ALMA COLLEGE

EPC REPORT TO FACULTY

2019-2020 ACADEMIC YEAR Faculty Meeting Date: Friday, March 13th, 2020

Winter 2020 EPC Weekly Meetings: Tuesdays 8:30 a.m. – 10 a.m. in the Smith Room in the Library

(To be considered an active agenda item for an upcoming meeting, curriculum change forms should be provided to EPC a minimum of one-week prior to the meeting to ensure adequate review.)

VOTE REQUIRED BY FACULTY:

I. 2021-2022 Academic Calendar

Summary: The proposed calendar for the 2021-2022 academic year is consistent with the calendar for 2020-2021 that was approved in September.

II. Data Analytics

Summary: A proposed new academic minor and three-letter prefix "DAT". Four new courses are also proposed (see course details later in the EPC report).

Proposed Data Analytics Minor Requirements:

Twenty-six credits which must include:

1. DAT 115: Introduction to Data Analytics (4 credits)
2. Introduction to programming: DAT 116 or CSC 120 (4 credits)
3. Upper level statistics: MTH 242 or MTH 342 (4 credits)
4. DAT 315: Machine Learning (4 credits)
5. Data analytics project: DAT 385 or DAT 399 (2 credits)
6. Data intensive electives: 8 credits from the following courses, at least 4 of which must be upper level:
   - CSC 345: Artificial Intelligence
   - CSC 410: Database Management
   - ECN 217: Quantitative Methods
   - ECN 317: Econometrics
   - HCA 405: Health Care Informatics
   - IPH 330: Health Data Analysis
   - MTH 116: Elementary Statistics
   - MTH 118: Biostatistics
   - MTH 336: Numerical Analysis
   - MTH 341: Probability and Statistics I
   - PHY 221: Modern Physics
   - POL 217: Democracy's Slow Death
   - PSY 220: Statistics

   Additional electives may be approved in consultation with the math and computer science faculty.

Rationale: Data analytics is an emerging field combining skills in programming, mathematics, statistics, communication, and other areas. We envision this minor as a complement to any major course of study; students will use their major discipline as a source of data, questions, and problems for the minor.

Students who complete this minor will be able to:

- Critique a data-driven argument to identify its strengths and limitations.
- Think creatively about how data may address a problem or answer a question; identify appropriate data sources for the task.
- Use fundamental mathematical and programming techniques to "clean", model, and draw conclusions from data.
- Combine presentational (visual or otherwise) and narrative elements to craft a convincing data-driven argument.

III. New Media Studies

Summary: Proposed changes to the NMS major, NMS minor, and departmental honors requirements.

Proposed Revised New Media Studies Major Requirements:

Thirty-six credits which must include:

1. Core: NMS-101 and eight additional credits from CSC-118 or 120, NMS-120, 130, 140, and 160
2. Context: At least twelve credits from upper level NMS courses
3. Capstone: An internship (NMS-385), taken for a total of 4 credits, Senior Seminar (NMS-449) and Senior Studio (NMS-450)

Departmental Honors:

Completion of all NMS major requirements, 3.5 GPA in the major, an AB or above in Senior Capstone sequence (NMS 449 and NMS 450), and presentation of an NMS project at Honors Day.

Proposed Revised New Media Studies Minor Requirements:

Twenty-four credits which must include:

1. Core: NMS-101 and an additional eight credits from CSC-118 or 120, NMS 120, 130, 140, and 160
2. Context: At least eight credits of any upper level NMS courses
3. Capstone: Senior Studio (NMS-450)

Rationale: We are proposing three key changes: first, we are moving to a year-long senior experience and need to add the fall semester Senior Seminar (NMS 449) course to the requirements for the NMS major. We prototyped the course in Fall 2019, and it was judged as successful by both students and faculty. It allows us to focus on theoretical and conceptual skills that there was little time to cover in Senior Studio.

Second, we are proposing a change to Honors: because NMS 449 focuses on research, critical thinking, and writing toward the senior capstone project, it replaces NMS 500 (which few students opted into) and relieves the burden of taking an additional course during capstone work. Students receiving an AB or better in the two senior year sequence courses (NMS 449: Senior Seminar and NMS 450: Senior Studio) will receive Honors. We expect this to make the pathway to Honors more accessible and reverse the trend of fewer Honors candidates in the program.

