

**Faculty Senate Meeting**  
Thursday, April 27, 2017  
3:30p.m. – 5:30p.m. – Toepfer Room, Adelbert Hall,

3:30 p.m.	Approval of Minutes from the February 27, 2017, Faculty Senate Meeting, <i>attachment</i>	Peter Harte
3:35 p.m.	President and Provost's Announcements	Barbara Snyder Bud Baeslack
3:40 p.m.	Chair's Announcements	Peter Harte
3:45 p.m.	Report from the Secretary of the Corporation	Arlishea Fulton
3:50 p.m.	Report from the Executive Committee	Juscelino Colares
3:55 p.m.	Minor in Bioethics and Medical Humanities, <i>attachment</i>	Eileen Anderson-Fye Mark Aulisio
4:00 p.m.	Postdoctoral Association and Graduate Student Council-Proposed Revisions to Faculty Handbook, <i>attachment</i>	Ken Ledford
4:05 p.m.	FSCUE: Recommendations on CSE Sages Proposal, <i>attachment</i>	Robin Dubin
4:10 p.m.	FSCUE: Advising Feedback Recommendations, <i>attachment</i>	Robin Dubin
4:20 p.m.	FSCUE: Recommendations on Offering Online Undergraduate Courses, <i>attachment</i>	Robin Dubin
4:30 p.m.	Bias Reporting System, <i>attachment</i>	Peter Harte
4:45 p.m.	FSCUE: PRIME Program, <i>attachment</i>	Jill Korbin Cheryl Thompson
4:55 p.m.	FSCUL Statement Recommending a Comprehensive External Review of the CWRU Library System, <i>attachment</i>	Paul Iversen
5:05 p.m.	Library Content and Resource Review Process for New Programs and Degrees, <i>attachment</i>	Paul Iversen

5:10 p.m.	Minor in Public Health, <i>attachment</i>	Mendel Singer
5:15 p.m.	Report from Finance Committee	Glenn Starkman
5:25 p.m.	Nominating Committee Report	Peter Harte Maureen McEnery
5:30 p.m.	Passing of the Gavel	Peter Harte



## Faculty Senate

**Faculty Senate Meeting**  
**Wednesday, April 27, 2017**  
**3:30 pm to 5:30 pm**  
**Adelbert Hall, Toepfer Room**

### **Members Present**

Amy Backus  
W. A. "Bud" Baeslack III  
Jennifer Barrord  
Cynthia Beall  
Karen Beckwith  
Valerie Boebel Toly  
Gary Chottiner  
Juscelino Colares  
Lisa Damato  
Mitch Drumm  
Robin Dubin  
Kimberly Emmons  
Archishman Ghosh  
Neetu Gulati  
Peter Harte

Steven Hauck  
Paul Iversen  
Sudha Iyengar  
Kathleen Kash  
Kurt Koenigsberger  
Kenneth Ledford  
Paul MacDonald  
Gerald Mahoney  
Jay Mann  
Maureen McEnery  
Frank Merat  
William Merrick  
David Miller  
Andres Pinto  
Mary Quinn Griffin

Vasu Ramanujan  
Roy Ritzmann  
R. Mohan Sankaran  
Barbara R. Snyder  
Glenn Starkman  
Usha Stiefel  
Robert Strassfeld  
Ibrahim Tulunoglu  
Gillian Weiss  
Rebecca Weiss  
Jo Ann Wise  
Amy Zhang  
Christian Zorman

### **Members Absent**

Anita Aminoshariae  
Jeremy Bendik-Keymer  
Matthias Buck  
Cathy Carlin  
Christopher Cullis  
Evelyn Duffy  
Carol Fox

Angela Graves  
Ronald Hickman  
Lee Hoffer  
Megan Holmes  
Thomas Kelly  
Thomas Montagnese  
Leena Palomo

Aaron Perzanowski  
Roger Quinn  
Horst von Recum  
Stuart Youngner

### **Others Present**

Dan Anker  
Jonathan Carlson  
Donna Davis Reddix  
Don Feke

JC Scharf-Deering  
Arnold Hirshon  
Dean Patterson  
Sue Rivera

John Sideras  
Jeff Wolcowitz



## Faculty Senate

### **Call to Order**

Professor Peter Harte, chair, Faculty Senate, called the meeting to order at 3:30 p.m.

### **Approval of Minutes**

The Senate approved the minutes from the March 22<sup>nd</sup>, 2017 Faculty Senate meeting.

*Attachment*

### **President's Announcements**

The President reported that at the suggestion of Professor Kenneth Ledford, the university has created resource cards for international visitors so that they know who to contact if they experience any difficulties entering or leaving the country.

Recipients of this year's mentoring and teaching awards are currently being notified. Nominations for both types of awards are made by students. This year's Commencement speaker is CWRU alumnus and civil right attorney Fred Gray, who during his career, represented Rosa Parks and Martin Luther King, among others.

The President thanked Prof. Harte for his service as chair of the Senate during 2016-2017 and said she is looking forward to working with Professor Juscelino Colares in his role as next year's chair.

### **Provost's Announcements**

The Provost made no announcements.

### **Chair's Announcements**

Prof. Harte thanked all standing committee chairs for their service and encouraged senators to join Senate committees.

### **Report from the Secretary of the Corporation**

Arlishea Fulton, senior counsel, reported on the April 18, 2017 CWRU Board of Trustees Executive Committee meeting. Among other items, the Board approved the Graduate Certificate in Global Health Nutrition, the Graduate Certificate in Nutrition for Health Care Professionals and the Graduate Certificate in Public Health. *Attachment*

### **Report from the Executive Committee**

Prof. Colares did not give a report from the April 20<sup>th</sup> Executive Committee meeting because all matters discussed at that meeting were also on the agenda for the Senate meeting. Instead, he provided a report on the work of the university's Ad Hoc International Rankings Committee which began this semester and will continue throughout the summer and into the fall. The



## Faculty Senate

Provost has authorized the Committee to engage the Illuminate Consulting Group, the leading consultant on international rankings, to make recommendations for improving the university's international rankings. *Attachment*

### **Minor in Bioethics and Medical Humanities**

Professors Eileen Anderson-Fye (SOM) and Mark Aulisio (SOM) presented a proposal for a minor in Bioethics and Medical Humanities. The impetus for this proposal came from current undergraduate students who were very interested in combining courses in these areas. The combination of these two fields has become a national trend in undergraduate education and has been found to help students increase their test scores and achieve greater success in medical school interviews. All of the courses for the minor are currently being offered and the new minor could help increase enrollment in many of the courses. The Faculty Senate voted to approve the minor in Bioethics and Medical Humanities. *Attachment*

### **Postdoctoral Association and Graduate Student Council-Proposed Revisions to Faculty Handbook**

Professor Kenneth Ledford, chair of the Senate By-Laws Committee, presented proposed revisions to Chapter 2 of the Faculty Handbook and By-Law IV of the Faculty Senate By-Laws. The proposed revisions add a representative from the CWRU Post-Doctoral Association as a voting member of the Senate and change the name of the Graduate Student Senate to the Graduate Student Council (GSC) to reflect its current title. Also, since the Professional Student Association recently merged with the GSC, the language relating to the professional student senator has been removed and the GSC Vice President for Academic Affairs is designated as the student to represent the graduate and professional student population on campus. The Faculty Senate voted to approve the revisions to Chapter 2 and approved the revisions to the By-Laws contingent upon the approval of the Chapter 2 revisions by the University Faculty in the fall of 2017. *Attachment*

### **FSCUE: Recommendations on CSE Sages Proposal**

Professor Robin Dubin, chair of FSCUE, reported on a proposal submitted by the School of Engineering regarding first year engineering classes and advisors. The proposal had been reviewed by the FSCUE Curriculum Subcommittee and recommendations made. FSCUE reviewed and confirmed the recommendations of the Subcommittee. The CSE proposed that first-year students planning to pursue a CSE major be required to take an engineering-designated SAGES First Seminar or University Seminar during their first year at the university. The Curriculum Subcommittee's recommendation, which was confirmed by FSCUE, was to encourage this, but not make it a requirement. The CSE had also proposed that incoming first-year students interested in a CSE major who were not enrolled in a First Seminar taught by an engineering faculty member, have an engineering advisor in addition to the First Seminar



## Faculty Senate

advisor. FSCUE endorsed this recommendation. The recommendation for a second advisor in engineering had been part of the original SAGES proposal in 2004 but never implemented. Prof. Dubin stated that this was an informational report only and the Senate was not being asked to confirm FSCUE's recommendations. *Attachment*

### **FSCUE: Advising Feedback Recommendations**

Prof. Dubin reported on FSCUE's recommendations regarding the adoption of an advising feedback system. The original request for this type of system had come from USG. The feedback system would be administered once a year at the end of the spring semester, although first year students would also be asked to evaluate their SAGES advisor at the end of the First Seminar. Students would evaluate the individual who has the authority to lift their registration advising holds. The results of the advisor evaluations would be available to the advisor (if the advisor has 3 or more advisees) and to those who oversee advising for the particular program. It will be up to the individual departments to determine what improvements, if any, to make based on information from the advising feedback evaluations. The purpose is to provide the departments with information that had not been available in the past. The Faculty Senate voted to approve the advising feedback system by a vote of 20 in favor and 10 against. *Attachment*

### **FSCUE: Recommendations on Offering Online Undergraduate Courses**

Prof. Dubin reported on FSCUE's recommendations regarding online undergraduate courses. The university's practice has been not to offer online undergraduate courses during the fall and spring semesters. There have been a number of recent requests from departments/schools regarding online offerings. The topic was discussed by the FSCUE Curriculum Subcommittee and its recommendations were approved by FSCUE. In summary, the recommendations are to maintain a policy of not allowing courses to be taught completely in an online format during the regular academic year, but if offered during the regular academic year, the course could be offered only in an online format during the summer. Courses may be taught throughout the semester in a hybrid format with some degree of structured, in-person class interaction between students and the teaching staff. The Faculty Senate voted to approve the recommendations for online undergraduate courses. *Attachment*

### **Bias Reporting System**

Prof. Harte reported that he and Prof. Colares had discussed issues raised by the Senate Committee on Faculty Personnel in their review of the Bias Reporting System (BRS) at a meeting with Lou Stark, Vice President for Student Affairs and the presidents of USG and GSC. Issues discussed at that meeting included problems within the BRS, the vague and subjective nature of the term "bias", and concerns over referrals of complaints about faculty to administrators in OIDEO for possible disciplinary actions without faculty input. Similar concerns were expressed



## Faculty Senate

by the Senate Executive Committee at the April 20<sup>th</sup> meeting. The Executive Committee agreed that an ad hoc Committee of faculty, staff and students should be established to discuss these issues further and make appropriate changes. The Executive Committee considered whether the BRS should be deactivated while the ad hoc Committee discusses potential improvements. The Committee decided that the system could remain active but that all complaints received by the Office of Student Affairs involving faculty that would otherwise be referred to the OIDEO office would be handled by the ad hoc Committee until such time as changes are made to the system.

### **FSCUE: PRIME Program**

Professor Jill Korbin, CAS, and Professor Cheryl Thompson (SOM) presented the Post-baccalaureate Readiness Instruction for bioMedical Education (PRIME) program. The program, which is the result of several years of collaborative work between the CAS and the SOM, is designed to qualify and prepare post-baccalaureate students for admission to highly-ranked medical schools. Successful students will be awarded a non-degree post-baccalaureate certificate. Two types of students will benefit from this program: those who want to improve their undergraduate science GPA for admission to medical school, and/or those who want to take courses that they did not take at the undergraduate level. Students will be taking undergraduate as well as graduate-level courses. It is anticipated that the program will produce revenue for both the College and the Medical School. No more than 20 students are expected to enroll in the first year of the program.

The program was reviewed by both the Senate Committee on Graduate Studies as well as the Senate Committee on Undergraduate Education. Both committees approved the program but had concerns and suggestions. Of greatest concern to a number of faculty was the fact that the program could add more students to classes that are already overcrowded. There is also insufficient lab space on campus. Prof. Thompson indicated that they expect only a few students to enroll who need to take the larger science classes and that undergraduate students will be given priority for these classes when registering. PRIME students who need the classes can take them during the summer or at other times when they are less crowded. The program will have a dedicated advisor to work with enrolled students on class schedules and an steering/advising group to monitor the success of the program. The program will be continually evaluated and formally re-evaluated in two years to assess its resources, and to ensure that it is working well for the School of Medicine, the College of Arts and Sciences, and the PRIME students. The Faculty Senate voted to approve the program. *Attachment*

### **FSCUL Statement Recommending a Comprehensive External Review of the CWRU Library System**

Professor Paul Iversen, chair of the Faculty Senate Committee on University Libraries (FSCUL), presented a statement from FSCUL recommending a comprehensive external review of the



## Faculty Senate

CWRU Library System. Prof. Iversen and Arnold Hirshon, Associate Provost and University Librarian, met with Provost Baeslack immediately before the Senate meeting and the Provost endorsed the recommendation. The Faculty Senate also voted to endorse the recommendation. *Attachment*

### **Library Content and Resource Review Process for New Programs and Degrees**

Prof. Iversen presented a proposal from FSCUL for a Library Content and Resource Review Process for New Programs and Degrees. The proposal provides that when a school or the College plans to submit to the Faculty Senate for final approval a proposal for a new CWRU program or degree, the sponsor (e.g., the school or one of its departments) must include in its submission materials a “library resource assessment report” regarding the adequacy of library content and services to accommodate the academic requirements of the program or degree. Significant changes to existing degrees and programs would also require an assessment. If it is determined that there are insufficient resources for a program, it would not result in the automatic veto of the program and the sponsors would still have the option to submit the program for approval if they feel it is appropriate. The Faculty Senate approved the proposal for the resource review process. *Attachment*

### **Minor in Public Health**

Professor Mendel Singer (SOM) presented a proposal for a minor in Public Health. CWRU had a major in Public Health for a short time but there were insufficient resources to maintain it. The courses for the minor already exist. The minor will be a collaboration with six departments and one center and will consist of 15 credit hours. The Faculty Senate voted to approve the minor in Public Health. *Attachment*

### **Report from Finance Committee**

Professor Glenn Starkman, chair of the Faculty Senate Finance Committee, reported on the activities of the Committee during the 2016-2017 academic year. Along with the Committee’s regular annual activities, this year, deans of the college/schools were invited to attend a meeting to report on the school’s finances, to discuss co-governance around finances, and to discuss the progress made on financial recovery plans. The Committee met with 6 of the 8 schools during the year. The Committee also met with President Snyder regarding the affiliation agreement with University Hospitals and the financial implications for CWRU, especially the School of Medicine. The Committee also discussed the Board of Trustees’ decision to increase the university’s line of credit in December of 2016. Prof. Starkman encouraged all senators to attend the Senate end-of-year budget meeting where many of these issues will be discussed in more detail. *Attachment*

## Faculty Senate

### **Nominating Committee Report**

Professor Maureen McEnery, chair of the Faculty Senate Nominating Committee, presented the 2017-2018 Senate Executive Committee, standing committee chairs, and slate of standing committee members. The Faculty Senate approved the new Executive Committee members and slate of standing committee members. The chairs of the standing committees had been approved previously by the Senate Executive Committee as required under the Faculty Handbook.

The formal portion of the meeting concluded at 5:30 pm.

### **Passing of the Gavel**

The Faculty Senate gavel was passed from Prof. Harte to Prof. Colares who will assume the position of Faculty Senate chair following Commencement on May 21<sup>st</sup>.

## Board of Trustees

## Executive Committee

### **Executive Committee of the Board of Trustees April 18, 2017 Secretary Report to the April 27, 2017 meeting of the Faculty Senate**

The Executive Committee of the Board of Trustees met on April 18, 2017. The next meeting is May 16, 2017. As is practice, the written report will be submitted. Following is a summary of key items approved by the Trustees.

The Trustees approved the establishment of 5 new endowments totaling approximately \$190,000 for scholarships and for the School of Nursing discretionary fund.

The Trustees approved 11 junior faculty appointments, 7 senior faculty appointments, 6 appointments (including 1 inaugural appointment) and 4 reappointments to named professorships.

Upon the Faculty Senate's recommendation to the President, the Trustees approved the following new certificate programs:

1. Graduate Certificate in Global Health Nutrition
2. Graduate Certificate in Nutrition for Health Care Professionals
3. Graduate Certificate in Public Health

The Trustees approved 1017 undergraduate diplomas and 1534 graduate diplomas (a total of 2551) to be awarded on May 21<sup>st</sup>.

Report provided by Arlishea Fulton, Senior Counsel, Office of General Counsel

## **Report of the Executive Committee—April 20 Meeting**

The Executive Committee met on April 20. Technically, I have nothing to report because we deliberated on all the new and pending items in our agenda, which helps explain the length of this meeting. However, as a courtesy to David Fleshler, our Vice-Provost for International Affairs, I provide you a brief report on the work of the Ad Hoc International Rankings Committee, which began this semester and will continue this summer and next year.

### **1. Ad Hoc Int'l Rankings Committee:**

- Following presentations and discussions with Committee Members, Committee Co-Chairs David Fleshler and Arnold Hirshon met with Provost Baeslack and later with President Snyder, who authorized them to engage the leading consultant on international rankings: Illuminate Consulting Group ("ICG");
- Dr. Daniel Guhr, ICG's managing director will be on campus on May 9-10 for discussions/meetings;
- We encourage all faculty (and members of the Faculty Senate) to be involved;
- Vice-Provost Fleshler's Office will provide specifics soon regarding meetings for interested faculty—watch your email inboxes;
- This is a very positive initial outcome of the work of the Ad Hoc Committee, which this Body organized last January;
- Of course, one should expect a period of institutional analysis and then more work to implement the findings;
- Please note that while this work is specifically about improving our international rankings, Dr. Guhr has made it clear that any effort is long-term and will involve changing and improving reporting processes as well as engaging faculty throughout campus;
- That said, by pushing Dr. Guhr to come to campus ASAP, we hope to be in a better position to affect our submissions to ranking organizations next Spring.

That's all I have.

# Bioethics & Medical Humanities Minor

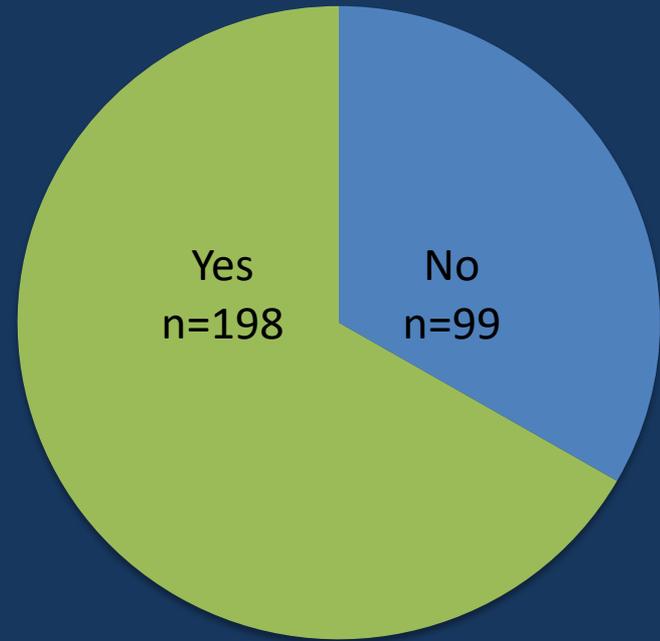
Mark P. Aulisio, PhD  
Susan E. Watson Professor and Chair

Eileen P. Anderson-Fye, EdD  
Associate Professor

Department of Bioethics

# Student-driven minor

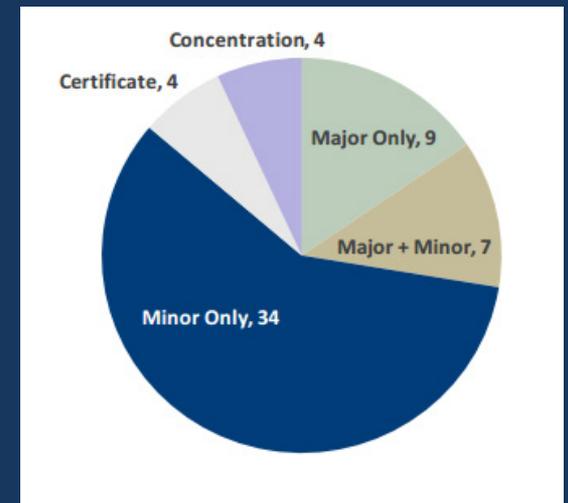
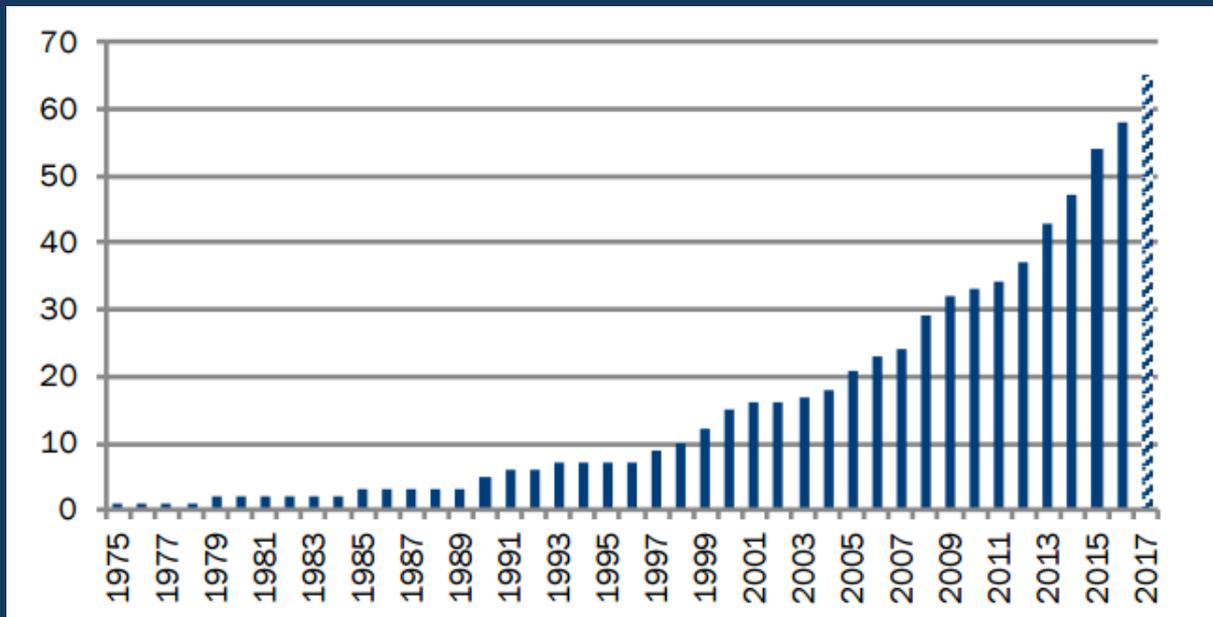
- In 2015, a first-year student initiated an undergraduate poll
- 297 respondents in 3 days
- 60% pre-health



Would you be interested in having a  
Bioethics and Medical Humanities  
Minor at CWRU?

# National data

Undergraduate programs in field of Bioethics and Medical Humanities in the U.S.



Berry, Lamb & Jones, 2016

# Benefits

- Performance
- Specialty choice
- Interpersonal skills
- Leadership and service



Berry, Lamb & Jones, 2016

# Thank you!

## Questions?

## Comments?

# Content

- 15 credit hours total
- 9 credit hours involving 3 of 4 (below)
  - BETH210, Perspectives on Health: Introduction to Medical Humanities and Social Medicine
  - BETH271, Bioethics: Dilemmas
  - BETH360, Science and Society
  - BETH371, Advanced Bioethics
- 6 credit hours of **electives** (see full proposal including offerings from History, English, and Philosophy)

Other optional activities including thriving undergraduate group, activities with MA students, etc.

**CWRU Action Form for Majors/Minors/Programs/Sequences/Degrees**  
(instructions on back)

Docket # \_\_\_\_\_

College/School: School of Medicine  
Department: Bioethics

PROPOSED:  major  
 minor  
 program  
 sequence  
 degree

TITLE: CWRU Minor in Bioethics and Medical Humanities

EFFECTIVE: Fall (semester) 2017 (year)

**DESCRIPTION:**

Bioethics and Medical Humanities together comprise a vibrant area of scholarship concerning the most important and cutting-edge ethical issues surrounding biomedical research and the delivery of health care today. The study of such ethical issues calls into action our most central human values and related behaviors, the exploration of which is of crucial importance for all students whether one plans to enter a career in the healthcare professions, biomedical research, law, nonprofit administration, or some other career path. The topics covered in Bioethics and Medical Humanities will help prepare students to become responsible world citizens in an increasingly complex biomedical environment.

The relationship of Bioethics and Medical Humanities is already reflected in the professional society, The American Society of Bioethics and Humanities. In addition, it has been a strong national trend for undergraduate education. For example, a decade ago Vanderbilt launched a related undergraduate program with a handful of students; today it enrolls roughly 450 students a year as majors.

Strong undergraduate student-led initiative and demand at CWRU prompted the Bioethics faculty to consider developing a proposal for a Bioethics and Medical Humanities Minor. With support letters from other University department chairs and the CWRU pre-health advisor, Steven Scherger, the Bioethics faculty is confident that the Bioethics and Medical Humanities Minor will become a popular alternative for students who want to enhance their major course of study.

The CWRU Minor in Bioethics and Medical Humanities will formally recognize a student's coordinated course of study comprised of courses currently being offered by the Department of Bioethics and other departments in the College of Arts and Sciences. No new courses will have to be created to support this minor. This minor would allow students to have their bioethics education at CWRU formally recognized by the University. With increased emphasis on bioethics in the new MCAT exam and in medical school interviews, we anticipate that many students at CWRU will want to take advantage of the University's bioethical educational opportunities and to have their efforts acknowledged on their diplomas.

Unlike the Ethics Minor offered by the Philosophy Department, the Bioethics and Medical Humanities Minor is designed to give students ethical and social training centered specifically around the delivery of health care and biomedical research, and to do so in a highly interdisciplinary manner. As an interdisciplinary program, the Bioethics and Medical Humanities Minor will draw on the offerings of several departments: English, History, and Philosophy. Please see attached support letters from these department chairs.

Requirements: 15 credit hours (9 of which must be BETH courses and 6 elective credit hours). The Bioethics Department is prepared to offer multiple sections of required BETH courses if demand warrants them. Please see the attached list of required and elective courses for the minor, along with the course descriptions.

Required courses (any 3 of the following 4 courses: 9 credit hours total):

BETH 210 Perspectives on Health: Introduction to Medical Humanities and Social Medicine  
BETH 271 Bioethics: Dilemmas (3 credit hours)  
BETH 360 Science and Society (3 credit hours)  
BETH 371 Advanced Bioethics (3 credit hours)

Small Illustrative Sample of Elective Courses (6 credit hours total):

BETH 315 Bioethics Short-Term Study Abroad Courses (Costa Rica, Spain, France, The Netherlands) (3 credit hours)  
BETH 371c Clinical Observation (1 credit hour)  
BETH 407 Bioethics and Religion (3 credit hours)

ENGL 217B Writing for the Health Professions  
ENGL 330: Victorian Literature  
ENGL 341 Rhetoric of Science and Medicine  
ENGL 379: Topics in Language: Writing & Healing  
ENGL 386 Studies in Literature and Culture: Literature and Medicine  
HSTY 151: Technology in European Civilization  
HSTY 152: Technology in America  
HSTY 202: Science in Western Thought, II  
HSTY 241: Inventing Public Health  
HSTY 243: Age of Prozac  
HSTY 293: History of Drugs  
HSTY 342: Water  
HSTY 346: Guns, Germs, and Steel  
HSTY 373: Women and Medicine  
HSTY 395: History of Medicine  
PHIL 101 Introduction to Philosophy  
PHIL 203 Revolutions in Science  
PHIL 204 Philosophy of Science  
PHIL 305 Ethics

Is this major/minor/program/sequence/degree:  new  
 modification  
 replacement

If modification or replacement please elaborate: \_\_\_\_\_  
\_\_\_\_\_

Does this change in major/minor/program/sequence/degree involve other departments?  Yes  No

If yes, which departments? Philosophy, History, English  
\_\_\_\_\_  
\_\_\_\_\_

Contact person/committee: Insoo Hyun \_\_\_\_\_ DATE

SIGNATURES:  
Department Curriculum Chair(s)/Program Directors: \_\_\_\_\_  
Department Chair: \_\_\_\_\_  
College/School Curriculum Committee Chair: \_\_\_\_\_  
College/School Dean(s): \_\_\_\_\_  
UUF Curriculum Committee Chair: \_\_\_\_\_

File copy sent to:  Registrar  Office of Undergraduate Studies/Graduate Studies  
 Other: \_\_\_\_\_

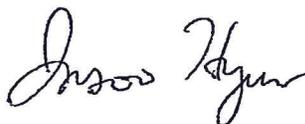
*Signatures on original form attached*

Contact person/committee: Insoo Hyun

**SIGNATURES:**

**DATE**

Department Curriculum Chair(s)/Program Directors: \_\_\_\_\_



2/9/16

Department Chair: \_\_\_\_\_



2/11/16

College/School Curriculum Committee Chair: \_\_\_\_\_

College/School Dean(s): \_\_\_\_\_

UUF Curriculum Committee Chair: \_\_\_\_\_

File copy sent to:

Registrar  Office of Undergraduate Studies/Graduate Studies

Other: \_\_\_\_\_

## **Bioethics and Medical Humanities Minor Courses**

No new courses are needed for this proposed minor. The courses below are currently listed in the undergraduate course catalog.

### **I. REQUIRED COURSES (9 credit hours total)**

These required courses are offered every year. Additional sections of these courses will be provided by the Bioethics faculty if necessary, based on student demand for the Minor.

BETH 210: Perspectives on Health - Introduction to Medical Humanities and Social Medicine (3 credits)

BETH 271 – Bioethics: Dilemmas (3 credits)

This course introduces students to central ethical problems and issues surrounding biomedical research and the delivery of health care. Topic areas include clinical ethics and end-of-life decision making and research ethics.

BETH 360 – Science and Society (3 credits)

This course examines the complex ethical and other value relationships that exist between science and society. Students will be encouraged to question the simplistic view that science proceeds independently of societal values and contentious ethical commitments. In order to illuminate these larger themes, this course focuses on two exciting areas of scientific inquiry: stem cell research and human gene editing.

BETH 371 – Advanced Bioethics (3 credits)

This course offers upper-level instruction on many key bioethical issues introduced in BETH 271. Students begin with an in-depth analysis of the philosophical and practical challenges involved in medical decision making for adults and pediatric patients. Next students examine ethical issues surrounding biomedical research. The course concludes by addressing the broader ethical problem of what duties we owe to future generations in terms our reproductive choices and the distribution of long-range burdens and benefits.

### **II. ELECTIVE COURSES (6 credit hours total)**

Additional courses may be added in the future to this list of electives for the Minor in Bioethics and Medical Humanities. Each new elective course must be approved by Bioethics Department faculty director of the Minor and must have substantial bioethics or medical humanities content (greater than 75%).

BETH 315 – Bioethics Short-Term Study Abroad Courses (3 credits)

(Costa Rica, Spain, France, The Netherlands)

Each of these courses explores cross-cultural issues in bioethics, ranging from public health to euthanasia to bioethics and film.

#### BETH 371c – Clinical Observation (1 credit)

This course is a one-credit class intended to supplement BETH 371: Advanced Bioethics. In this course students will become familiar with the clinical, psychological, social, professional, and institutional context in which bioethical problems arise. Students are exposed to clinical cases as they arise, to hospital ethics committees and ethics consultation programs, to institutional review boards (IRB), and to hospital policies covering "do not resuscitate" orders (DNR), advance directives, withdrawal of artificial feeding, and medical futility. The clinical rotation will consist of 20 hours of supervised observation where students attend structured clinical activities such as ICU rounds, case conferences as well as shadow clinicians that work with the Department of Bioethics and are used to having students at various levels of observers. The purpose of the clinical rotation will be to give students first hand observational experience in the health care system and how the key bioethical issues discussed in BETH 371 manifest in the clinical setting. The primary locations for this course are MetroHealth Medical Center and Louis Stokes Cleveland VA Medical Center.

#### BETH 407 – Bioethics and Religion (3 credits)

This course examines the role of religion in a religiously pluralistic society, particularly as it pertains to the delivery of health care in the United States. This course offers insight on how religion shapes questions of justice in patient care and the ethical tools provided by Islam, Buddhism, and Evangelical Christianity.

#### ENGL 217B – Writing for the Health Professions

This course offers practice and training in the professional and technical writing skills common to health professions (e.g., medicine, nursing, dentistry).

#### ENGL 330 – Victorian Literature

This course will examine a wide array of British literature written during the nineteenth century. In particular, we will focus on how Victorian writers represented the workings of the human mind and traced the development of character in a number of different genres. We will also study the interplay between Victorian literature and the development of psychology as a discipline during the second half of the nineteenth century.

#### ENGL 341 – Rhetoric of Science and Medicine

This course explores the roles language and rhetoric play in constructing, communicating, and understanding science and medicine. It surveys current and historical debates, theories, research, and textual conventions of scientific and medical discourse.

#### ENGL 379 – Topics in Language: Writing and Healing

Aspects of contemporary language studies. Topics might include history/theories of rhetoric, discourse studies, cognitive linguistics, metaphor, language acquisition, stylistics. The version of this course that would count toward the Minor in Bioethics and Medical Humanities will consider linguistic and rhetorical approaches to healthcare,

including narrative medicine, writing therapies, and other uses of language in the practices of healing.

#### ENGL 386 – Studies in Literature and Culture: Literature and Medicine

Boundary-crossing study of the relations between literary and other aspects of a particular culture or society, including theoretical and critical issues raised by such study. The version of this course that would count toward the Minor in Bioethics and Medical Humanities will be focused on literature and medicine.

#### HSTY 151 – Technology in European Civilization

This course introduces students to the relationship between technology and its social, political, and cultural settings, and to the values invested in technology at significant historical moments.

#### HSTY 152 – Technology in America

Origins and significance of technological developments in American history. Emphasis on the social, cultural, political, and economic significance of technology in American history.

#### HSTY 202 – Science in Western Thought II

The development of Western thinking about the natural world and our relation to it, as part of culture.

#### HSTY 241 – Inventing Public Health

The core principle of this course is that public health is a concept that was formed in different ways at different times in different places. Course participants will learn about the close relationship between public health agencies and agendas and various kinds of social authority: political power, moral influence, colonial power, and others. Ultimately, the aim of the course is to show participants that even though public health seems a supremely common sense practice, it had a highly contested birth and early life that was anything but natural or pre-ordained. That complicated birth continues to shape public health to this day.

#### HSTY 243 – Age of Prozac

Although often experienced as an intensely individual, private, and painfully isolated affliction, depression has profound social and cultural dimensions. This course will neglect neither biological (neurochemical or genetic) perspectives, nor personal or psychological aspects, but will emphasize perspectives derived from history, anthropology, and sociology. While there may be tangential attention to bi-polar disorder ("manic depression"), the emphasis will be on unipolar depression. The course will conclude with an in-depth exploration of the rise of pharmaceutical treatments.

#### HSTY 293 – History of Drugs

This course will survey the rise and political, social, and cultural effects of drugs in modern societies with an emphasis on the late 19th and 20th century United States. First we will examine the global emergence and popularization of drugs as part of what David

Courtwright has coined the "psychoactive revolution." Then, we will narrow this broad lens by shifting our gaze to narcotics in the expanding U.S. nation. Specifically, we will examine the shifting demographics, nature of, and debates regarding narcotic consumption, regulation, and policy--and how these disparately affect and shape the lives of diverse populations. Finally, we will explore the human toll of narcotics in post-World War II culture and cities.

#### HSTY 342 – Water

This seminar will explore the history of the meaning of water--that is, the social, cultural, and/or political significance placed on water by individuals and governments in different times and places. It will also examine how humans have acted upon water, and how it has acted upon humans, with great consequences for human life. This seminar will look at the history of water in the context of science, technology and society; public health; political science; and environmental history.

#### HSTY 346 – Guns, Germs, and Steel

Jared Diamond's *Guns, Germs, and Steel* won the Pulitzer for non-fiction in 1998. Diamond, a physiologist, explains that Western Europe came to occupy and dominate large areas of the globe because of natural resources present in certain regions of the Old World since the end of the last Ice Age. Where a historian might look for answers in the written evidence left by historical individuals, Diamond examines ancient patterns of plant diffusion or the place of mountain ranges and deserts in the development of technologies. This seminar is about applying the history of a specific time and place namely North America from European contact to 1850 - to Diamond's general environmental explanations and models. Placing Diamond's broad explanations within specific historical contexts is revealing.

#### HSTY 373 – Women and Medicine

Students in this seminar will investigate the experiences of American women as practitioners and as patients. We will meet weekly in the Dittrick Medical Museum for discussion of texts and use artifacts from the museum's collection. After a unit exploring how the female body was viewed by medical theorists from the Galenic period to the nineteenth-century, we will look at midwives, college-trained female doctors and nurses, and health advocacy among poor populations. We will then look at women's experiences in terms of menstruation, childbearing, and menopause, before exploring the cultural relationship between women and psychological disorders.

#### HSTY 395 – History of Medicine

This course treats selected topics in the history of medicine, with an emphasis on social and cultural history. Focusing on the modern period, we examine illnesses, patients, and healers, with attention to the ways sickness and medicine touch larger questions of politics, social relations and identity.

#### PHIL 101 – Introduction to Philosophy (3 credits)

Basic problems of philosophy and methods of philosophical thinking. Problems raised by science, morality, religion, politics, and art.

PHIL 203 – Revolutions in Science (3 credits)

Historical and philosophical interpretation of some epochal events in development of science.

PHIL 204 – Philosophy of Science (3 credits)

Conceptual, methodological, and epistemological issues about science: concept formation, explanation, prediction, confirmation, theory construction and status of unobservables.

PHIL 305 – Ethics (3 credits)

Analysis of ethical theories and concepts of goodness, right, and obligation.



