jbeck@yorku.ca>
Sent: Monday, June 8, 2020 12:23 PM
To: Duff R Waring <dwaring@yorku.ca>
Subject: Official Approval for COGS changes

Hi Duff,

Some time ago now, we discussed revisions I was hoping to make to the Cognitive Science major. I'm finally ready to submit those proposed changes for consideration to the Faculty Council and Senate. They want to make sure that all units that are involved with Cognitive Science are on board, and so I was hoping that you could **reply to this email with a simple "yes" to indicate your approval** (assuming that you do, in fact, approve—of course don't hesitate to let me know if there's anything that concerns you!). I know that you already sent me approval on behalf of the curriculum committee back in March, but for clarity's sake it will be better to have that approval in reply to this email.

I'm attaching the official proposal along with a pictorial summary of the new major. As we discussed, the main innovation is the introduction of tracks or "themes" to make the path through the major clearer, and in the case of the philosophy theme to require 2100.

Thanks for your help.

Yours,
Jake

Jacob Beck
York Research Chair in Philosophy of Visual Perception | Associate Professor | Cognitive Science Program Coordinator
Department of Philosophy & Centre for Vision Research | York University
www.jacobbeck.org

From: **Karen Fergus** updpsyc@yorku.ca
Subject: Re: Official Approval for COGS changes
Date: June 9, 2020 at 9:28 AM
To: Jacob S. Beck jbeck@yorku.ca

KF

Hi Jake,

I'm happy to approve of the proposed changes. Regarding the suggested courses - your memory is much better than mine! But PSYC 3255 makes good sense. Because PSYC 4215 is cross-listed as a grad course, there are few spots for undergrads and we have found these past couple of years that it fills quickly and many students who want to take the course, cannot. Just wanted to flag this for you.

Hope all is well,

Karen

Dr. Karen Fergus
Undergraduate Program Director
York University – Department of Psychology
updpsyc@yorku.ca

On 2020-06-08 1:40 PM, Jacob S. Beck wrote:

> Dear Karen,
>
> Some time ago now, we discussed revisions I was hoping to make to the Cognitive Science major. I'm finally ready to submit those proposed changes for consideration to the Faculty Council and Senate. They want to make sure that all units that are involved with Cognitive Science are on board, and so I was hoping that you could **reply to this email with a simple "yes" to indicate your approval** (assuming that you do, in fact, approve—of course don't hesitate to let me know if there's anything that concerns you!).
>
> I'm attaching the official proposal along with a pictorial summary of the new major. As we discussed, the main innovation is the introduction of tracks or "themes" to make the path through the major clearer. The only change in course offerings for Psychology is the addition of two new courses, PSYC 3255, which you had suggested we add when you and I met, and PSYC 4215, which I think you've already unofficially added as an offering for us.
>
> Thanks for your help.
>
> Yours,
> Jake
>
> **Jacob Beck**
> York Research Chair in Philosophy of Visual Perception | Associate Professor | Cognitive Science Program Coordinator
> Department of Philosophy & Centre for Vision Research | York University
> www.jacobbeck.org

From: **Gabriela Alboiu** galboiu@yorku.ca
Subject: Re: Official Approval for COGS changes
Date: June 8, 2020 at 2:20 PM
To: Jacob S. Beck jbeck@yorku.ca

GA

YES!

Best,
Gabriela

GABRIELA ALBOIU, PhD
Associate Professor of Linguistics
Director, Undergraduate Program of Linguistics
Department of Languages, Literatures, and Linguistics
Faculty of Liberal Arts and Professional Studies
York University
4700 Keele Street
Toronto, ON, M3J 1P3
Canada

Office: South Ross 570
E-mail: galboiu@yorku.ca
Website: http://www.yorku.ca/galboiu
Telephone: (1)-416-736-2100, extension 22574
Fax: (1)-416-736-5483

> ---- Original Message ----
> **From**: "Jacob S. Beck" <jbeck@yorku.ca>
> **To**: "Gabriela Alboiu" <galboiu@yorku.ca>
> **Sent**: Mon, Jun 8, 2020, 1:46 PM
> **Subject**: Official Approval for COGS changes
>
> Dear Gabriela,
>
> Some time ago now, we discussed revisions I was hoping to make to the Cognitive Science major. I'm finally ready to submit those proposed changes for consideration to the Faculty Council and Senate. They want to make sure that all units that are involved with Cognitive Science are on board, and so I was hoping that you could **reply to this email with a simple "yes" to indicate your approval** (assuming that you do, in fact, approve—of course don't hesitate to let me know if there's anything that concerns you!).
>
> I'm attaching the official proposal along with a pictorial summary of the new major. As we discussed, the main innovation is the introduction of tracks or "themes" to make the path through the major clearer.
>
> Thanks for your help.
>
> Yours,
> Jake
>
> **Jacob Beck**
> York Research Chair in Philosophy of Visual Perception | Associate Professor | Cognitive Science Program Coordinator
> Department of Philosophy & Centre for Vision Research | York University
> www.jacobbeck.org

From: **Zijiang Yang** zyang@yorku.ca
Subject: RE: Official Approval for COGS Changes
Date: June 8, 2020 at 5:43 PM
To: Jacob S. Beck jbeck@yorku.ca

ZY

Hello Jake:
Yes. School of Information Technology discussed the proposed change about the Applied AI cluster in the school council meeting and approved it.
Thank you and let me know if more info is needed.
Zijiang

Zijiang Yang, PhD
Professor, Undergraduate Program Director
School of Information Technology
Faculty of Liberal Arts & Professional Studies
York University

From: Jacob S. Beck <jbeck@yorku.ca>
Sent: June-08-20 2:28 PM
To: Zijiang Yang <zyang@yorku.ca>
Subject: Official Approval for COGS Changes

Dear Zijiang,

Some time ago now, we discussed revisions I was hoping to make to the Cognitive Science major. I'm finally ready to submit those proposed changes for consideration to the Faculty Council and Senate. They want to make sure that all units that are involved with Cognitive Science are on board, and so I was hoping that you could **reply to this email with a simple "yes" to indicate your approval** (assuming that you do, in fact, approve—of course don't hesitate to let me know if there's anything that concerns you!).

