

INDI-Programme in Synthetic Biology

Every INDI applicant is required to provide the following [Program Proposal](#) as part of his application to INDI; the elements of a proposal outline the requirements of an INDI programme. Below are the instructions provided by the Centre for Applied Synthetic Biology (casb.concordia.ca) for applicants interested in joining the INDI-Synthetic Biology programme.

1. A detailed statement of the field of study and the core areas to be covered in the proposed program:

Field: Synthetic Biology, with Stream:

Stream: "Biotechnology." Contacts: Dr. V. Martin; Courses: COEN 6211, BIOL 521, BIOL 524, CHEM 678

Stream: "Sensors." Contacts: Dr. M. Kahrizi; Courses: ELEC 6271, ELEC 6281

Stream: "Biocomputing." Contacts: Dr. N. Kharma; Courses: BIOL 367, BIOL 690, COEN 6211

Stream: "Health." Contacts: Dr. C. Brett; Courses: BIOL 515, BIOL 687, BIOL 690

Stream: "Pathway Modification." Contacts: Dr. M. Whiteway; Courses: BIOL 511, BIOL 521

Stream: "Science Communication." Contacts: Dr. D. Secko; Courses: COEN 6211, JOUR 601, JOUR 604

Any of the above listed contact professors, in addition to Concordia members of the Centre for Applied Synthetic Biology are, in principle, willing to become members of these examination committees for MAsC or PhD students of INDI-Synthetic Biology.

2. A concise description of the proposed research, including expected outcomes:

Contact a professor associated with a stream who will help you identify willing supervisors (from Biology and Engineering), then formulate a rough PhD thesis mini-proposal (~ 2-4 pages) with guidance from your potential supervisors. This mini-proposal must include: Objectives, Methodology, Plan and Outcomes (w/ significance), as well as any References (which may be merged with the Biography section, below, with has its own page limit).

3. Rationale for pursuing an individualized program:

That is your business, but you may wish to highlight the interdisciplinary nature of your research pursuit: the fact that this is a programme that involves supervisors and examiners, courses and lab work, related to both Biology and Engineering.

4. statement explaining the relationship between the proposed members of the supervisory committee and the core areas of the proposed research :

The relationship will be obvious given that you (the student) must have formulated the concise description of your proposed research with willing supervisors (professors), who are specialists in the areas of intended research.

5. proposed courses (18 credits) central to the proposed program of study, including one 3-credit research seminar and 6 credits in regularly scheduled graduate courses:

Use the list of courses listed next to the streams above as a starting point for selecting courses for your particular programme of study; this should be done in consultation with your intended thesis supervisors.

PhD students with their primary supervisor from Engineering or Biology: the PhD seminar counts for 6 credits; the remaining 12 credits can be acquired by successfully completing 3 courses from Concordia, or other Montreal universities. If, after taking three courses, the student has a credit balance then he can settle that balance by taking 1 Engineering Project course (ENGR 6971) or 1 Biology Reading course.

MSc Students with their primary supervisor from Engineering: The student is required to complete 4 courses from Concordia or other Montreal universities. The student is encouraged to take at least 2 Engineering courses with the rest possibly coming from Biology. The credit balance can be covered using 1 (or 2 amalgamated) Engineering Project courses (ENGR 6971, ENGR 6981).

MSc Students with their primary supervisor from Biology: At this point, such applicants are encouraged to join the normal MSc degree offered by the Dept. of Biology.

6. Bibliography (2 pages).

References used in the making of this Program Proposal.