CASE WESTERN RESERVE  
UNIVERSITY

SCHOOL OF MEDICINE

Mark P. Aulisio, Ph.D.  
Professor and Interim Chair  
Department of Bioethics

MetroHealth Medical Center  
Rammelkamp Center  
2500 MetroHealth Drive  
Cleveland, Ohio 44109-1998

Case Western Reserve University  
School of Medicine  
10900 Euclid Avenue  
Cleveland, Ohio 44106-4976

Phone: 216-778-8497  
Fax: 216-778-3360

Phone: 216-368-6196  
Fax: 216-368-8713

October 18, 2015

To Whom It May Concern:

I enthusiastically offer this letter in support of the Bioethics and Medical Humanities minor proposed by Professor Insoo Hyun. For a number of years, our department has received inquiries from undergraduate students interested in minoring in bioethics. Anecdotally, the majority these students seem to have come from among the pre-health majors here at CWRU, but there have been students from other areas as well. Last year, several impressive and highly motivated undergraduate students approached us expressing their strong desire that we seriously explore the possibility of developing a bioethics related minor. One of these students, Caroline Gray took the initiative to survey her peers to gauge their interest. Caroline received 297 overall survey responses, with 198 of the respondents indicating an interest in a bioethics related minor. Though we well aware, of course, that it is highly unlikely that anywhere near 198 would actually choose to pursue the minor if it were created, the indication of interest among 2/3 of those surveyed is rather compelling. Professor Hyun's proposal for a bioethics and medical humanities minor is a direct response to this compelling student interest and I support it completely.

Sincerely,

A handwritten signature in black ink, appearing to read 'MA' followed by a flourish.

Mark P. Aulisio, PhD  
Professor and Interim Chair, Department of Bioethics  
Director, Center for Biomedical Ethics, MetroHealth  
Case Western Reserve University



CASE WESTERN RESERVE  
UNIVERSITY EST 1826

Office of Undergraduate Studies

10900 Euclid Avenue  
Cleveland, Ohio 44106-7028

Visitors and Deliveries  
Sears Building, Room 357

Phone 216.368.2928  
Fax 216.368.4718

[www.case.edu](http://www.case.edu)

September 28, 2015

To Whom It May Concern:

I am writing in support of the Bioethics minor as currently proposed by the School of Medicine. My support is based on the demand that I believe exists for such an academic program among our undergraduate pre-health students and the benefit they would receive from it.

I am in agreement with the assertion made in the proposal that the minor would be a popular option for pre-health students who are seeking to enhance their undergraduate studies and their preparation for a career in the health sciences. (Despite my confidence in the minor's popularity, I am uncertain about the expectation of 190 students.) Many of our pre-health students are interested in opportunities to expand their preparation for their future careers and to distinguish themselves by exploring health-related topics beyond the core sciences required by the professional health science schools. The minor in Bioethics would benefit our students in their professional development by equipping them to think complexly about the ethics involved with the delivery of health care and the practice of biomedical research. Such development would aid them in their applications to the professional health science programs; but even more important, in their future careers as health care providers.

If you would like to discuss further my support for the proposed Bioethics minor, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven P. Scherger".

Steven P. Scherger, PhD  
Director of Health Career Advising  
[steven.scherger@case.edu](mailto:steven.scherger@case.edu)



COLLEGE OF  
ARTS AND SCIENCES  

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CASE WESTERN RESERVE  
UNIVERSITY

Department Of Philosophy  
10900 Euclid Avenue  
Cleveland, Ohio 44106-7119

Visitors and Deliveries  
11130 Bellflower Rd., 200 Clark Hall

Phone 216.368.2810  
Fax 216.368.0814

[www.case.edu/artsci/phil](http://www.case.edu/artsci/phil)

Jan 5, 2016

To whom it may concern:

The Philosophy Department endorses the Department of Bioethics' proposal to create a minor in Medical Humanities. Bioethics is an important interdisciplinary field building on philosophical insights, including philosophy of science, political philosophy and normative ethics. We welcome the chance to contribute to students' concentrated education in this field.

The following Philosophy courses are particularly well suited for inclusion as electives in this minor program, and will give students an excellent background for understanding the philosophical content of the problems they investigate, both ethical and scientific as well as the history of human theorizing on such problems.

**PHIL 101. Introduction to Philosophy. 3 Units.**

Basic problems of philosophy and methods of philosophical thinking. Problems raised by science, morality, religion, politics, and art. Readings from classical and contemporary philosophers. Normally given in multiple sections with different instructors and possibly with different texts. All sections share core materials in theory of knowledge, metaphysics, and ethics despite differences that may exist in emphasis.

**PHIL 203. Revolutions in Science. 3 Units.**

Historical and philosophical interpretation of some epochal events in development of science. Copernican revolution, Newtonian mechanics, Einstein's relativity physics, quantum mechanics, and evolutionary theory; patterns of scientific growth; structure of scientific "revolutions;" science and "pseudo-science."

**PHIL 204. Philosophy of Science. 3 Units.**

Conceptual, methodological, and epistemological issues about science: concept formation, explanation, prediction, confirmation, theory construction and status of unobservables; metaphysical presuppositions and implications of science; semantics of scientific language; illustrations from special sciences.

**PHIL 305. Ethics. 3 Units.**

Analysis of ethical theories and concepts of goodness, right, and obligation. Discussion of nature of justice, problem of justification of moral principles, and relation between facts and values.

A handwritten signature in cursive script that reads "Laura Hengehold".

Laura Hengehold

Associate Professor and Chair, Department of Philosophy

## Jeffrey Wolcowitz

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**From:** Insoo Hyun  
**Sent:** Wednesday, December 21, 2016 10:29 AM  
**To:** Jeffrey Wolcowitz  
**Subject:** Fwd: Minor in Bioethics and Medical Humanities

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Hello Dean Wolcowitz,

Here is the email below from the Philosophy Dept. stating that they approve of our title for the minor: Minor in Bioethics and Medical Humanities.

Insoo Hyun

----- Forwarded message -----

**From:** **Laura Hengehold** <[leh7@case.edu](mailto:leh7@case.edu)>  
**Date:** Tue, Dec 13, 2016 at 10:24 AM  
**Subject:** Re: Minor in Bioethics and Medical Humanities  
**To:** Insoo Hyun <[insoo.hyun@case.edu](mailto:insoo.hyun@case.edu)>

Dear Insoo -

This is a fine title for the minor. Thank you for clarifying the context of the query. I was wondering what was implied by the longer title and whether I should be consulting with all my faculty on the approval of the title itself (we discussed the minor last year), but now I see this is not the primary issue at stake right now. Best of luck finishing this approval process -

Best,  
Laura

On Fri, Dec 9, 2016 at 9:58 AM, Insoo Hyun <[insoo.hyun@case.edu](mailto:insoo.hyun@case.edu)> wrote:  
Dear Laura,

I hope this email finds you doing well. I am contacting you to clarify, at the request of the College of Arts and Sciences, that you and the Dept. of Philosophy approve of the title of our proposed minor: Bioethics and Medical Humanities.

Just a quick email response should suffice! Thank you, and happy holidays.

Sincerely,  
Insoo

--

Insoo Hyun, Ph.D.  
Associate Professor



COLLEGE OF  
ARTS AND SCIENCES

CASE WESTERN RESERVE  
UNIVERSITY

Department of History  
Case Western Reserve University  
11201 Euclid Avenue  
Cleveland, Ohio 44106-7107  
Phone 216.368.2625  
Fax 216.368.4681  
history.case.edu

December 14, 2015

Prof. Mark Aulisio  
Chair, Department of Bioethics  
School of Medicine  
Case Western Reserve University  
Cleveland, OH 44106

**Department of History Support for Proposed Minor in  
Bioethics and Medical Humanities**

Dear Mark:

The Department of History endorses the proposal from the Department of Bioethics to create a minor in Bioethics and Medical Humanities. We encourage a broad definition of “humanities” to encompass course work and inquiry that examines the intersection of medicine and health care with social status, cultural meaning, and the histories of science and technology.

The Department of History offers the following courses that we would suggest be included as electives for students in the new minor:

**HSTY 151: Technology in European Civilization**  
**HSTY 152: Technology in America**  
**HSTY 202: Science in Western Thought, II**  
**HSTY 241: Inventing Public Health**  
**HSTY 243: Age of Prozac**  
**HSTY 293: History of Drugs**  
**HSTY 342: Water**  
**HSTY 346: Guns, Germs, and Steel**  
**HSTY 373: Women and Medicine**  
**HSTY XXX: The Body in History (lapsed course, to be restored to Bulletin)**  
**HSTY 395: History of Medicine**

Please let me know if you have any other questions, and feel free to call me at 368-4144 or to send emails to [kenneth.ledford@case.edu](mailto:kenneth.ledford@case.edu). Please be advised that from January 1, 2016 until June 30, 2016, Prof. Gillian Weiss will serve as Acting Chair of the Department of history,



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so that any correspondence after January 1 should be directed to her.

Best regards,

A handwritten signature in cursive script, reading "Kenneth F. Ledford".

Kenneth F. Ledford  
Associate Professor of History and Law  
Chair, Department of History  
Co-Director, Max Kade Center for German Studies



CASE WESTERN RESERVE  
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COLLEGE OF ARTS AND SCIENCES

Date: 5 November 2015  
To: Department of Bioethics  
From: Christopher Flint, Associate Professor and Chair, Department of English  
RE: English Department Support of New Minor in Bioethics and Medical Humanities

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The English department endorses the Department of Bioethics' proposed minor in Medical Humanities and encourages a broader definition of "humanities" to include coursework and inquiry that examines the intersections of literature, language, rhetoric, and communication with medicine and healthcare.

The English Department at Case Western Reserve promotes intellectual curiosity, analytical inquiry, and creative thinking about the rich variety of fields in (and beyond) our discipline. Our department includes a defined faculty research focus on Medicine, Language, and Literature, as well as a full complement of literary, film, journalism, writing studies, and creative writing courses for undergraduate and graduate students. Recent doctoral students in the department have completed dissertations on Literary Autothanatographies (memoirs of death and dying), the Public Health Rhetoric of the American Heart Association, and Memoirs of Autism.

If the Department of Bioethics were interested, the Department of English would be happy to participate in the Minor in Bioethics and Medical Humanities by offering any/all of the following courses for students to take as electives:

- **ENGL 217B: Writing for the Health Professions (offered every spring)** – *This course offers practice and training in the professional and technical writing skills common to health professions (e.g., medicine, nursing, dentistry). Attention will be paid to the writing processes of drafting, revising, and editing. The course includes discussion of audience awareness and ethical communication practices, and includes analysis of public health campaigns.*
- **ENGL 341: Rhetoric of Science & Medicine (offered every fall)** – *This course explores the roles language and rhetoric play in constructing, communicating, and understanding science and medicine. It surveys current and historical debates, theories, research, and textual conventions of scientific and medical discourse. May be taught with a specific focus, such as scientific controversies, concepts of health and illness, visualizations of science, the body in medicine, and the history of scientific writing.*
- **ENGL 330: Victorian Literature (offered every other fall)** – *Aspects of English literature and its contexts during the reign of Queen Victoria. Genres studied might include poetry, prose fiction, political and philosophical writing. Writers such as the Brontes, Gaskell, Dickens, Eliot, Hardy, Tennyson, the Brownings, Arnold, Carlyle, Ruskin, Gosse, Swinburne, and Hopkins.*

*Current faculty teach this course with an emphasis on the interactions between literature and psychology.*

- **ENGL 386: Studies in Literature and Culture: Literature & Medicine** (offered periodically, but with an audience could be offered regularly) – *Boundary-crossing study of the relations between literary and other aspects of a particular culture or society, including theoretical and critical issues raised by such study. For example, literature and medicine, law and literature, gay and lesbian literature, Asian/Western literary relations, emotion in literature, philosophy and literature, literature and music.*
- **ENGL 379: Topics in Language: Writing & Healing** (offered periodically) – *Aspects of contemporary language studies. Topics might include history/theories of rhetoric, discourse studies, cognitive linguistics, metaphor, language acquisition, stylistics. One version of this course would consider linguistic and rhetorical approaches to healthcare, including narrative medicine, writing therapies, and other uses of language in the practices of healing.*

## Jeffrey Wolcowitz

---

**From:** Insoo Hyun  
**Sent:** Wednesday, December 21, 2016 10:28 AM  
**To:** Jeffrey Wolcowitz  
**Subject:** Fwd: Minor in Bioethics and Medical Humanities

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Hello Dean Wolcowitz,

Here is the email below from the English Dept. stating that they approve of our title for the minor: Minor in Bioethics and Medical Humanities.

Insoo Hyun

----- Forwarded message -----

**From:** **Christopher Flint** <[cx33@case.edu](mailto:cx33@case.edu)>  
**Date:** Sat, Dec 17, 2016 at 8:47 AM  
**Subject:** Re: Minor in Bioethics and Medical Humanities  
**To:** Insoo Hyun <[insoo.hyun@case.edu](mailto:insoo.hyun@case.edu)>

Dear Insoo Hyun (and Eileen Anderson-Fye),

Please let this email serve as ENGL Dept approval of of the title of the proposed minor: Bioethics and Medical Humanities.

All best,  
Chris

On Fri, Dec 9, 2016 at 10:00 AM, Insoo Hyun <[insoo.hyun@case.edu](mailto:insoo.hyun@case.edu)> wrote:  
Dear Christopher,

I hope this email finds you doing well. I am contacting you to clarify, at the request of the College of Arts and Sciences, that you and the English Dept. approve of the title of our proposed minor: Bioethics and Medical Humanities.

Just a quick email response should suffice! Thank you, and happy holidays.

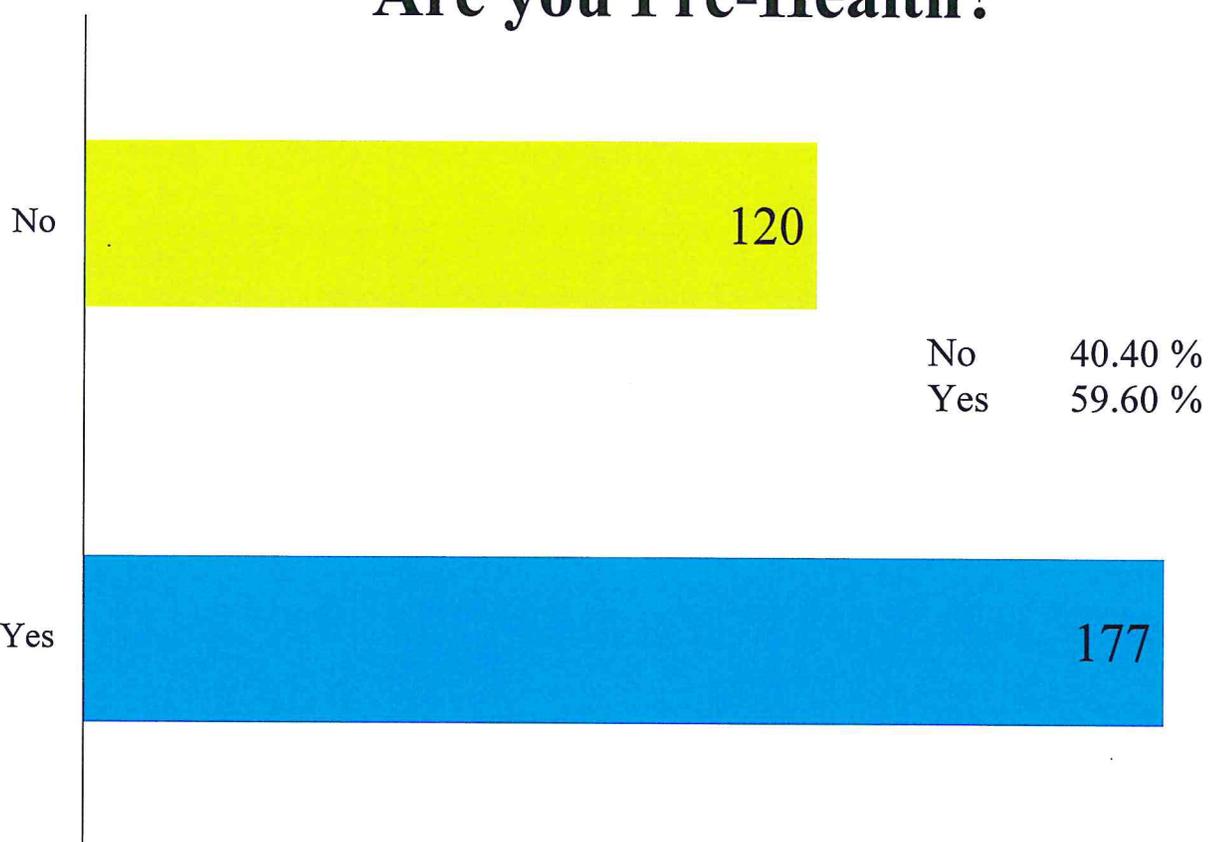
Sincerely,  
Insoo Hyun (and Eileen Anderson-Fye)

--  
Insoo Hyun, Ph.D.  
Associate Professor  
Department of Bioethics  
School of Medicine, TA 200  
Case Western Reserve University  
10900 Euclid Ave.

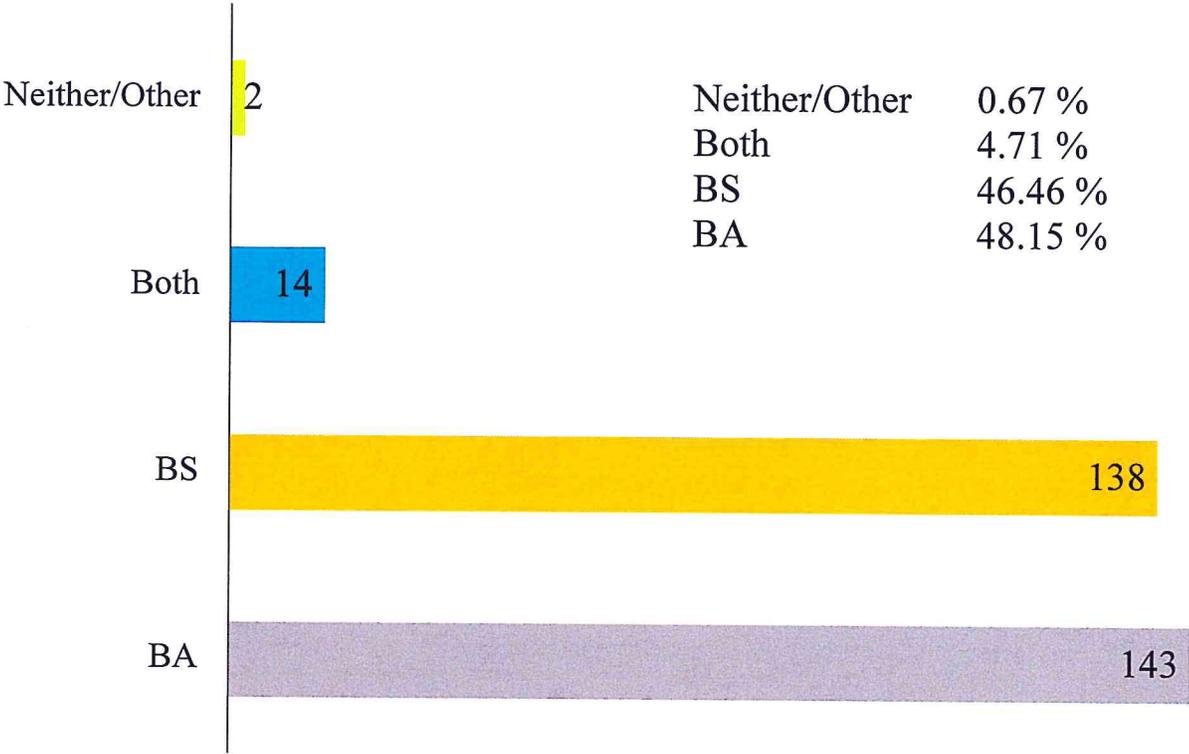
The following results are from a CWRU student survey conducted online through the survey site Survey Monkey. The survey had 297 respondents over a three-day period and respondents were encouraged to fill out the 30-second survey by being entered to win a \$10 Mitchell's Ice Cream gift card. The link to the survey was published on the official Facebook page of all the current classes at the time (2015-2018) and was sent by email to all students who had declared Pre-Health. The reason Pre-Health students were specifically asked stemmed from the thought among students that those going into medical professions would be the most likely to pursue a minor in Bioethics.

Though the results are skewed slightly due to the percentage of Pre-Health students who partook in the survey, we believe that the numbers presented below speak for themselves with exactly 2/3 of students (198) responding that having a Bioethics minor added to the CWRU curriculum is something in which they would be interested. This survey was run and the results compiled by USG elected representatives in the College of Arts and Science. Further questions regarding this survey can be directed to Caroline Gray at [cgg27@case.edu](mailto:cgg27@case.edu).

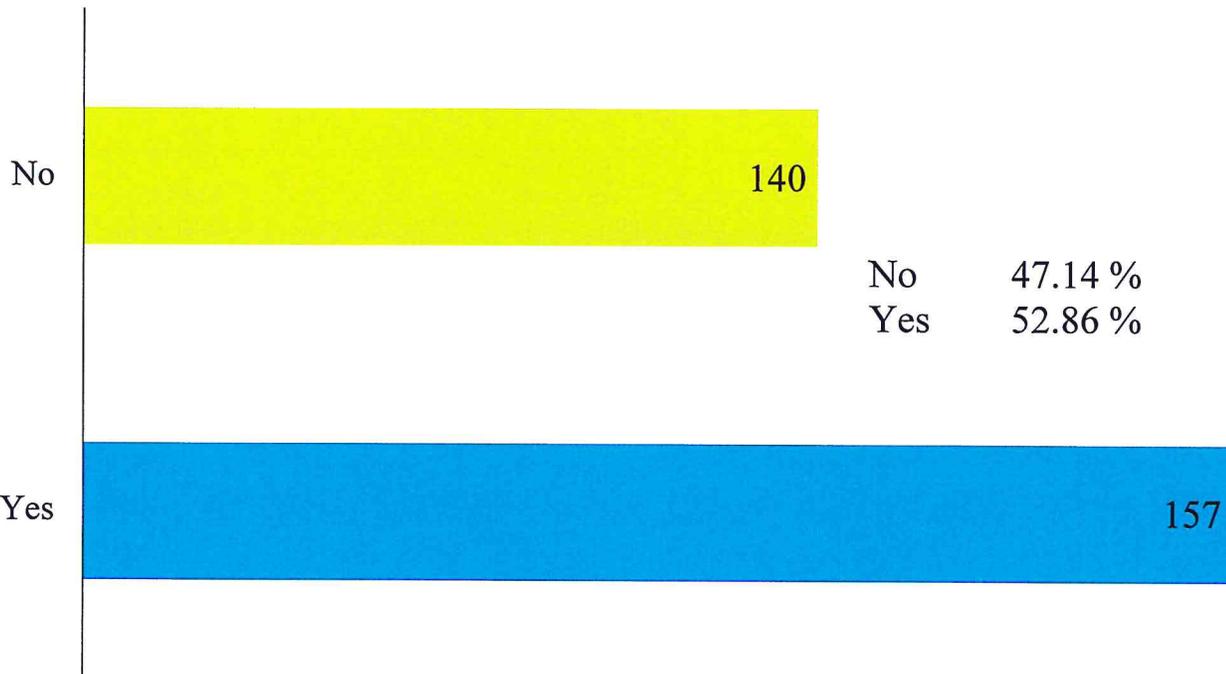
## Are you Pre-Health?



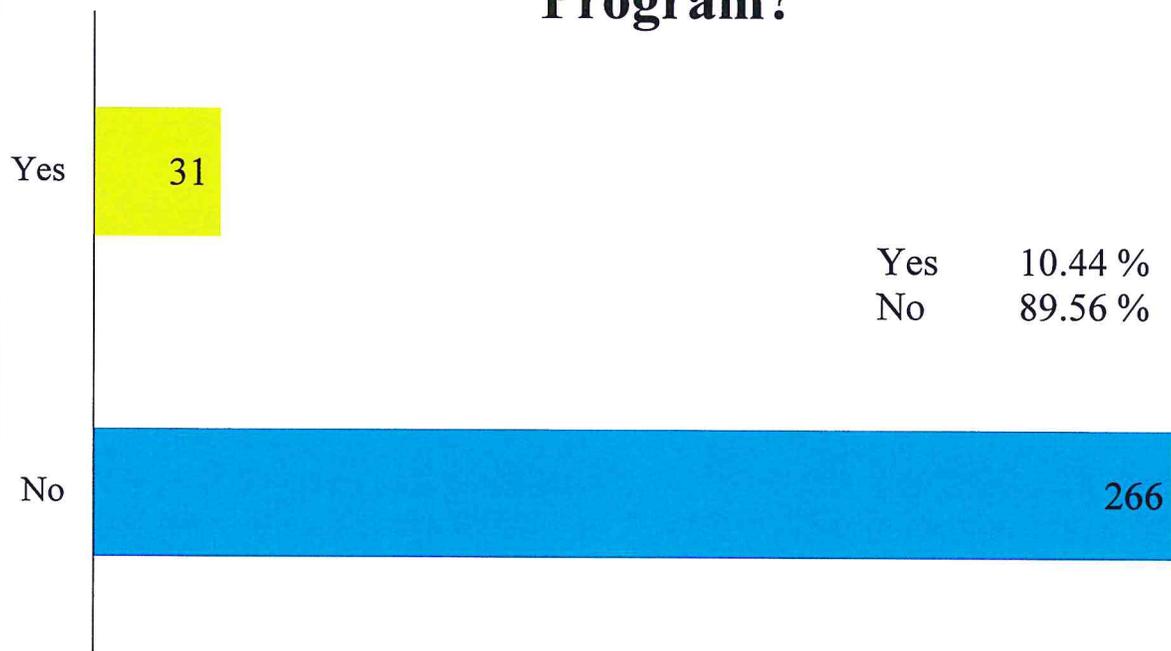
# What kind of degree are you pursuing at CWRU?



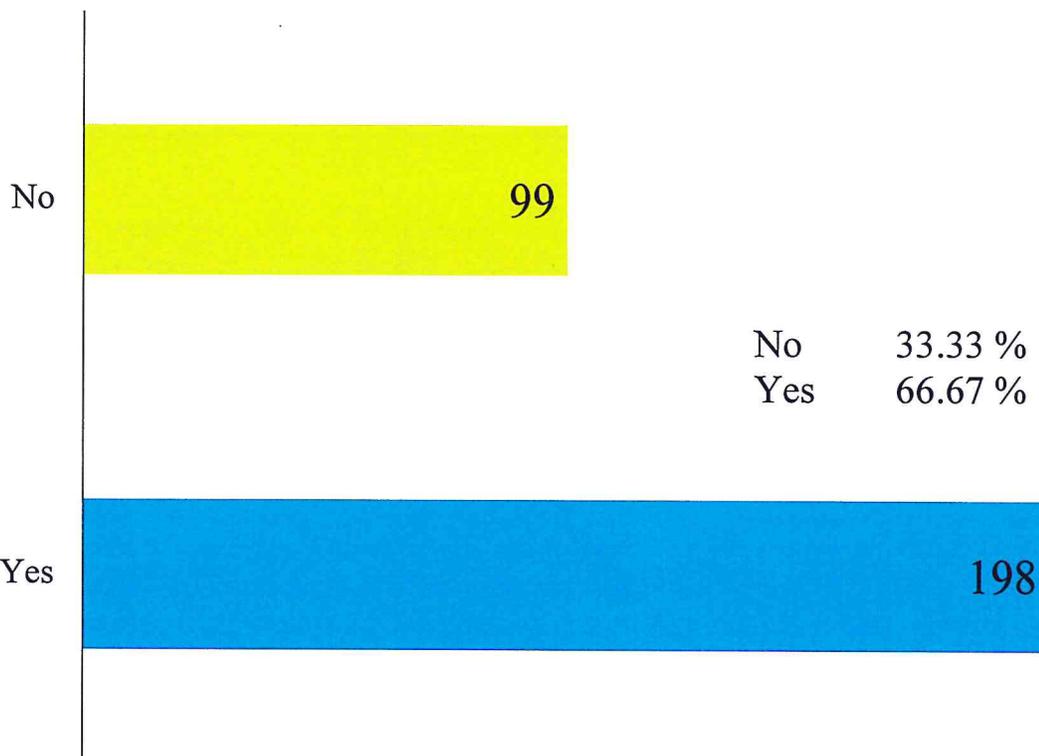
# Are you aware of the Bioethics Master's Degree Program at CWRU?



**Are you planning to pursue a Bioethics MA during your senior year through the IGS (Integrated Graduate Studies) Program?**



## Would you be interested in having a Bioethics Minor at Case?





SCHOOL OF MEDICINE  
CASE WESTERN RESERVE  
UNIVERSITY

Pamela B. Davis, M.D., Ph.D.  
Dean  
Senior Vice President for Medical Affairs

Office of the Dean

10900 Euclid Avenue  
Cleveland, Ohio 44106-4915

Visitors and Deliveries  
Biomedical Research Bldg., - Rm. 113

Phone 216-368-2825  
Fax 216-368-2820

<http://casemed.case.edu>

March 28, 2016

Roy Ritzmann, PhD  
Chair, Faculty Senate  
c/o Rebecca Weiss, Secretary of the University Faculty  
Adelbert Hall  
7001

Dear Dr. Ritzmann:

As noted in the accompanying memo from Professor Bill Schilling, Chair of the School of Medicine's Faculty Council, the Faculty Council has recommended approval of a new undergraduate minor in Bioethics and Medical Humanities.

The creation of a minor in Bioethics and Medical Humanities will formalize a program of study composed of courses that are currently offered by the Department of Bioethics in the School of Medicine. The Departments of Philosophy, History and English in the College of Arts and Sciences has written letters of support and have opened up courses as electives for this minor. The creation of this program helps prepare students that pursue advanced degrees to be health professions, aligns with national trends, and is responsive to the interests of our undergraduate students.

The proposal approval process is outlined in Professor Schilling's memo. An *ad hoc* Committee was convened to review this new program and after revisions, the program was approved by the Faculty Council. I concur with the Faculty of Medicine and recommend approval of this undergraduate program.

Please submit the proposed Minor in Bioethics and Medical Humanities to the appropriate committees for their review at their earliest opportunity. I would be pleased to answer any questions that might arise during the review process.

Thank you.

Sincerely,

Pamela B. Davis, MD, PhD

c: Dr. Bill Schilling, Chair, Faculty Council  
Nicole Deming, Assistant Dean for Faculty Affairs and Human Resources, SOM

enclosures



SCHOOL OF MEDICINE  
CASE WESTERN RESERVE  
UNIVERSITY

William P. Schilling, Ph.D  
Professor  
Department of Physiology & Biophysics  
Case Western Reserve University

MEMORANDUM

To: Pamela B. Davis, MD, PhD  
Dean, School of Medicine  
Case Western Reserve University

10900 Euclid Avenue  
Cleveland, Ohio 44106-4970

Office 216.778.8965  
Email: [wschilling@metrohealth.org](mailto:wschilling@metrohealth.org)  
<http://physiology.case.edu>

From: William Schilling, PhD  
Chair, Faculty Council

Re: Minor in Bioethics

Date: March 28, 2016

At its March 21, 2016, meeting, the Faculty Council voted to recommend approval of an undergraduate minor in Bioethics proposal. The minor will be offered by the Department of Bioethics in the School of Medicine.

In accordance with our SOM practices, an *ad hoc* committee composed of members of the Faculty Council Steering Committee, Graduate Directors, the SOM members of the Faculty Senate's Committee on Graduate Programs, the Associate Dean for Graduate Education and members from the undergraduate degree programs (Nutrition and Biochemistry) was created to review the program proposal. The *ad hoc* committee was chaired by Nicholas Ziats and met with Insoo Hyun, Associate Professor in the Department of Bioethics. The *ad hoc* committee reviewed the documents, discussed the proposal, and engaged with the program presenters. After the meeting was concluded a summary of minor changes was created. These changes were adopted and the revised proposal was circulated to the *ad hoc* committee for a vote. The *ad hoc* committee approved the reviewed proposal and it was sent to the Faculty Council for a discussion and vote.

After your review, I hope you will join me in recommending approval of the proposal for an undergraduate minor in Bioethics by the Faculty Senate and Board of Trustees as required by the Faculty Handbook.

Please let me know if I can provide any additional information.

Thank you for your consideration.

Sincerely,

William P. Schilling, Ph.D.  
Faculty Council Chair  
Professor of Physiology and Biophysics  
Case Western Reserve University School of Medicine

cc: Nicole Deming, JD, MA



# CASE WESTERN RESERVE UNIVERSITY

COLLEGE OF ARTS AND SCIENCES

## MEMORANDUM

Committee on Educational Programs  
College of Arts and Sciences  
Case Western Reserve University  
10900 Euclid Avenue  
Cleveland, Ohio 44106-7068

TO: Cyrus Taylor, Dean  
FROM: Maggie Popkin, Chair  
Committee on Educational Programs  
DATE: September 27, 2016  
SUBJECT: CEP Comments on Proposal for a Minor in Bioethics and Medical Humanities

The CEP met Friday, September 16, and considered the proposal for a Minor in Bioethics and Medical Humanities which was forwarded by the FSCUE Curriculum Subcommittee on behalf of the School of Medicine. In keeping with the current protocol, the college must submit its evaluation to the FSCUE-CC by Friday, October 21, 2016. Here are the relevant points that were discussed by the CEP:

- It was noted that the various letters of support don't all use the same title for the new minor and that some letters are nearly a year old. The members felt that this might cause concern and/or delay as the proposal is reviewed by other groups/committees within CWRU and beyond.
- The course number for one of the electives is incorrect. BETH 316 should be BETH 315-- International Bioethics (a study-abroad course). Additionally, since this course may be repeated, it becomes possible for a student to fulfill the 6-hour elective requirement with two study-abroad courses. The members of the CEP wondered whether this is what the authors of the proposal intended.

This information has NOT been provided to the FSCUE-CC. As the CEP understands the process, these comments should come to you first in the event you would like any other A&S committee(s) to review the proposal. Again, the college's comments are due 10/21/16.

cc: J. Korbin  
M. Popkin

Approved for transmittal to FSCUE Curriculum Subcommittee:

Cyrus C. Taylor  
Dean and Albert A. Michelson Professor in Physics  
College of Arts and Sciences

## Jeffrey Wolcowitz

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**From:** Insoo Hyun  
**Sent:** Wednesday, December 21, 2016 10:43 AM  
**To:** Jeffrey Wolcowitz  
**Subject:** Re: BETH 210, Bioethics & Medical Humanities minor

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Dear Dean Wolcowitz,

In response to your queries below concerning the minor, I've forwarded you emails I've received from English and Philosophy stating that they approve of the title Minor in Bioethics and Medical Humanities.

Regarding the other points you raised in your email, yes students will be able to take our international courses (BETH 315, not BETH 316 as was mistakenly typed in) twice if they chose to do so to meet some of their elective requirements for the minor.

I also should point out that Eileen's course on medical humanities (BETH 210) is also now among the required courses for the minor. Thus students must choose three of the following four courses as required coursework for their minor, aside from their electives. These four core courses are:

BETH 210 - Perspectives on Health: Introduction to Medical Humanities and Social Medicine  
BETH 271 - Bioethics: Dilemmas  
BETH 371 - Advanced Bioethics  
BETH 360 - Science and Society

Do I need to submit a new CWRU action form for minors with the correction on BETH 315 and the addition of BETH 210?

Thanks,  
Insoo

Insoo Hyun, Ph.D.  
Associate Professor  
Department of Bioethics  
School of Medicine, TA 200  
Case Western Reserve University  
10900 Euclid Ave.  
Cleveland, OH 44106-4976  
216-368-8658 (office)  
216-368-8713 (fax)

Now Available: Bioethics and the Future of Stem Cell Research, Insoo Hyun  
For more information visit [www.cambridge.org/9780521127318](http://www.cambridge.org/9780521127318)  
or

[http://www.amazon.com/Bioethics-Future-Stem-Cell-Research/dp/product-description/0521127319/ref=dp\\_proddesc\\_0?ie=UTF8&n=283155&s=books](http://www.amazon.com/Bioethics-Future-Stem-Cell-Research/dp/product-description/0521127319/ref=dp_proddesc_0?ie=UTF8&n=283155&s=books)

On Monday, October 24, 2016 11:10 AM, Jeffrey Wolcowitz <jeffrey.wolcowitz@case.edu> wrote:

Dear Mark,

I am writing to update you on the status of the new course, BETH 210: Perspectives on Health: Introduction to Medical Humanities and Social Medicine, and the proposed minor. I have attached the comments that I received from the College of Arts & Sciences about these two proposals.

You will see that the College raised on concerns about BETH 210. The FSCUE Curriculum Subcommittee met on Friday and approved the course. I have added the comments to the CAF in SIS and approved it. It should now be en route to the University Registrar's Office to be added to the course catalog and then ready for scheduling.

With respect to the minor, you will see that the College raised two issues. The first relates to the name of the minor, noting that the chairs of the Departments of Philosophy and English used names that differ from what you put on the program action form; they asked that you clarify with those departments that they approve of the name "Bioethics and Medical Humanities." (I am not concerned about what was written in the letter from Steven Scherger in my office.) The second simply notes a typo on the list of courses where BETH 316 should be BETH 315, but also asks whether it is your intention to allow a student to take two offerings of BETH 315 as the elective courses; I think the answer is yes, but you should clarify.

Finally, in light of the approval of BETH 210, I wonder whether that course should be added either as a required course (it sounds like the anchor course for the minor) or an elective course.

Since the minor cannot be available until Fall 2017, there is still time to get all of this squared away for Faculty Senate approval before the end of the academic year.

Please let me know if you have any questions.

Best,

Jeff

Jeffrey Wolcowitz  
Dean of Undergraduate Studies  
Adjunct Professor of Economics  
Case Western Reserve University  
357 Sears Building  
10900 Euclid Avenue  
Cleveland, OH 44106-7028

216-368-2928  
216-368-4718 (fax)  
[jeffrey.wolcowitz@case.edu](mailto:jeffrey.wolcowitz@case.edu)

Undergraduate Studies welcomes your feedback:  
<http://www.surveymonkey.com/s/JBSFVMR>

---

**From:** Jeffrey Wolcowitz [mailto:[jeffrey.wolcowitz@case.edu](mailto:jeffrey.wolcowitz@case.edu)]  
**Sent:** Sunday, September 25, 2016 2:58 PM  
**To:** Mark Aulisio

**Cc:** 'Insoo Hyun'; Eileen Anderson-Fye

**Subject:** RE: Hello/Question

Dear Mark,

I am very sorry about the long delay in getting back to you about this. I heard separately from Eileen earlier this week and have just written back to her about BETH 210.

As for the proposal for the minor, I received the materials too late last spring to make it through the mandated process (see attachment) by the end of the year, so I held them until this fall. They are now in the hands of the College of Arts & Sciences for review and comment. I expect to hear back from the College no later than October 21, but it might be sooner. I was present for the first step in the College's review process, so I know that it is moving along.