I'm attaching the official proposal along with a pictorial summary of the new major. As we discussed, the main innovation is the introduction of tracks or "themes," along with "clusters" within the Computer Science theme, in order to make the path through the major clearer. The Applied AI cluster is the one I had developed in consultation with you and your colleagues from ITEC.

Thanks for your help.

Yours,
Jake

Jacob Beck
York Research Chair in Philosophy of Visual Perception | Associate Professor | Cognitive Science Program Coordinator
Department of Philosophy & Centre for Vision Research | York University
www.jacobbeck.org

From: **Suprakash Datta** datta@cse.yorku.ca
Subject: Re: Approval for COGS Changes
Date: September 15, 2020 at 9:45 PM
To: Jacob S. Beck jbeck@yorku.ca

SD

Quoting "Jacob S. Beck" <jbeck@yorku.ca>:

> Thanks so much. Just to clarify: 1520 was a typo and you mean 1530, correct?

Oops, you are right! I have to get more sleep :) The last couple days were hard!
-Suprakash

> Yours,
> Jake
>
> On Sep 15, 2020, at 9:12 PM, Suprakash Datta <datta@cse.yorku.ca<mailto:datta@cse.yorku.ca>> wrote:
>
> Dear Jacob,
>
> We (EECS dept) approve of the tracks that are relevant to us. The addition of
> EECS 1520 to the prerequisites of EECS 1022 is in the process of being approved at
> the faculty level. We do not anticipate any problems in this process.
>
> Best regards
> Suprakash Datta
>
> vice chair (Science), EECS dept.
>
> Quoting "Jacob S. Beck" <jbeck@yorku.ca<mailto:jbeck@yorku.ca>>:
>
> Hi Suprakash,
>
> I'm preparing to submit the revisions I made to the Cognitive Science major to the Faculty Council and Senate. They want to make sure that all units that are involved with Cognitive Science are on board, and so I was hoping that you could reply to this email with a simple "yes" to indicate that your curriculum committee and department approve of the changes to the computer science offerings (assuming that you do, in fact, approve—of course don't hesitate to let me know if there's anything that concerns you!). That way I can attach this email and your reply in my application.
>
> I'm attaching the official proposal along with a pictorial summary of the new major. As we discussed, the main innovation is the introduction of tracks or "themes," along with different "clusters" within the Computer Science theme that I developed with you and Eric Ruppert, in order to make the path through the major clearer.
>
> Thanks for your help.
>
> Yours,
> Jake
>
> Jacob Beck
> York Research Chair in Philosophy of Visual Perception I Associate Professor I Cognitive Science Program Coordinator
> Department of Philosophy & Centre for Vision Research I York University
> www.jacobbeck.org<http://www.jacobbeck.org/><http://www.jacobbeck.org<http://www.jacobbeck.org/>>

From: **Hyejin Ku** hku@mathstat.yorku.ca
Subject: Re: Courses for Cog Sci Major
Date: February 24, 2020 at 12:35 PM
To: Jacob S. Beck jbeck@yorku.ca
Cc: Madeline Salzarulo msalzaru@yorku.ca

HK

Hello Jake,

It looks fine to me.

Regards,

Hyejin

--
Hyejin Ku, Ph.D., Professor
Undergraduate Program Director/Associate Chair
Department of Mathematics & Statistics, N505 Ross Bldg.
York University, 4700 Keele St., Toronto, Canada
http://hku.info.yorku.ca

On 2020-02-21 2:54 p.m., Jacob S. Beck wrote:

> Dear Hyejin,
>
> I'm writing as Director of the Cognitive Science Program here at York. We're in the process of revamping the Cognitive Science major, and as part of that process I wanted to check in with you to see if we could include some math courses as part of the major. The courses are all part of our Computer Science Stream, and we need to offer them because EECS and ITEC require them for their courses. You can see the courses I'm referring to in the chart attached below.
>
> We have about 200 majors, very few of whom pursue computer science courses (maybe 5% of our majors). So in terms of numbers, we're only talking about a few students per year who would be enrolled in these math courses.
>
> Thanks so much for your help! Let me know if you have any questions.
>
> Yours,
> Jake

From: Michael G Giudice <giudice@yorku.ca>
Sent: Wednesday, September 15, 2021 7:41 PM
To: Kathryn M. Doyle <doyleka@yorku.ca>
Subject: RE: COGS Major Modification: Updated Proposal

Hi Kathryn,

Thanks for connecting about this. I think it's fine for the proposal to proceed. In Philosophy our practice for proposals is to have approval from the curriculum committee, the undergraduate program director, and the chair, though the chair exercises discretion about whether to bring a proposal before the entire department (it depends if it's just a modification to a existing course, an organizational change to a program like this COGS proposal, or a complete make-over of the PHIL programs, as we did in 2010). In this instance, the department is aware that some clarity was needed for the COGS specialized honours, so if my predecessor Bob Myers didn't give his approval prior to me becoming Chair in July 2020, I'm happy to do so now.

I hope this helps!

Best wishes,
Mike