Third, we are combining 200- and 300-level NMS courses required for the major into a general requirement of 16 credits of upper-level NMS courses because scheduling made it challenging for some students to meet the specific 200- and 300-level requirements.

We are also taking this opportunity to fix a couple of clerical errors: in item 1 of the major and minor requirements, NMS 118 should be CSC 118, as we no longer cross-list courses with CSC. We have also added CSC 120 as an option as we deem its content to be equally productive for NMS students to learn.

IV. Philosophy

Summary: Proposed changes to the Philosophy major. The main change is a reduction in the required number of upper-level credits.

Proposed Revised Philosophy Major Requirements:

Thirty-six credits which must include:

1. Core (20 credits): PHL 102, 103, 111 or 112, 126, and 500
2. PHL Electives (16 credits), which must include:
    - At least 4 credits from the following: PHL 202, 215, 216, 217, 224, 240/340, 303, 305, or 347.
    - At least 8 upper-level credits. Upper level courses include PHL 232, 234, 236, and all 300-level philosophy courses.
3. Successful completion of the thesis and oral examination administered by the department**.**

Rationale: For many years the philosophy department has struggled to offer enough upper-level courses for majors to meet the requirement of 16 upper-level credits (a senior thesis plus three other courses). The current catalog language points out that "typically" some of these upper-level courses are independent studies. This was written at a time when the college graduated very few philosophy majors (fewer than one a year). For many years, however, the department has graduated more majors (2-3 per year) and for each of these majors to do independent studies in addition to a senior thesis would put a very large burden on the faculty. Consequently, the common practice has been to have students take 200 level classes as PHL 399, writing an extra research paper to justify upper-level credit.

A change in major requirements to reflect these realities is long overdue. We are, therefore, decreasing the number of upper-level credits that majors must take (over and above their senior thesis) from 12 to 8. One could argue that reducing the requirement for upper-level (typically 300-level) courses is watering down the major, but for many years this has already been the *de facto* requirement anyway, since most majors have taken a 200-level course as PHL 399 to earn enough upper-level credits. The other changes we are making help to further offset the fear that we are weakening the major, since they make the major more diverse and robust.

One of the concerns of the external reviewer who visited our department in 2014 was that our department offers an impressive array of ethics courses, but rather thin offerings in such areas as the history of philosophy, metaphysics, and epistemology. To ensure that our majors do not graduate with degrees that are too ethics-heavy, at the expense of other areas of philosophy, we have added the requirement that one of the courses they take be 202, 215, 216, 217, 224, 240/340, 303, 305, or 347. These are all courses that have significant content in non-ethics areas, such as logic, metaphysics, epistemology, and aesthetics. (Three of the core 100-level required classes are also non-ethics.)

V. Integrative Physiology and Health Science

Summary: Listing of cognate courses for the major and two concentrations.

Proposed changes: The following new language will be added at the end of the IPH major requirements:

BIO 121 is a cognate course for the IPHS major.

PHY 112/121 is a cognate course for the pre-therapy and pre-sports medicine concentrations.

Rationale: We have made a request to change the prerequisite for IPH 345 to be PHY 112 (Physics of the Human Body I) or PHY 121 (Introduction to Physics I). We have been asked to explicitly state in the academic catalog that PHY 112 or PHY 121 are cognate courses for the pre-therapy and pre-sports medicine concentrations of the IPHS major, since IPH 345 is required for these concentrations. Since IPH 227 has (and always has had) BIO 121 as a prerequisite, we will add that language as well.

CONSENT AGENDA ITEMS (NO VOTE REQUIRED):

The following new courses are proposed for the 2020-2021 academic catalog:

- DAT 115: Introduction to Data Analytics (4 cr)
  - Description: Introduction to graphs, calculations, and models for summarizing data, gaining insights from data, and making predictions. Discusses variation in data and how to ensure conclusions are justified. Example data sources include business, economics, medical studies, and sports statistics. Uses both a spreadsheet program, such as Microsoft Excel, and a statistics-oriented computing platform, such as R.
  - Rationale: Versions of this course have been taught for the past three years as MTH-180. This course will serve as the introduction to the Data Analytics minor, along with DAT-116. This course introduces data analytics from an applied statistics perspective; DAT-116 introduces data analytics from a programming perspective. This course is also a good candidate for a student who wishes to have a single-course introduction to data analytics.
  - Course Designations: Bachelor of Science, NS-3.