I will keep you posted and will make sure that subsequent steps happen as expeditiously as possible.

Best,

Jeff

Jeffrey Wolcowitz  
Dean of Undergraduate Studies  
Adjunct Professor of Economics  
Case Western Reserve University  
357 Sears Building  
10900 Euclid Avenue  
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216-368-2928

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[jeffrey.wolcowitz@case.edu](mailto:jeffrey.wolcowitz@case.edu)

Undergraduate Studies welcomes your feedback:

<http://www.surveymonkey.com/s/JBSFVMR>

**From:** Mark Aulisio [<mailto:mpa5@case.edu>]

**Sent:** Wednesday, August 24, 2016 2:58 PM

**To:** Jeffrey Wolcowitz

**Cc:** Insoo Hyun; Eileen Anderson-Fye

**Subject:** Hello/Question

Hello Dean Wolcowitz,

Hope all is well and that you had a great summer. Hard to believe that the new academic year is already upon us - where does the time go? Anyway, I just wanted to check in with you on the status of our proposed Bioethics and Medical Humanities minor so that I can let Professors Hyun and Anderson-Fye know where things stand. Any updates you might have would be much appreciated.

Thanks and kind regards,

Mark

***Proposed Revisions:***

***Faculty Senate By-Law IV. Membership and Privilege of Attendance***

***Item d. Student Membership.***

1) Pursuant to the Constitution, Article V, Section C, student senators elected for one-year terms shall begin the day following their election. A student senator may serve on the Faculty Senate for no longer than three consecutive years.

2) Procedures for the election of student senators shall be as follows:

a. Undergraduate. The Undergraduate Student Government Vice President of Academic Affairs, who is elected each year from among members of the undergraduate student body, shall serve as the student senator. The Vice President of Student Affairs will report his/her name to the Secretary of the University Faculty no later than May 1 each year.

b. Graduate. The Graduate Student Council Vice President of Academic Affairs, who is elected each year from among the members of the graduate student body shall serve as the student senator. The Dean of Graduate Studies will report his/her name to the Secretary of the University Faculty no later than May 1 each year. ~~Each year the Secretary shall request the Dean of the School of Graduate Studies to initiate and administer the selection by the Graduate Student Senate of a graduate student to serve as a member of the Faculty Senate for the following year, and to report to the Secretary the name of the graduate student so selected not later than May 1.~~

c. Professional School. ~~Student representation on the Faculty Senate from the professional schools shall be by rotation among the respective schools, such rotation to be in the order of the respective dates of founding of the individual schools. Each year, the Secretary shall request the Dean or Provost of the professional school to be so represented the following year to initiate and administer an election by the student body of that school and to report to the Secretary the name of the professional school student so elected not later than May 1.~~

c. Post-doctoral. Each year, the Secretary of the University Faculty shall request the Director of the Office of Postdoctoral Affairs to initiate and administer the election by the Post-Doctoral Association of a post-doctoral fellow or scholar to serve as a member for the following year. The Director of the Office of Postdoctoral Affairs will report his/her name to the Secretary no later than May 1 each year.

d. d. In the event that a student or post-doctoral fellow or scholar chosen for membership in the Faculty Senate in any of the above **three** categories should not return to school in the autumn semester or in any other respect be unable or unavailable to serve, the Secretary shall request the appropriate administrative officer of those named previously in this item to initiate and administer a second selection by the procedure specified.

**Clean Version:**

**Faculty Senate By-Law IV. Membership and Privilege of Attendance**

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## **CSE SAGES First-Year Engineering Proposal**

### ***Recommendations from the FSCUE Curriculum Subcommittee***

In Fall 2016, FSCUE received a proposal from the Case School of Engineering to change the way incoming first-year students interested in pursuing a CSE major interact with the SAGES Program. In accordance with SAGES governance procedures (attached), the proposal was referred to the Curriculum Subcommittee, where it was discussed at several meetings during the fall semester. Marc Buchner, Associate Dean of the CSE for Academics, is a member of the Subcommittee and was present for these discussions. In addition, Jeffrey Duerk, Dean of the CSE; Peter Whiting, Director of the SAGES Program; and Michael Mason, Associate Dean of Undergraduate Studies for First-Year Students; participated in some of these discussions.

In light of these discussions, the CSE modified the proposal in December. The current version of the proposal is attached. The proposal, along with the SAGES governance procedures, were sent to the several UPF units and the Undergraduate Student Government, requesting written comments as part of the consultative process mandated by SAGES governance procedures. The Curriculum Subcommittee received comments from the College of Arts & Sciences, the Weatherhead School of Management, and the Undergraduate Student Government (all attached).

On the basis of the feedback received and its own discussions, at its meeting on February 27, 2017, the Curriculum Subcommittee voted to send the following recommendations to FSCUE:

1. The FSCUE Curriculum Subcommittee does not support the proposal to require first-year students planning to pursue a CSE major to take an engineering-designated SAGES First Seminar or University Seminar during their first year of enrollment at the University, but does support encouraging students to do so.
2. With regard to the proposed "Opportunities hour," faculty teaching engineering-focused seminars, like any other faculty teaching a First Seminar, should be free to design their 4<sup>th</sup>-hour activities. These may include some large-group engineering-related presentations, but they should not deviate too far from the general expectations that 4<sup>th</sup>-hour be devoted primarily to small-group activities and to introducing students to the University Circle environment. The Curriculum Subcommittee would like to see the large-group presentations open to any interested student.
3. The FSCUE Curriculum Subcommittee endorses the assignment of an engineering advisor, in addition to the First Seminar instructor as an advisor, to any incoming first-year student interested in a CSE major but not enrolled in a First Seminar taught by an engineering faculty member.

[It recently came to our attention, after the February 27 discussion in the Curriculum Subcommittee, that the exhibit accompanying the 2004 Board of Trustees resolution adopting SAGES as the common general education requirements for all CWRU undergraduates stated, "The instructor for First Seminar serves as the student's adviser [sic] throughout freshman year. Engineering majors also have an adviser from the Case School of Engineering." We do not know why this was not implemented.]

Jeffrey Wolcowitz, for the FSCUE Curriculum Subcommittee

Approved by FSCUE Curriculum Subcommittee, February 27, 2017

## **MOTION**

### **SAGES First-year Engineering Proposal Case School of Engineering**

The following motion was passed by the Case School of Engineering on November, 11, 2016

- Incoming first-year students who have indicated a first choice of a Case School of Engineering major by the conclusion of their fall semester course registration over the summer would be required to take either an engineering-designated SAGES First Seminar or an engineering-designated University Seminar during their first year of enrollment at the University (see the final point below for exceptions). These courses would have an enrollment limit of 18 students. [Students who are not enrolled in an engineering-designated SAGES First Seminar and choose before the start of the spring semester not to pursue a CSE major will not be required to enroll in an engineering-designated University Seminar in the spring semester.]
- Students who have indicated a first choice of a Case School of Engineering major by the conclusion of their first course registration as defined above would be assigned an Engineering advisor (possibly in addition to their First Semester SAGES advisor). If the student is taking an engineering-designated First Seminar course, then their SAGES Engineering faculty advisor would solely fill the role of the student's advisor. If a student is not taking an engineering-designated SAGES First Seminar, then they would have two advisors – their SAGES advisor and an Engineering advisor. Students will need to meet with their Engineering advisor and their SAGES advisor prior to the start of their first semester and at least once during their first semester (prior to selecting courses for the Spring semester). Either advisor will have the ability to release their “advising hold.”
- A common “Opportunities hour” would be a mechanism in SAGES Engineering First Seminar courses to satisfy the 4<sup>th</sup> hour requirements. This would consist of a set of presentations and experiences in which students can explore what is available to them at the University (at least including Engineering opportunities) for degree programs, clubs, competitions, extracurricular activities, research, etc. The intent of these experiences is, together with their SAGES advisors, to allow engineering students to plan for how to best take advantage of what CWRU offers them in their academic careers here at the University. The “Opportunities 4<sup>th</sup> hour” would be available to other students interested in a CSE major but not enrolled in an engineering-designated SAGES First Seminar, but would not replace the 4<sup>th</sup> hour requirements of the seminars in which they are enrolled.

- Transfer students and other students who first indicate plans for a Case School of Engineering major after the first year would take their SAGES journey, i.e. SAGES requirement, in a manner that does not differ from what they currently need to take together with all options that are available to them in order to satisfy the SAGES curricular requirements.
- First-year students (who have indicated a first choice of a Case School of Engineering major) that are enrolled in Academic English (FSAE 100) or an ESL First Seminar (FSCC 100) or who choose to enroll in Foundations of College Writing (FSCC 110) will also take their SAGES journeys, i.e. SAGES requirements, in a manner that does not differ from what they currently need to take together with all options that are available to them in order to satisfy the SAGES curricular requirements. The one change in their SAGES journey is that they will optionally have the “Opportunities 4’t h hour” available to them to attend but doing so will not replace their SAGES First Seminar 4’t h hour, as indicated above.

## **Background**

In response to the recommendations of the Dean of Engineering's Core Task Force from Fall 2015 and motivated by (1) significant industry feedback, (2) changes in student demographics, academic backgrounds, and learning modes, (3) the contemporary practice of engineering as a field, (4) the desire to increase retention rates and support diversity in engineering, and (5) advising implications of the SAGES program, the above motion was voted upon and passed at the Spring CSE Faculty meeting on Monday, April 25 and amended in a further vote of CSE faculty on November 11, 2016. This motion was provided to the Engineering faculty and students and widely discussed by both in the departments, the Undergraduate Studies Committee, the Engineering Executive Committee, the Dean's Student Council, and an open CSE student town hall meeting. The motion represents the essence of one of seven recommendations that were developed in the Fall semester by the Task Force and modified in response to feedback received from students and faculty, including the FSCUE Curriculum Subcommittee, and Peter Whiting, Director of the SAGES program.

## **Overall Course Structure**

The Engineering SAGES courses referenced in the motion are structured to have four main objectives: (1) to give first-year students hands-on engineering experiences including, for example, reverse engineering, engineering design (such as a Think[box] experience), or research, (2) to introduce students to the field of engineering as a discipline and as a profession, (3) to provide engineering students with an engineering faculty member as their advisor as early as possible in their studies, and (4) to develop their oral and written communication skills. Students will engage in engineering through the completion of individual and team-based engineering experiences that highlight the design process, the individual engineering roles and responsibilities in these processes, and the requirements for a successful project. The seminars will provide an introductory individual and team-based engineering project that can shape students so that they are motivated about engineering and well positioned to succeed in follow-on work with others in a multitude of contexts.

There are a variety of current Engineering SAGES courses that follow this general framework. However, the intent of the recommendation is to require this for every student who is interested in a Case School of Engineering major during their first year.

This First-year engineering design and professional development course is intended to be provided through the SAGES ecosystem. In this context, the following additional goals of the SAGES First Seminar will shape the course framework:

- Participate in an academic conversation by contributing insightful, relevant ideas.
- Consider differences in values and assumptions to think critically and deliberate ethically.
- Read, summarize, and apply scholarly concepts and information.
- Write clearly and persuasively.
- Effectively communicate information orally and/or through new media.

FSCUE Ad Hoc Subcommittee on Advising Feedback  
Robin Dubin, Prince Ghosh, Jeff Wolcowitz, Bill Yu  
November 11, 2016, Updated January 22, 2017; February 5, 2017

On February 3, 2015, the Undergraduate Student Government (USG) passed a resolution (attached) requesting the creation of a system by which students can provide anonymous feedback on their experience with academic advising. FSCUE discussed this resolution during the 2015-2016 academic year and created an *ad hoc* subcommittee in Fall 2016 to propose a plan for implementing such a system. The subcommittee (Robin Dubin, Prince Ghosh, Jeff Wolcowitz, Bill Yu) started by outlining a set of parameters for such a system and then moved on to developing a set of questions to be included.

1. Who should be evaluated?

Students should evaluate their current (as of a date prior to the opening of the evaluation system) academic advisor(s) who has (have) authority to lift their registration advising holds, i.e. their major advisor(s) or their First Seminar instructor/advisor(s). If a student has more than one advisor, he or she should be asked to evaluate each of them separately.

2. When should students complete advising evaluations?

All undergraduates should be asked to complete advisor evaluations as part of spring semester course evaluations each year.

In addition, in order to get feedback on advising by First Seminar instructors/advisors, first-year students should be asked to evaluate these advisors as part of fall semester course evaluations.

3. Who should receive the results of advising evaluations?

Each advisor should receive his or her feedback, provided that the advisor has at least three potential respondents; this matches the procedures for course evaluations.

The people responsible for overseeing advising for the specific program (department chair or program director, academic representative, Associate Dean of Undergraduate Studies for First-Year Students) should also receive this feedback, identified by advisor. Those responsible for overseeing advising should also receive an overall statistical summary for the program that includes the data for advisors who do not qualify for individual feedback.

The CWRU community should have access to composite statistics about advising in each major.

4. What should the questions be?

We started by setting some parameters:

- There should be no more (preferably fewer) than 10 rating questions for each advisor.
- The rating questions should ask about both student and advisor behaviors.
- There should be no more than two free response questions about advising in the program or the individual advisor.
- Each program should be allowed to add additional questions about advising in the program and/or the individual advisor, as is currently allowed for course evaluation.

The following set of questions come close to meeting these parameters.

## ADVISING FEEDBACK

I have not worked with this advisor this year because another advisor lifts my advising hold.

I work with this advisor, but choose not to respond to this survey.

Each of the following questions would appear with the following options:

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable

1. My advisor is available and accessible in person, by email, or by some other means when needed.
2. When I interact with my advisor either in person, by email, or by some other means, I am well-prepared with questions, ideas, and/or a proposed set of courses for the next semester.
3. My advisor treats me as an individual and listens closely to my concerns and questions..
4. My advisor is knowledgeable about the requirements of my major.
5. My advisor reviews my courses for the next semester before lifting my advising hold.
6. My advisor helps me obtain information about CWRU policies, procedures, and resources.
7. My advisor helps me develop a long-term plan of courses and other opportunities to meet my academic goals.
8. When I face a difficult decision, my advisor assists me in identifying alternatives and in considering the consequences of choosing each alternative.
9. Overall, I have been satisfied with this person as an academic advisor.
10. How often did you interact with your advisor in person, by email, or by some other means in an advising capacity over the last semester?
  - Never
  - Only to lift my advising hold
  - 2-4 times
  - More than 4 times

What are your advisor's major strengths?

What could your advisor do to improve the quality of his/her advising?

What can you do to get more out of working with your advisor?

## Offering Undergraduate Courses (or Sections of Courses) in an Online Format

### *Proposal to FSCUE from the FSCUE Curriculum Subcommittee*

Background: We have received requests from the Department of Accountancy (WSOM), the Department of Nutrition (SOM), and the Case School of Engineering to offer undergraduate courses in an online format. Accountancy asked to offer ACCT 207: Excel Applications and Modeling only in an online format. Nutrition asked to offer a section of NTRN 201: Nutrition in an online format each fall and spring, in addition to in-class sections, and to offer the course only in an online format over the summer. The Case School of Engineering asked to offer ENGR 200: Statics and Strength of Materials only in an online format over the summer.

It has not been our practice to offer undergraduate courses online during the regular academic year (fall and spring semesters), though there are several exceptions of which we became aware during our discussions. We have regularly offered distance-learning in the summer for some CSE undergraduate courses, but in each case there has also been an in-class offering of the same course (see ENGR 145, ENGR 200, and ENGR 225 for Summer 2016).

By offering key courses in an online format, the proposals from Accountancy, Nutrition, and Engineering would break new ground, especially in light of our institutional commitment to a residential undergraduate program, so the topic was referred to the FSCUE Curriculum Subcommittee to review the issue and make a recommendation to FSCUE. The FSCUE Curriculum Subcommittee discussed the topic during Spring 2016 and Fall 2016.

Summary of the Discussion: The Curriculum Subcommittee sees this as a big question that it expects the Provost's Commission on the Undergraduate Experience (PCUE) to take up, but the group recognizes that PCUE discussions will take time and departments and schools need guidance in the meantime.

Members of the Subcommittee believe that research elsewhere has rendered a range of opinions on whether online courses perform as well as in-class and hybrid formats. While recognizing that there is a variety of motivations for offering courses in an online format (more on that below), one (sometimes hidden) motivation is the perception that offering a course online will reduce costs. There is a fear that departments will find that offering courses online is expensive and that quality might suffer in an effort to make them cost effective. There is also a concern about protecting the CWRU "brand" in terms of offering a residential experience. On the other hand, members of the Subcommittee recognize the benefits of experimenting with new formats, as well as the benefits in certain subjects of allowing students to move through material at their own pace. Members of the Subcommittee also recognize that we allow undergraduates to register for our own graduate courses taught in an online format, and some departments allow transfer credit for online courses taken at other institutions (though students are limited to no more than 15 credit-hours total of off-campus study after matriculation, except for study abroad).

#### Recommendations:

1. We should, for now, maintain a policy of not allowing courses to be taught completely in an online format during the regular academic year.

2. We should allow courses to be taught in a hybrid format with some degree of structured, in-person class interaction between students and the teaching staff throughout the semester. Some departments are already teaching courses using flipped classrooms, online modules supplemented by occasional class meetings, and other formats.
3. We should allow a course that is also offered during the regular academic year to be offered only in an online format during the summer, recognizing that some departments already allow students to take such courses from other institutions and the benefit of the student taking our course rather than a (not-so-?) close substitute for our course. This would allow us to compare outcomes across modes of instruction.
4. We should encourage consultation with [U]Tech and a community of practice when transitioning a course to an online or hybrid format. This can help determine whether the change appropriately addresses the reasons for the new format, establish quality control, and develop a framework for assessment of learning.

Jeffrey Wolcowitz, for the FSCUE Curriculum Subcommittee

Approved by FSCUE Curriculum Subcommittee, February 27, 2017

## FPC report on the CWRU Bias Reporting System

On January 19<sup>th</sup>, 2017, the FPC met and unanimously voted that:

(1) The university must uphold its commitment to prohibit discrimination, and the FPC endorses the existing university offices and tools for doing that.

(2) The university must uphold its commitment to a learning environment that is (a) conducive to learning and that is (b) considerate of the ways discrimination can develop.

(3) The university should not continue using the concept of bias at all, since bias is (a) not legally prohibited in so far as it is not discrimination (in which case, it is redundant), (b) fatally pegged to subjective perceptions rather than to objective behavior, and is (c) vaguely defined, utilized, and admixed on the online bias reporting system (BRS) with a whole range of behaviors and perceptions leading only to further confusion.

As to (2), the January 19<sup>th</sup>, 2017 FPC unanimously voted that:

The Office of Student Affairs should (i) do an internal audit to determine what its existing mechanisms are for dealing with university environments that are either detrimental to learning or insensitive in a way that could foster discrimination.

Additionally, the Office of Student Affairs should (ii) develop any further mechanisms needed in formats that are *personal*, rather than impersonal, focusing on, for instance, an ombudsperson system for students who feel intimidated to speak about their learning environment.

Finally, if the Office of Student Affairs develops any further methods to deal with (2), or continues its pursuit of bias against the FBC recommendation, then there must be input from all stakeholders in the process including faculty *prior* to the implementation of any system.

As to (3), the January 19<sup>th</sup>, 2017 FPC unanimously voted that:

The BRS reporting system should be deactivated and taken down, including all traces existing on the university server that are publicly accessible.

We note that it is not good professional practice and is an injustice to faculty that the existing system was implemented without widespread input and that it has continued to exist despite clear and well justified concerns having been expressed to the Office of Student Affairs.

**CWRU Action Form for Majors/Minors/Programs/Sequences/Degrees**

(instructions on back)

Docket # \_\_\_\_\_

College/School: College of Arts and Sciences and School of Medicine

Department: Office of the Dean

PROPOSED: \_\_\_\_\_ major  
\_\_\_\_\_ minor  
 X  program (certificate)  
\_\_\_\_\_ sequence  
\_\_\_\_\_ degree

**APPROVED**  
A:5 CEP 3-24-2017  
Endorsed by A:5 Executive Committee 3-10-2017  
Approved by Faculty of the College of Arts and Sciences 3-31-17

TITLE: PRIME (Post-baccalaureate Readiness Instruction for bioMedical Education) Program

EFFECTIVE: Fall (semester) 2017 (year)

**DESCRIPTION:**

The Case Western Reserve University (CWRU) School of Medicine (SOM) and College of Arts and Sciences (CAS) jointly propose a distinctive pre-medical, post-baccalaureate, non-degree certificate program. The PRIME (Post-baccalaureate Readiness Instruction for bioMedical Education) program will award a certificate upon successful completion of at least 24 graded credits.

The PRIME program is designed to qualify and prepare post-baccalaureate students for admission to well-ranked medical schools. The program meets an unmet market need for a very high-quality program that allows students to improve their undergraduate science GPA and/or to take courses which they did not take at the undergraduate level. In order for courses to count toward the undergraduate GPA required for medical school consideration, these courses cannot be taken in the context of a graduate degree (e.g. a master's degree), which is why the program is offered as a non-degree, certificate program. The program is flexible to individual academic needs and provides students the unique option of taking undergraduate and graduate courses.

There are several other distinctive features of the PRIME program. In addition to a range of courses customized to fill gaps in the individual student's past experiences, students will get key experiences that they may not have had the opportunity to experience in prior academic settings, including: clinically-based learning experiences, specialized MCAT preparation, and a dedicated program director who will meet regularly one-on-one with students to advise them in what they need to do to be successful. Students will participate in a monthly seminar series intended to prepare students to be successful in the medical school application and interview process. Select students will also be eligible for an interview for CWRU SOM's MD program, and in time, other MD programs. Students will also have optional opportunities to shadow clinical providers, attend grand rounds, and participate in research.

Is this major/minor/program/sequence/degree:  X  new  
\_\_\_\_\_ modification  
\_\_\_\_\_ replacement

If modification or replacement please elaborate: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Does this change in major/minor/program/sequence/degree involve other departments?  X  Yes \_\_\_\_\_ No

If yes, which departments? CAS: Anthropology, Biology, Chemistry, Classics, Dance, History, Political Sciences, Psychological Sciences, Religious Studies, Sociology.

Contact person/committee: Jill Korbin, Associate Dean, CAS and Professor of Anthropology

**SIGNATURES:**

Department Curriculum Chair(s)/Program Directors:  Jill E. Korbin  DATE  3-20-17   
Department Chair: See attached letters of support  
College/School Curriculum Committee Chair:  Bob Greene/CAS   3-21-17   
College/School Dean(s):  C. W.   C. Rozek/CAS   3-24-17   
FSCUE Curriculum Subcommittee Chair: \_\_\_\_\_

File copy sent to: \_\_\_\_\_ Registrar \_\_\_\_\_ Office of Undergraduate Studies/Graduate Studies  
\_\_\_\_\_ Other: \_\_\_\_\_

## **PRIME PROPOSAL**

### Table of Contents (based on PDF page numbers)

- Program Action Form - Page 1
- Table of Contents - Page 2
- Revised Proposal - Pgs. 3 - 16
- Appendix A: Existing Highly Competitive Post-Baccalaureate Certificate Programs - Pgs. 17 - 18
- Appendix B: Sample program course structures - Pgs. 19 -21
- Appendix C: Required Course Description - Pgs. 22 - 25
- Appendix D: Required and Elective Course Descriptions & Department Chair Letters of Support - Pgs. 26 - 73
- Appendix E: SOM and CAS Memorandum of Understanding and SOM Letter of Support - Pgs. 74 – 77
- Appendix F: CAS Dean Letter of Support – Pg. 78
- Appendix G: SOM Dean Letter of Support and SOM Faculty Council Letter of Support – Pgs. 79-80

## Case Western Reserve University

### PRIME (Post-baccalaureate Readiness Instruction for bioMedical Education)

#### Pre-Medical Post-Baccalaureate Certificate Program

##### 1. Introduction

The Case Western Reserve University (CWRU) School of Medicine (SOM) and College of Arts and Sciences (CAS) jointly propose a distinctive pre-medical, post-baccalaureate, non-degree certificate program. The PRIME (Post-baccalaureate Readiness Instruction for bioMedical Education) program will award a certificate upon successful completion of at least 24 graded credits.

The PRIME program is designed to qualify and prepare post-baccalaureate students for admission to well-ranked medical schools. The program meets an unmet market need for a very high-quality program that allows students to improve their undergraduate science GPA and/or to take courses which they did not take at the undergraduate level. In order for courses to count toward the undergraduate GPA required for medical school consideration, these courses cannot be taken in the context of a graduate degree (e.g. a master's degree), which is why the program is offered as a non-degree, certificate program. The program is flexible to individual academic needs and provides students the unique option of taking undergraduate and graduate courses.

There are several other distinctive features of the PRIME program. In addition to a range of courses customized to fill gaps in the individual student's past experiences, students will get key experiences that they may not have had the opportunity to experience in prior academic settings, including: clinically-based learning experiences, specialized MCAT preparation, and a dedicated program director who will meet regularly one-on-one with students to advise them in what they need to do to be successful. Students will participate in a monthly seminar series intended to prepare students to be successful in the medical school application and interview process. Select students will also be eligible for an interview for CWRU SOM's MD program, and in time, other MD programs. Students will also have optional opportunities to shadow clinical providers, attend grand rounds, and participate in research.

A key curricular feature of this program is a series of two pre-medical Clinical Inquiry (IQ) courses, which build on the SOM's well known and respected curriculum based in clinical inquiry. This problem-based learning method centers on the use of patient cases to learn medical topics and is currently being adopted by medical schools throughout the country. The SOM has recently built faculty expertise in this area and have developed pre-medical Clinical Inquiry (IQ) courses (MGRD 310 and 311), which are led by Dr. Cheryl Thompson, Assistant Professor at the SOM, and facilitated by SOM post-doctoral fellows. These courses are designed to give students exposure to medical terminology and clinical reasoning. Importantly, the IQ method encourages professional growth via self-reflection. Indeed, the maturity and professional growth that develops through the IQ model will serve students well in medical school and other future professional endeavors as well.

A second key curricular feature of this program is a specialized Medical College Admissions Test (MCAT) preparatory course developed by the College of Arts and Sciences. This course is designed to comprehensively review all MCAT content areas, as well as testing methods, and hone the skills students need to improve performance on the MCAT. This course will have a faculty coordinator and will be team taught so as to include faculty expertise from the departments of biochemistry; biology; chemistry; mathematics, applied mathematics, and statistics; physics; psychological sciences; and sociology. PRIME program students will have first priority for course registration, but is not required for the PRIME certificate. The course will also be available to current CWRU undergraduate and graduate students.

An important and distinctive feature of the PRIME program is a dedicated full-time program director with expertise in advising students on how to better qualify their academic record and gain admission to well-ranked medical schools. Getting into medical school is incredibly competitive. Further, the intricacies of what medical schools are looking for are complicated and change with time. While aware of aspects of the process, including writing letters of recommendation, most faculty are not experts in the intricacies of the medical school admission process. The program director will be responsible for meeting regularly with each student to ensure they are taking the courses that will best prepare them for medical school admission. The program director will also be responsible for working with the students to maximize success at completing the program, as well as writing individualized letters of recommendation that demonstrate specific knowledge of each student for medical school applications. The program director will also facilitate experiential learning (e.g. shadowing, research participation) that will enhance medical school consideration. In order to minimize burden on campus faculty with regard to shadowing, in particular, the program director will reach out to community physicians to help students find community shadowing opportunities. Thus, the dedicated advisor is a critical feature of the PRIME program that many programs do not offer and that has the potential for making the difference in getting into medical school or not. At this time, it is not expected that the program director will also be teaching, but this could be explored in the future.

This program was designed for students wishing to pursue further education to make their application into an MD or DO program more competitive. Specifically, this program is geared toward two types of future medical students. The first is “career changers” or students who have not completed the course requirements for medical school consideration. The second type is “academic enhancers” or students who did not get a high enough GPA in their undergraduate science coursework to be competitive for medical school admission or their medical school of choice (typically a 3.4-3.6, and sometimes higher). These students will “enhance” their academic record by improving their undergraduate science GPA and/or demonstrate additional academic rigor in upper-division courses.

Students who successfully complete the “career changer” track of this program with an overall undergraduate GPA of 3.6 and a GPA of 3.8 or greater in the PRIME program and who have not yet taken or have achieved a certain threshold on the MCAT will be offered an interview for CWRU’s SOM MD program. The minimum MCAT score will be set annually by the program director in consultation with the PRIME steering committee and the SOM Admissions. Other PRIME students will be considered on an individual basis. Eligible students will consult with the program director on goals before making a decision regarding if they should take the MCAT

or not, as they would not be able to apply to other medical school programs without taking the MCAT. The PRIME program director will work to establish additional opportunities along these lines to interview with external medical schools.

There are a number of master's degree programs currently offered through the SOM and CAS that attract pre-medical students seeking to improve their applications to medical school. Some students are not applying to these programs because they are specifically looking for undergraduate course-based programs or because the students lack the appropriate undergraduate pre-requisites for a master's program. The PRIME program is distinct from these programs with its undergraduate course base and fills a need that cannot be met by the current master's level offerings in the SOM or CAS. This PRIME program is intended to complement these offerings, not compete with them.

This program anticipates students to begin matriculating in the Fall 2017 semester.

This program involves a number of departments within the School of Medicine and College of Arts and Sciences.

## **2. Proposed Curriculum**

This is a one- to two-year program, depending on the needs and interests of each student. Students must take a minimum of 24 graded credits, including the IQ classes (MGRD 310 and 311). Up to 6 of these overall 24 credits may be transferred from another university if taken as a post-baccalaureate non-degree student per standard CWRU policies.

Depending on a student's prior coursework and grades, they may also need to take additional courses to be adequately qualified for medical school admissions and prepared for their program of interest. As such, some programs of study may require up to 60 credits. A list of required courses for medical school admission is included in the following Section C. Required Medical School Coursework.

Importantly, this program is designed to be flexible to meet students' needs. Students will work closely the program director to select coursework best suited to the student's needs in terms of medical school requirements, but also preparation for the program of their choice and/or to best improve their GPA. Sample programs of study are provided in Appendix B. Course descriptions for all required coursework are in Appendix C. Course descriptions for all elective coursework are in Appendix D.

Students will be recommended to regularly shadow health care professionals if they lack experience in this area, and the program director will reach out to establish partnerships with community providers to help facilitate these experiences. Similarly, students lacking additional experiences will be strongly encouraged to work with CWRU research faculty or to find experiences off-campus. An existing internship and exposure program run through the School of Medicine Graduate Education Office actively works to find many different types of off-campus experiences for students, including volunteer positions to aid in credentials to get into professional school. One or both of these components may be part of each student's individualized program of study. Connections with clinical and/or research faculty will be

facilitated by the program director. The program director will work with the students to identify such opportunities and advise students on best practices depending on the position and environment. Students are also encouraged to independently identify opportunities to shadow or participate in research.

**a. Admission Requirements**

1. Baccalaureate degree from an accredited College or University that has been conferred prior to matriculation
2. Cumulative GPA of 3.4 or higher and undergraduate science GPA of 3.4 or higher. Consideration will be given to students with lower GPAs in special circumstances
3. Demonstrated commitment to understanding and serving the needs of others through both past *and* current volunteer activities and/or community service
4. Demonstrated interest in medicine through past or current employment and/or volunteer activities

Applications for admission to the PRIME program will be received the CWRU School of Graduate Studies. Admission decisions will be made by a PRIME program admissions committee. This committee will be chaired by the program director and will include faculty from both the SOM and the CAS, who may or may not also serve on the steering committee. Any potential candidate deemed appropriate will be interviewed by at least one admission committee member prior to an admission decision being made. Interviews will make sure the potential student understands what they would need to do in order to be successful (i.e. get into medical school) upon program completion. The interviews will also help assess the ability of the student to communicate effectively and personally (which is essential for physicians and is evaluated when interviewing for medical school).

Applications received by April 1<sup>st</sup> will receive full consideration. Applications received after this date will be accepted on a rolling basis per availability in the program. Students may start in any semester.

**b. Tracks**

Career Changer Track

This track is designed for students who have not taken all the pre-requisite courses for medical school, typically due to a career change or change in post-graduation plans. In general, all students must take 16 specific natural science, social science, and mathematics courses (55 credits) as a baseline requirement for medical school admissions. A list of required courses is included in the following Section C. Required Medical School Coursework. As part of the PRIME program, students must complete all of the courses required for medical school admission not previously taken, in addition to the clinical inquiry (IQ ) classes (MGRD 310 and 311), before the certificate will be awarded. As such, depending on student needs, programs of study could range from 24 credits to up to 60 credits. Beyond the required courses, students may also elect to take upper-level undergraduate courses or graduate courses to demonstrate additional academic rigor. A list of elective courses is included in the following Section D. Elective Courses.

## Academic Enhancement Track

This track is designed for students who have taken all the pre-requisite classes for medical school consideration but did not get a strong enough GPA to make them competitive for medical school admission or their medical school of choice. Students in this track are still required to complete at least 24 graded credits in order to earn the certificate, including the clinical inquiry (IQ) classes (MGRD 310 and 311). Beyond the courses required for medical school admission, students may also elect to take upper-level undergraduate courses or graduate courses to demonstrate additional academic rigor. A list of elective courses is included in the following Section D. Elective Courses. Students may also elect to retake specific, required undergraduate courses for which they did not receive at least a B. It is important to note that courses can be repeated if the student wishes to improve their grade. However, taking the same course will result in an average overall grade for that course counting as their grade (that is, the first grade is not cancelled out). Therefore, students with As, and sometimes Bs, in these key required courses are likely to be encouraged to take more advanced course electives.

Our goal is to help students improve their GPA to make them competitive for admission to well-ranked medical schools (typically 3.5-3.6 and sometimes higher).

Since the actual amount of the GPA that can be improved through this program is relatively small, as the coursework will represent a relatively small fraction of their overall undergraduate coursework, their plan for courses is very important. For example, a student who has completed their undergraduate work with 80 science credits and 30 non-science credits with a science GPA of 3.4 and an overall GPA of 3.4 wouldn't be particularly competitive. However, if they take an additional 40 science credits in this program, and get a 3.8 GPA, they will be able to raise their science GPA to 3.53 and their overall GPA to 3.51, as well as to demonstrate a continued trend toward improved academic performance. Of course, taking more courses with has the potential to improve this even more. Further, targeted re-taking of classes with poor grades may help improve these grades and could have a bigger impact. Although a relatively small increment, this jump, combined with a hopefully significantly improved MCAT score and additional program experiences, would position the student to be much more competitive for a top-tier medical school. All students will meet regularly with the program director for guidance on a program of study that will best improve their chances for admission to well-ranked medical school.

### **c. Required Medical School Coursework**

Students are required to complete a minimum of 24 graded credits to obtain the certificate. However, some students will need to take more than 24 credits in order to meet other program and medical school admissions requirements. Some students may also elect to take additional credits in order or further raise their undergraduate/undergraduate science GPA or demonstrate academic rigor in advanced undergraduate or graduate courses.

#### All students are required to take:

- MGRD 310 – Introduction to Clinical Inquiry I – 3 credits (See Section E.)
- MGRD 311 – Introduction to Clinical Inquiry II – 3 credits (See Section E.)

The Clinical Inquiry (IQ) courses cannot be waived as they are a key feature of the program. Not only will they provide a solid foundation, but the small group bonding provides the basis for professional development and peer support that is important for students as they go through the long and demanding process of studying for the MCAT and preparing for and applying to professional programs.

To complete the program and earn the certificate, all students must also complete or have previously completed the 16 undergraduate courses (55 credits) in the natural sciences, mathematics, and social sciences that are generally required for medical school consideration. These courses are primarily offered in the College of Arts and Sciences.

- BIOC 307 – General Biochemistry
- BIOL 214 – Genes, Evolution and Ecology + BIOL 214L Lab
- BIOL 215 – Cells and Proteins + BIOL 215L Lab
  - OR BIOL 216 – Development and Physiology + BIOL 216L Lab
- CHEM 105 – Principles of Chemistry I
- CHEM 106 – Principles of Chemistry II
- CHEM 113 -- Principles of Chemistry Lab
- CHEM 223 – Introductory Organic Chemistry
- CHEM 224 – Introductory Organic Chemistry II
- CHEM 233 – Introductory Organic Chemistry Lab I
- CHEM 234 – Introductory Organic Chemistry Lab II
- MATH 125 – Math/Calculus I
- MATH 126 – Math/Calculus II
  - OR STAT 201 – Statistics
- PHYS 115 – Introductory Physics + PHYS 115L Lab
- PHYS 116 – Introductory Physics II + PHYS 116L Lab
- PSCL 101 – General Psychology I
- SOCI 101 – Introduction to Sociology

Students may have completed some of these required courses prior to the start of this program and thus the students would be eligible for exemption from taking these courses for the certificate. Depending on course grades, students, with approval the program director, may waive the required courses. Students may also elect to retake these courses for reference and/or to improve their undergraduate GPA. Course descriptions for all required coursework are in Appendix C.

For students who did not complete the required courses, they must complete them as part of the program requirements.

#### **d. Elective Coursework**

In consultation with the program director, students will develop the best program of study for their needs. Typically, if a student has already taken the medical school pre-requisites, but needs to improve their overall undergraduate GPA, taking upper level undergraduate courses, such as those listed below, would show more rigor compared to retaking lower level courses. With successful grades, a student's undergraduate GPA will also improve.

Some students may also seek to take graduate coursework based on general interest and to demonstrate academic rigor. Further, some students may also have interest in taking other courses based on general interest and desire to improve technical skills (such as writing or language skills). Students may take additional elective coursework across the university with program director and instructor approval.

PRIME program course elective currently include the following. Additional courses may be approved once the program is in place through regular curricular processes.

### **School of Medicine**

#### **Courses that would count toward their science GPA:**

- ANAT 312 Basic Histology
- ANAT 391 Embryology
- ANTH 215 Medical Anthropology
- BETH 271 Bioethics: Dilemmas
- BIOC 308 Molecular Biology
- BIOC 312 Proteins and Enzymes
- BIOC 334 Structural Biology
- BIOC 354 Biochemistry and Biology of RNA
- EPBI 440 Intro to Population Health
- NTRN 201 Nutrition
- NTRN 359 Diabetes Prevention and Mgt.
- NTRN 363 Human Nutrition I: Energy, Protein, Minerals
- NTRN 364 Human Nutrition II: Vitamins
- PATH 316 Fundamental Immunology
- PHRM 309 Principles of Pharmacology
- PHRM 315 Nuclear Receptors in Health and Disease

### **College of Arts and Sciences**

#### **ANTHROPOLOGY**

- ANTH 402 Darwinian Medicine
- ANTH 406 The Anthropology of Childhood and the Family
- ANTH 423 AIDS: Epidemiology, Biology, and Culture
- ANTH 426 Power, Illness, and Inequality: The Political Economy of Health
- ANTH 428 Medical Anthropology and Public Health
- ANTH 435 Illegal Drugs and Society
- ANTH 438 Maternal Health: Anthropological Perspectives on Reproductive Practices and Health Policy
- ANTH 451 Topics in International Health
- ANTH 454 Health and Healing in East Asia
- ANTH 459 Introduction to International Health
- ANTH 460 Global Politics of Fertility, Family Planning, and Population Control
- ANTH 461 Urban Health
- ANTH 466 Population Change: Problems and Solutions

- ANTH 467 Topics in Evolutionary Biology
- ANTH 476 Topics in the Anthropology of Health and Medicine

### **BIOLOGY**

- BIOL 301/401 Biotechnology Laboratory
- BIOL 302 Human Learning and the Brain
- BIOL 333 The Human Microbiome
- BIOL 340 Human Physiology
- BIOL 346 Human Anatomy
- BIOL 416 Fundamental Immunology
- BIOL 417 Cytokines: Function, Structure, and Signaling
- BIOL 424 Introduction to Stem Cell Biology
- BIOL 427 Functional Genomics
- BIOL 342/442 Parasitology
- BIOL 343/443 Microbiology
- BIOL 352/452 Ecology and Evolution of Infectious Diseases
- BIOL 362/462 Principles of Developmental Biology
- BIOL 363/463 Experimental Developmental Biology
- BIOL 365/465 Evo-Devo: Evolution of Body Plans
- BIOL 373/473 Introduction to Neurobiology
- BIOL 374/474 Neurobiology of Behavior

### **CHEMISTRY**

- CHEM 328/428 Biochemistry
- CHEM 329/429 Chemical Aspects of Living Systems
- CHEM 306 Lecture Introductory Physical Chemistry
- CHEM 306 Lab Introductory Physical Chemistry Lab
- CHEM 333 Medicinal Chemistry and Drug Development

### **CLASSICS**

- CLSC 295A Greek and Latin Elements in English
- CLSC 295B ADV Elements in English: Biomed Terminology

### **DANCE**

- DANC 445 Kinesiology for Dance
- DANC 446 Topics in Dance Medicine, Science and Wellness

### **HISTORY**

- HSTY 241: Inventing Public Health
- HSTY 373/473: Women and Medicine in the United States
- HSTY 395/495: History of Medicine

### **POLITICAL SCIENCE**

- POSC 483 Health Policy and Politics in the United States

### **PSYCHOLOGICAL SCIENCES**

- PSCL 230 Child Psychology

- PSCL 317 Health Psychology
- PSCL 321 Abnormal Psychology
- PSCL 352 Physiological Psychology
- PSCL 344 Developmental Psychopathology
- PSCL 369 Adult Development and Aging
- COSI 101 Introduction to Health Communication
- COSI 109 Introduction to Communication
- COSI 340 Theories of Health Communication
- COSI 200 Interpersonal Communication
- COSI 260 Multicultural Aspects of Human Communication
- COSI 280 Organizational Communication
- COSI 332 Persuasion
- COSI 345 Communication and Aging

### **RELIGIOUS STUDIES**

- RLGX XXX Health, Body and Sexuality in Chinese Religions\*

### **SOCIOLOGY**

- SOCI 344 Health Disparities
- SOCI 275 Lives in Medicine: Becoming and Being a Physician
- SOCI 365 Health Care Delivery
- SOCI 311 Health, Illness and Social Behavior
- SOCI 345 Sociology of Mental Illness
- SOCI 364 Disability and Society
- SOCI 264 Body, Culture and Disability
- SOCI 361 The Life Course
- SOCI 443 Medical Sociology

### **INTERDISCIPLINARY**

- XXXX 301 Medical College Admissions Test Prep\*
- XXXX 302 Medical College Admissions Test Prep\*

\*These courses are in the process of being developed.

Course descriptions for all CAS elective coursework are in Appendix D.

#### **e. Clinical Inquiry Group Experience**

Students are required to take two semesters of problem-based Clinical Inquiry (IQ) coursework (MGRD 310 and 311). Groups of ~9 students will meet two times a week (for three hours total) and will discuss a patient case that was introduced to them in the previous class. Students will be expected to research the case prior to class and come prepared to discuss concepts introduced in the case, both in general and specific to the patient. A key feature of this class, like the SOM IQ groups, is self-reflection and professional growth. Grading will be based on content, participation, and professional behavior. Concepts to be introduced include, but are not limited to:

1. Bioethical and social science concepts, for example

- Doctor-patient relationship
  - Patient privacy
  - Ethics in genetics
2. Understanding basic biomedical research concepts, for example
    - Study design
    - Understanding strengths and limitations of studies
    - Statistical analysis
  3. Public Health, including
    - Epidemiology
    - Health disparities and implicit bias
  4. Professional behaviors, including
    - Ability to give and receive constructive criticism
    - Identifying personal strengths and weaknesses
    - Improving from feedback
    - Self-reflection
  5. Social Determinants of Health
    - Culture and health
    - Contextual factors

Importantly, these courses will integrate knowledge being introduced in basic science courses to reinforce key MCAT knowledge.

### **3. Faculty and Department information**

This program will be led by a program director along with a steering committee jointly comprised of members of the School of Medicine and the College of Arts and Sciences. This steering committee will ensure program success and guarantee continuity in the event of leadership changes. The steering committee will be charged with establishing an evaluation component for the program to measure:

- Program interest/demand as indicated by quantity and quality of applications
- Student engagement and satisfaction
- Medical school admissions outcomes
- Program curricular content
- Program operations

The steering committee will also be consulted should any issues arise.

The steering committee will be co-chaired by Cheryl Thompson, PhD, Assistant Professor, Department of Nutrition and Director of Master's Programs for the School of Medicine and Jill Korbin, PhD, Professor of Anthropology and Associate Dean of the College of Arts and Sciences. The steering committee will also consist of the following members (to be replaced as needed with appropriate balanced SOM and CAS representation):

Paul MacDonald, PhD, Associate Dean of Graduate Studies  
 Steven Scherger, PhD, Director of Health Career Advising, Undergraduate Studies  
 TBN, CAS representative

TBN, CAS representative  
Henry Ng, MD, Assistant Dean of Admissions

#### **4. Evidence of need**

##### **a. Student Demand**

This program was designed for students wishing to pursue further education to make their application into an MD or DO program more competitive. Specifically, this program is geared toward two types of future medical students. The first is “career changers” or students who have not completed the course requirements for medical school consideration. The second type is “academic enhancers” or students who did not get a high enough GPA in their undergraduate science coursework to be competitive for medical school admission or their medical school of choice. Although GPA’s required for medical school admission varies widely, and is not the only factor in medical school admissions, data from the Association of American Medical Colleges (AAMC) shows that the success rate for a student in the 3.00-3.19 range is only 16%, whereas the success rate jumps to 35% for those students with at least a 3.4 and 51% with a 3.6 (underrepresented minority student acceptance rates at a given GPAs are, typically, slightly higher).

The SOM has received several inquiries for pre-medical post-baccalaureate programs that include undergraduate coursework. These requests were both from students who did not take all the required courses for entry to medical school (“career changers” who had other plans while undergraduates) and from students whose undergraduate GPA, particularly in science courses, is not strong enough. We expect the latter group to make up a majority of the students in this program, given the competitiveness of medical school admissions.

At the end of the 2014-15 academic year, the SOM conducted a survey of students graduating from their master degree programs, which shed light on program elements that are important for students. Increased advising on how to get into medical school, problem-based learning experiences, linkage with the CWRU SOM admissions program, and opportunities for clinical experiences were identified as areas of improvement for existing SOM master’s programs among students wishing to go on to medical school. Current undergraduate students at and recent alumni of the College of Arts and Sciences have also made similar inquiries, including the request for specialized MCAT preparation. This program was designed to address these needs. Thus, we expect the demand for this program to be high and competitive for the 50 students we accept each year.

##### **b. Competing Programs**

Nationally, there are several similar post-baccalaureate certificate programs tailored to these types of students and featuring predominantly undergraduate courses. Indeed, the Association of American Medical Colleges (AAMC) website lists 82 programs that feature undergraduate courses and are designed for career changers and academic enhancers (<https://apps.aamc.org/postbac/#/index>). However, there is only one program in Ohio, at

Cleveland State University, which is both amenable to career changers and based in undergraduate-level coursework. The most highly competitive national undergraduate-course certificate post-baccalaureate programs are summarized in Appendix A. According to their data reported online, these programs typically have success rates of medical school acceptances > 90%.

Existing post-baccalaureate and master's degree programs outside the University attract thousands of students per year. However, many students have found that these programs designed to improve credentials for medical school are not suited to their needs, typically because they need to improve their undergraduate GPA. This program fills a distinct unmet need within the university for an undergraduate-course based post-baccalaureate program for pre-med students. When recruiting for the post-bac student, we will explain how each of these programs are distinct and provide resources to help the students pick the program that best suits their needs.

This certificate program is comprehensive enough to provide exposure to all the required undergraduate science and mathematics coursework for a student on the "career changer" or "academic enhancer" track.

With today's competitiveness to get into medical school, programs that offer one-on-one advising on getting into medical school and customizable programs based on prior experiences and courses are extremely helpful in setting oneself apart. Only a select few programs offer these additional experiences. Given our highly ranked School of Medicine and College of Arts and Sciences, faculty expertise in problem-based learning instruction and MCAT content and testing methods, tier-I research institutional status, and affiliation with world class hospitals, we are uniquely poised to offer a strong program that will attract the best students.

## **5. Projected enrollment**

We anticipate enrolling up to 50 students/year by year three of the program. We feel strongly that the biggest component of this program is the interactive advising on the competitive, complicated, and changing medical school admissions process. Thus, we would like to limit enrollment to around 50 students/year to allow for adequate mentoring by the program director. We anticipate approximately 20 students in year 1, 35 in year 2, and 50 in year 3.

Given that advising is a key component of this program, enrollment will be capped at around 50 students per year. It is expected that many students will complete the program in 12 months, but some students will take up to two years. Should demand from high-quality students be high enough to warrant hiring a full time advisor to work with the program director, if sufficient faculty are available to advise and both schools agree, we will re-evaluate existing course capacities and resources and increase student enrollment. This will be evaluated once the program has been established. Drs. Thompson and Korbin, along with the steering committee, will continue to be actively involved in this program and assist the new program director as needed to ensure success.

## **6. Resource availability**

Case Western Reserve University's School of Medicine is consistently ranked among the top schools of medicine in the country. Importantly, our medical school curriculum is well known for our exceptional clinical inquiry group learning modes. This small group problem-based learning model of instruction has served as an inspiration to other medical schools around the country. With many schools moving toward this type of programming, prior experience in an Clinical Inquiry (IQ) environment is a plus for medical school admissions committees. This program capitalizes on this experience and resources available within the CWRU SOM and features a similar educational experience.

The College of Arts and Sciences is the vibrant and essential core of Case Western Reserve University. CAS provides all of the roughly 5000 undergraduate students of Case Western Reserve with foundational and disciplinary training. Over 40% of undergraduates with declared majors are pursuing their academic careers in the College. It is CAS' mission to create and educate across the humanities, natural sciences and mathematics, performing arts, and social and behavioral sciences. We are dedicated to advancing knowledge through research and creative endeavors; to developing skilled and informed citizens, scholars, and researchers through undergraduate and graduate education; and to serving the University and local and global communities.

In addition to outstanding educational programs, CWRU's research ranks high among the elite universities in the country. Further, with affiliations with the Cleveland Clinic, University Hospitals, MetroHealth, and the Veteran Affairs Medical Center, the PRIME program offers outstanding opportunities for clinical immersion in a variety of settings and populations.

## **7. Expense and Revenue**

This program will require a full-time director who will have 100% of their time committed to the program. The director will advise students on requirements and procedures for getting into the program of their choosing. Students are expected to meet multiple times per month with the program director to ensure they are on track both with certificate completion, as well as making sure they are setting themselves up to be successful and competitive in the medical school admissions process. To provide the best experiences and outcomes for the students, the program director will be responsible to stay current on medical school program entrance requirements and be able to fully advise students.

This program will be offered by the SOM and the CAS. Program marketing, recruitment, and student support will be administered by the School of Medicine Graduate Education Office (GEO) consistent with other SOM educational programs under the purview of the SOM Graduate Education Office. Applications for admission to the PRIME program will be received through the CWRU School of Graduate Studies.

Tuition for this program will be charged on a per hour basis and students will be charged the graduate tuition rate. The SOM and CAS will equally share initial program startup expenses. Ongoing operational expenses will also be shared equally. The tuition revenue will be allocated

to the management center teaching the course up to the first 36 students annually. Tuition revenue will be shared equally for students beyond this headcount. The agreement will serve for the first two years and will then be re-evaluated. The SOM and CAS seek to achieve an operational state in which program instruction is equally shared. Program startup expenses are estimated to be \$67,000 and will be equally shared by the SOM and the CAS. Annual program operational expenses are estimated to range between \$166K and \$200K annually based on the number of students enrolled.

Please see Appendix E for a memorandum of understanding between the CAS and SOM that details expense and revenue sharing.

## **8. Required University and School Resources**

This program will not require any additional library resources. Students will be strongly encouraged to shadow physicians and/or work in research labs, as space is available. However, this is not a required component of this program.

## **9. Program completion requirements**

Successful completion of the program will be defined as completing all the graded coursework with a GPA of 3.5 or higher and passing all non-graded components of the program.

### Appendix A: Existing Highly Competitive Post-Baccalaureate Certificate Programs

University	Program/Curriculum	Duration	Tuition	Number of Students
Washington University, St. Louis, MO	Core medical school courses pick and choose as student needs. 30 credits required.  Evening and part-time options available.	2 years, can complete in 12 months	About \$25,500, depending on courses and number of credits taken	Unclear
Bryn Mawr, Bryn Mawr, PA	Biology, physics, chemistry and organic chemistry  MCAT preparation Community Service	12 month	About \$31,000, depending on units taken	85/year
Northwestern University, Chicago, IL	7 Biology, 6 chemistry (4 with labs) and 3 physics classes (all with labs)	Unclear	Around \$85,000	Unclear
University of Virginia, Charlottesville, VA	2 chemistry, 2 biology, 2 organic chemistry, 2 physics  Shadowing experiences  MCAT preparation materials	1 year  Career changers only	\$27,816 in state, \$32,996 out of state	Unclear
University of Pennsylvania, Philadelphia, PA	Required courses for medical, dental or veterinary school  MCAT preparation assistance	1 year, or 2 years part-time	Unclear	Unclear, large
University of Southern California, Los Angeles, CA	2 chemistry, 2 biology, 2 organic chemistry, 2 physics  Clinical and/or	2 years	\$59,976	45-50/year

	research exposure			
University of Michigan, Ann Arbor, MI	2 chemistry, 2 biology, 2 organic chemistry, 2 physics  MCAT Prep  Experiential learning  Foundations for Aspiring Physicians	14 months	\$30,000 for MI residents	“small cohort”
Johns Hopkins University, Baltimore, MD	Clinical Medicine  MCAT Prep  Flexible program to take needed courses	9-14 months	\$36,500 for Fall and Spring, \$795/credit over summer	25-30/year

## Appendix B: Sample program course structures

**Table 1: Sample program course structure for career changer track to medical school, did not take many/any courses previously**

**\*\*\*Note that this is just one example, all plans will be customized to the student**

Year 1 Fall	<p>CHEM 105 – Principles of Chemistry I – 3 credits            CHEM 113 -- Principles of Chemistry Laboratory – 2 credits            BIOL 214 – Genes, Evolution and Ecology + BIOL 214L – 4 credits</p> <p>SOCI 101 – Introduction to Sociology -- 3 credits</p> <p>MGRD 310 - Clinical Inquiry (IQ) I – 3 credits</p> <p>Physician shadowing</p> <p>Seminar series</p>
Year 1 Spring	<p>CHEM 106 – Principles of Chemistry II – 3 credits            BIOL 215 – Cells and Proteins + BIOL 215L – 5 credits</p> <p>OR BIOL 216 – Development and Physiology + BIOL 216L</p> <p>PSCL 101 -- General Psychology I – 3 credits</p> <p>MGRD 311 - Clinical Inquiry (IQ) II – 3 credits</p> <p>Physician shadowing</p> <p>Seminar series</p>
Year 1 Summer	<p>CHEM 223 – Introductory Organic Chemistry I – 3 credits</p> <p>CHEM 233 – Introductory Organic Chemistry Laboratory I– 2 credits</p> <p>CHEM 224 – Introductory Organic Chemistry II – 3 credits</p> <p>CHEM 234 – Introductory Organic Chemistry Laboratory II– 2 credits</p> <p>Physician shadowing</p>
Year 2 Fall	<p>PHYS 115 – Introductory Physics I – 4 credits            STAT 201 – Statistics – 3 credits</p> <p>BIOC 307 – General Biochemistry – 4 credits</p> <p>Physician shadowing</p>

	Seminar series
Year 2 Spring	<p>PHYS 116 – Introductory Physics II – 4 credits</p> <p>MCAT 301* – Medical College Admissions Test Preparation – 3 credits</p> <p>MCAT 302* - Medical College Admissions Test Preparation – 3 credits</p> <p>Elective</p> <p>Physician shadowing</p> <p>Seminar series</p>
Year 2 Summer	<p>Take MCAT</p> <p>Apply to Medical School</p>

**\*If this course is offered in summer, the student can take that summer just prior to MCAT**

**Table 2: Sample program course structure for academic enhancement track who took all required courses**

Year 1 Summer	<p>NTRN 362 – Exercise Physiology and Macronutrient Metabolism – 3 credits</p> <p>MCAT 301 – Medical College Admissions Test Preparation – 3 credits</p> <p>MCAT 302 - Medical College Admissions Test Preparation – 3 credits</p> <p>Physician shadowing</p>
Year 1 Fall	<p>MGRD 310 - Clinical Inquiry (IQ) I – 3 credits</p> <p>BETH 271 – Bioethics – 3 credits</p> <p>PHRM 309 – Principals of Pharmacology – 3 credits</p> <p>NTRN 363 – Human Nutrition I – 3 credits</p> <p>Physician shadowing</p> <p>Seminar series</p>
Year 1 Spring	<p>MGRD 311 - Clinical Inquiry (IQ)II – 3 credits</p> <p>BIOC 334 – Structural Biology – 3 credits</p> <p>BIOC 354 – Biochemistry and Biology of RNA – 3 credits</p> <p>ANAT 312 – Basic Histology – 3 credits</p> <p>Physician shadowing</p> <p>Seminar series</p>
Year 1 Summer	<p>Take MCAT in June, Apply to Medical School</p>

## Appendix C: Required Course Descriptions

### **CHEM 105. Principles of Chemistry I. 3 Units.**

Atomic structure; thermochemistry; periodicity, bonding and molecular structure; intermolecular forces; properties of solids; liquids, gases and solutions. Recommended preparation: One year of high school chemistry.

### **CHEM 106. Principles of Chemistry II. 3 Units.**

Thermodynamics, chemical equilibrium; acid/base chemistry; oxidation and reduction; kinetics; spectroscopy; introduction to nuclear, organic, inorganic, and polymer chemistry.  
Prereq: CHEM 105 or equivalent.

### **CHEM 113. Principles of Chemistry Laboratory. 2 Units.**

A one semester laboratory based on quantitative chemical measurements. Experiments include analysis, synthesis and characterization, thermochemistry and chemical kinetics. Computer analysis of data is a key part of all experiments. Prereq or Coreq: CHEM 105 or CHEM 106 or CHEM 111 or ENGR 145.

### **PHYS 115. Introductory Physics I. 4 Units.**

First part of a two-semester sequence directed primarily towards students working towards a B.A. in science, with an emphasis on the life sciences. Kinematics; Newton's laws; gravitation; simple harmonic motion; mechanical waves; fluids; ideal gas law; heat and the first and second laws of thermodynamics. This course has a laboratory component.

### **PHYS 116. Introductory Physics II. 4 Units.**

Electrostatics, Coulomb's law, Gauss's law; capacitance and resistance; DC circuits; magnetic fields; electromagnetic induction; RC and RL circuits; light; geometrical optics; interference and diffraction; special relativity; introduction to quantum mechanics; elements of atomic, nuclear and particle physics. This course has a laboratory component. Prereq: PHYS 115.

### **BIOL 214. Genes, Evolution and Ecology. 3 Units.**

First in a series of three courses required of the Biology major. Topics include: biological molecules (focus on DNA and RNA); mitotic and meiotic cell cycles, gene expression, genetics, population genetics, evolution, biological diversity and ecology. Prereq or Coreq: CHEM 105 or CHEM 111.

### **BIOL 214L. Genes, Evolution and Ecology Lab. 1 Unit.**

First in a series of three laboratory courses required of the Biology major. Topics include: biological molecules (with a focus on DNA and RNA); basics of cell structure (with a focus on malaria research); molecular genetics, biotechnology; population genetics and evolution, ecology. Assignments will be in the form of a scientific journal submission. Prereq or Coreq: BIOL 214.

### **BIOL 215. Cells and Proteins. 3 Units.**

Second in a series of three courses required of the Biology major. Topics include: biological molecules (focus on proteins, carbohydrates, and lipids); cell structure (focus on membranes, energy conversion organelles and cytoskeleton); protein structure-function; enzyme kinetics, cellular energetics, and cell communication and motility strategies. Prereq: BIOL 214 and (CHEM 105 or CHEM 111). Prereq or Coreq: CHEM 106 or ENGR 145.

### **BIOL 215L. Cells and Proteins Laboratory. 1 Unit.**

Second in a series of three laboratory courses required of the Biology major. Topics to include: protein structure-function, enzymes kinetics; cell structure; cellular energetics, respiration and photosynthesis. In addition, membrane structure and transport will be covered. Laboratory and discussion sessions offered in alternate weeks. This course is not available for students who have taken BIOL 215 as a 4-credit course. Prereq: BIOL 214L and Prereq or Coreq: BIOL 215.

### **BIOL 216. Development and Physiology. 3 Units.**

This is the final class in the series of three courses required of the Biology major. As with the two previous courses, BIOL 214 and 215, this course is designed to provide an overview of fundamental biological processes. It will examine the complexity of interactions controlling reproduction, development and physiological function in animals. The Developmental Biology section will review topics such as gametogenesis, fertilization, cleavage, gastrulation, the genetic control of development, stem cells and cloning. Main topics included in the Physiology portion consist of: homeostasis, the function of neurons and nervous systems; the major organ systems and processes involved in circulation, excretion, osmoregulation, gas exchange, feeding, digestion, temperature regulation, endocrine function and the immunologic response. There are two instructional modes for this course: lecture mode and hybrid mode. In the lecture mode students attend class for their instruction. In the hybrid mode students watch online lectures from the course instructor and attend one discussion section with the course instructor each week. The online content prepares students for the discussion. Which mode is offered varies depending on the term. Students are made aware of what mode is offered at the time of registration. The total student effort and course content is identical for both instructional modes. Either instructional mode fulfills the BIOL 216 requirement for the BA and BS in Biology. Prereq: BIOL 214.

### **BIOL 216L. Development and Physiology Lab. 1 Unit.**

Third in a series of three laboratory courses required of the Biology major. Students will conduct laboratory experiments designed to provide hands-on, empirical laboratory experience in order to better understand the complex interactions governing the basic physiology and development of organisms. Laboratories and discussion sessions offered in alternate weeks. Prereq: BIOL 214L. Prereq or Coreq: BIOL 216.

### **CHEM 223. Introductory Organic Chemistry I. 3 Units.**

Introductory course for science majors and engineering students. Develops themes of structure and bonding along with elementary reaction mechanisms. Includes treatment of hydrocarbons, alkyl

halides, alcohols, and ethers as well as an introduction to spectroscopy.

Prereq: CHEM 106 or CHEM 111.

### **CHEM 224. Introductory Organic Chemistry II. 3 Units.**

Continues and extends themes of structure and bonding from CHEM 223 and continues spectroscopy and more complex reaction mechanisms. Includes treatment of aromatic rings, carbonyl compounds, amines, and selected special topics. Prereq: CHEM 223 or CHEM 323.

### **CHEM 233. Introductory Organic Chemistry Laboratory I. 2 Units.**

An introductory organic laboratory course emphasizing microscale operations. Synthesis and purification of organic compounds, isolation of natural products, and systematic identification of organic compounds by physical and chemical methods.

Prereq: CHEM 106 or CHEM 111 and CHEM 113 or equivalent.

Coreq: CHEM 223 or CHEM 323.

### **CHEM 234. Introductory Organic Chemistry Laboratory II. 2 Units.**

A continuation of CHEM 233, involving multi-step organic synthesis, peptide synthesis, product purification and analysis using sophisticated analytical techniques such as chromatography and magnetic resonance spectroscopy. Prereq: CHEM 233. Coreq: CHEM 224

### **BIOC 307. Introduction to Biochemistry: From Molecules To Medical Science. 4 Units.**

Overview of the macromolecules and small molecules key to all living systems. Topics include: protein structure and function; enzyme mechanisms, kinetics and regulation; membrane structure and function; bioenergetics; hormone action; intermediary metabolism, including pathways and regulation of carbohydrate, lipid, amino acid, and nucleotide biosynthesis and breakdown. The material is presented to build links to human biology and human disease. One semester of biology is recommended. Offered as BIOC 307, BIOC 407, and BIOL 407.

Prereq: CHEM 223 and CHEM 224.

### **PSCL 101. General Psychology I. 3 Units.**

Methods, research, and theories of psychology. Basic research from such areas as psychophysiology, sensation, perception, development, memory, learning, psychopathology, and social psychology.

### **SOCI 101. Introduction to Sociology. 3 Units.**

This course examines the basic principles that underlie how sociologists look at the world: "The Sociological Imagination". It addresses the basic questions: How is social order possible and how does change occur? The course is designed as a foundation for further study in field of sociology and related disciplines. It introduces the student to the role that culture and social institutions play in modern society and examines important concepts such as socialization, deviance, social control, patterned inequalities and social change. These concepts are discussed in the context of both

contemporary and historical social theories. Additionally, the student will be introduced to the methods of inquiry used by practicing sociologists.

**STAT 201. Basic Statistics for Social and Life Sciences. 3 Units.**

Designed for undergraduates in the social sciences and life sciences who need to use statistical techniques in their fields. Descriptive statistics, probability models, sampling distributions. Point and confidence interval estimation, hypothesis testing. Elementary regression and analysis of variance. Not for credit toward major or minor in Statistics. Counts for CAS Quantitative Reasoning Requirement.

**MGRD 310/410. Introduction to Clinical Inquiry (IQ) I. 3 Units.**

This course is the first semester in a two semester sequence designed to introduce pre-allied health students to clinical concepts and integrate concepts from several basic science courses into clinically relevant cases. Class will be divided into small groups of 8-9 students. New concepts include introduction to bioethics, clinical study design and interpretation, epidemiology and doctor-patient communication. Integrated concepts include genetics, bacterial and viral classification and structure, acids and bases and ions in solution. In addition, professional skills will be reinforced, including ability to give and receive constructive criticism, identifying personal strengths and weaknesses and self-reflection. Coreq: BIOL 412, CHEM 105 or CHEM 112

**MGRD 311/411. Introduction to Clinical Inquiry (IQ) II. 3 Units.**

This course is the second semester in a two semester sequence designed to introduce pre-allied health students to clinical concepts and integrate concepts from several basic science courses into clinically relevant cases. Class will be divided into small groups of 8-9 students. New concepts include introduction to patient privacy, understanding biases in research and health disparities. Integrated concepts include the nervous system, psychological disorders, social interaction and discrimination. In addition, professional skills will be reinforced, including ability to give and receive constructive criticism, identifying personal strengths and weaknesses and self-reflection. Prereq: SOMG 310. Coreq: CHEM 106 or CHEM 113 and PSCL 101.

**MATH 125. Mathematics I (4)**

Discrete and continuous probability; differential and integral calculus of one variable; graphing, related rates, maxima and minima. Integration techniques, numerical methods, volumes, areas. Applications to the physical, life, and social sciences. Students planning to take more than two semesters of introductory mathematics should take MATH 121. Prereq: Three and one half years of high school mathematics.

**MATH 126. Mathematics II (4)**

Continuation of MATH 125 covering differential equations, multivariable calculus, discrete methods. Partial derivatives, maxima and minima for functions of two variables, linear regression. Differential equations; first and second order equations, systems, Taylor series methods; Newton's method; difference equations. Prereq: MATH 125.

# APPENDIX

(Part 1 of 3)

Approvals for required and/or elective courses from:

DEPARTMENT	PAGE
Biology .....	1
Chemistry.....	6
Physics .....	11
Psychological Studies .....	15
Sociology.....	20



Chandel Smith <cms218@case.edu>

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## Message from Beth and Jill - For Review & Approval: Courses for New Post-Bac, Pre-Med Certificate Program (BIOL)

---

Chandel Smith <cms218@case.edu>  
To: Mark Willis <maw27@case.edu>  
Cc: "Korbin, Jill" <jek7@case.edu>, Beth Trecasa <bmt5@case.edu>  
Bcc: Jennifer Dyke <jfd11@case.edu>

Tue, Mar 15, 2016 at 10:02 AM

Dear Mark,

This is a follow up to Beth's comments at the last Chair Council meeting concerning a new post-baccalaureate certificate program CAS is developing with the School of Medicine. Because your department teaches some of the required courses, we are writing to get your feedback on including these courses from your department in the proposal. Also, we would like to ask for your suggestions for additional elective courses for this program.

We will have a fuller version of the proposal to send you as soon as it is complete. The program will go through all of the needed approval processes, and so it is important to know if the required courses from your department can be included in the proposal, along with additional electives you might want to offer. A tuition-sharing agreement is being negotiated between the deans so that the efforts of both CAS and the School of Medicine will be compensated fairly.

The program is envisioned to be a joint initiative of CAS and the School of Medicine to qualify and prepare two groups of post-baccalaureate students for medical school admission. These students will be carefully selected for their potential to succeed.

The first group, we call the career changers, will have to complete the courses required for medical school consideration. We anticipate a smaller number of these students, perhaps 5-10 per year, and they would be enrolling in the natural and social science and mathematics courses required for medical school consideration (see attached list of required courses in your department).

The second group are those students who are trying to improve and enhance their records to be more competitive for medical school consideration. This group of students would be enrolling in those required courses in which they needed to improve their grade. In addition, these students would be enrolling in upper division electives to demonstrate their potential in more advanced courses. This group would involve perhaps 35-40 students each year.

Because we have these two groups we are asking for your feedback on both the required courses, and the electives we can offer. Programs of study will be specific to the needs of each student and they will be carefully advised about course selection.

Please see the attached spreadsheet that includes the courses in your department that are required for medical school admission. We've prepared a summary of the course offerings, enrollments, and sections for the past three years based on the information in SIS. Students in the program will only need to take these courses if they have not previously taken them during their baccalaureate program or potentially if they received a C in the course and would like to improve the grade.

Thus far, the suggested elective courses are primarily in the School of Medicine, but we are confident that there are several

courses in the College that would be relevant to a student pursuing admission to a medical school program. We would appreciate a listing of possible electives in your department to include in the proposal. Inclusion on the elective list, of course, does not necessarily mean that students will enroll.

Would you please let us know by **Wednesday, March 23rd**, if there is capacity in the required courses and if you approve their inclusion in the proposal? If there is not capacity, but you otherwise would approve, can you let us know what additional teaching capacity would be necessary?

Would you also please let us know by **Wednesday, March 23rd**, if there are upper-division undergraduate and graduate courses that are health and medicine-related and that you think would be appropriate to include and have capacity for additional students?

At this time, we anticipate the program building up to 50 students a year, with the first cohort entering sometime in 2017. We are very excited about this and think it could grow to become a nationally competitive program.

Please let us know if you have any questions. And thank you in advance for your feedback and guidance.

Jill and Beth

—  
Chandel Smith  
Dean's Office  
College of Arts & Sciences  
Case Western Reserve University  
Crawford 719C  
Cleveland, OH 44106-7068  
(216) 368-3826 phone  
(216) 368-3842 fax  
cms218@case.edu

 BIOL Enrollment-Capacity Comparisons.xls  
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APPENDIX D: Required and Elective Course Descriptions and Department Chair Letters of Support

1	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V		W		X		Y		Z		AA		
																						Enroll*	Cap.**	Enroll*	Cap.**	Enroll*	Cap.**	Enroll*	Cap.**	Enroll*	Cap.**		Enroll*	Cap.**
2	Course	Enroll*	Cap.**	# Sec.	Enroll*	Cap.**	# Sec.	Enroll*	Cap.**	# Sec.	Enroll*	Cap.**	# Sec.	Enroll*	Cap.**	# Sec.																		
4	BIOL 214	389	999	1	152	120	1	20	40	1	354	589	1	122	120	1	17	40	1	347	589	1	108	120	1									
5	BIOL 214L	21	16-28	18	25	28	3	9	28	1	21	16-28	16	26	28	4	7	28	1	22	16-28	15	22	28	4									
7	BIOL 215	79	100	1	256	999	1	20	25	2	75	100	1	276	999	1	17	25	2	89	100	1	258	382	1									
8	BIOL 215L	20	24	3	11	2-28	18	9	25	2	17	24	3	14	28	18	10	25	2	20	24	3	14	3-28	18									
10	BIOL 216 Lecture	230	589	1	88	100	1	55	30	1	178	589	1	58	96	1	19	30	2	173	589	1	80	96	1									
11	BIOL 216L	18	2-24	9	7	8	4	13	12	1	15	24	8	8	8	4	12	12	1	15	24	9	8	8	4									
12	BIOL 216 Dis													29	38-48	2							40	20	2									

\*Enrollment is actual for courses with 1 section and averaged for those with multiple sections. \*\*Capacity relates to the combined enrollment capacity per SIS.



Chandel Smith &lt;cms218@case.edu&gt;

## Message from Beth and Jill - For Review & Approval: Courses for New Post-Bac, Pre-Med Certificate Program (BIOL)

Jill E. Korbin &lt;jek7@case.edu&gt;

Tue, Apr 12, 2016 at 12:33 PM

To: Mark Willis &lt;mark.willis@case.edu&gt;, Beth Trecasa &lt;bmt5@case.edu&gt;, Chandel Smith &lt;cms218@case.edu&gt;

Hi Mark. Thanks. To make the proposal as strong as possible, are there any upper division electives in Biology we could include in a list of potential electives? Thinking ahead, enrollment would be based on capacity as it is for other students and tuition will flow according to courses being taught by CAS vs the School of Medicine.

So, we are not asking you to commit to spaces, but a list of courses that would be attractive to these students would be great. I know this is such a busy time of year but if you could get back to us in the coming few days it would be very helpful.

Best, Jill and Beth

On 3/28/2016 10:11 AM, Mark Willis wrote:

Dear Jill,

I just sent the following message to Beth. I realized after I hit the SEND button that your address was not on it.

Sincerely,  
Mark

----- Forwarded message -----

From: Mark Willis &lt;mark.willis@case.edu&gt;

Date: Mon, Mar 28, 2016 at 10:09 AM

Subject: Re: Message from Beth and Jill - For Review &amp; Approval: Courses for New Post-Bac, Pre-Med Certificate Program (BIOL)

To: Beth Trecasa &lt;bmt5@case.edu&gt;

Dear Beth and Jill,

The Department of Biology can provide provisional approval to you for the proposed new Post-Bac, Pre-Med Certificate Program between the College of Arts and Sciences and the School of Medicine with the following caveats. We currently have the capacity to fairly easily accept the projected 5-10 new students per year in your group one "career changers" category, depending on the semester that they enroll in the core introductory biology courses (i.e., Biol. 214, 215 and 216). The foreseeable limitation is the spring semester of Biol. 216. The spring version of Biology 216 is currently taught as a hybrid-style course in the large active-learning classroom in Thwing Hall which has a capacity of 96. Adding 5-10 students to our current spring enrollment for this course would closely approach this room limit. The added enrollment from the new post-bac program may not initially be an issue, but we have also recently committed to support a new course in the Department of Nutrition by allowing them to list Biol. 216 as a prerequisite. If their projected enrollment (ca. 20) together with the new pre-bac "career changers" all enrolled in Biol. 216 the same spring semester we would almost certainly cross the threshold for the active learning classroom. In this case the department of biology could be forced to adapt to these larger enrollments by possibly capping class sizes, preferentially enrolling biology majors and minors or requesting additional funds to make the course available to more students. We will monitor our enrollment numbers for Biol. 216 as we go forward and adapt as necessary.

We would expect that the projected 35-40 new students in your group two "GPA improvers" would have their greatest impact on our upper-division electives where we currently have capacity to take more students. However, if significant numbers of these students try to improve their GPAs by enrolling in the introductory-level courses, the scenario outlined above could be even worse. Again, we will be monitoring our enrollment numbers and adapt as necessary as we go forward.

I am happy to answer any specific questions about specific courses that you may have.

Sincerely,  
Mark

On Fri, Mar 25, 2016 at 8:18 AM, Beth Trecasa &lt;bmt5@case.edu&gt; wrote:

Hi Mark,

We're circling back to you the message below. Because your department teaches some of the required courses for this program, would you please let us know whether you approve of including the courses and also if you have additional electives?



Chandel Smith <cms218@case.edu>

---

**Message from Beth and Jill - For Review & Approval: Courses for New Post-Bac, Pre-Med Certificate Program (BIOL)**

---

Mark Willis <mark.willis@case.edu>

Wed, Apr 13, 2016 at 11:03 AM

To: "Jill E. Korbin" <jek7@case.edu>

Cc: Beth Trecasa <bmt5@case.edu>, Chandel Smith <cms218@case.edu>

Hi Guys,

The courses that seem to fit a more med school oriented person follow. Some of these may be based in other departments and cross-listed through Biology. I just went down the list in the Bulletin and cut and pasted the course titles that seemed like they would be interesting to a pre-med type.