- DAT 116: Programming with Data (4 cr)
  - Description: Introduction to programming techniques for the manipulation and analysis of digital data. Programming topics include: digital representations of data, types of data, programming decision and repetition, functions and libraries for storing and manipulation data in the language of instruction (e.g. the pandas library of Python). Data topics include: common formats (e.g. CSV, JSON, XML, database), missing data, cleaning data, exploratory data analysis. Visualizing and presenting data to support an argument.
  - Cross-listing: CSC 116
  - Rationale: Students in all disciplines are increasingly aware of the demand for people who are capable of manipulating, analyzing, and making arguments with digital data. This course is designed to provide essential programming skills and knowledge to students who want to meet that demand, whether from the perspective of the humanities, the sciences, business, or innate curiosity. In particular, this course is intended for students considering a minor in data analytics. As such, it is distinct from a traditional "introduction to computer science" that is intended primarily for prospective computer science majors. By the end of the semester, successful students will
    1. Be able to work with digital data presented in a variety of formats (e.g. CSV, JSON, XML).
    2. Be able to manipulate data stored in common python structures (both those provided by the language and those provided by libraries such as numpy and pandas).
    3. Be able to write python code that supports processing, interpreting, and presenting digital data.
    4. Be able to use python to "transform" raw data into a presentation that makes a data-driven argument.
    5. Be able to use interactive python environments, such as IPython and/or Jupyter, to explore and present data.
  - Course Designations: Bachelor of Science, NS-3.

- DAT 315: Machine Learning (4 cr)
  - Description: Principles and techniques for machine-based decision and prediction from large datasets. Algorithms for and applications of classification, regression, and unsupervised learning. Introduction to neural networks and deep learning. Use of machine learning libraries in languages such as Python and R.
  - Prerequisites: DAT 116 or CSC 121, and MTH 242, or Permission.
  - Cross-listing: CSC 315
  - Rationale: Machine learning is an essential element of contemporary data analytics; this course is a crucial element of the data analytics minor. It necessarily requires some prior programming experience, ideally in a language suited for data analysis, such as Python or R; it also requires some working knowledge of statistics.
  - Course Designations: Upper Level, Bachelor of Science, NS-3.

- MTH 242: Applied Statistical Methods (4 cr)
  - Description: Applied study of inferential and descriptive statistics. Topics include data visualization, confidence intervals and hypothesis tests, linear regression, ANOVA, ANCOVA, categorical data analysis, resampling methods, and time series. Emphasizes written and oral communication of results. Uses statistical software, such as R.
  - Prerequisite: A MTH course numbered 112 or above, or DAT-115 or 116, or ECN-217, or PSY-220
  - Rationale: This course fills a hole in our statistics offerings. We have MTH-116 and 118 (Elementary Statistics and Biostatistics), ECN-217, and PSY-220, which are all introductory courses, and we have MTH-342 (Probability and Statistics II), which is mainly a theoretical course with a MTH-341 prerequisite. MTH-242 will be mid-level applied course, suitable for both math majors and non-majors. The course will also be an integral part of the Data Analytics minor. This course will have a Quill designation. It puts a large emphasis on technical writing of data analytics reports. Currently there is only one math Quill course (MTH-223: Math Structures). It will be beneficial for math students to have an additional writing-intensive option.
  - Course Designations: Upper Level, Quill, Bachelor of Science, NS-3.

- NMS 449: Senior Seminar (4 cr)
  - Description: The first part of a two-course, senior-year capstone sequence aligned with the NMS mission to marry theory and practice. This course emphasizes conceptual and critical skills through discussion, research, writing, oral presentation, and project planning. Students engage the theoretical context of their specializations in NMS and build deeper communication fluencies in them. A thesis lays the groundwork for an applied project in the subsequent NMS 450 studio.
  - Prerequisites: Senior standing, NMS-101
  - Rationale: The NMS 450 capstone has been successful in creating a culture of big student ambitions, standards, and achievements--so much so that it's become too much for one course to hold. With not enough time to attend to the conceptual and technical demands of their project, students often focus too intensely on the "making" part of their major. The NMS 449 pilot which ran in the fall of 2019 corrected this by adding a component focused on theoretical work, reflection, and communication. It was judged to be successful by students and faculty alike. By splitting off the theoretical exercises and conceptual planning, we've been able not only to help students structure a more critical project in 450 but also give time to develop their writing and communication skills. More time and resources are also available for career planning and reflective work.
  - Course Designations: Upper Level, Quill.