Good luck.  
Sincerely,  
Mark

**Biol 301/401 Biotechnology laboratory**

**Biol. 302 Human learning and the brain.**

**BIOL 333. The Human Microbiome.**

**BIOL 340. Human Physiology.**

**BIOL 346. Human Anatomy.**

**BIOL 416. Fundamental Immunology.**

**BIOL 417. Cytokines: Function, Structure, and Signaling.**

**BIOL 424. Introduction to Stem Cell Biology.**

**BIOL 427. Functional Genomics.**

**BIOL 342/442. Parasitology.**

**BIOL 343/443. Microbiology.**

**BIOL 352/452. Ecology and Evolution of Infectious Diseases.**

**BIOL 362/462. Principles of Developmental Biology.**

**BIOL 363/463. Experimental Developmental Biology.**

**BIOL 365/465. Evo-Devo: Evolution of Body Plans. (This heavily developmental biology)**

**BIOL 373/473. Introduction to Neurobiology.**

**BIOL 374/474. Neurobiology of Behavior.**

[Quoted text hidden]



Chandel Smith &lt;cms218@case.edu&gt;

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**Message from Jill and Beth - For Review & Approval: Courses for New Post-Bac, Pre-Med Certificate Program (CHEM)**


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Chandel Smith &lt;cms218@case.edu&gt;

Tue, Mar 15, 2016 at 10:02 AM

To: "Barkley, Mary" &lt;mdb4@case.edu&gt;

Cc: "Korbin, Jill" &lt;jek7@case.edu&gt;, Beth Trecasa &lt;bmt5@case.edu&gt;

Bcc: Jennifer Dyke &lt;jfd11@case.edu&gt;

Dear Mary,

This is a follow up to Beth's comments at the last Chair Council meeting concerning a new post-baccalaureate certificate program CAS is developing with the School of Medicine. Because your department teaches some of the required courses, we are writing to get your feedback on including these courses from your department in the proposal. Also, we would like to ask for your suggestions for additional elective courses for this program.

We will have a fuller version of the proposal to send you as soon as it is complete. The program will go through all of the needed approval processes, and so it is important to know if the required courses from your department can be included in the proposal, along with additional electives you might want to offer. A tuition-sharing agreement is being negotiated between the deans so that the efforts of both CAS and the School of Medicine will be compensated fairly.

The program is envisioned to be a joint initiative of CAS and the School of Medicine to qualify and prepare two groups of post-baccalaureate students for medical school admission. These students will be carefully selected for their potential to succeed.

The first group, we call the career changers, will have to complete the courses required for medical school consideration. We anticipate a smaller number of these students, perhaps 5-10 per year, and they would be enrolling in the natural and social science and mathematics courses required for medical school consideration (see attached list of required courses in your department).

The second group are those students who are trying to improve and enhance their records to be more competitive for medical school consideration. This group of students would be enrolling in those required courses in which they needed to improve their grade. In addition, these students would be enrolling in upper division electives to demonstrate their potential in more advanced courses. This group would involve perhaps 35-40 students each year.

Because we have these two groups we are asking for your feedback on both the required courses, and the electives we can offer. Programs of study will be specific to the needs of each student and they will be carefully advised about course selection.

Please see the attached spreadsheet that includes the courses in your department that are required for medical school admission. We've prepared a summary of the course offerings, enrollments, and sections for the past three years based on the information in SIS. Students in the program will only need to take these courses if they have not previously taken them during their baccalaureate program or potentially if they received a C in the course and would like to improve the grade.

Thus far, the suggested elective courses are primarily in the School of Medicine, but we are confident that there are several

courses in the College that would be relevant to a student pursuing admission to a medical school program. We would appreciate a listing of possible electives in your department to include in the proposal. Inclusion on the elective list, of course, does not necessarily mean that students will enroll.

Would you please let us know by **Wednesday, March 23rd**, if there is capacity in the required courses and if you approve their inclusion in the proposal? If there is not capacity, but you otherwise would approve, can you let us know what additional teaching capacity would be necessary?

Would you also please let us know by **Wednesday, March 23rd**, if there are upper-division undergraduate and graduate courses that are health and medicine-related and that you think would be appropriate to include and have capacity for additional students?

At this time, we anticipate the program building up to 50 students a year, with the first cohort entering sometime in 2017. We are very excited about this and think it could grow to become a nationally competitive program.

Please let us know if you have any questions. And thank you in advance for your feedback and guidance.

Jill and Beth

—  
Chandel Smith  
Dean's Office  
College of Arts & Sciences  
Case Western Reserve University  
Crawford 719C  
Cleveland, OH 44106-7068  
(216) 368-3826 phone  
(216) 368-3842 fax  
cms218@case.edu

 CHEM Enrollment-Capacity Comparisons.xls  
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Chandel Smith <cms218@case.edu>

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**Message from Jill and Beth - For Review & Approval: Courses for New Post-Bac, Pre-Med Certificate Program (CHEM)**

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Mary D. Barkley <mdb4@case.edu>  
To: Chandel Smith <cms218@case.edu>

Wed, Mar 16, 2016 at 12:20 PM

I missed the last chair council meeting, but am aware of the proposed postbac program.

We have capacity in the courses that you listed in the spreadsheet. Assuming that all 50 students per year do NOT enroll in the same lab course! If that were to happen, we would have to open another section and need another TA position.

I added the likely electives that students might take at the bottom of the spreadsheet. Biochemistry lecture and lab (with lecture) and a medicinal chemistry course. The biochemistry lab course is pretty expensive in terms of reagents and lab class size. Right now it is running close to capacity (12 students). If as many as 12 students chose this course, we would have to open another section, requiring another TA position and additional funds for supplies for the course.

[Quoted text hidden]

[Quoted text hidden]

Mary D. Barkley  
M. Roger Clapp University Professor of Arts & Sciences  
Chair, Department of Chemistry  
Case Western Reserve University  
10900 Euclid Avenue  
Cleveland, OH 44106-7078  
(216) 368-0602  
(216) 368-0604 fax  
(216) 409-8839 cell  
(216) 397-3349 home

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 CHEM Enrollment-Capacity Comparisons.xls  
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Chemistry Electives  
Approved for Proposal

A		B		C	
1	Course No.	Course Title	Course Description		
	CHEM 328/428	Biochemistry	A survey of modern biochemistry as viewed from a chemistry perspective. Amino acids and peptides. Protein structure, folding, and dynamics. DNA and RNA. Saccharides, lipids, and biological membranes. Chemical mechanisms of enzyme catalysis. Glycolysis, ATP utilization, and oxidative phosphorylation. Metabolism. Expression and transmission of genetic information.		
2	CHEM 329/429	Chemical Aspects of Living Systems	A series of special topics in the chemistry of biological processes at the level of chemical structure and molecular mechanisms. Topics will be chosen from the following: Nature of enzymatic rate enhancements. Coenzyme chemistry. Biosynthesis. Enzymatic and nonenzymatic fatty acid metabolism. Bioenergetics: mitochondrial and photosynthetic electron transport and vision. Neurotransmitters and hormone action. Receptors and signal transduction. Factors affecting biological activity and drug design. Xenobiotic metabolism. Carcinogenesis and DNA repair.		
	CHEM 306 Lecture CHEM 306 Lab	Introductory Physical Chemistry Introductory Physical Chemistry Lab	A one-semester laboratory and lecture course developed to introduce students to a variety of chemical biology laboratory themes including buffering, identification of amino acids, immunoassay, ligand binding, cellular fractionation, enzyme isolation and purification, proteomics, and enzyme kinetics. Techniques include titration, various forms of chromatography, colorimetric assays, electrophoresis, high performance liquid chromatography and liquid chromatography coupled with tandem mass spectrometry.		
4	CHEM 333	Medicinal Chemistry and Drug Development	This course provides an overview on how principles in chemistry and biology are integrated to facilitate drug development. Primary emphasis will be placed on the development of organic molecules as drugs and metabolic enzymes as drug targets. Subjects pertinent to the introduction of medicinal chemistry, evaluation of drug efficacies in vitro and in vivo, and drug metabolism will be covered.		
5					



Chandel Smith &lt;cms218@case.edu&gt;

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**Message from Jill and Beth - For Review & Approval: Courses for New Post-Bac, Pre-Med Certificate Program (PHYS)**


---

Chandel Smith &lt;cms218@case.edu&gt;

Tue, Mar 15, 2016 at 10:02 AM

To: "Kash, Kathy" &lt;lkx43@case.edu&gt;

Cc: "Korbin, Jill" &lt;jek7@case.edu&gt;, Beth Trecasa &lt;bmt5@case.edu&gt;

Bcc: Jennifer Dyke &lt;jfd11@case.edu&gt;

Dear Kathy,

This is a follow up to Beth's comments at the last Chair Council meeting concerning a new post-baccalaureate certificate program CAS is developing with the School of Medicine. Because your department teaches some of the required courses, we are writing to get your feedback on including these courses from your department in the proposal. Also, we would like to ask for your suggestions for additional elective courses for this program.

We will have a fuller version of the proposal to send you as soon as it is complete. The program will go through all of the needed approval processes, and so it is important to know if the required courses from your department can be included in the proposal, along with additional electives you might want to offer. A tuition-sharing agreement is being negotiated between the deans so that the efforts of both CAS and the School of Medicine will be compensated fairly.

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The first group, we call the career changers, will have to complete the courses required for medical school consideration. We anticipate a smaller number of these students, perhaps 5-10 per year, and they would be enrolling in the natural and social science and mathematics courses required for medical school consideration (see attached list of required courses in your department).

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Please see the attached spreadsheet that includes the courses in your department that are required for medical school admission. We've prepared a summary of the course offerings, enrollments, and sections for the past three years based on the information in SIS. Students in the program will only need to take these courses if they have not previously taken them during their baccalaureate program or potentially if they received a C in the course and would like to improve the grade.

Thus far, the suggested elective courses are primarily in the School of Medicine, but we are confident that there are several

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At this time, we anticipate the program building up to 50 students a year, with the first cohort entering sometime in 2017. We are very excited about this and think it could grow to become a nationally competitive program.

Please let us know if you have any questions. And thank you in advance for your feedback and guidance.

Jill and Beth

--  
Chandel Smith  
Dean's Office  
College of Arts & Sciences  
Case Western Reserve University  
Crawford 719C  
Cleveland, OH 44106-7068  
(216) 368-3826 phone  
(216) 368-3842 fax  
cms218@case.edu

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 **PHYS Enrollment-Capacity Comparisons.xls**  
122K





Chandel Smith <cms218@case.edu>

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**Message from Jill and Beth - For Review & Approval: Courses for New Post-Bac, Pre-Med Certificate Program (PHYS)**

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Kathleen Kash <kathleen.kash@case.edu>

Fri, Mar 25, 2016 at 7:14 AM

To: "Jill E. Korbin" <jek7@case.edu>

Cc: Beth Trecasa <bmt5@case.edu>, Chandel Smith <chandel.smith@case.edu>

Hi Jill,

I checked with the instructor for the courses, Diana Driscoll, and she and I see no problem with approving the courses for this program, given that we anticipate that few of the program's students will take these courses. Because there is a lab component, the question of numbers is important. If you do anticipate that a large number of these students would enroll, we would likely need to open up additional lab sessions, at some significant cost to our department.

Kathy

[Quoted text hidden]

—  
Kathleen Kash  
Professor and Chair  
Department of Physics  
Case Western Reserve University  
2076 Adelbert Road  
Cleveland, OH 44106-7079  
tel. 216-368-4021  
FAX 216-368-4671



Chandel Smith &lt;cms218@case.edu&gt;

---

**Message from Jill and Beth - For Review & Approval: Courses for New Post-Bac, Pre-Med Certificate Program ( PSCL)**


---

Chandel Smith <cms218@case.edu>  
 To: Lee Thompson <lat@case.edu>  
 Cc: "Korbin, Jill" <jek7@case.edu>, Beth Trecasa <bmt5@case.edu>  
 Bcc: Jennifer Dyke <jfd11@case.edu>

Tue, Mar 15, 2016 at 10:01 AM

Dear Lee,

This is a follow up to Beth's comments at the last Chair Council meeting concerning a new post-baccalaureate certificate program CAS is developing with the School of Medicine. Because your department teaches some of the required courses, we are writing to get your feedback on including these courses from your department in the proposal. Also, we would like to ask for your suggestions for additional elective courses for this program.

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Please let us know if you have any questions. And thank you in advance for your feedback and guidance.

Jill and Beth

—  
Chandel Smith  
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College of Arts & Sciences  
Case Western Reserve University  
Crawford 719C  
Cleveland, OH 44106-7068  
(216) 368-3826 phone  
(216) 368-3842 fax  
cms218@case.edu

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 **PSCL Enrollment-Capacity Comparisons.xls**  
117K

Course	Fall 2013		Spring 2014		Summer 2014		Fall 2014		Spring 2015		Summer 2015		Fall 2015		Spring 2016									
	Enroll*	Cap.**	# Sec.	Enroll*	Cap.**	# Sec.	Enroll*	Cap.**	# Sec.	Enroll*	Cap.**	# Sec.	Enroll*	Cap.**	# Sec.	Enroll*	Cap.**	# Sec.						
PSCL 101	86	117-200	3	103	100-115	2	12	40	1	86	117-200	3	91	90-115	2	12	40	1	91	117-200	3	139	90-200	2

\* Enrollment is actual for courses with 1 section and averaged for those with multiple sections. \*\* Capacity relates to the combined enrollment capacity per SIS.



Chandel Smith &lt;cms218@case.edu&gt;

## Message from Jill and Beth - For Review & Approval: Courses for New Post-Bac, Pre-Med Certificate Program ( PSCL)

Lee Thompson <lat@case.edu>  
 To: Chandel Smith <cms218@case.edu>  
 Cc: "Korbin, Jill" <jek7@case.edu>, Beth Trecasa <bmt5@case.edu>

Sat, Mar 19, 2016 at 3:01 PM

Hi Jill and Beth,

Thank you for reaching out to us with this initiative! In regard to PSCL101 General Psychology, I can approve inclusion of this course as a required course and we should have capacity. This is a large lecture based course and we offer 3 sections every fall and 2 sections every spring. The class size is capped by the room capacity and currently we are not quite at capacity for all sections in any given semester.

As for elective courses, almost any PSCL and several COSI courses ( I include full description below because many are not as familiar with our COSI courses) would be an appropriate elective for a future physician. My top recommendations are:

PSCL230 - Child Psychology  
 PSCL317 - Health Psychology  
 PSCL321 - Abnormal Psychology  
 PSCL352 - Physiological Psychology  
 PSCL344 - Developmental Psychopathology  
 PSCL369 - Adult Development and Aging

**COSI 101 Introduction to Health Communication** An introductory examination of the influences associated with the functions of human life, communication processes, and research related to health and the health care industry from interpersonal, cultural, and organizational communication perspectives. We review the history and development of the field of health communication, introduce research that examines and tests communication theories regarding health, diffusion of health information, and real world application related to findings.

**COSI 109 Introduction to Communication Disorders** Forty-two million Americans have some type of communication disorder. How does a person with a communication disorder cope with the challenges of daily living? This course will examine the characteristics of communication disorders via first-hand and fictionalized accounts in books, films, and simulated communication disorders experiences. Topics will include disorders of speech, language, and hearing in children and adults, and the effects of communication disorders on families.

**COSI 340 Theories of Health Communication** This is an advanced examination into the theories and scholarship of health communication. Various communication processes assume a central role in the acquisition and enactment of health care. This course examines communication activity across a broad range of health care contexts. Attention will be given to provider-client communication, communication and ethical concerns, persuasive health promotion efforts, media impact on health, and health communication theory development, research, and methodology. Prerequisite: COSI 101.

**COSI 200 Interpersonal Communication** Communication is a primary means of initiating, maintaining, and dissolving relationships. Managing interpersonal relationships is a human concern across several contexts. Interpersonal communication considers the role of communication in personal relationships, including family, friendship, romantic, and other contexts. Concepts for study include communication competence, family interaction, relational messages, and conflict.

**COSI 260 Multicultural Aspects of Human Communication** Introduces intercultural/interracial communication principles and theory and includes the exploration of differences in perceptions and use of verbal and nonverbal communication messages. The course emphasizes relationships between communication, race, culture; nature of race and culture; and how they influence the communication process. We also discuss practical outcomes that can encourage more positive intercultural/interracial encounters.

**COSI 280 Organizational Communication** This course includes a review and analysis of the development of organizational communication theories associated with social interaction in the workplace. The course addresses communication challenges that contemporary organizational leaders and members face and strategies used to develop analytical and practical skills that promote success in interactions in diverse organizational situations and cultures.

**COSI 332 Persuasion** This survey course is an introduction to persuasion and attitude change, and includes the history, dynamics, and theories of persuasion. There is an extensive focus on persuasive strategies and models of attitude change. The course aims to develop an understanding of principles of persuasion and the practical application of those principles in life and career situations.

**COSI 345 Communication and Aging** This course addresses the normal and abnormal psychobiological changes that occur during aging and their effects on communication. Topics of discussion will include communicative interaction styles, disordered communication, and rehabilitation practices.

Given that we probably will not get more than a few students from this new post-bac program in any one course, our courses all have capacity.

Best,  
 Lee

[Quoted text hidden]

Lee Anne Thompson, Ph.D.

Professor and Chair  
Department of Psychological Sciences  
Case Western Reserve University  
216-368-6477, 216-368-4891 (Fax)

To make an appointment with Dr. Thompson please use the following link: <https://www.google.com/calendar/selfsched?sstoken=UU6HUFIFUWIXNWgyfGRIZmF1bHR8ZjE4YTdkNDBlNmMzYzliODRmMzlwZjdjNzlmThmYzA> IMPORTANT!!!! YOU MUST USE A GOOGLE CALENDAR TO SCHEDULE AN APPOINTMENT AND YOUR CALENDAR MUST BE SET TO THE TIME ZONE USED IN CLEVELAND OHIO.



Chandel Smith <cms218@case.edu>

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## Message from Jill and Beth - For Review & Approval: Courses for New Post-Bac, Pre-Med Certificate Program (SOCl)

---

Chandel Smith <cms218@case.edu>  
To: "Dannefer, Dale" <dxd79@case.edu>  
Cc: "Korbin, Jill" <jek7@case.edu>, Beth Trecasa <bmt5@case.edu>  
Bcc: Jennifer Dyke <jfd11@case.edu>

Tue, Mar 15, 2016 at 10:01 AM

Dear Dale,

This is a follow up to Beth's comments at the last Chair Council meeting concerning a new post-baccalaureate certificate program CAS is developing with the School of Medicine. Because your department teaches some of the required courses, we are writing to get your feedback on including these courses from your department in the proposal. Also, we would like to ask for your suggestions for additional elective courses for this program.

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At this time, we anticipate the program building up to 50 students a year, with the first cohort entering sometime in 2017. We are very excited about this and think it could grow to become a nationally competitive program.

Please let us know if you have any questions. And thank you in advance for your feedback and guidance.

Jill and Beth

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(216) 368-3842 fax  
[cms218@case.edu](mailto:cms218@case.edu)

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 **SOCI Enrollment-Capacity Comparisons.xls**  
116K

APPENDIX D: Required and Elective Course Descriptions and Department Chair Letters of Support

Course	Fall 2013			Spring 2014			Summer 2014			Fall 2014			Spring 2015			Summer 2015			Fall 2015			Spring 2016		
	Enroll*	Cap.**	# Sec.	Enroll*	Cap.**	# Sec.	Enroll*	Cap.**	# Sec.	Enroll*	Cap.**	# Sec.	Enroll*	Cap.**	# Sec.	Enroll*	Cap.**	# Sec.	Enroll*	Cap.**	# Sec.	Enroll*	Cap.**	# Sec.
SOCI 101	60	60	2	49	50	2	54	50-60	3	51	50	3	57	50-60	3	81	60-100	3	81	60-100	3	81	60-100	3

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Chandel Smith <cms218@case.edu>

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**Message from Jill and Beth - For Review & Approval: Courses for New Post-Bac, Pre-Med Certificate Program (SOCl)**

---

Dale Dannefer <dxd79@case.edu>

Thu, Mar 24, 2016 at 10:47 PM

To: "Jill E. Korbin" <jek7@case.edu>

Cc: Dale Dannefer <dale.dannefer@case.edu>, Beth Trecasa <bmt5@case.edu>, Chandel Smith <cms218@case.edu>

Dear Jill and Beth,

Sorry I somehow missed the original email.

SOCI101 is currently running multiple sections at capacity. However, we can readily add another section by paying one lecturer to teach it, so I do not see this as a big problem if demand warrants.

As you probably are aware, the sociology of health and medicine is a longstanding strength of our program. Accordingly, we have a number of potentially relevant and high-quality courses. I would recommend the following for inclusion as electives.

SOCI344 Health Disparities  
SOCI275 Lives in Medicine: Becoming and Being a Physician  
SOCI365 Health Care Delivery  
SOCI311 Health, Illness and Social Behavior  
SOCI345 Sociology of Mental Illness  
SOCI364 Disability and Society  
SOCI264 Body, Culture and Disability  
SOCI361 The Life Course

I hope this helps. Please let me know if I can provide more information.

Best wishes,  
Dale

{Quoted text hidden}

---  
Dale Dannefer  
Selah Chamberlain Professor of Sociology  
Chair, Department of Sociology  
Case Western Reserve University  
10900 Euclid Avenue  
Cleveland, OH 44106 USA

Office 216-368-2703  
Cell 585-315-2411  
Fax 216-368-2676



Chandel Smith <cms218@case.edu>

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**Message from Jill and Beth - For Review & Approval: Courses for New Post-Bac, Pre-Med Certificate Program (SOCl)**

---

Dale Dannefer <dxd79@case.edu>

Fri, Mar 25, 2016 at 8:28 AM

To: "Jill E. Korbin" <jek7@case.edu>

Cc: Dale Dannefer <dale.dannefer@case.edu>, Beth Trecasa <bmt5@case.edu>, Chandel Smith <cms218@case.edu>

Jill and Beth,

Thanks. These are all indeed terrific courses. I assume your focus is on undergraduate courses. However, if you want to include grad-only courses, Medical Sociology (SOC1443) could also be added to our list.

Also, several of the courses in the list I sent you are "slash" courses with graduate-level counterparts.

Dale

[Quoted text hidden]

**APPENDIX**  
(Part 2 of 3)

Email Request to Departments ..... 25

Approvals for elective courses from:

<b>DEPARTMENT</b>	<b>PAGE</b>
Anthropology.....	27
Classics.....	33
Dance.....	34
Political Science .....	35
Religious Studies.....	36



Chandel Smith <cms218@case.edu>

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## Message from Jill and Beth - Elective Courses for New Post-Bac, Pre-Med Certificate Program

---

Chandel Smith <cms218@case.edu>

Tue, Mar 15, 2016 at 10:00 AM

To: Lawrence Greksa <lpg2@case.edu>, "Scallen, Catherine" <cbs2@case.edu>, Stacy McGaugh <ssm69@case.edu>, Paul Iversen <pai2@case.edu>, William Deal <wed@case.edu>, Karen Potter <klp13@case.edu>, James Van Orman <jav12@case.edu>, Christopher Flint <cx133@case.edu>, Gillian Weiss <glw@case.edu>, Yasuhiro Shirai <yxs561@case.edu>, David Rothenberg <djr30@case.edu>, Laura Hengehold <leh7@case.edu>, "Beckwith, Karen" <klb56@case.edu>, Timothy Beal <tcb5@case.edu>, Jerrold Scott <jms60@case.edu>

Cc: "Korbin, Jill" <jek7@case.edu>, Beth Trecasa <bmt5@case.edu>

Bcc: Jennifer Dyke <jfd11@case.edu>

Dear Chairs,

This is a follow up to Beth's comments at the last Chair Council meeting concerning a new post-baccalaureate certificate program CAS is developing with the School of Medicine. We are writing to get your feedback on elective courses in your department that could be offered for this program.

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College of Arts & Sciences  
Case Western Reserve University  
Crawford 719C  
Cleveland, OH 44106-7068  
(216) 368-3826 phone  
(216) 368-3842 fax  
[cms218@case.edu](mailto:cms218@case.edu)



Chandel Smith <cms218@case.edu>

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**Message from Jill and Beth - Elective Courses for New Post-Bac, Pre-Med Certificate Program**

---

Beth Trecasa <bmt5@case.edu>

Thu, Mar 24, 2016 at 9:01 AM

To: Chandel Smith <cms218@case.edu>

Beth

**Beth Trecasa**

Assistant Dean for Strategic Initiatives  
College of Arts and Sciences  
Case Western Reserve University  
10900 Euclid Ave.  
Cleveland, Ohio 44106-7068

beth.trecasa@case.edu  
216-368-3468

Begin forwarded message:

**From:** Lawrence Greksa <lg2@case.edu>

**Subject:** Re: Message from Jill and Beth - Elective Courses for New Post-Bac, Pre-Med Certificate Program

**Date:** March 15, 2016 at 9:18:58 PM EDT

**To:** "Jill E. Korbin" <jek7@case.edu>, Beth Trecasa <bmt5@case.edu>

Jill and Beth,

Attached is a list of upper-level Anthropology courses that may be appropriate for the post-bac program you are developing. I excluded two courses that serve as SAGES Department seminars given the requirement for limiting their enrollment. I believe the courses that have been included can all take additional courses.

Larry

On 3/15/2016 10:00 AM, Chandel Smith wrote:

Dear Chairs,

This is a follow up to Beth's comments at the last Chair Council meeting concerning a new post-baccalaureate certificate program CAS is developing with the School of Medicine. We are writing to get your feedback on elective courses in your department that could be offered for this program.

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The first group, we call the career changers, will have to complete the courses required for medical school consideration. We anticipate a smaller number of these students, perhaps 5-10 per year, and they would be enrolling in the natural and social science and mathematics courses required for medical school consideration.

The second group are those students who are trying to improve and enhance their records to be more competitive for medical school consideration. This group of students would be enrolling in those required courses in which they needed to improve their grade. In addition, these students would be enrolling in upper division electives to demonstrate their potential in more advanced courses. This group would involve perhaps 35-40 students each year.

We are asking for your feedback on the electives from your department that we can offer in this program. Programs of study will be specific to the needs of each student and they will be carefully advised about course selection. Thus far, the suggested elective courses are primarily in the School of Medicine, but we are confident that there are several courses in the College that would be relevant to a student pursuing admission to a medical school program. We would appreciate a listing of possible electives in your department to include in the proposal. Inclusion on the elective list, of course, does not necessarily mean that students will enroll. These electives should be health and medicine-related.

Would you also please let us know by **Wednesday, March 23rd**, if there are upper-division undergraduate and graduate courses that are health and medicine-related and that you think would be appropriate to include and have capacity for additional students?

At this time, we anticipate the program building up to 50 students a year, with the first cohort entering sometime in 2017. We are very excited about this and think it could grow to become a nationally competitive program.

Please let us know if you have any questions. And thank you in advance for your feedback and guidance.

Jill and Beth

—  
Chandel Smith  
Dean's Office  
College of Arts & Sciences  
Case Western Reserve University  
Crawford 719C  
Cleveland, OH 44106-7068  
(216) 368-3826 phone  
(216) 368-3842 fax  
cms218@case.edu

—  
Lawrence P. Greksa, Ph.D.  
Professor and Chair  
236 Mather Memorial  
Case Western Reserve University  
Cleveland, OH 44106  
PH: 216-368-6777  
FAX: 216-368-5334

 postbac courses.docx  
18K



Chandel Smith <cms218@case.edu>

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**Fwd: Re: Electives for PRIME program (post-bac)**

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Jill E. Korbin <jek7@case.edu>  
To: Chandel Smith <cms218@case.edu>

Tue, Apr 19, 2016 at 3:50 PM

----- Forwarded Message -----

**Subject:** Re: Electives for PRIME program (post-bac)  
**Date:** Wed, 6 Apr 2016 13:29:29 -0400  
**From:** Lawrence Greksa <lpg2@case.edu>  
**Organization:** Case Western Reserve University  
**To:** Jill E. Korbin <jek7@case.edu>, Beth Trecasa <bmt5@case.edu>

Absolutely. I was thinking MA instead of post-bac. Sorry.

On 4/6/2016 1:08 PM, Jill E. Korbin wrote:

Hi Larry. The electives you sent us were at the 400 graduate level. Do we also have your permission to include them at the 300 level? Thanks, Jill and Beth

--  
Jill E. Korbin  
Associate Dean, College of Arts and Sciences  
Lucy Adams Leffingwell Professor  
Professor of Anthropology  
Director, Schubert Center for Child Studies  
Co-Director, Childhood Studies Program  
Case Western Reserve University

--  
Lawrence P. Greksa  
Professor and Chair  
Department of Anthropology  
236 Mather Memorial  
Case Western Reserve University  
Cleveland, OH 44106  
PH: 216-368-6777  
FAX: 216-368-5334

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Jill E. Korbin  
Associate Dean, College of Arts and Sciences  
Lucy Adams Leffingwell Professor  
Professor of Anthropology  
Director, Schubert Center for Child Studies  
Co-Director, Childhood Studies Program  
Case Western Reserve University



Chandel Smith <cms218@case.edu>

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**Message from Jill and Beth - Elective Courses for New Post-Bac, Pre-Med Certificate Program**

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Paul Iversen <paul.iversen@cwru.edu>

Tue, Mar 15, 2016 at 10:24 AM

To: Beth Trecasa <bmt5@case.edu>, Jill Korbin <jek7@case.edu>

Cc: Chandel Smith <cms218@case.edu>

Dear Jill and Beth,

Classics could offer the following two courses (see below). We could change the numbers to 300-level and x-list at the 400-level, if need be. We are going to begin using a new website/program this coming summer, so it's going to change a bit as it is.

Best,

Paul

**CLSC 295A GREK & LATN ELEMENTS IN ENGL: BASIC COURSE (1.5)**

The first course of a two-course sequence (see CLSC 295B) in which students, assisted by computer drills on the web, learn the classical foundations (etymology) of modern English as well as the basic principles on which roots, prefixes, and suffixes combine to give precise meanings to composite words. Students will read the textbook and do the computerized drills on their own and then come to class in order to take exams.

**CLSC 295B ADV ELEMENTS IN ENGL: BIOMED TERMINOLOGY (1.5)**

This is the second course in a two-course sequence (see CLSC 295A) on the etymology of English words. The advanced section is oriented especially toward scientific and medical terminology. Students will read the textbook and do the computerized drills on their own and then come to class in order to take exams. Prereq: Previous or concurrent registration in CLSC 295A.

On Tue, Mar 15, 2016 at 10:00 AM, Chandel Smith <cms218@case.edu> wrote:

[Quoted text hidden]

—  
Paul A. Iversen  
Chair, Associate Professor  
Department of Classics  
Case Western Reserve University



Chandel Smith <cms218@case.edu>

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**Message from Jill and Beth - Elective Courses for New Post-Bac, Pre-Med Certificate Program**

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Karen Potter <klp13@case.edu>

Tue, Mar 15, 2016 at 10:17 AM

Reply-To: Karen.Potter@case.edu

To: Jill Korbin <jek7@case.edu>, Chandel Smith <cms218@case.edu>

Jill/Chandel:

There are two courses in our department that might meet the parameters described:

DANC 445, Kinesiology for Dance, 3 units ( offered every other fall semester in 'odd years')

DANC 446, Topics in Dance Medicine, Science and Wellness, 1 - 3 units (offered every spring semester)

Regards,

Karen

[Quoted text hidden]

—  
Karen Potter  
Professor and Chair  
Department of Dance  
College of Arts and Sciences  
Case Western Reserve University  
216-368-1491  
<http://dance.case.edu>



Chandel Smith <cms218@case.edu>

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## Message from Jill and Beth - Elective Courses for New Post-Bac, Pre-Med Certificate Program

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Karen Beckwith <kbeckwith50@gmail.com>

Tue, Mar 15, 2016 at 11:44 AM

To: Chandel Smith <cms218@case.edu>

Cc: Beth Trecasa <bmt5@case.edu>, "Jill E. Korbin" <jek7@case.edu>, Joseph White <jxw87@case.edu>

Dear Beth and Jill and Chandel

Please include **POSC483 Health Policy and Politics in the United States**, as an elective in the CAS/SoM post-BA certificate program. This course is an overview of the principal institutions, processes, social forces, and ideas shaping the U.S. health system. Historical, political, economic, and sociological perspectives on the health system are explored as well as the intellectual context of recent policy changes, challenges, and developments. Students will acquire a sense of how health services are financed and delivered in the U.S. They will also learn how to assess its performance compared to that of other similar countries.

The course is offered regularly by Professor Joseph White. We have capacity for additional enrollments in this course; it is offered on a regular basis; it enrolls, at the undergraduate level, students interested in or intending to apply to medical school; and it includes coursework appropriate for those preparing for medical school.

Please let me know if you have any questions about this course or any other issues related to the CAS/SoM post-BA certificate program. Thanks!

Cheers,  
Karen

Karen Beckwith  
Flora Stone Mather Professor  
Chair, Department of Political Science  
Case Western Reserve University  
Mather House 223  
Cleveland, Ohio 44106 USA  
216.368.4129  
karen.beckwith@case.edu  
[Quoted text hidden]



Chandel Smith <cms218@case.edu>

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## Message from Jill and Beth - Elective Courses for New Post-Bac, Pre-Med Certificate Program

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Deepak Sarma <dxs163@case.edu>

Wed, Mar 16, 2016 at 4:20 PM

To: Chandel Smith <cms218@case.edu>

Dear Chandel:

Greetings and good Wed. afternoon. Would you mind forwarding this msg below to Jill and Beth?

Thanks in advance for your help!

Deepak

Dear Jill and Beth:

I've discussed the program with my colleagues in religious studies. There are two courses (one that has been approved and another that has not yet been approved) that may fit.

First, my colleague Prof. Jonathan Tan can teach "Health, Body, and Sexuality in Chinese Religions". This course (not yet approved) explores classical and contemporary understandings of the body, health, and sexuality in Chinese religions. It will explore the emergence and developments of Chinese approaches to health, e.g., diet, meditation, acupuncture, moxibustion, alchemy, etc. that are shaped by religious understandings of nature, body, and cosmos (five phases, yin/yang, etc.), the linkages between sexuality and health, as well as their contemporary significance and implications.

Second, I can teach "Religious Studies for Future Healthcare Professionals." This class (it has already been approved) will provide future healthcare professionals with the basic knowledge of religious studies and of topics pertaining to death and dying, sickness, suffering, and so on. Students will also gain a basic knowledge of related bioethical issues as they are found in the world's religions. The primary aim of the course is to offer future healthcare professionals an awareness of the diverse religious backgrounds of patients and issues that they might encounter and to provide a basic understanding of religious studies in the process.

Please let me know if there is any other information that you need etc.

with all best wishes,

Deepak

Dr. Deepak Sarma

Professor of Religious Studies  
Acting Chair of the Department of Religious Studies

Professor of Bioethics (secondary appointment)  
School of Medicine, Case Western Reserve University

Curatorial Consultant, Department of Asian Art  
Cleveland Museum of Art

Mailing Address:  
Department of Religious Studies  
Tomlinson Hall  
2121 MLK Jr. Drive  
Case Western Reserve University  
Cleveland, OH 44106-7112

office: 216-368-4790  
deepak.sarma@case.edu

deepaksarma.com  
[Quoted text hidden]

# APPENDIX

(Part 3 of 3)

Summary of elective courses which have been approved

Anthropology Electives  
Approved for Proposal

1	A	B	C
Course No.	Course Title		Course Description
1	ANTH 302	Darwinian Medicine (3)	Darwinian medicine deals with evolutionary aspects of modern human disease. It applies the concepts and methods of evolutionary biology to the question of why we are vulnerable to disease. Darwinian (or evolutionary) medicine proposes several general hypotheses about disease causation including disease as evolutionary legacy and design compromise, the result of a novel environment, a consequence of genetic adaptation, a result of infectious organisms' evolutionary adaptations, and disease symptoms as manifestation of defense mechanisms. It proposes that evolutionary ideas can explain, help to prevent and perhaps help to treat some diseases. This course presents the basic logic of Darwinian medicine and evaluates hypotheses about specific diseases that illustrate each of the hypotheses about disease causation.
2	ANTH 306	The Anthropology of Childhood and the Family (3)	Child-rearing patterns and the family as an institution, using evidence from Western and non-Western cultures. Human universals and cultural variation, the experience of childhood and recent changes in the American family.
3	ANTH 323	AIDS: Epidemiology, Biology, and Culture (3)	This course will examine the biological and cultural impact of AIDS in different societies around the world. Topics include: the origin and evolution of the virus, the evolutionary implications of the epidemic, routes of transmission, a historical comparison of AIDS to other epidemics in human history, current worldwide prevalences of AIDS, and cultural responses to the epidemic. Special emphasis will be placed on the long-term biological and social consequences of the epidemic.
4	ANTH 326	Power, Illness, and Inequality: The Political Economy of Health (3)	This course explores the relationship between social inequality and the distribution of health and illness across class, race, gender, sexual orientation, and national boundaries. Class readings drawn from critical anthropological approaches to the study of health emphasize the fundamental importance of power relations and economic constraints in explaining patterns of disease. The course critically examines the nature of Western biomedicine and inequality in the delivery of health services. Special consideration is given to political economic analysis of health issues in the developing world such as AIDS, hunger, reproductive health, and primary health care provision.
5	ANTH 328	Medical Anthropology and Public Health (3)	Anthropology has a longstanding relationship with the field of public health, which dates back to before the flourishing of medical anthropology as a subfield. Direct participation of medical anthropologists in public health research and practice continues to grow. This course explores the intersection of medical anthropology and public health from the perspective of anthropological history, theory, and methods. Course topics include: the history of anthropological work in public health, medical anthropology theory as a guide to anthropological public health research, and anthropological methods and approaches to public health work. Case studies from around the world will be employed throughout the course.
6	ANTH 335	Illegal Drugs and Society (3)	This course provides perspectives on illegal drug use informed by the social, political and economic dimensions of the issues. Framed by the history, epidemiology, and medical consequences of drug use, students will confront the complex challenges posed by addiction. Anthropological research conducted in the U.S. and cross-culturally will demonstrate, elaborate and juxtapose various clinical, public health, and law enforcement policies and perspectives. Topics examined will include: why exclusively using a biomedical model of addiction is inadequate; how effective is the war on drugs; what prevention, intervention and treatment efforts work; and various ideological/moral perspectives on illegal drug use.
7	ANTH 338	Maternal Health: Anthropological Perspectives on Reproductive Practices and Health Policy (3)	The reproductive process is shared by humans as biological beings. However, the experience of pregnancy and childbirth is also dependent on the cultural, social, political, historical, and political-economic setting. This course frames issues in reproductive health by looking at the complex issues associated with maternal health and mortality world-wide. After reviewing biomedical perspectives on reproductive processes, this course will focus on childbirth and pregnancy as the process and ritual by which societies welcome new members. This course will review ethnomedical concepts; discuss the interaction between local, national, and global agendas shaping reproductive practices; and conclude with anthropological critiques of reproductive health initiatives.
8	ANTH 351	Topics in International Health (3)	Special topics of interest in international health.
9	ANTH 354	Health and Healing in East Asia (3)	This course examines the illness experiences and the healing practices in East Asia. After introducing the anthropological approaches to the study of medicine, this course will explore the practices of ethnomedicine and biomedicine, mental health, family planning and reproductive health, the experience of aging and care giving, infectious diseases, environmental health, and biotechnology. By delving into the illness experiences and the healing practices in East Asia, the course will discuss issues related to medical pluralism, health inequality, biological citizenship, social stigmatization, and bioethics.
10	ANTH 359	Introduction to International Health (3)	Critical health problems and needs in developing countries. Prevalence of infectious disease, malnutrition, chronic disease, injury control. Examines strategies for improvement of health in less developed countries.
11	ANTH 360	Global Politics of Fertility, Family Planning, and Population Control (3)	This course offers an anthropological examination of fertility behaviors around the world. In particular, it explores various historical, cultural, socioeconomic, political, and technological factors contributing to reproductive activities. After introducing the anthropological approaches to the study of fertility, the course will delve into the ways to regulate fertility in historical and contemporary times, various factors contributing to fertility change, state intervention in reproduction through voluntary and coercive family planning programs, and new reproductive technologies and ethical concerns surrounding assisted reproduction and abortion.
12	ANTH 361	Urban Health (3)	This course provides an anthropological perspective on the most important health problems facing urban population around the world. Special attention will be given to an examination of disparities in health among urban residents based on poverty, race/ethnicity, gender, and nationality.
13	ANTH 366	Population Change: Problems and Solutions (3)	The course examines population processes and their social consequences from an anthropological perspective. It introduces basic concepts and theories of population studies and demonstrates the ways in which anthropological research contributes to our understanding of population issues. We will explore questions such as: How has world population changed in history? How does a population age or grow younger? What are the factors affecting population health? Why do people migrate? And what are the policy implications of population change? We will examine the sociocultural, economic, political, and ecological factors contributing to population processes, such as factors affecting childbearing decisions, cultural context of sex-selective abortion, various caregiving arrangements for the elderly, and policy responses to population change. We will explore these issues with cases from across the world, with a special focus on China, the world's most populous country with the most massive family-planning program in modern human history.

Anthropology Electives  
Approved for Proposal

A	B	C
<p>14 ANTH 367</p>	<p>Topics in Evolutionary Biology (3)</p>	<p>The focus for this course on a special topic of interest in evolutionary biology will vary from one offering to the next. Examples of possible topics include theories of speciation, the evolution of language, the evolution of sex, evolution and biodiversity, molecular evolution. Cross-list: ANAT/EEPS/PHIL/PHOL 467/BIDL 468. Prerequisite: ANTH 225 or equivalent.</p>
<p>15 ANTH 376</p>	<p>Topics in the Anthropology of Health and Medicine (3)</p>	<p>Special topics of interest, such as the biology of human adaptability; the ecology of the human life cycle health delivery systems; transcultural psychiatry; nutrition, health, and disease; paleoepidemiology; and population anthropology.</p>

Biology Electives  
Approved for Proposal

A		B		C	
Course No.	Course Title	Course Description			
1	BIOL 301/401	Biotechnology Laboratory	Laboratory training in recombinant DNA techniques. Basic microbiology, growth, and manipulation of bacteriophage, bacteria and yeast. Students isolate and characterize DNA, construct recombinant DNA molecules, and reintroduce them into eukaryotic cells (yeast, plant, animal) to assess their viability and function. Two laboratories per week.		
2	BIOL 302	Human Learning and the Brain	This course focuses on the question, "How does the human brain learn?" Through assigned readings, extensive class discussions, and a major paper, each student will explore personal perspectives on learning. Specific topics include, but are not limited to: the brain's cycle of learning; neocortex structure and function; emotion and limbic brain; synapse dynamics and changes in learning; images in cognition; symbolic brain (language, mathematics, music); memory formation; and creative thought and brain mechanisms. The major paper will be added to each student's SAGES writing portfolio. In addition, near the end of the semester, each student will make an oral presentation on a chosen topic.		
3	BIOL 333	The Human Microbiome	This departmental seminar is designed to reveal how the abundant community of human-associated microorganisms influence human development, physiology, immunity and nutrition. Using a survey of current literature, this discussion-based course will emphasize an understanding of the complexity and dynamics of human/microbiome interactions and the influence of environment, genetics and individual life histories on the microbiome and human health. Grades will be based on participation, written assignments, exams, an oral presentation and a final paper. Prerequisites are completion of BIOL 214 and BIOL 216. This class is offered as a SAGES		
4	BIOL 340	Human Physiology	This course will provide functional correlates to the students' previous knowledge of human anatomy. Building upon the basic principles covered in BIOL 216 and 346, the physiology of organs and organ systems of humans, including the musculoskeletal, nervous, cardiovascular, lymphatic, immune, respiratory, digestive, excretory, reproductive, and endocrine systems, will be studied at an advanced level. The contribution of each system to homeostasis will be emphasized.		
5	BIOL 346	Human Anatomy	Gross anatomy of the human body. Two lectures and one laboratory demonstration per week.		
6	BIOL 415	Fundamental Immunology	Introductory immunology providing an overview of the immune system, including activation, effector mechanisms, and regulation. Topics include antigen-antibody reactions, immunologically important cell surface receptors, cell-cell interactions, cell-mediated immunity, innate versus adaptive immunity, cytokines, and basic molecular biology and signal transduction in B and T lymphocytes, and immunopathology. Three weekly lectures emphasize experimental findings leading to the concepts of modern immunology. An additional recitation hour is required to integrate the core material with experimental data and known immune mediated diseases. Five mandatory 90 minute group problem sets per semester will be administered outside of lecture and recitation meeting times. Graduate students will be graded separately from undergraduates, and 22 percent of the grade will be based on a critical analysis of a recently published, landmark scientific article.		
7	BIOL 417	Cytokines: Function, Structure, and Signaling	Regulation of immune responses and differentiation of leukocytes is modulated by proteins (cytokines) secreted and/or expressed by both immune and non-immune cells. Course examines the function, expression, gene organization, structure, receptors, and intracellular signaling of cytokines. Topic include regulatory and inflammatory cytokines, colony stimulating factors, chemokines, cytokine and cytokine receptor gene families, intracellular signaling through STAT proteins and tyrosine phosphorylation, clinical potential, and genetic defects. Lecture format using texts, scientific reviews and research articles. Recommended preparation:		
8	BIOL 424	Introduction to Stem Cell Biology	This discussion-based course will introduce students to the exciting field of stem cell research. Students will first analyze basic concepts of stem cell biology, including stem cell niche, cell quiescence, asymmetric cell division, cell proliferation and differentiation, and signaling pathways involved in these processes. This first part of the course will focus on invertebrate genetic models for the study of stem cells. In the second part of the course, students will search for primary research papers on vertebrate and human stem cells, and application of stem cell research in regenerative medicine and cancer. Finally, students will have the opportunity to discuss about ethical controversies in the field. Students will rotate in weekly presentations, and will write two papers during the semester. Students will improve skills on searching and reading primary research papers, gain presentation skills, and further their knowledge in related subjects in the fields of cell biology, genetics and developmental biology. This course may be used as a cell/molecular subject area elective for the B.A. and B.S. Biology degrees.		
9					

Biology Electives  
Approved for Proposal

A	B	C
BIOL 427	Functional Genomics	<p>In this course, students will learn how to access and use genomics data to address questions in cell biology, development and evolution. The genome of <i>Drosophila melanogaster</i> will serve as a basis for exploring genome structure and learning how to use a variety of available software to identify similar genes in different species, predict protein sequence and functional domains, design primers for PCR, analyze cis-regulatory sequences, access microarray and RNAseq databases, among others. Classes will be in the format of short lectures, short oral presentations made by students and hands-on experimentation using computers. Discussions will be centered in primary research papers that used these tools to address specific biological questions. The wet-lab component will consist of a research project formulated by a group of 2-3 students that will include basic molecular biology experiments (e.g. PCR and DNA sequencing) to test a hypothesis formulated by the students. Graduate students will be required to make additional presentations of research papers. They also will have additional questions in exams and a distinct page requirement on written assignments. This course satisfies a laboratory requirement of the B.A. in biology. This course satisfies a laboratory or quantitative laboratory requirement of the B.S. in biology.</p>
10 BIOL 342/442	Parasitology	<p>This course will introduce students to classical and current parasitology. Students will discuss basic principles of parasitology, parasite life cycles, host-parasite interaction, therapeutic and control programs, epidemiology, and ecological and societal considerations. The course will explore diverse classes of parasitic organisms with emphasis on protozoan and helminthic diseases and the parasites' molecular biology. Group discussion and selected reading will facilitate further integrative learning and appreciation for parasite biology. This course counts as an elective in the cell/molecular biology subject area for the Biology BA and BS degrees.</p>
11 343/443	Microbiology	<p>The physiology, genetics, biochemistry, and diversity of microorganisms. The subject will be approached both as a basic biological science that studies the molecular and biochemical processes of cells and viruses, and as an applied science that examines the involvement of microorganisms in human disease as well as in workings of ecosystems, plant-symbioses, and industrial processes. The course is divided into four major areas: bacteria, viruses, medical microbiology, and environmental and applied microbiology.</p>
12 BIOL 352/452	Ecology and Evolution of Infectious Diseases	<p>This course explores the effects of infectious diseases on populations of hosts, including humans and other animals. We will use computer models to study how infectious diseases enter and spread through populations, and how factors like physiological and behavioral differences among host individuals, host and pathogen evolution, and the environment affect this spread. Our emphasis will be on understanding and applying quantitative models for studying disease spread and informing policy in public health and conservation. To that end, computer labs are the central component of the course. This course satisfies a laboratory requirement of the B.A. in biology. This course satisfies a laboratory or quantitative laboratory requirement of the B.S. in biology.</p>
13 BIOL 362/462	Principles of Developmental Biology	<p>The descriptive and experimental aspects of animal development. Gametogenesis, fertilization, cleavage, morphogenesis, induction, differentiation, organogenesis, growth, and regeneration. Students taking the graduate-level course will prepare an NIH-format research proposal as the required term paper.</p>
14 BIOL 363/463	Experimental Developmental Biology	<p>This laboratory course will teach concepts and techniques in developmental biology. Emphasis will be on the mechanisms that pattern the embryo during development and how these mechanisms are explored using molecular, cellular, and genetic approaches. A term research paper is required. Students taking the graduate level course will prepare a grant proposal. One laboratory and one lecture per week.</p>
15 BIOL 365/465	Evo-Devo: Evolution of Body Plans (heavily developmental biology)	<p>This discussion-based course offers a detailed introduction to Evolutionary Developmental Biology. The field seeks to explain evolutionary events through the mechanisms of Developmental Biology and Genetics. The course is structured into different modules. First we will look at the developmental genetic mechanisms that can cause variation. Then we focus on how alterations of these mechanisms can generate novel structural changes. We will then examine a few areas of active debate, where Evo-Devo is attempting to solve major problems in evolutionary biology. We will conclude with two writing assignments. Students will be required to present, read, and discuss primary literature in each module.</p>
16		

Biology Electives  
Approved for Proposal

A	B	C
<p>BIOL 373/473</p>	<p>Introduction to Neurobiology</p>	<p>How nervous systems control behavior. Biophysical, biochemical and molecular biological properties of nerve cells, their organization into circuitry, and their function within networks. Emphasis on quantitative methods for modeling neurons and networks, and on critical analysis of the contemporary technical literature in the neurosciences. Term paper required for graduate students. This course satisfies a lab requirement for the B.A. in Biology, and a Quantitative Laboratory requirements for the B.S. in Biology.</p>
<p>17</p>	<p>Neurobiology of Behavior</p>	<p>In this course, students will examine how neurobiologists interested in animal behavior study the linkage between neural circuitry and complex behavior. Various vertebrate and invertebrate systems will be considered. Several exercises will be used in this endeavor. Although some lectures will provide background and context on specific neural systems, the emphasis of the course will be on classroom discussion of specific journal articles. In addition, students will each complete a project in which they will observe some animal behavior and generate both behavioral and neurobiological hypotheses related to it. In lieu of examinations, students will complete three written assignments, including a theoretical grant proposal, a one-page Specific Aims paper related to the project, and a final project paper. These assignments are designed to give each student experience in writing biologically-relevant documents. Classroom discussions will help students understand the content and format of each type document. They will also present their projects orally to the entire class.</p>
<p>18</p>		

Chemistry Electives  
Approved for Proposal

A		B	C
Course No.	Course Title		Course Description
1 CHEM 328/428	Biochemistry		A survey of modern biochemistry as viewed from a chemistry perspective. Amino acids and peptides. Protein structure, folding, and dynamics. DNA and RNA. Saccharides, lipids, and biological membranes. Chemical mechanisms of enzyme catalysis. Glycolysis, ATP utilization, and oxidative phosphorylation. Metabolism. Expression and transmission of genetic information.
2 CHEM 329/429	Chemical Aspects of Living Systems		A series of special topics in the chemistry of biological processes at the level of chemical structure and molecular mechanisms. Topics will be chosen from the following: Nature of enzymatic rate enhancements. Coenzyme chemistry. Biosynthesis. Enzymatic and nonenzymatic fatty acid metabolism. Bioenergetics: mitochondrial and photosynthetic electron transport and vision. Neurotransmitters and hormone action. Receptors and signal transduction. Factors affecting biological activity and drug design. Xenobiotic metabolism. Carcinogenesis and DNA repair.
3 CHEM 306 Lecture CHEM 306 Lab	Introductory Physical Chemistry Introductory Physical Chemistry Lab		A one-semester laboratory and lecture course developed to introduce students to a variety of chemical biology laboratory themes including buffering, identification of amino acids, immunoassay, ligand binding, cellular fractionation, enzyme isolation and purification, proteomics, and enzyme kinetics. Techniques include titration, various forms of chromatography, colorimetric assays, electrophoresis, high performance liquid chromatography and liquid chromatography coupled with tandem mass spectrometry.
4 CHEM 333	Medicinal Chemistry and Drug Development		This course provides an overview on how principles in chemistry and biology are integrated to facilitate drug development. Primary emphasis will be placed on the development of organic molecules as drugs and metabolic enzymes as drug targets. Subjects pertinent to the introduction of medicinal chemistry, evaluation of drug efficacies in vitro and in vivo, and drug metabolism will be covered.
5			

Classics Electives  
Approved for Proposal

	A	B	C
1	Course No. CLSC 295A	Course Title Greek and Latin Elements in English Offered in the Spring	Course Description The first course of a two-course sequence (see CLSC 295B) in which students, assisted by computer drills on the web, learn the classical foundations (etymology) of modern English as well as the basic principles on which roots, prefixes, and suffixes combine to give precise meanings to composite words. Students will read the textbook and do the computerized drills on their own and then come to class in order to take exams.
2	CLSC 295B	ADV Elements in English: Biomed Terminology Offered in the Spring	This is the second course in a two-course sequence (see CLSC 295A) on the etymology of English words. The advanced section is oriented especially toward scientific and medical terminology. Students will read the textbook and do the computerized drills on their own and then come to class in order to take exams. Prereq: Previous or concurrent registration in CLSC 295A.
3			

Dance Electives  
Approved for Proposal

A		B		C
Course No.	Course Title	Course Description		
1	DANC 445 Kinesiology for Dance	Seminar and laboratory for assessment of kinesiological and biomechanical principles as related to dance. Assessment of current research will be implemented to affect cross-training protocols.		
2	DANC 446 Topics in Dance Medicine, Science and Wellness Offered every spring semester	Review and application of continually emerging information from the fields of Dance Medicine and Science that impacts general dancer health and the care and prevention and treatment of dance specific injuries. Participation in the Dancer Wellness Program is encouraged to facilitate continued application of principles developed in DANC 345.		
3				

Political Sciences Electives  
Approved for Proposal

A	B	C
1. Course No.	Course Title	Course Description
POSC 483	Health Policy and Politics in the United States	This course is an overview of the principal institutions, processes, social forces, and ideas shaping the U.S. health system. Historical, political, economic, and sociological perspectives on the health system are explored as well as the intellectual context of recent policy changes, challenges, and developments. Students will acquire a sense of how health services are financed and delivered in the U.S. They will also learn how to assess its performance compared to that of other similar countries.
2.		

A	B	C
Course No.	Course Title	Course Description
1	PSCL 230	Child Psychology
2	PSCL 317	Health Psychology
3	PSCL 321	Abnormal Psychology
4	PSCL 352	Physiological Psychology
5	PSCL 344	Developmental Psychopathology
6	PSCL 369	Adult Development and Aging
7	COSI 101	Introduction to Health Communication
8	COSI 109	Introduction to Communication
9	COSI 340	Theories of Health Communication
10	COSI 200	Interpersonal Communication
11	COSI 260	Multicultural Aspects of Human Communication
12	COSI 280	Organizational Communication
13	COSI 332	Persuasion
14	COSI 345	Communication and Aging
15		

Religion Electives  
Approved for Proposal

A		B		C
Course No.	Course Title	Course Description		
1 RLGNXXXX	Health, Body and Sexuality in Chinese Religions	This course (not yet approved) explores classical and contemporary understandings of the body, health, and sexuality in Chinese religions. It will explore the emergence and developments of Chinese approaches to health, e.g., diet, meditation, acupuncture, moxibustion, alchemy, etc. that are shaped by religious understandings of nature, body, and cosmos (five phases, yin/yang, etc.), the linkages between sexuality and health, as well as their contemporary significance and implications.		
2 RLGNXXXX	Religious Studies for Future Healthcare Professionals	This class (it has already been approved) will provide future healthcare professionals with the basic knowledge of religious studies and of topics pertaining to death and dying, sickness, suffering, and so on. Students will also gain a basic knowledge of related bioethical issues as they are found in the world's religions. The primary aim of the course is to offer future healthcare professionals an awareness of the diverse religious backgrounds of patients and issues that they might encounter and to provide a basic understanding of religious studies in the process.		
3				

Sociology Electives  
Approved for Proposal

A		B	C
Course No.	Course Title	Course Description	
1 SOCI 344	Health Disparities	We have come to understand that stark disparities in health result from the social organization of society, especially inequality in resources and opportunities between and within social groups in the population. This seminar course examines the differential distribution of health and illness in society, focusing on the social determinants of health. Topics include: socioeconomic inequality; geographic context; social cohesion and exclusion; health burden in minority populations; policy and federal priorities. We utilize a life course perspective to understand how inequality "gets under the skin" to produce adverse health. Offered as SOCI 344 and SOCI 444.	
2 SOCI 275	Lives in Medicine: Becoming and Being a Physician	This course applies a sociological approach to medical profession. Medical sociology emerged as a distinct field of study in the 1950s in part due to prominent studies of medical education such as The Student Physician by Robert K. Merton and Howard Becker's Boys in White. Since then, sociologists and other social scientists have written extensively about how issues of race, gender, aging and ethnicity are tied to issues of medical education, medical training, medical socialization and physician decision-making. Using a life course perspective, this course will examine how lives in medicine change over time; in particular, we'll study changing workforce patterns, physician satisfaction, and burnout. Other topics to be covered include contemporary ethical issues and alternative professional health careers. The course provides an overview of how medicine and medical practice have a profound influence on--and are influenced by--social, cultural, political and economic forces. In short, you'll become familiar with how scholars outside of medicine cast a sociological gaze on the profession.	
3 SOCI 365	Health Care Delivery	Health care in the U.S. may be approaching a critical cross-road. Limiting care to older persons and the chronically ill has been proposed as a means to combat rising costs and limited access to health care. What are the alternatives to health care rationing? Socialized medicine? National health insurance? This course deals with issues of cost, quality, and access to health care in the United States and other societies; it considers how solutions by other societies can provide directions for the organization of health care in the U.S. Offered as SOCI 355 and SOCI 455. Prereq: SOCI 101 and Sophomore standing.	
4 SOCI 311	Health, Illness and Social Behavior	This course considers the role of social factors (e.g., poverty, occupational and family structure) on health and illness. Discussion will concentrate on the role of health promotion (e.g., anti-smoking campaigns), social behavior and lifestyle in health and health care use. Considerable attention is given to understanding health careers and professions and their role in the health of societies and individuals. Offered as SOCI 311 and SOCI 411. Prereq: SOCI 101 and Sophomore standing.	
5 SOCI 345	Sociology of Mental Illness	Focus is on social construction of mental health and illness and sociology of emotions. Social determinants of psychological distress will be discussed along with social stigma associated with mental illness. Institutional and community options for care of the mentally ill will be considered along with the impact of recent social movements of deinstitutionalization and independent living. Offered as SOCI 345 and SOCI 445. Prereq: SOCI 101 and Junior/senior standing.	
6 SOCI 364	Disability and Society	This course considers and examines the relationship between disability and society. The course covers how we define, represent, and react to disability in modern society. This includes an analysis of stigma and discrimination. We also explore the timing and experience of disability from a life-course perspective. Finally, we examine the political, social, and economic influences on disability, including the Disability Rights movement. Offered as SOCI 364 and SOCI 464. SOCI 101 and sophomore standing.	
7 SOCI 264	Body, Culture and Disability	This course examines the ways that the body is constructed through culture, media, and policy and how that, in turn, defines disability. Students will explore the socio-historical shifts in views and treatment of the body, as a way to understand how this is used to classify, marginalize and contain social differences. We trace these trends through the American Freak Show to present day Disability Determination Processes in the Social Security Administration. We further explore how historical perspectives of the body "carry forward" through social institutions such as health care, religion and education.	
8 SOCI 361	The Life Course	Individual experiences and transitions over the life course are considered as the result of societal, cultural, psychological, biological, and historical influences. Developmental issues of childhood, adolescence, young adulthood, middle years and late life are discussed in the context of social expectations, challenges, and opportunities. Emphasis is placed on theoretical readings. Offered as SOCI 361 and SOCI 461. Prereq: SOCI 101 and Sophomore standing.	
9 SOCI 443	Medical Sociology (grad. only)	Course covers theories, research methods, and problems in sociology of medicine. Topics include social epidemiology, health and illness behavior, and sick role. Structures and functions of delivery systems and their interrelationships with other social institutions are discussed.	
10			

## Appendix E: Memorandum of Understanding



### MEMORANDUM OF UNDERSTANDING

#### **PRIME (Post-Baccalaureate Readiness Instruction for bio-Medical Education) Program**

Whereas the Case Western Reserve University (CWRU) School of Medicine (SOM) and College of Arts and Sciences (CAS) jointly propose a distinctive pre-medical, post-baccalaureate, non-degree certificate program, the following terms and conditions are agreed to:

- The SOM and CAS will equally share all program startup expenses. The startup period is considered to be the time before students matriculate. Current estimates are:

Interim program staffing (June-Aug 2017)	\$50,000
Part-time effort of current department assistant (June-Aug 2017)	\$7,000
Program marketing materials	\$10,000
<b>TOTAL STARTUP EXEPNSES</b>	<b>\$67,000</b>

- The program director will be jointly hired by and report to faculty directors: Cheryl Thompson, PhD, Assistant Professor, Department of Nutrition and Director of Master's Programs, SOM, and Jill Korbin, PhD, Professor of Anthropology and Associate Dean, CAS. The program director and department assistant will be administratively housed and located in the SOM. Expected hire date for program director: September/October 2017. Depending on actual approvals and start dates for the program, these expenses may be less costly than currently estimated.
- The annual operating expenses are expected to be share equally by the SOM and CAS:

Full-time program director (including benefits)	\$100,000
Part-time effort of department assistant (including benefits)	\$26,000
Program marketing materials	\$10,000
SOM GEO (% of office based on # program students)	TBD (est. \$20,000)
Indirect expenses (TBD)	TBD
<b>TOTAL OPERATIONAL EXEPNSES</b>	<b>TBD (est. \$166K+)</b>

- The SOM and CAS will each be individually responsible for instructional expenses necessary to offer the program's required or elective courses.
- Tuition will be charged on a per credit hour basis and students will be charged the most current graduate tuition rate.

- The net tuition revenue will be allocated to the management center based on the proportion of credit hours the PRIME program students take in each management center and up to the first 36 students annually. Tuition revenue will be shared equally for students beyond this headcount.
  - The program director will be responsible for maintaining student enrollment reports for this purpose. The agreement will serve for the first two years and will then be re-evaluated.
  - Net tuition will be calculated based on: Total tuition of the program less University fees less total operational expenses.
  
- It is our understanding that neither the SOM, nor the CAS, will incur increased indirect expenses for PRIME students as they are considered to be non-degree students. In the event that either school does incur increased indirect expenses, the schools will work together to determine the amount of this expense, which will be allocated as a direct cost of the program. Jon Carlson, Vice President for Financial Planning, will be asked to assist in the calculation and determine a fair indirect expense charge, if necessary.
  
- In any year where the program is running in deficit, for example, due to very low enrollment, loss will be split evenly between SOM and CAS.
  
- SOM and CAS agree work collaboratively towards a goal of equal proportion of credit hours taken by PRIME participants in each management center. Both schools recognize that it's difficult to accurately determine this proportion, but each school may create new courses or offerings that enable an equal distribution of credit hours taken in both management centers.
  
- The PRIME steering committee will be charged with establishing an evaluation component for the program to measure:
  - Program interest/demand as indicated by quantity and quality of applications
  - Student engagement and satisfaction
  - Medical school admissions outcomes
  - Program curricular content
  - Program operations
  
- The steering committee will be co-chaired by Professors Cheryl Thompson and Jill Korbin, who will each appoint two members from their respective management centers for a two-year term. In addition, the co-chairs will jointly appoint a CWRU Health Career staff member. Initial steering committee members are:
  - Paul MacDonald, PhD, Associate Dean of Graduate Studies, SOM
  - Henry Ng, MD, Assistant Dean of Admissions, SOM
  - TBN, CAS
  - TBN, CAS
  - Steven Scherger, PhD, Director of Health Career Advising, Undergraduate Studies

- Annually, the finance representatives of both schools will meet after the Spring semester add/drop deadline to reconcile the program revenues and expenses to determine any net financial distributions/payments. This reconciliation will be presented to the Steering Committee for their input and guidance. Payments will be due prior to the year end. There may arise a need for a year end reconciliation, but the finance representatives will determine if this is necessary and the associated impact.
- This memorandum of understanding will be reviewed and updated by the SOM and CAS every two years, unless SOM and CAS agree to a different term.
- In the event of a material change, the SOM and CAS will meet to revise the agreement. A material change includes: financial losses in any given year that is projected to continue for another year, implementation of the UBC proposed rate for intra-school graduate student teaching, or significant departure from the planned student experiences / outcomes.

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Pam Davis, Dean  
School of Medicine

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Cyrus Taylor, Dean  
College of Arts and Sciences

**From:** Matthew Lester mxl805@case.edu   
**Subject:** Final DRAFT of PRIME Proposal  
**Date:** March 20, 2017 at 5:42 PM  
**To:** Beth Trecasa bmt5@case.edu  
**Cc:** Cheryl Thompson clw8@case.edu

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ML

Beth,

Thanks so much for your efforts on this project and with the proposal. Attached is the redline version that the SOM is willing to support. If you're amenable to the edits, please proceed with a clean copy. I'm open to additional changes, so please send them our way.

Also, we recognize that the agreement is our best estimate as to the future of the program, but things will change, so we'll need to stay in touch and work through what ever arises in the future.

Please feel free to email or call (267-872-7021) if you have any questions for edits.

Thanks,

Matthew

Matthew J. Lester, MBA, MHA  
Senior Associate Dean for Finance  
Case Western Reserve University School of Medicine  
10900 Euclid Ave.  
Cleveland, OH 44106-4916  
Phone: [216-368-8676](tel:216-368-8676)



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Cyrus C. Taylor, Dean  
Albert A. Michelson Professor in Physics

College of Arts and Sciences  
Crawford Hall, Room 712  
Case Western Reserve University  
10900 Euclid Avenue  
Cleveland, Ohio 44106-7068

MEMORANDUM

TO: Faculty Senate Executive Committee

Phone 216-368-4437

FROM: Cyrus Taylor

A handwritten signature in black ink, appearing to read "Cyrus Taylor".

Fax 216-368-3842

1-800-515-2774

[cyrus.taylor@case.edu](mailto:cyrus.taylor@case.edu)

DATE: April 5, 2017

SUBJECT: PRIME Certificate Program

I am pleased to offer my strong support of the proposed pre-medical post-baccalaureate certificate program, PRIME (Post-baccalaureate Readiness Instruction for bioMedical Education). This program was jointly developed by the College of Arts and Sciences and the School of Medicine and draws on key strengths and expertise in both schools.

The PRIME Program is designed to qualify and prepare post-baccalaureate students for admission to well-ranked medical schools. PRIME students have the opportunity to take undergraduate and graduate courses, receive specialized MCAT preparation and close advising, and have the option to participate in clinical shadowing and research. Select PRIME students will be offered an interview at CWRU's School of Medicine, and we aim to develop similar opportunities at other medical schools.

The program has been carefully developed in consultation with several departments in the College of Arts and Sciences (including Anthropology, Biology, Chemistry, Classics, Dance, History, Political Sciences, Psychological Sciences, Religious Studies, and Sociology) and in response to feedback from the college's Graduate Committee; Budget Subcommittee; Committee on Educational Programs, and College Strategic Planning Steering Committee. I am pleased to report that the proposal just received the approval of the Faculty of the College of Arts and Sciences on March 31, 2017.

I believe the proposal reflects close consideration and collaboration. I greatly appreciate the Faculty Senate's review and consideration. Please do let me know if there is any additional information that I can provide.

**Pamela B. Davis, MD, PhD**  
**Dean**  
**Senior Vice President for Medical Affairs**  
**Office of the Dean**

10900 Euclid Avenue  
Cleveland, Ohio 44106-4915

Visitors and Deliveries  
Biomedical Research Bldg., Room 113

phone 216.368.2825  
fax 216.368.2820

casemed.case.edu

December 21, 2016

Peter Harte  
Chair, Faculty Senate  
c/o Rebecca Weiss, Secretary of the University Faculty  
Adelbert Hall  
7001

Dear Professor Harte:

As noted in the accompanying memo from Dr. Maureen McEnery, Chair of the School of Medicine's Faculty Council, the Faculty Council has recommended approval of the Post-baccalaureate Readiness Instruction for biomedical Education (PRIME) Pre-Medical Post-Baccalaureate certificate program.

This program will improve students' knowledge, preparedness, and experience in an effort to increase the likelihood of their acceptance to well-ranked medical schools. Students in the certificate program take undergraduate level science courses to improve their GPA, receive specialized MCAT preparation, participate in regular meetings with one or more advisors, and engage in clinical experiences. The program includes two pre-medical Clinical Inquiry courses that utilize the School of Medicine's approach to the learner-centered and self-directed Western Reserve2 (WR2) curriculum. Select PRIME students will be offered an interview at CWRU's School of Medicine.

The proposal approval process is outlined in Dr. McEnery's memo. An ad hoc Committee was convened to review this new program and, after revisions and multiple presentations, the program was approved by the Faculty Council.

I concur with the Faculty of Medicine and recommend approval of this certificate program.

Please submit the proposed certificate program to the appropriate committees for their review at their earliest opportunity. I would be pleased to answer any questions that might arise during the review process.

Thank you.

Sincerely,



Pamela B. Davis, MD, PhD

c: Maureen McEnery, Chair, Faculty Council  
Nicole Deming, Assistant Dean for Faculty Affairs and Human Resources, SOM

enclosures



Memorandum

To: Pamela B. Davis, MD, PhD  
Dean, School of Medicine  
Case Western Reserve University

From: Maureen W. McEnery, PhD, MAT  
Chair of the Faculty Council

Re: PRIME (Post-baccalaureate Readiness Instruction for bioMedical Education) Pre-Medical Post-Baccalaureate Certificate Program

Date: Dec. 16, 2016

At its October 21, 2016 meeting, the Faculty Council voted in favor of recommending the PRIME (Post-baccalaureate Readiness Instruction for bioMedical Education) Pre-Medical Post-Baccalaureate Certificate Program to your office.

In accordance with our SOM practices, an *ad hoc* committee composed of members of the Faculty Council Steering Committee, Graduate Directors, the SOM members of the Faculty Senate's Committee on Graduate Programs, and the Associate Dean for Graduate Education was created to review the program proposal. The *ad hoc* committee was chaired by Nicholas Ziats. The *ad hoc* committee reviewed the document, discussed the proposal, and engaged with the program presenter.

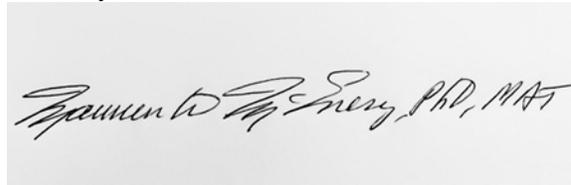
This program was initially reviewed at the Sept 19 Faculty Council meeting, and, at that time, additional questions remained after a lengthy discussion. The program was tabled for follow-up at the Oct meeting, allowing the members of the Faculty Council to email Cheryl Thompson if they had questions that required additional clarification. As noted above, after discussion at the Oct meeting, the Faculty Council approved the program with its vote.

After your review, I hope you will join me in recommending PRIME (Post-baccalaureate Readiness Instruction for bioMedical Education) Pre-Medical Post-Baccalaureate Certificate Program for approval by the Faculty Senate, as required by the Faculty Handbook.

Please let me know if I can provide any additional information.

Thank you very much for your consideration.

Sincerely,



Maureen W. McEnery, Ph.D, MAT  
Chair of the Faculty Council  
Associate Professor of Neurology  
Associate Professor of Neuroscience  
University Hospitals of Cleveland Medical Center  
Case Western Reserve University School of Medicine

cc: Nicole Deming, JD, MA, Dan Anker, JD, PhD

# PRIME

- **Post-baccalaureate Readiness  
Instruction for bioMedical Education**
- **A Collaboration of the School of  
Medicine and the College of Arts  
and Sciences**

# PRIME

- **Result of several years of collaborative work across the College of Arts and Sciences and the School of Medicine to ensure the best possible working relationship to benefit our students.**
- **Enthusiastically supported by both Deans, with agreement on sharing of program costs, allocation of tuition revenue, and careful advising of students and management of course enrollments.**
- **Communication and collaboration with all involved departments to meet the needs of the PRIME students along with those of our current students.**

# PRIME

- **Designed to qualify and prepare post-bac students for admission to well-ranked medical schools.**
- **Well-known model that has been very successful at other universities.**
- **We will carefully admit students who we expect to succeed and will be evaluating the program to assess the extent to which the PRIME students are admitted to well-ranked medical schools and the extent to which it impacts our other educational programs.**

# PRIME

- **Non-degree post-bac certificate program (minimum 24 credits).**
- **Two primary groups of students:**
  - (1) "Career changers:" students who did not intend or prepare for medical school but now want to pursue a career in medicine. They need the basic courses and to prepare for the MCAT.**
  - (2) "Academic Enhancers:" students whose qualifications are below but within range for improvement for admission to well-ranked medical schools.**
- **Program will vary based on individual student needs.**
- **Dedicated program director who will carefully advise students on individual programs of study in consultation with both schools to ensure good use of resources.**

# **PRIME**

- **Revenue generating for both of our units.**
- **Contributor to CAS financial recovery plan.**
- **Program will be continually evaluated and formally re-evaluated in two years to assess its resources, and to ensure that it is working well for both the School of Medicine, the College of Arts and Sciences, and the PRIME students.**

**Case Western Reserve University**  
**PRIME (Post-baccalaureate Readiness Instruction for bioMedical Education)**  
**Pre-Medical Post-Baccalaureate Certificate Program**

## **1. Introduction**

The Case Western Reserve University (CWRU) School of Medicine (SOM) and College of Arts and Sciences (CAS) jointly propose a distinctive pre-medical, post-baccalaureate, non-degree certificate program. The PRIME (Post-baccalaureate Readiness Instruction for bioMedical Education) program will award a certificate upon successful completion of at least 24 graded credits.

The PRIME program is designed to qualify and prepare post-baccalaureate students for admission to well-ranked medical schools. The program meets an unmet market need for a very high-quality program that allows students to improve their undergraduate science GPA and/or to take courses which they did not take at the undergraduate level. In order for courses to count toward the undergraduate GPA required for medical school consideration, these courses cannot be taken in the context of a graduate degree (e.g. a master's degree), which is why the program is offered as a non-degree, certificate program. The program is flexible to individual academic needs and provides students the unique option of taking undergraduate and graduate courses.

There are several other distinctive features of the PRIME program. In addition to a range of courses customized to fill gaps in the individual student's past experiences, students will get key experiences that they may not have had the opportunity to experience in prior academic settings, including: clinically-based learning experiences, specialized MCAT preparation, and a dedicated program director who will meet regularly one-on-one with students to advise them in what they need to do to be successful. Students will participate in a monthly seminar series intended to prepare students to be successful in the medical school school application and interview process. Select students will also be eligible for an interview for CWRU SOM's MD program, and in time, other MD programs. Students will also have optional opportunities to shadow clinical providers, attend grand rounds, and participate in research.

A key curricular feature of this program is a series of two pre-medical Clinical Inquiry (IQ) courses, which build on the SOM's well known and respected curriculum based in clinical inquiry. This problem-based learning method centers on the use of patient cases to learn medical topics and is currently being adopted by medical schools throughout the country. The SOM has recently built faculty expertise in this area and have developed pre-medical Clinical Inquiry (IQ) courses (MGRD 310 and 311), which are led by Dr. Cheryl Thompson, Assistant Professor at the SOM, and facilitated by SOM post-doctoral fellows. These courses are designed to give students exposure to medical terminology and clinical reasoning. Importantly, the IQ method encourages professional growth via self-reflection. Indeed, the maturity and professional growth that develops through the IQ model will serve students well in medical school and other future professional endeavors as well.

A second key curricular feature of this program is a specialized Medical College Admissions Test (MCAT) preparatory course developed by the College of Arts and Sciences. This course is designed to comprehensively review all MCAT content areas, as well as testing methods, and hone the skills students need to improve performance on the MCAT. This course will have a faculty coordinator and will be team taught so as to include faculty expertise from the departments of biochemistry; biology; chemistry; mathematics, applied mathematics, and statistics; physics; psychological sciences; and sociology. PRIME program students will have first priority for course registration, but is not required for the PRIME certificate. The course will also be available to current CWRU undergraduate and graduate students.