Course Title Changes:

- BUS-150 Entrepreneurs in Action I (1 cr)
  - New title: Business Professionals I
- BUS-151 Entrepreneurs in Action II (1 cr)
  - New title: Business Professionals II
- BUS-350 Entrepreneurs in Action III (1 cr)
  - New title: Business Professionals III

Courses removing external laboratory components and changing prerequisites:

- IPH-323: Therapeutic Modalities (2 cr)
  - Summary: The course is changing from 3-credits to 2-credits with a new prerequisite. The department is removing the lab work within the pedagogy of the course.
  - Rationale: The external laboratory course is no longer necessary due to the athletic training program being inactivated. Also, the prerequisite should reflect current offerings.
  - Current prerequisite: Permission
  - New prerequisite: IPH-227 Human Physiology, or permission.

- IPH-324: Therapeutic Exercise (2 cr)
  - Summary: The course is changing from 3-credits to 2-credits with a new prerequisite. The department is removing the lab work within the pedagogy of the course.
  - Rationale: The external laboratory course is no longer necessary due to the athletic training program being inactivated. Also, the prerequisite should reflect current offerings.
  - Current prerequisite: IPH-226, or permission. (IPH-226 was removed from offerings in WI2019.)
  - New prerequisite: IPH-323 Therapeutic Modalities, or permission.

- IPH-270: Community Health (4 cr)
  - Current prerequisite: Permission
  - New prerequisite: None
  - Rationale: Prior to Dr. Kim's arrival, IPH 270 was offered as an "S" course every spring. In order to assure that there were sufficient seats to accommodate majors needing the class to complete major requirements, permission was necessary. The course is now offered as a regular 14 week course and is appropriate for any first or second year student wishing to explore community health. Thus, a prerequisite would not be appropriate and so we will remove the required permission.

- IPH-345 Biomechanics I (4 cr)
  - Current prerequisite: IPH-344: Human Anatomy (4 cr)
  - New prerequisite: PHY-112 or PHY-121
  - Rationale: Previously this course was required for students in the Athletic Training major and Secondary Education (Physical Education) major/certification. The majority of these students would not have had the introductory physics class, nor could it fit into their schedules. Thus, the course was taught in a manner to accommodate this lack of physics. These programs are no longer being offered and recent offerings have revealed a major limitation to this offering with students not having the physics background. IPH 345 is a requirement for the pre-therapy concentration and is an elective for the pre-medicine concentration. Students pursing these concentrations will be required to have physics in order to apply for graduate/professional programs and thus the requested change will not impact students' scheduling.

Delete courses from the academic catalog (print and online):

IPHS Department: Course deletions from currently inactive Athletic Training major.

- IPH 105 Clinical Experience Athletic Training I (1 cr)
- IPH 106 Clinical Experience Athletic Training II (1 cr)
- IPH 205 Athletic Training III (1 cr)
- IPH 206 Athletic Training IV (1 cr)
- IPH 305 Clinical Athletic Training V (1 cr)
- IPH 306 Clinical Athletic Training VI (1 cr)
- IPH 405 Clinical Athletic Training VII (1 cr)
- IPH 406 Clinical Athletic Training VIII (1 cr)
- IPH 427 Administration of Athletic Training (4 cr)

Rationale: Due to a change to entry-level degree requirements, the Athletic Training Major has been discontinued. Therefore, all AT clinical and administration courses will not be offered. We no longer have any Athletic Training students in the program and so deletion of these courses effective immediately will have no student impact.

The following courses have new approved designations:

- BIO 387M: Clinical Histopathology (4 cr). Approved for cross-listing with IPH-387: Clinical Histopathology (4 cr). Also approved for "S" designation (Spring 2020)
- IPH-311: Intro to Public Health Research (4 cr). Approved for "Quill" Designation.