An important and distinctive feature of the PRIME program is a dedicated full-time program director with expertise in advising students on how to better qualify their academic record and gain admission to well-ranked medical schools. Getting into medical school is incredibly competitive. Further, the intricacies of what medical schools are looking for are complicated and change with time. While aware of aspects of the process, including writing letters of recommendation, most faculty are not experts in the intricacies of the medical school admission process. The program director will be responsible for meeting regularly with each student to ensure they are taking the courses that will best prepare them for medical school admission. The program director will also be responsible for working with the students to maximize success at completing the program, as well as writing individualized letters of recommendation that demonstrate specific knowledge of each student for medical school applications. The program director will also facilitate experiential learning (e.g. shadowing, research participation) that will enhance medical school consideration. In order to minimize burden on campus faculty with regard to shadowing, in particular, the program director will reach out to community physicians to help students find community shadowing opportunities. Thus, the dedicated advisor is a critical feature of the PRIME program that many programs do not offer and that has the potential for making the difference in getting into medical school or not. At this time, it is not expected that the program director will also be teaching, but this could be explored in the future.

This program was designed for students wishing to pursue further education to make their application into an MD or DO program more competitive. Specifically, this program is geared toward two types of future medical students. The first is “career changers” or students who have not completed the course requirements for medical school consideration. The second type is “academic enhancers” or students who did not get a high enough GPA in their undergraduate science coursework to be competitive for medical school admission or their medical school of choice (typically a 3.4-3.6, and sometimes higher). These students will “enhance” their academic record by improving their undergraduate science GPA and/or demonstrate additional academic rigor in upper-division courses.

Students who successfully complete the “career changer” track of this program with an overall undergraduate GPA of 3.6 and a GPA of 3.8 or greater in the PRIME program and who have not yet taken or have achieved a certain threshold on the MCAT will be offered an interview for CWRU’s SOM MD program. The minimum MCAT score will be set annually by the program director in consultation with the PRIME steering committee and the SOM Admissions. Other PRIME students will be considered on an individual basis. Eligible students will consult with the program director on goals before making a decision regarding if they should take the MCAT

or not, as they would not be able to apply to other medical school programs without taking the MCAT. The PRIME program director will work to establish additional opportunities along these lines to interview with external medical schools.

There are a number of master's degree programs currently offered through the SOM and CAS that attract pre-medical students seeking to improve their applications to medical school. Some students are not applying to these programs because they are specifically looking for undergraduate course-based programs or because the students lack the appropriate undergraduate pre-requisites for a master's program. The PRIME program is distinct from these programs with its undergraduate course base and fills a need that cannot be met by the current master's level offerings in the SOM or CAS. This PRIME program is intended to complement these offerings, not compete with them.

This program anticipates students to begin matriculating in the Fall 2017 semester.

This program involves a number of departments within the School of Medicine and College of Arts and Sciences.

## 2. Proposed Curriculum

This is a one- to two-year program, depending on the needs and interests of each student. Students must take a minimum of 24 graded credits, including the IQ classes (MGRD 310 and 311). Up to 6 of these overall 24 credits may be transferred from another university if taken as a post-baccalaureate non-degree student per standard CWRU policies.

Depending on a student's prior coursework and grades, they may also need to take additional courses to be adequately qualified for medical school admissions and prepared for their program of interest. As such, some programs of study may require up to 60 credits. A list of required courses for medical school admission is included in the following Section C. Required Medical School Coursework.

Importantly, this program is designed to be flexible to meet students' needs. Students will work closely the program director to select coursework best suited to the student's needs in terms of medical school requirements, but also preparation for the program of their choice and/or to best improve their GPA. Sample programs of study are provided in Appendix B. Course descriptions for all required coursework are in Appendix C. Course descriptions for all elective coursework are in Appendix D. [Because of the flexibility of this program, all students must have a Planned Program of Study on file with the School of Graduate Studies and signed by the program director in order to complete the certificate. The program director will work closely with the Senior Associate Dean of Graduate Studies and the School of Graduate Studies administration to ensure the most appropriate process for awarding of certificates.](#)

Students will be recommended to regularly shadow health care professionals if they lack experience in this area, and the program director will reach out to establish partnerships with community providers to help facilitate these experiences. Similarly, students lacking additional experiences will be strongly encouraged to work with CWRU research faculty or to find experiences off-campus. An existing internship and exposure program run through the School

of Medicine Graduate Education Office actively works to find many different types of off-campus experiences for students, including volunteer positions to aid in credentials to get into professional school. One or both of these components may be part of each student's individualized program of study. Connections with clinical and/or research faculty will be facilitated by the program director. The program director will work with the students to identify such opportunities and advise students on best practices depending on the position and environment. Students are also encouraged to independently identify opportunities to shadow or participate in research.

**a. Admission Requirements**

1. Baccalaureate degree from an accredited College or University that has been conferred prior to matriculation
2. Cumulative GPA of 3.4 or higher and undergraduate science GPA of 3.4 or higher. Consideration will be given to students with lower GPAs in special circumstances
3. Demonstrated commitment to understanding and serving the needs of others through both past *and* current volunteer activities and/or community service
4. Demonstrated interest in medicine through past or current employment and/or volunteer activities

Applications for admission to the PRIME program will be received the CWRU School of Graduate Studies. Admission decisions will be made by a PRIME program admissions committee. This committee will be chaired by the program director and will include faculty from both the SOM and the CAS, who may or may not also serve on the steering committee. Any potential candidate deemed appropriate will be interviewed by at least one admission committee member prior to an admission decision being made. Interviews will make sure the potential student understands what they would need to do in order to be successful (i.e. get into medical school) upon program completion. The interviews will also help assess the ability of the student to communicate effectively and personally (which is essential for physicians and is evaluated when interviewing for medical school).

Applications received by April 1<sup>st</sup> will receive full consideration. Applications received after this date will be accepted on a rolling basis per availability in the program. Students may start in any semester.

**b. Tracks**

Career Changer Track

This track is designed for students who have not taken all the pre-requisite courses for medical school, typically due to a career change or change in post-graduation plans. In general, all students must take 16 specific natural science, social science, and mathematics courses (55 credits) as a baseline requirement for medical school admissions. A list of required courses is included in the following Section C. Required Medical School Coursework. As part of the PRIME program, students must complete all of the courses required for medical school admission not previously taken, in addition to the clinical inquiry (IQ) classes (MGRD 310 and 311), before the certificate will be awarded. As

such, depending on student needs, programs of study could range from 24 credits to up to 60 credits. Beyond the required courses, students may also elect to take upper-level undergraduate courses or graduate courses to demonstrate additional academic rigor. A list of elective courses is included in the following [Section D. Elective Courses](#).

### Academic Enhancement Track

This track is designed for students who have taken all the pre-requisite classes for medical school consideration but did not get a strong enough GPA to make them competitive for medical school admission or their medical school of choice. Students in this track are still required to complete at least 24 graded credits in order to earn the certificate, including the clinical inquiry (IQ) classes (MGRD 310 and 311). Beyond the courses required for medical school admission, students may also elect to take upper-level undergraduate courses or graduate courses to demonstrate additional academic rigor. A list of elective courses is included in the following [Section D. Elective Courses](#). Students may also elect to retake specific, required undergraduate courses for which they did not receive at least a B. It is important to note that courses can be repeated if the student wishes to improve their grade. However, taking the same course will result in an average overall grade for that course counting as their grade (that is, the first grade is not cancelled out). Therefore, students with As, and sometimes Bs, in these key required courses are likely to be encouraged to take more advanced course electives.

Our goal is to help students improve their GPA to make them competitive for admission to well-ranked medical schools (typically 3.5-3.6 and sometimes higher). [Because this is a post-bac program, the GPA received in this program will be separated out into a post-bac GPA on medical school applications. However, as long as they are taking undergraduate courses in a non-degree program, it will also be averaged with their undergraduate GPA, a major criterion for evaluation by medical schools.](#)

Since the actual amount of the GPA that can be improved through this program is relatively small, as the coursework will represent a relatively small fraction of their overall undergraduate coursework, their plan for courses is very important. For example, a student who has completed their undergraduate work with 80 science credits and 30 non-science credits with a science GPA of 3.4 and an overall GPA of 3.4 wouldn't be particularly competitive. However, if they take an additional 40 science credits in this program, and get a 3.8 GPA, they will be able to raise their science GPA to 3.53 and their overall GPA to 3.51, as well as to demonstrate a continued trend toward improved academic performance. Of course, taking more courses with has the potential to improve this even more. Further, targeted re-taking of classes with poor grades may help improve these grades and could have a bigger impact. Although a relatively small increment, this jump, combined with a hopefully significantly improved MCAT score and additional program experiences, would position the student to be much more competitive for a top-tier medical school. All students will meet regularly with the program director for guidance on a program of study that will best improve their chances for admission to well-ranked medical school.

### c. Required Medical School Coursework

Students are required to complete a minimum of 24 graded credits to obtain the certificate. However, some students will need to take more than 24 credits in order to meet other program and medical school admissions requirements. Some students may also elect to take additional credits in order to further raise their undergraduate/undergraduate science GPA or demonstrate academic rigor in advanced undergraduate or graduate courses.

All students are required to take:

- MGRD 310 – Introduction to Clinical Inquiry I – 3 credits (See Section E.)
- MGRD 311 – Introduction to Clinical Inquiry II – 3 credits (See Section E.)

The Clinical Inquiry (IQ) courses cannot be waived as they are a key feature of the program. Not only will they provide a solid foundation, but the small group bonding provides the basis for professional development and peer support that is important for students as they go through the long and demanding process of studying for the MCAT and preparing for and applying to professional programs.

To complete the program and earn the certificate, all students must also complete or have previously completed the 16 undergraduate courses (55 credits) in the natural sciences, mathematics, and social sciences that are generally required for medical school consideration. These courses are primarily offered in the College of Arts and Sciences.

All, with the exception of PSCL and SOCI, count toward the science GPA.

- BIOC 307 – General Biochemistry
- BIOL 214 – Genes, Evolution and Ecology + BIOL 214L Lab
- ~~BIOL 215 – Cells and Proteins + BIOL 215L Lab~~
- ~~OR~~ BIOL 216 – Development and Physiology + BIOL 216L Lab
- CHEM 105 – Principles of Chemistry I
- CHEM 106 – Principles of Chemistry II
- CHEM 113 -- Principles of Chemistry Lab
- CHEM 223 – Introductory Organic Chemistry
- CHEM 224 – Introductory Organic Chemistry II
- CHEM 233 – Introductory Organic Chemistry Lab I
- CHEM 234 – Introductory Organic Chemistry Lab II
- MATH 125 – Math/Calculus I
- MATH 126 – Math/Calculus II
  - OR STAT 201 – Statistics
- PHYS 115 – Introductory Physics + PHYS 115L Lab
- PHYS 116 – Introductory Physics II + PHYS 116L Lab
- PSCL 101 – General Psychology I
- SOCI 101 – Introduction to Sociology

Students may have completed some of these required courses prior to the start of this program and thus the students would be eligible for exemption from taking these courses for the certificate. Depending on course grades, students, with approval the program director, may waive the required courses. Students may also elect to retake these courses for reference and/or to improve their undergraduate GPA. Course descriptions for all required coursework are in Appendix C. For students who did not complete the required courses, they must complete them as part of the program requirements.

#### d. Elective Coursework

In consultation with the program director, students will develop the best program of study for their needs. Typically, if a student has already taken the medical school pre-requisites, but needs to improve their overall undergraduate GPA, taking upper level undergraduate courses, such as those listed below, would show more rigor compared to retaking lower level courses. With successful grades, a student's undergraduate GPA will also improve. Some students may also seek to take graduate coursework based on general interest and to demonstrate academic rigor. Further, some students may also have interest in taking other courses based on general interest and desire to improve technical skills (such as writing or language skills). Students may take additional elective coursework across the university with program director and instructor approval.

PRIME program course elective currently include the following. Please note that in the case where a 300-level version of a course is added to a 400-level course, or a 400-level version of a course is added to a 300-level course, either would be acceptable to meet program requirements pending that both courses have been approved by the department as a program offering. Ultimately, whichever level (300 or 400) that a student enrolls in will dependent upon each student's individual preparation and needs, as well as having the necessary prerequisites.

Additional courses may be approved once the program is in place through regular curricular processes.

#### School of Medicine

##### Courses that ~~would~~ count toward ~~their~~ science GPA (as well as overall GPA):

- ANAT 312 Basic Histology
- ANAT 391 Embryology
- BIOC 308 Molecular Biology
- BIOC 312 Proteins and Enzymes
- BIOC 334 Structural Biology
- BIOC 354 Biochemistry and Biology of RNA
- NTRN 363 Human Nutrition I: Energy, Protein, Minerals
- NTRN 364 Human Nutrition II: Vitamins
- NTRN 365 Nutrition and Disease: Pathophysiology
- PATH 316 Fundamental Immunology
- PHRM 309 Principles of Pharmacology
- PHRM 315 Nuclear Receptors in Health and Disease

##### Courses that only count toward overall GPA:

- BETH 271 Bioethics: Dilemmas
- EPBI 440 Intro to Population Health
- NTRN 201 Nutrition

- [NTRN 359 Diabetes Prevention and Mgt.](#)

## College of Arts and Sciences

### Courses that count toward science GPA (as well as overall GPA):

#### **BIOLOGY**

- [BIOL 215 – Cells and Proteins + BIOL 215L Lab](#)
- [BIOL 301/401 Biotechnology Laboratory](#)
- [BIOL 302 Human Learning and the Brain](#)
- [BIOL 333 The Human Microbiome](#)
- [BIOL 340 Human Physiology](#)
- [BIOL 346 Human Anatomy](#)
- [BIOL 416 Fundamental Immunology](#)
- [BIOL 417 Cytokines: Function, Structure, and Signaling](#)
- [BIOL 424 Introduction to Stem Cell Biology](#)
- [BIOL 427 Functional Genomics](#)
- [BIOL 342/442 Parasitology](#)
- [BIOL 343/443 Microbiology](#)
- [BIOL 352/452 Ecology and Evolution of Infectious Diseases](#)
- [BIOL 362/462 Principles of Developmental Biology](#)
- [BIOL 363/463 Experimental Developmental Biology](#)
- [BIOL 365/465 Evo-Devo: Evolution of Body Plans](#)
- [BIOL 373/473 Introduction to Neurobiology](#)
- [BIOL 374/474 Neurobiology of Behavior](#)

#### **CHEMISTRY**

- [CHEM 328/428 Biochemistry](#)
- [CHEM 329/429 Chemical Aspects of Living Systems](#)
- [CHEM 306 Lecture Introductory Physical Chemistry](#)
- [CHEM 306 Lab Introductory Physical Chemistry Lab](#)
- [CHEM 333 Medicinal Chemistry and Drug Development](#)

### Courses that only count toward overall GPA:

#### **ANTHROPOLOGY**

- [ANTH 215 Medical Anthropology](#)
- ANTH [302/402](#) Darwinian Medicine
- ANTH [306/406](#) The Anthropology of Childhood and the Family
- ANTH [323/423](#) AIDS: Epidemiology, Biology, and Culture
- ANTH [326/426](#) Power, Illness, and Inequality: The Political Economy of Health
- ANTH [328/428](#) Medical Anthropology and Public Health
- ANTH [335/435](#) Illegal Drugs and Society
- ANTH [338/438](#) Maternal Health: Anthropological Perspectives on Reproductive Practices and Health Policy
- ANTH [351/451](#) Topics in International Health
- ANTH [354/454](#) Health and Healing in East Asia

- ANTH 359/459 Introduction to International Health
- ANTH 360/460 Global Politics of Fertility, Family Planning, and Population Control
- ANTH 361/461 Urban Health
- ANTH 366/466 Population Change: Problems and Solutions
- ANTH 367/467 Topics in Evolutionary Biology
- ANTH 376/476 Topics in the Anthropology of Health and Medicine

### **CLASSICS**

- CLSC 295A Greek and Latin Elements in English
- CLSC 295B ADV Elements in English: Biomed Terminology

### **DANCE**

- DANC 445 Kinesiology for Dance
- DANC 446 Topics in Dance Medicine, Science and Wellness

### **HISTORY**

- HSTY 241: Inventing Public Health
- HSTY 373/473: Women and Medicine in the United States
- HSTY 395/495: History of Medicine

### **POLITICAL SCIENCE**

- POSC 483 Health Policy and Politics in the United States

### **PSYCHOLOGICAL SCIENCES**

- PSCL 230 Child Psychology
- PSCL 317 Health Psychology
- PSCL 321 Abnormal Psychology
- PSCL 352 Physiological Psychology
- PSCL 344 Developmental Psychopathology
- PSCL 369 Adult Development and Aging
- COSI 101 Introduction to Health Communication
- COSI 109 Introduction to Communication
- COSI 340 Theories of Health Communication
- COSI 200 Interpersonal Communication
- COSI 260 Multicultural Aspects of Human Communication
- COSI 280 Organizational Communication
- COSI 332 Persuasion
- COSI 345 Communication and Aging

### **RELIGIOUS STUDIES**

- RLGX XXX Health, Body and Sexuality in Chinese Religions\*
- ~~RLGN XXX Health, Body and Sexuality in Chinese Religions\*~~

### **SOCIOLOGY**

- SOCI 344 Health Disparities

- SOCI 275 Lives in Medicine: Becoming and Being a Physician
- SOCI 365 Health Care Delivery
- SOCI 311 Health, Illness and Social Behavior
- SOCI 345 Sociology of Mental Illness
- SOCI 364 Disability and Society
- SOCI 264 Body, Culture and Disability
- SOCI 361 The Life Course
- SOCI 443 Medical Sociology

#### **INTERDISCIPLINARY**

- XXXX 301 Medical College Admissions Test Prep\*
- XXXX 302 Medical College Admissions Test Prep\*

\*These courses are in the process of being developed.

Course descriptions for all CAS elective coursework are in Appendix D.

#### **e. Clinical Inquiry Group Experience**

Students are required to take two semesters of problem-based Clinical Inquiry (IQ) coursework (MGRD 310 and 311). Groups of ~9 students will meet two times a week (for three hours total) and will discuss a patient case that was introduced to them in the previous class. Students will be expected to research the case prior to class and come prepared to discuss concepts introduced in the case, both in general and specific to the patient. A key feature of this class, like the SOM IQ groups, is self-reflection and professional growth. Grading will be based on content, participation, and professional behavior. Concepts to be introduced include, but are not limited to:

1. Bioethical and social science concepts, for example
  - Doctor-patient relationship
  - Patient privacy
  - Ethics in genetics
2. Understanding basic biomedical research concepts, for example
  - Study design
  - Understanding strengths and limitations of studies
  - Statistical analysis
3. Public Health, including
  - Epidemiology
  - Health disparities and implicit bias
4. Professional behaviors, including
  - Ability to give and receive constructive criticism
  - Identifying personal strengths and weaknesses
  - Improving from feedback
  - Self-reflection
5. Social Determinants of Health
  - Culture and health
  - Contextual factors

Importantly, these courses will integrate knowledge being introduced in basic science courses to reinforce key MCAT knowledge.

### 3. Faculty and Department information

This program will be led by a program director along with a steering committee jointly comprised of members of the School of Medicine and the College of Arts and Sciences. This steering committee will ensure program success and guarantee continuity in the event of leadership changes. The steering committee will be charged with establishing an evaluation component for the program to measure:

- Program interest/demand as indicated by quantity and quality of applications
- Student engagement and satisfaction
- Medical school admissions outcomes
- Program curricular content
- Program operations

The steering committee will also be consulted should any issues arise.

The steering committee will be co-chaired by Cheryl Thompson, PhD, Assistant Professor, Department of Nutrition and Director of Master's Programs for the School of Medicine and Jill Korbin, PhD, Professor of Anthropology and Associate Dean of the College of Arts and Sciences. The steering committee will also consist of the following members (to be replaced as needed with appropriate balanced SOM and CAS representation):

Paul MacDonald, PhD, Associate Dean of Graduate Studies  
 Steven Scherger, PhD, Director of Health Career Advising, Undergraduate Studies  
 TBN, CAS representative  
 TBN, CAS representative  
 Henry Ng, MD, Assistant Dean of Admissions

### 4. Evidence of need

#### a. Student Demand

This program was designed for students wishing to pursue further education to make their application into an MD or DO program more competitive. Specifically, this program is geared toward two types of future medical students. The first is "career changers" or students who have not completed the course requirements for medical school consideration. The second type is "academic enhancers" or students who did not get a high enough GPA in their undergraduate science coursework to be competitive for medical school admission or their medical school of choice. Although GPA's required for medical school admission varies widely, and is not the only factor in medical school admissions, data from the Association of American Medical Colleges (AAMC) shows that the success rate for a student in the 3.00-3.19 range is only 16%, whereas the success rate jumps to 35% for those students with at least a 3.4 and 51% with a 3.6 (underrepresented minority student acceptance rates at a given GPAs are, typically, slightly higher).

The SOM has received several inquiries for pre-medical post-baccalaureate programs that include undergraduate coursework. These requests were both from students who did not take

all the required courses for entry to medical school (“career changers” who had other plans while undergraduates) and from students whose undergraduate GPA, particularly in science courses, is not strong enough. We expect the latter group to make up a majority of the students in this program, given the competitiveness of medical school admissions.

At the end of the 2014-15 academic year, the SOM conducted a survey of students graduating from their master degree programs, which shed light on program elements that are important for students. Increased advising on how to get into medical school, problem-based learning experiences, linkage with the CWRU SOM admissions program, and opportunities for clinical experiences were identified as areas of improvement for existing SOM master’s programs among students wishing to go on to medical school. Current undergraduate students at and recent alumni of the College of Arts and Sciences have also made similar inquiries, including the request for specialized MCAT preparation. This program was designed to address these needs. Thus, we expect the demand for this program to be high and competitive for the 50 students we accept each year.

#### **b. Competing Programs**

Nationally, there are several similar post-baccalaureate certificate programs tailored to these types of students and featuring predominantly undergraduate courses. Indeed, the Association of American Medical Colleges (AAMC) website lists 82 programs that feature undergraduate courses and are designed for career changers and academic enhancers (<https://apps.aamc.org/postbac/#/index>). However, there is only one program in Ohio, at Cleveland State University, which is both amenable to career changers and based in undergraduate-level coursework. The most highly competitive national undergraduate-course certificate post-baccalaureate programs are summarized in Appendix A. According to their data reported online, these programs typically have success rates of medical school acceptances > 90%.

Existing post-baccalaureate and master’s degree programs outside the University attract thousands of students per year. However, many students have found that these programs designed to improve credentials for medical school are not suited to their needs, typically because they need to improve their undergraduate GPA. This program fills a distinct unmet need within the university for an undergraduate-course based post-baccalaureate program for pre-med students. When recruiting for the post-bac student, we will explain how each of these programs are distinct and provide resources to help the students pick the program that best suits their needs.

This certificate program is comprehensive enough to provide exposure to all the required undergraduate science and mathematics coursework for a student on the “career changer” or “academic enhancer” track.

With today’s competitiveness to get into medical school, programs that offer one-on-one advising on getting into medical school and customizable programs based on prior experiences and courses are extremely helpful in setting oneself apart. Only a select few programs offer these additional experiences. Given our highly ranked School of Medicine and College of Arts

and Sciences, faculty expertise in problem-based learning instruction and MCAT content and testing methods, tier-I research institutional status, and affiliation with world class hospitals, we are uniquely poised to offer a strong program that will attract the best students.

## **5. Projected enrollment**

We anticipate enrolling up to 50 students/year by year three of the program. We feel strongly that the biggest component of this program is the interactive advising on the competitive, complicated, and changing medical school admissions process. Thus, we would like to limit enrollment to around 50 students/year to allow for adequate mentoring by the program director. We anticipate approximately 20 students in year 1, 35 in year 2, and 50 in year 3.

Given that advising is a key component of this program, enrollment will be capped at around 50 students per year. It is expected that many students will complete the program in 12 months, but some students will take up to two years. Should demand from high-quality students be high enough to warrant hiring a full time advisor to work with the program director, if sufficient faculty are available to advise and both schools agree, we will re-evaluate existing course capacities and resources and increase student enrollment. This will be evaluated once the program has been established. Drs. Thompson and Korbin, along with the steering committee, will continue to be actively involved in this program and assist the new program director as needed to ensure success.

## **6. Resource availability**

Case Western Reserve University's School of Medicine is consistently ranked among the top schools of medicine in the country. Importantly, our medical school curriculum is well known for our exceptional clinical inquiry group learning modes. This small group problem-based learning model of instruction has served as an inspiration to other medical schools around the country. With many schools moving toward this type of programming, prior experience in an Clinical Inquiry (IQ) environment is a plus for medical school admissions committees. This program capitalizes on this experience and resources available within the CWRU SOM and features a similar educational experience.

The College of Arts and Sciences is the vibrant and essential core of Case Western Reserve University. CAS provides all of the roughly 5000 undergraduate students of Case Western Reserve with foundational and disciplinary training. Over 40% of undergraduates with declared majors are pursuing their academic careers in the College. It is CAS' mission to create and educate across the humanities, natural sciences and mathematics, performing arts, and social and behavioral sciences. We are dedicated to advancing knowledge through research and creative endeavors; to developing skilled and informed citizens, scholars, and researchers through undergraduate and graduate education; and to serving the University and local and global communities.

In addition to outstanding educational programs, CWRU's research ranks high among the elite universities in the country. Further, with affiliations with the Cleveland Clinic, University Hospitals, MetroHealth, and the Veteran Affairs Medical Center, the PRIME program offers outstanding opportunities for clinical immersion in a variety of settings and populations.

## 7. Expense and Revenue

This program will require a full-time director who will have 100% of their time committed to the program. The director will advise students on requirements and procedures for getting into the program of their choosing. Students are expected to meet multiple times per month with the program director to ensure they are on track both with certificate completion, as well as making sure they are setting themselves up to be successful and competitive in the medical school admissions process. To provide the best experiences and outcomes for the students, the program director will be responsible to stay current on medical school program entrance requirements and be able to fully advise students.

This program will be offered by the SOM and the CAS. Program marketing, recruitment, and student support will be administered by the School of Medicine Graduate Education Office (GEO) consistent with other SOM educational programs under the purview of the SOM Graduate Education Office. Applications for admission to the PRIME program will be received through the CWRU School of Graduate Studies.

Tuition for this program will be charged on a per hour basis and students will be charged the graduate tuition rate. The SOM and CAS will equally share initial program startup expenses. Ongoing operational expenses will also be shared equally. The tuition revenue will be allocated to the management center teaching the course up to the first 36 students annually. Tuition revenue will be shared equally for students beyond this headcount. The agreement will serve for the first two years and will then be re-evaluated. The SOM and CAS seek to achieve an operational state in which program instruction is equally shared. Program startup expenses are estimated to be \$67,000 and will be equally shared by the SOM and the CAS. Annual program operational expenses are estimated to range between \$166K and \$200K annually based on the number of students enrolled.

Please see Appendix E for a memorandum of understanding between the CAS and SOM that details expense and revenue sharing.

## 8. Required University and School Resources

This program will not require any additional library resources. Students will be strongly encouraged to shadow physicians and/or work in research labs, as space is available. However, this is not a required component of this program.

## 9. Program completion requirements

Successful completion of the program will be defined as completing all the graded coursework with a GPA of 3.50 or higher and passing all non-graded components of the program. [This is consistent with a required GPA of 3.0 to complete a master's degree. However, if a student truly wishes to be competitive for medical school, we would expect a much higher GPA.](#)

### Appendix A: Existing Highly Competitive Post-Baccalaureate Certificate Programs

University	Program/Curriculum	Duration	Tuition	Number of Students
Washington University, St. Louis, MO	Core medical school courses pick and choose as student needs. 30 credits required.  Evening and part-time options available.	2 years, can complete in 12 months	About \$25,500, depending on courses and number of credits taken	Unclear
Bryn Mawr, Bryn Mawr, PA	Biology, physics, chemistry and organic chemistry  MCAT preparation Community Service	12 month	About \$31,000, depending on units taken	85/year
Northwestern University, Chicago, IL	7 Biology, 6 chemistry (4 with labs) and 3 physics classes (all with labs)	Unclear	Around \$85,000	Unclear
University of Virginia, Charlottesville, VA	2 chemistry, 2 biology, 2 organic chemistry, 2 physics  Shadowing experiences  MCAT preparation materials	1 year  Career changers only	\$27,816 in state, \$32,996 out of state	Unclear
University of Pennsylvania, Philadelphia, PA	Required courses for medical, dental or veterinary school  MCAT preparation assistance	1 year, or 2 years part-time	Unclear	Unclear, large
University of Southern California, Los Angeles, CA	2 chemistry, 2 biology, 2 organic chemistry, 2 physics  Clinical and/or	2 years	\$59,976	45-50/year

	research exposure			
University of Michigan, Ann Arbor, MI	2 chemistry, 2 biology, 2 organic chemistry, 2 physics  MCAT Prep  Experiential learning  Foundations for Aspiring Physicians	14 months	\$30,000 for MI residents	“small cohort”
Johns Hopkins University, Baltimore, MD	Clinical Medicine  MCAT Prep  Flexible program to take needed courses	9-14 months	\$36,500 for Fall and Spring, \$795/credit over summer	25-30/year

## Appendix B: Sample program course structures

**Table 1: Sample program course structure for career changer track to medical school, did not take many/any courses previously**

**\*\*\*Note that this is just one example, all plans will be customized to the student**

Year 1 Fall	<p>CHEM 105 – Principles of Chemistry I – 3 credits            CHEM 113 -- Principles of Chemistry Laboratory – 2 credits            BIOL 214 – Genes, Evolution and Ecology + BIOL 214L – 4 credits</p> <p>SOCI 101 – Introduction to Sociology -- 3 credits</p> <p>MGRD 310 - Clinical Inquiry (IQ) I – 3 credits</p> <p>Physician shadowing</p> <p>Seminar series</p>
Year 1 Spring	<p>CHEM 106 – Principles of Chemistry II – 3 credits            BIOL 215 – Cells and Proteins + BIOL 215L – 5 credits</p> <p>OR BIOL 216 – Development and Physiology + BIOL 216L</p> <p>PSCL 101 -- General Psychology I – 3 credits</p> <p>MGRD 311 - Clinical Inquiry (IQ) II – 3 credits</p> <p>Physician shadowing</p> <p>Seminar series</p>
Year 1 Summer	<p>CHEM 223 – Introductory Organic Chemistry I – 3 credits</p> <p>CHEM 233 – Introductory Organic Chemistry Laboratory I– 2 credits</p> <p>CHEM 224 – Introductory Organic Chemistry II – 3 credits</p> <p>CHEM 234 – Introductory Organic Chemistry Laboratory II– 2 credits</p> <p>Physician shadowing</p>
Year 2 Fall	<p>PHYS 115 – Introductory Physics I – 4 credits            STAT 201 – Statistics – 3 credits</p> <p>BIOC 307 – General Biochemistry – 4 credits</p> <p>Physician shadowing</p>

	Seminar series
Year 2 Spring	<p>PHYS 116 – Introductory Physics II – 4 credits</p> <p>MCAT 301* – Medical College Admissions Test Preparation – 3 credits</p> <p>MCAT 302* - Medical College Admissions Test Preparation – 3 credits</p> <p>Elective</p> <p>Physician shadowing</p> <p>Seminar series</p>
Year 2 Summer	<p>Take MCAT</p> <p>Apply to Medical School</p>

**\*If this course is offered in summer, the student can take that summer just prior to MCAT**

**Table 2: Sample program course structure for academic enhancement track who took all required courses**

Year 1 Summer	<p>NTRN 362 – Exercise Physiology and Macronutrient Metabolism – 3 credits</p> <p>MCAT 301 – Medical College Admissions Test Preparation – 3 credits</p> <p>MCAT 302 - Medical College Admissions Test Preparation – 3 credits</p> <p>Physician shadowing</p>
Year 1 Fall	<p>MGRD 310 - Clinical Inquiry (IQ) I – 3 credits</p> <p>BETH 271 – Bioethics – 3 credits</p> <p>PHRM 309 – Principals of Pharmacology – 3 credits</p> <p>NTRN 363 – Human Nutrition I – 3 credits</p> <p>Physician shadowing</p> <p>Seminar series</p>
Year 1 Spring	<p>MGRD 311 - Clinical Inquiry (IQ)II – 3 credits</p> <p>BIOC 334 – Structural Biology – 3 credits</p> <p>BIOC 354 – Biochemistry and Biology of RNA – 3 credits</p> <p>ANAT 312 – Basic Histology – 3 credits</p> <p>Physician shadowing</p> <p>Seminar series</p>
Year 1 Summer	Take MCAT in June, Apply to Medical School

## Appendix C: Required Course Descriptions

### **CHEM 105. Principles of Chemistry I. 3 Units.**

Atomic structure; thermochemistry; periodicity, bonding and molecular structure; intermolecular forces; properties of solids; liquids, gases and solutions. Recommended preparation: One year of high school chemistry.

### **CHEM 106. Principles of Chemistry II. 3 Units.**

Thermodynamics, chemical equilibrium; acid/base chemistry; oxidation and reduction; kinetics; spectroscopy; introduction to nuclear, organic, inorganic, and polymer chemistry.  
Prereq: CHEM 105 or equivalent.

### **CHEM 113. Principles of Chemistry Laboratory. 2 Units.**

A one semester laboratory based on quantitative chemical measurements. Experiments include analysis, synthesis and characterization, thermochemistry and chemical kinetics. Computer analysis of data is a key part of all experiments. Prereq or Coreq: CHEM 105 or CHEM 106 or CHEM 111 or ENGR 145.

### **PHYS 115. Introductory Physics I. 4 Units.**

First part of a two-semester sequence directed primarily towards students working towards a B.A. in science, with an emphasis on the life sciences. Kinematics; Newton's laws; gravitation; simple harmonic motion; mechanical waves; fluids; ideal gas law; heat and the first and second laws of thermodynamics. This course has a laboratory component.

### **PHYS 116. Introductory Physics II. 4 Units.**

Electrostatics, Coulomb's law, Gauss's law; capacitance and resistance; DC circuits; magnetic fields; electromagnetic induction; RC and RL circuits; light; geometrical optics; interference and diffraction; special relativity; introduction to quantum mechanics; elements of atomic, nuclear and particle physics. This course has a laboratory component. Prereq: PHYS 115.

### **BIOL 214. Genes, Evolution and Ecology. 3 Units.**

First in a series of three courses required of the Biology major. Topics include: biological molecules (focus on DNA and RNA); mitotic and meiotic cell cycles, gene expression, genetics, population genetics, evolution, biological diversity and ecology. Prereq or Coreq: CHEM 105 or CHEM 111.

### **BIOL 214L. Genes, Evolution and Ecology Lab. 1 Unit.**

First in a series of three laboratory courses required of the Biology major. Topics include: biological molecules (with a focus on DNA and RNA); basics of cell structure (with a focus on malaria research); molecular genetics, biotechnology; population genetics and evolution, ecology. Assignments will be in the form of a scientific journal submission. Prereq or Coreq: BIOL 214.

**BIOL 215. Cells and Proteins. 3 Units.**

~~Second in a series of three courses required of the Biology major. Topics include: biological molecules (focus on proteins, carbohydrates, and lipids); cell structure (focus on membranes, energy conversion organelles and cytoskeleton); protein structure-function; enzyme kinetics, cellular energetics, and cell communication and motility strategies. Prereq: BIOL 214 and (CHEM 105 or CHEM 111). Prereq or Coreq: CHEM 106 or ENGR 145.~~

**BIOL 215L. Cells and Proteins Laboratory. 1 Unit.**

~~Second in a series of three laboratory courses required of the Biology major. Topics to include: protein structure-function, enzymes kinetics; cell structure; cellular energetics, respiration and photosynthesis. In addition, membrane structure and transport will be covered. Laboratory and discussion sessions offered in alternate weeks. This course is not available for students who have taken BIOL 215 as a 4-credit course. Prereq: BIOL 214L and Prereq or Coreq: BIOL 215.~~

**BIOL 216. Development and Physiology. 3 Units.**

This is the final class in the series of three courses required of the Biology major. As with the two previous courses, BIOL 214 and 215, this course is designed to provide an overview of fundamental biological processes. It will examine the complexity of interactions controlling reproduction, development and physiological function in animals. The Developmental Biology section will review topics such as gametogenesis, fertilization, cleavage, gastrulation, the genetic control of development, stem cells and cloning. Main topics included in the Physiology portion consist of: homeostasis, the function of neurons and nervous systems; the major organ systems and processes involved in circulation, excretion, osmoregulation, gas exchange, feeding, digestion, temperature regulation, endocrine function and the immunologic response. There are two instructional modes for this course: lecture mode and hybrid mode. In the lecture mode students attend class for their instruction. In the hybrid mode students watch online lectures from the course instructor and attend one discussion section with the course instructor each week. The online content prepares students for the discussion. Which mode is offered varies depending on the term. Students are made aware of what mode is offered at the time of registration. The total student effort and course content is identical for both instructional modes. Either instructional mode fulfills the BIOL 216 requirement for the BA and BS in Biology. Prereq: BIOL 214.

**BIOL 216L. Development and Physiology Lab. 1 Unit.**

Third in a series of three laboratory courses required of the Biology major. Students will conduct laboratory experiments designed to provide hands-on, empirical laboratory experience in order to better understand the complex interactions governing the basic physiology and development of organisms. Laboratories and discussion sessions offered in alternate weeks. Prereq: BIOL 214L. Prereq or Coreq: BIOL 216.

**CHEM 223. Introductory Organic Chemistry I. 3 Units.**

Introductory course for science majors and engineering students. Develops themes of structure and bonding along with elementary reaction mechanisms. Includes treatment of hydrocarbons, alkyl

halides, alcohols, and ethers as well as an introduction to spectroscopy.

Prereq: CHEM 106 or CHEM 111.

### **CHEM 224. Introductory Organic Chemistry II. 3 Units.**

Continues and extends themes of structure and bonding from CHEM 223 and continues spectroscopy and more complex reaction mechanisms. Includes treatment of aromatic rings, carbonyl compounds, amines, and selected special topics. Prereq: CHEM 223 or CHEM 323.

### **CHEM 233. Introductory Organic Chemistry Laboratory I. 2 Units.**

An introductory organic laboratory course emphasizing microscale operations. Synthesis and purification of organic compounds, isolation of natural products, and systematic identification of organic compounds by physical and chemical methods.

Prereq: CHEM 106 or CHEM 111 and CHEM 113 or equivalent.

Coreq: CHEM 223 or CHEM 323.

### **CHEM 234. Introductory Organic Chemistry Laboratory II. 2 Units.**

A continuation of CHEM 233, involving multi-step organic synthesis, peptide synthesis, product purification and analysis using sophisticated analytical techniques such as chromatography and magnetic resonance spectroscopy. Prereq: CHEM 233. Coreq: CHEM 224

### **BIOC 307. Introduction to Biochemistry: From Molecules To Medical Science. 4 Units.**

Overview of the macromolecules and small molecules key to all living systems. Topics include: protein structure and function; enzyme mechanisms, kinetics and regulation; membrane structure and function; bioenergetics; hormone action; intermediary metabolism, including pathways and regulation of carbohydrate, lipid, amino acid, and nucleotide biosynthesis and breakdown. The material is presented to build links to human biology and human disease. One semester of biology is recommended. Offered as BIOC 307, BIOC 407, and BIOL 407.

Prereq: CHEM 223 and CHEM 224.

### **PSCL 101. General Psychology I. 3 Units.**

Methods, research, and theories of psychology. Basic research from such areas as psychophysiology, sensation, perception, development, memory, learning, psychopathology, and social psychology.

### **SOCI 101. Introduction to Sociology. 3 Units.**

This course examines the basic principles that underlie how sociologists look at the world: "The Sociological Imagination". It addresses the basic questions: How is social order possible and how does change occur? The course is designed as a foundation for further study in field of sociology and related disciplines. It introduces the student to the role that culture and social institutions play in modern society and examines important concepts such as socialization, deviance, social control, patterned inequalities and social change. These concepts are discussed in the context of both

contemporary and historical social theories. Additionally, the student will be introduced to the methods of inquiry used by practicing sociologists.

**STAT 201. Basic Statistics for Social and Life Sciences. 3 Units.**

Designed for undergraduates in the social sciences and life sciences who need to use statistical techniques in their fields. Descriptive statistics, probability models, sampling distributions. Point and confidence interval estimation, hypothesis testing. Elementary regression and analysis of variance. Not for credit toward major or minor in Statistics. Counts for CAS Quantitative Reasoning Requirement.

**MGRD 310/410. Introduction to Clinical Inquiry (IQ) I. 3 Units.**

This course is the first semester in a two semester sequence designed to introduce pre-allied health students to clinical concepts and integrate concepts from several basic science courses into clinically relevant cases. Class will be divided into small groups of 8-9 students. New concepts include introduction to bioethics, clinical study design and interpretation, epidemiology and doctor-patient communication. Integrated concepts include genetics, bacterial and viral classification and structure, acids and bases and ions in solution. In addition, professional skills will be reinforced, including ability to give and receive constructive criticism, identifying personal strengths and weaknesses and self-reflection. Coreq: BIOL 412, CHEM 105 or CHEM 112

**MGRD 311/411. Introduction to Clinical Inquiry (IQ) II. 3 Units.**

This course is the second semester in a two semester sequence designed to introduce pre-allied health students to clinical concepts and integrate concepts from several basic science courses into clinically relevant cases. Class will be divided into small groups of 8-9 students. New concepts include introduction to patient privacy, understanding biases in research and health disparities. Integrated concepts include the nervous system, psychological disorders, social interaction and discrimination. In addition, professional skills will be reinforced, including ability to give and receive constructive criticism, identifying personal strengths and weaknesses and self-reflection. Prereq: SOMG 310. Coreq: CHEM 106 or CHEM 113 and PSCL 101.

**MATH 125. Mathematics I (4)**

Discrete and continuous probability; differential and integral calculus of one variable; graphing, related rates, maxima and minima. Integration techniques, numerical methods, volumes, areas. Applications to the physical, life, and social sciences. Students planning to take more than two semesters of introductory mathematics should take MATH 121. Prereq: Three and one half years of high school mathematics.

**MATH 126. Mathematics II (4)**

Continuation of MATH 125 covering differential equations, multivariable calculus, discrete methods. Partial derivatives, maxima and minima for functions of two variables, linear regression. Differential equations; first and second order equations, systems, Taylor series methods; Newton's method; difference equations. Prereq: MATH 125.

## Appendix E: Memorandum of Understanding



### MEMORANDUM OF UNDERSTANDING

#### **PRIME (Post-Baccalaureate Readiness Instruction for bio-Medical Education) Program**

Whereas the Case Western Reserve University (CWRU) School of Medicine (SOM) and College of Arts and Sciences (CAS) jointly propose a distinctive pre-medical, post-baccalaureate, non-degree certificate program, the following terms and conditions are agreed to:

- The SOM and CAS will equally share all program startup expenses. The startup period is considered to be the time before students matriculate. Current estimates are:

Interim program staffing (June-Aug 2017)	\$50,000
Part-time effort of current department assistant (June-Aug 2017)	\$7,000
Program marketing materials	\$10,000
<b>TOTAL STARTUP EXEPNSES</b>	<b>\$67,000</b>

- The program director will be jointly hired by and report to faculty directors: Cheryl Thompson, PhD, Assistant Professor, Department of Nutrition and Director of Master's Programs, SOM, and Jill Korbin, PhD, Professor of Anthropology and Associate Dean, CAS, The program director and department assistant will be administratively housed and located in the SOM. Expected hire date for program director: September/October 2017. Depending on actual approvals and start dates for the program, these expenses may be less costly than currently estimated.

- The annual operating expenses are expected to be share equally by the SOM and CAS:

Full-time program director (including benefits)	\$100,000
Part-time effort of department assistant (including benefits)	\$26,000
Program marketing materials	\$10,000
SOM GEO (% of office based on # program students)	TBD (est. \$20,000)
Indirect expenses (TBD)	TBD
<b>TOTAL OPERATIONAL EXEPENSES</b>	<b>TBD (est. \$166K+)</b>

- The SOM and CAS will each be individually responsible for instructional expenses necessary to offer the program's required or elective courses.
- Tuition will be charged on a per credit hour basis and students will be charged the most current graduate tuition rate.
- The net tuition revenue will be allocated to the management center based on the proportion of credit hours the PRIME program students take in each management center and up to the first 36 students annually. Tuition revenue will be shared equally for students beyond this headcount.
  - The program director will be responsible for maintaining student enrollment reports for this purpose. The agreement will serve for the first two years and will then be re-evaluated.
  - Net tuition will be calculated based on: Total tuition of the program less University fees less total operational expenses.
- It is our understanding that neither the SOM, nor the CAS, will incur increased indirect expenses for PRIME students as they are considered to be non-degree students. In the event that either school does incur increased indirect expenses, the schools will work together to determine the amount of this expense, which will be allocated as a direct cost of the program. Jon Carlson, Vice President for Financial Planning, will be asked to assist in the calculation and determine a fair indirect expense charge, if necessary.
- In any year where the program is running in deficit, for example, due to very low enrollment, loss will be split evenly between SOM and CAS.
- SOM and CAS agree work collaboratively towards a goal of equal proportion of credit hours taken by PRIME participants in each management center. Both schools recognize that it's difficult to accurately determine this proportion, but each school may create new courses or offerings that enable an equal distribution of credit hours taken in both management centers.
- The PRIME steering committee will will be charged with establishing an evaluation component for the program to measure:
  - Program interest/demand as indicated by quantity and quality of applications

- Student engagement and satisfaction
  - Medical school admissions outcomes
  - Program curricular content
  - Program operations
- 
- The steering committee will be co-chaired by Professors Cheryl Thompson and Jill Korbin, who will each appointment two members from their respective management centers for a two-year term. In addition, the co-chairs will jointly appoint a CWRU Health Career staff member. Initial steering committee members are:
    - Paul MacDonald, PhD, Associate Dean of Graduate Studies, SOM
    - Henry Ng, MD, Assistant Dean of Admissions, SOM
    - TBN, CAS
    - TBN, CAS
    - Steven Scherger, PhD, Director of Health Career Advising, Undergraduate Studies
  
  - Annually, the finance representatives of both schools will meet after the Spring semester add/drop deadline to reconcile the program revenues and expenses to determine any net financial distributions/payments. This reconciliation will be presented to the Steering Committee for their input and guidance. Payments will be due prior to the year end. There may arise a need for a year end reconciliation, but the finance representatives will determine if this is necessary and the associated impact.
  
  - This memorandum of understanding will be reviewed and updated by the SOM and CAS every two years, unless SOM and CAS agree to a different term.
  
  - In the event of a material change, the SOM and CAS will meet to revise the agreement. A material change includes: financial losses in any given year that is projected to continue for another year, implementation of the UBC proposed rate for intra-school graduate student teaching, or significant departure from the planned student experiences / outcomes.

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Pam Davis, Dean  
School of Medicine

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Cyrus Taylor, Dean  
College of Arts and Sciences

**1. Please review the courses that count towards the Science GPA. Medical Anthropology, Bioethics, and Population Health may not fall into this category.**

Apologies for this editing error. We have now revised and clarified the lists of courses that count toward the Science GPA and Overall GPA (pages 7-9).

**2. Concern was expressed that only 300 level ANTH are listed and not the cross-listed 400s**

Apologies for this editing error. As the department chair letter of support indicates, the program has approval for students to take either 300- or 400-level Anthropology courses.

Since 300/400 courses can be a moving target, we decided to add the following:

“Please note that in the case where a 300 level version of a course is added to a 400 level course, or a 400 level version of a course is added to a 300 level course, both would be acceptable to meet program requirements” Ultimately, whichever level (300 or 400) that a student enrolls in will depend upon each student’s individual preparation and needs, as well as having the necessary prerequisites” (page 7).

**3. One member advised that to best prepare for the MCAT, CWRU students take 3 semester of biology, not only the two that are required. If PRIME students are to only take 2 courses, then it should be BIOL 214 and 216 and the, not BIOL 215. While the new MCAT has more of the 215 content on it, it would still be better for these students to take 214 and 216. This does not have to change in the proposal, but PRIME leadership should be aware of this.**

We have revised program requirements to include 214 and 216 and made 215 an elective, which will be recommended if they have not already taken it (page 6, 8).

**4. Concern was expressed about the disparity of the resources for this program in the way of advising and support compared to what is offered in the other post-bac programs in SOM.**

The way things are administratively structured now in the SOM is that all academic and career advising is the responsibility of each individual program. In the School of Medicine Graduate Education Office, we (Cheryl Thompson and Paul MacDonald) have been working over the last couple years to develop more resources for students across the SOM. For example, we have added a seminar series directed at pre-med Master’s students, and have added an annual “how to mentor your student to get into medical school” seminar for faculty. That said, we do recognize that not all academic advisors are equally qualified or enthusiastic about mentoring students for medical school. That is the reason we felt so very strongly about having a dedicated pre-health advisor as the program director for PRIME. The SOM Graduate Education Office strongly encourages any program that considers itself a post-bac program to incorporate these advising resources for their students as well.

**5. There needs to be a structured system for coordinating registration, student progress, and monitoring the courses that the students take.**

A requirement for having a planned program of study on file with Graduate Studies was added (page 3).

**6. Clarify the GPA requirement and the statement that....successful completion is a 3.5 GPA. The rationale for including this statement is not clear. How will this impact a student that receives a lower GPA (e.g., a 3.49)?**

We have lowered the GPA to 3.0 to obtain the certificate (page 14). This is now consistent with what we expect master's students to graduate with. However, to be competitive for medical school, we would really expect students to have a significantly higher GPA.

**7. Please double check with MCAS and their GPA reporting criteria (undergrad versus postbac)**

Undergraduate courses taken as part of the PRIME program would be separated out as post-bac GPA, but would also be included in the undergraduate GPA. This is consistent with the AMCAS instruction manual as described on page 9: [https://aamc-orange.global.ssl.fastly.net/production/media/filer\\_public/c0/f8/c0f8833d-a302-46c7-b726-1b153dbac6de/2017\\_amcas\\_instruction\\_manual\\_final.pdf](https://aamc-orange.global.ssl.fastly.net/production/media/filer_public/c0/f8/c0f8833d-a302-46c7-b726-1b153dbac6de/2017_amcas_instruction_manual_final.pdf)

We have clarified this on page 5 of the proposal.

**8. A problem area is that non-degree Y1 PRIME students are able to register for Fall semester classes before entering Y1 UG students (late May for PRIME vs. July 1 for UGs)**

Yes, we agree this is an issue. The CAS has previously consulted with the Registrar on the topic of restricting/delaying enrollment on certain courses for certain program students. This strategy was originally explored based on an overwhelming number of non-CAS master's students enrolling/attempting to enroll in CAS undergraduate and graduate courses. We will coordinate with the registrar's office to work through our options with regard to this as it relates to PRIME students as well.

**9. There were a number of issues that were raised concerning undergraduate education and the undergraduate experience including:**

- a. availability of courses, particularly chemistry and biology labs**
- b. the effect on the UG student body, if these students need to be taught differently than a traditional Case UG because of an inadequate background**
- c. lack of communication with Biology and other faculty**
- d. other areas**

The College of Arts and Sciences and the School of Medicine began collaborating on the development of the PRIME program in the Fall 2015 semester. The programmatic and curricular model for PRIME were agreed upon during the Spring 2016 semester.

In follow up to discussion of the PRIME program at the CAS Chair Council on March 4, 2016 and in advance of submitting the program proposal for a preliminary review by the CAS faculty committees on April 21, 2016, Jill Korbin and Beth Trecasa, queried all CAS department chairs about participating in the PRIME program, requesting feedback on capacity, approval for PRIME-required and -elective courses, and suggestions for additional electives. For departments with required courses, a list of enrollments and capacity (as noted in SIS) for the most recent three academic years, including summers, was also provided.

As the letters of support indicate, all department chairs with PRIME-required courses approved the inclusion of courses in the program, some also suggested additional electives. These departments also provided more specific feedback on capacity in specific courses. Generally, chairs felt that coordination with the program and inclusion of PRIME students was possible, although sometimes requiring additional course sections. The notable exception was if all PRIME students or a significant numbers simultaneously needed the same course, especially an introductory course (an unlikely outcome and one the program will be managed to avoid). Many other CAS department chairs offered additional elective courses to be included.

The PRIME proposal received feedback from the CAS faculty committees (Committee on Educational Programs, Graduate Studies Committee, Budget Committee, and the College Strategic Plan Steering Committee) which was used to revise the proposal before submitting for review by the SOM Faculty Council in the Fall 2016 semester; the proposal was approved by this body on October 21, 2016. Resubmitting the PRIME proposal to the CAS Committee on Educational Programs for final committee approval was significantly stalled between October 2016 and March 2017 by revenue negotiations between the CAS and the SOM. Updates as to this stalled status were provided monthly at CAS Chair Council and faculty committee meetings.

A meeting between the deans of each school was scheduled for March 17, 2017 to discuss and agree on terms and allow the PRIME proposal to return to the CAS review and approval process. In advance of this meeting, Dean Taylor, Jill Korbin, Beth Trecasa, and Associate Dean Molly Berger met with the biology department chair, Mark Willis, to discuss two issues:

- the PRIME program and course capacity in the department of biology and
- non-CAS master's students (predominately from the SOM medical physiology program) overloading biology courses (especially in the Summer).

The group discussed the increasing demand and decreasing capacity in biology course (especially introductory course), related complications, and strategies to address challenges. The role of the program director in advising PRIME students on appropriate courses and coordinating capacities with all departments was affirmed.

An additional meeting with this group and members of the biology department had already been scheduled (and remains scheduled) to discuss these issues more specifically with faculty teaching the most in demand biology course (April 21, 2017).

The CAS and SOM deans agreed to final terms for PRIME during the March 17<sup>th</sup> meeting. Since this was not expected to be resolved so soon, Mark Willis was soon contacted with this update and next steps, including the CAS Curriculum on Educational Program's review of the PRIME proposal on March 24<sup>th</sup> and the potential for a CAS faculty vote on March 31<sup>st</sup>. The program's commitment to continue the conversation to resolve issues and coordinate enrollments was also reaffirmed. The PRIME proposal was approved by the CAS faculty on March 31<sup>st</sup> after discussion, in particular were similar questions as discussed with Mark Willis from biology faculty members. Following the program's approval by CAS faculty, Jill Korbin and Beth Trecasa have continued discussions and had multiple meetings with Mark Willis and again plan to meet with Dean Taylor and the biology department on April 21<sup>st</sup>. We are hopeful that our strategies to coordinate implementation of the PRIME program will also bring about improvement in the coordination of capacity and enrollments in biology courses overall and as it relates to SOM master's students seeking to study biology and other subjects in the CAS.

## Report on FSCUE Discussion of PRIME Program Proposal

Most of our 4/18 meeting was taken up with a discussion of the PRIME proposal. We heard from two visitors: Mark Willis, chair of Biology and Jill Korbin, Associate Dean in CAS. Since this is a post-baccalaureate program, FSCUE's primary concern was the impact of the PRIME program on the undergraduate experience.

FSCUE voted to approve this proposal (with one member voting against it), although several reservations were expressed. One of our student representatives felt that this program would have a very negative impact on biology and bio chem majors, who already have a hard time getting into their required classes. FSCUE as a whole was troubled by the large size of the introductory science classes. FSCUE recommendations are given below.

- Some of the revenue generated by this program should be used to reduce class sizes, by adding sections and instructors, and to increase lab space for classes taken by first year students.
- Given the pattern of biology enrollments, a spring start date for the PRIME would be helpful, since that would cause the PRIME students to enroll in the introductory biology classes in the semesters with lower enrollments.
- Dedicated labs for the PRIME students, in the early mornings or in the evenings, might help to reduce the impact of the new enrollments on lab classes.

## **Potential impact on Biology course enrollments from the PRIME (Post-baccalaureate Readiness Instruction for biomedical Education) Program and non-CAS MS degree students**

### **Brief overview of PRIME**

- A Program Action Form (PAF) has been submitted and approved 3/24/17 by the CEP for the PRIME certificate program.
- The PRIME program will be voted on by the CAS faculty (faculty meeting 3/31/17), the Faculty Senate and the Board of Trustees.
- It is a joint program between CAS and SOM aimed to improve undergraduate GPAs, MCAT scores and provide experiences to be a competitive applicant for highly ranked medical schools.
- A tuition agreement between CAS and SOM was settled on late March 2017.
- Students in PRIME are non-degree students paying graduate-tuition rates.
- PRIME start date is this fall (Fall 2017).
- Anticipated enrollment: 20 students 1<sup>st</sup> year, 35 2<sup>nd</sup> year, and 50 in 3<sup>rd</sup> year
- By year three the anticipated enrollment is 50 students/year. This cap will be reevaluated once the program has been established (i.e., could become higher)

### **Some specifics of the PRIME program**

- To earn the certificate students must complete 24 credits with a minimum GPA of 3.5. However, a student could take up to 60 credits, if the student has none of the medical school prerequisites upon entering the program. Thus, depending on the student's prior coursework the program is 1-2 years.
- 6 of the 24 credits will be taken through SOM (MGRD 310 and 311 are required courses). The rest of the credits will be selected from CAS and SOM course offerings (see PAF for full list of courses)
- There is also an MCAT preparatory course. It is not a requirement for PRIME students, but they have preference before other CWRU undergraduate and graduate students can enroll.
- According to the PAF, there will be an effort to balance the number of classes taken through CAS and SOM.
- There are two tracks in PRIME:
  - *Career-Changers*: Students who do not have the course requirements to enter medical school.
  - *Academic-Enhancers*: Students who did not earn a high enough GPA in their undergraduate science course work to be a competitive applicant.
- According to the CAS Dean's Office they anticipate 5-10 career-changer students and 35-40 academic-enhancers per year.
- There will be a dedicated program director to advise PRIME students.
- Optional opportunities will be available for students to shadow community physicians, attend grand rounds or participate in research. These opportunities will be facilitated by the program director and SOM Graduate Education Office.
- Shared startup costs of ~ 67K. Annual operating costs anticipated to be between 166K – 200K.

**For the Department of Biology to consider:**

***Potential impact on lower divisions BIOL Courses***

- Career-changers will have to take BIOL 214 and BIOL 214L, and BIOL 215/215L or BIOL 216/216L to meet a medical school requirement.
- Academic-enhancers, who earned a C or lower, may need to repeat one or more of these core courses.
- Many of the PRIME BIOL elective courses (see below) require BIOL 214, 215 and/or BIOL 216) as a prerequisite. Thus, if a student does not have the prerequisite(s) or equivalent course(s) they may need to take one or more core courses to enroll in upper level classes.
- Some of the core course offerings are at capacity (e.g., spring BIOL 216 and BIOL 216L cannot meet the demand of current undergraduates due to space limitation)
- Core course enrollments range from ~80-350 students during the regular academic year. An available seat in a classroom does not necessarily mean that a class is not at or surpassing capacity depending on the faculty's teaching practices and the experience they wish their students to have.

***Potential impact on upper division BIOL courses***

- Because most of the anticipated PRIME students will be academic-enhancers these students will be taking upper-division SOM and CAS classes to improve their science GPA.
- Below is the list of the approved BIOL electives for the PRIME Program as stated in the PAF:

BIOL 301/401 Biotechnology Laboratory  
BIOL 302 Human Learning and the Brain  
BIOL 333 The Human Microbiome  
BIOL 340 Human Physiology  
BIOL 346 Human Anatomy  
BIOL 416 Fundamental Immunology  
BIOL 417 Cytokines: Function, Structure, and Signaling  
BIOL 424 Introduction to Stem Cell Biology  
BIOL 427 Functional Genomics  
BIOL 342/442 Parasitology  
BIOL 343/443 Microbiology  
BIOL 352/452 Ecology and Evolution of Infectious Diseases  
BIOL 362/462 Principles of Developmental Biology  
BIOL 363/463 Experimental Developmental Biology  
BIOL 365/465 Evo-Devo: Evolution of Body Plans  
BIOL 373/473 Introduction to Neurobiology  
BIOL 374/474 Neurobiology of Behavior

- Some of the BIOL electives approved for the PRIME program are some of Biology's most impacted classes and cannot support the current undergraduate demand.

- Other elective classes may be capped due to pedagogical reasons and will not be able to support additional students without considerable cost (e.g., offering additional sections, increased GTA and UTA support, laboratory preparation support, etc.)

***Registration Times:***

- According to the Registrar's Office non-degree students register for classes *after* graduate and undergraduate students register for courses.

***Summer enrollments:***

- PRIME students may enroll in summer courses. Therefore, summer enrollments in BIOL courses may increase.
- Currently there is no GTA or UTA support for summer classes.

**Brief overview of non-CAS MS students and their impact on BIOL Course enrollments**

- In the past several years there has been an increased demand for non-CAS MS students to enroll in BIOL 400-level (graduate level) courses.
- There has also been an increase in the number of non-CAS MS students wishing to enroll in undergraduate courses. These students may be using the MS program as a bridge to health professional schools. However, because these schools only accept undergraduate science GPAs, a population of these graduate students would like to take undergraduate courses to boost their undergraduate science GPA.

**Questions to consider:**

1. Has the Department of Biology been offered any additional resources (e.g., GTA support, increases instructional support, lab materials, lab space, increased UTA budget, etc.) to offset the potential increase in demand for our courses and potential research opportunities? If it's a wait-and-see approach, how quickly will these resources become available to us?
2. How are we to meet the needs of undergraduates, CAS graduate, PRIME and non-CAS MS students given the fact that some BIOL classes are at capacity or cannot grow to accommodate more students?
3. If summer enrollments increase, will there be increased compensation for faculty teaching those courses? Will there be GTA and possible UTA support?
4. Who will be in charge of reviewing students transcripts admitted into the PRIME program to determine BIOL course equivalency (e.g., meeting prerequisites to take upper level courses)
5. Will the MGRD 310 & 311 classes be open to non-PRIME students?
6. Once the word gets out that this MCAT prep course is available, undergraduate students may demand access. How would this demand be accommodated?

7. An option for PRIME students is to participate in research. Can our research labs (CWRU Biology, CWRU Med, Cleveland Clinic, VA etc.) accommodate these students without additional monetary support? How will this impact our current undergraduates who also desire research experiences?
8. Does this tuition agreement allow non-CAS MS students and PRIME students to enroll in classes during the regular academic year and summer terms?
9. Many potential BIOL electives were not added to the PAF (e.g., BIOL 326 (genetics), BIOL 325 (Cell Biology), etc.) and some of the courses included are on hiatus or not taught regularly. Can classes be removed or added?
10. The number of requests from students for letters of recommendation is likely to increase with the PRIME program. Can faculty reasonably take on more of this workload?

Created 3.28.17

Revised 3.30.17

Created by R. Benard, Ph.D. and S. Burden-Gulley, Ph.D.

FSCUL Statement Recommending a Comprehensive  
External Review of the CWRU Library System

Passed Unanimously by FSCUL on March 9, 2017

The Faculty Senate Committee on University Libraries (FSCUL) recommends that a comprehensive external review of CWRU's entire library system be conducted as soon as possible on the model of the recent Accenture review of the university, and that follows the best practices described by Kara Malenfant and Kathryn Deiss in *Reviewing the Academic Library: A Guide to Self-Study and External Review*.<sup>1</sup>

This review will preferably be conducted by a site visit committee, but it may be conducted by a consulting firm instead.

The site visit and review should focus upon:

- the organizational effectiveness to deliver educational and research services for the University community, including: ease of resource discovery; current and potential use and usefulness of content resources and informational services; and current external relations and potential expansion of partnerships with other regional libraries
- the operational efficiency, the funding (including the funding mechanism and formulae), the management structure, and the allocation of content, space, and personnel resources.

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<sup>1</sup>K. Malenfant and K. Deiss, "Successful External Reviews: Process and Practicalities," in *Reviewing the Academic Library: A Guide to Self-Study and External Review*, E. Mitchell, P. Seiden, eds. (ALA, 2015), pp. 135-169, which can be found at:  
<http://www.ala.org/acrl/sites/ala.org.acrl/files/content/chapter7%20Successful%20external%20reviews%20-%20Process%20and%20practicalities.pdf>

# Library Content and Resource Review Process for New Programs and Degrees<sup>1</sup>

Passed Unanimously by FSCUL

9 March 2017

When a school or the College plans to submit to the Faculty Senate for final approval a proposal for a new CWRU program or degree, the sponsor (e.g., the school or one of its departments) must include in its submission materials a "library resource assessment report" regarding the adequacy of library content and services to accommodate the academic requirements of the program or degree. This report must be prepared and certified by the appropriate library of the university, independent of any review conducted by the sponsoring school or one of its departments.

For interdisciplinary programs or degrees that span the scope of more than one of CWRU's libraries, the school or College should submit its proposal to the library primarily responsible for the program or degree. When in doubt, the school or College should submit the form to the Kelvin Smith Library. In all cases where there is a potential for interdisciplinary content (regardless of whether the program or degree is designed to be an interdisciplinary program or degree among two or more schools), the libraries of the university will coordinate their efforts so that the final report comprehensively addresses all library resources. The report will specify which library or libraries are affected, and to what extent.

To initiate this process, when the school or College is considering a program or degree proposal, it should submit that proposal as early as possible in the process to the appropriate library. Under most circumstances, it is likely that the library will need no additional information.

The following programs or degree proposals must be submitted to the library for review:

- new degree programs, regardless of whether or not they were previously a track in another registered program;
- new dual or multi-degree programs combining two or more University programs;
- new joint-degree programs with other universities and colleges, regardless of their location;
- new certificate programs;
- the addition of a significant on-line component to an existing degree or certificate program; and
- changes in the degree of a registered program.

It is **not** necessary to submit for review any proposed new courses, tracks or pathways that are within an existing program, unless that proposal will require approval by the Faculty Senate.

The responsible library will usually complete its review and return it to the school or College within three (3) weeks.

The library assessment will provide a statement concerning of the quality of the existing and required staffing and content resources to provide a minimum quality program. The content assessment will include printed media, e-books and e-journals, audio and/or video recordings, and other associated technologies that are available on campus or that are readily available through OhioLINK.

If additional resources are found to be necessary, the library will specify a plan (with dollar amounts) necessary to acquire these resources within a specified time frame. The library will indicate whether there are or are not current funds to purchase the needed resources.

The final report must include a letter from the director of the appropriate library of the University to certify the findings of the report.

At the conclusion of the library assessment, the library director will provide a letter with a five-year estimate of expenses for essential new content, services, and technology. The letter will be accompanied by the library assessment report. (See Appendix for a sample template for a library report .)

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<sup>1</sup> Preparation of this document was enhanced by review of information provided by other universities with similar programs, including Columbia University, Colorado State University, Duke University, Johns Hopkins University, the University of California (Davis, Irvine), the University of Delaware, the University of Florida, the University of Illinois at Urbana-Champaign, the University of Notre Dame, the University of Toronto.



## Appendix - Sample Template CWRU Libraries Resource and Service Assessment Report Regarding New or Revised Programs and Degrees

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Assessment for:

- Program level    graduate       undergraduate  
 Degree             Major             Minor

Title of proposed program or degree: \_\_\_\_\_

Sponsor (School/College or Department): \_\_\_\_\_

*[For interdisciplinary proposals, list all schools/College affiliated with the proposal, and the libraries covered under this report.]*

Report prepared by: [Librarian]: \_\_\_\_\_ Date of Report: \_\_\_\_\_

### ADEQUACY OF SERVICES

- Current library staff expertise (depth and availability) in the area of the new program or degree:
- Ability of the library to accommodate funder data management requirements (e.g., access to essential technology or media) to support the program or degree:

### ADEQUACY OF CURRENT CONTENT AND ABILITY TO SUPPORT FUTURE NEEDS

- General strength of the current collection to accommodate new program needs, including major available content resources currently available:
- Minimum additional required resources required to accommodate the new program needs:

Content Category	Adequacy of Current Content Resources *	Additional Resources Required (list specific titles whenever possible)	One-time Cost to Fill Content Gaps	Recurring Cost to Fill Gaps for the next 5 years (including inflation)
Books: <i>Essential</i>				
Books: <i>Supplemental</i>				
Journals: <i>Essential</i>				
Journals: <i>Supplemental</i>				
Databases: <i>Essential</i>				
Databases: <i>Supplemental</i>				
Media: <i>Essential</i>				
Media: <i>Supplemental</i>				

\* "Current content" includes content available through OhioLINK.

## Proposal for a New Undergraduate Minor in Public Health

### Contents:

Program Action Form

Detailed Proposal

Electives

Letters of Support

### Submitted by:

Mendel Singer, PhD MPH

Associate Professor and Vice Chair for Education

Dept. of Epidemiology and Biostatistics

[mendel@case.edu](mailto:mendel@case.edu)

368-1951

**CWRU Action Form for Majors/Minors/Programs/Sequences/Degrees**  
(instructions on back)

Docket # \_\_\_\_\_

College/School: School of Medicine  
Department: Epidemiology and Biostatistics

PROPOSED:  major  
 minor  
 program  
 sequence  
 degree

TITLE: Public Health

EFFECTIVE: Spring (semester) 2017 (year)

DESCRIPTION: 15 credits, 3 required courses: Intro to Public Health(3 cr, MPHP 101), Intro to Epidemiology (3 cr MPHP 301), choose 1 of 2 courses (3cr) in Global Health (ANTH 379, INTH 301); 2 electives (6 cr) in a specific themed area: Mental Health, Medical Anthropology, Medical Sociology, Nutrition and Health Promotion, Global Health. Details in full proposal.

1. A public health minor meets the call of the Institute for Medicine for increasing undergraduate education in public health.
2. There is no comparable minor at CWRU.
3. Undergraduate public health education (majors and minors) have been amongst the most popular choices at schools that offer it. CWRU is behind the curve.
4. Public health is a popular choice for pre-health students who will be better clinicians for this exposure, and whose applications will be strengthened for health and health science professional or graduate school.
5. Only 2 new courses have to be introduced. No comparable courses currently exist at CWRU, and the competencies for these courses will follow nationally recommended guidelines. These courses provide the foundation and context for the many public health related courses offered by other departments. These other existing courses are integrated into the minor (as electives, and as the global health requirement), with support from these departments (see letters). These are essential to the minor.
6. All faculty/staff resources required are currently in place.
7. Target start date is January 2017.

Is this major/minor/program/sequence/degree:  new  
 modification  
 replacement

If modification or replacement please elaborate: \_\_\_\_\_

Does this change in major/minor/program/sequence/degree involve other departments?  Yes  No

If yes, which departments? Anthropology, Bioethics, Biology, Bioethics, Psychological Sciences, Sociology, Center for Global Health (signed letters of support from each of these departments is attached)

Contact person/committee: Mendel Singer, mendel@case.edu 368-1951

**SIGNATURES:**

Department Curriculum Chair(s)/Program Directors: Mendel Singer / [Signature] DATE March 11, 2016

Department Chair: [Signature] 3-11-2016

College/School Curriculum Committee Chair: \_\_\_\_\_

College/School Dean(s): \_\_\_\_\_

FSCUE Curriculum Subcommittee Chair: \_\_\_\_\_

File copy sent to:  Registrar  Office of Undergraduate Studies/Graduate Studies  
 Other: \_\_\_\_\_

# Proposal for a New Undergraduate Minor in Public Health

## Overview

1. A public health minor meets the call of the Institute for Medicine for increasing undergraduate education in public health.
2. There is no comparable minor at CWRU.
3. Undergraduate public health education (majors and minors) have been amongst the most popular choices at schools that offer it. CWRU is behind the curve.
4. Only 2 new courses have to be introduced. No comparable courses currently exist at CWRU, and the competencies for these courses will follow nationally recommended guidelines. These courses offer the fundamentals of public health and the public health context for many existing public-health related courses.
5. These existing courses related to public health that are offered by other departments are integrated into the minor, with support from these departments (see letters). These are essential to the minor.
6. All faculty/staff resources required are currently in place.
7. Target start date is Fall 2017.

## Rationale:

In 2003, the Institute of Medicine (IOM) came to the conclusion that it was necessary not only to have a well-educated public health workforce but also an educated public. They made a formal recommendation that “all undergraduates should have access to education in public health.”<sup>1</sup>

The U.S. Department of Labor’s Bureau of Labor Statistics forecasts an increase of over 20% in jobs for health educators and community health workers through 2022. Announcement of an anticipated shortfall of 250,000 in the public health workforce led many universities to respond by starting undergraduate majors, master’s programs (MPH), and schools of public health. Public health majors soon became the most popular, or one of the most popular majors, wherever these new programs began. Schools that started public health minors have had similar response. Kent State University recently started a school of public health and now has more than 800 undergraduate public health majors. Tulane University, with about 8,400 undergraduates and a significant number of pre-health students, has about 550 public health majors and another 150 public health minors.

CWRU started its MPH program in 1999, but in response to the need and student demand, a major in public health was created in 2006. The University valued it as a strong recruiting tool. Unfortunately, it was very short-lived due to being under-resourced. Since then, interest in public health has been partially met in other ways. Multiple departments offer undergraduate courses that intersect with public health, and the Integrated Graduate Studies (IGS) program (BA/MPH) has been very successful in both quality and quantity. Demand for these courses is high, particularly among the large pre-health

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<sup>1</sup> Gebbie K, Rosenstock L, Hernandez LM. Who will keep the public healthy? Educating public health professionals for the 21st century. Washington DC: National Academy Press, 2003: 144.

population. Indeed, public health is a critical complementary subject for many professions as seen in our MPH program, where nearly half of the students are dual-degree students simultaneously seeking one of 10 professional and graduate degrees. After discussion with the Dean of Arts and Sciences, and the Pre-Health Advisor, as well as the departments offering related courses, it is clear that a public health minor at CWRU would fill a substantial gap and be highly subscribed. Most of these students are already taking some public health related courses that would count as electives towards a public health minor, but they lack the strong foundation in public health. As such, they are missing many of the core concepts of public health that would create the public health framework for these public health related courses. This would be addressed through two new introductory courses (already submitted for course approval) that would be required for the minor.

A public health minor would also serve to educate our public. Periodically, we witness public health crises such as the Ebola epidemic and the Avian Flu pandemic of recent years. It always brings attention to the public health infrastructure in place and the politics and policy around it. At those times people begin to realize some of the impact of public health and the need for the general public to know more. New introductory courses created for the minor would be open to all students. Aside from providing public health education to a broader audience, it will facilitate the pathway to public health as a career or in a complementary role to another degree. As it is now, many people do not even know about public health as a career option until very late due to the lack of undergraduate exposure. This manifests itself in the form of students not exploring public health until close to or after graduation. This is illustrated by the timing of our applications – we get our largest number in February-June, as opposed to earlier in the academic year, as is the case for most other graduate/professional programs.

Part of the reason for the popularity of the major and minor in public health is the appeal to the large number of pre-health students. Many correctly see it as critically important, complementary knowledge that will make them better practitioners. Many will see it as a way to improve their application to a health professional school. In this last capacity, it may not only improve the rate of acceptance of our pre-health students at the programs of their choice but may also serve as a recruiting tool into our graduate programs.

### **Department Home for Program**

The Department of Epidemiology and Biostatistics is located in the School of Medicine (note: the department is in the midst of changing its name to “Population and Quantitative Health Sciences). The Department is home to about 35 full-time primary faculty and runs multiple graduate programs with total enrollment close to 150. These programs include a Master’s in Public Health, a Master’s in Biostatistics, and a PhD in Epidemiology and Biostatistics. These programs are administered through the School of Graduate Studies. Until now, the Department’s involvement with undergraduates has been limited to IGS students doing the BA/MPH, other students who take one of our 300/400 level courses, and the occasional students who venture to take one of our 400 level courses. In Spring 2017, the department’s first purely undergraduate course, MPHP 101 Introduction to Public Health, will be offered.

### **Approach**

Despite the lack of foundational courses in public health, there is already a wealth of public health related courses being taught at CWRU. As such, creation of a new minor does not require much in the way of new courses to be developed. This proposal takes a collaborative, multidisciplinary approach that takes advantage of synergies that can be created, as opposed to being competitive with already existing courses and programs. Although the proposal is based in the Department of Epidemiology and Biostatistics (EPBI; the home of the MPH program), it is anticipated that the majority of students pursuing this minor will take only 2 of their 5 courses in this department. This proposal follows meetings and discussions with many departments. All courses that are listed as part of this proposal have the endorsement of their department chairs (letters attached), have been identified as welcoming the additional students anticipated, and as being appropriate for the kinds of students who would become part of these courses' classroom dynamics as a result of this new minor. These departments include: Anthropology, Bioethics, Biology, Nutrition, Psychology and Sociology. Also, the Center for Global Health and Diseases has an undergraduate certificate in global health that would be an important complementary player. They have also been included in the development of this proposal, and a supporting letter from the Center is included here.

### **Design**

The core of the minor follows formal recommendations. In 2006, there was a Consensus Conference on Undergraduate Public Health Education, organized by the Association for Prevention Teaching and Research (APTR) Healthy People Curriculum Task Force. Their report (attached) recommended 3 specific courses to be required of any public health undergraduate education, with each of them being able to be taught without prerequisites. These 3 courses are introductory courses in public health, epidemiology and global health. The last one is already taught here at CWRU from different perspectives in existing courses, and students would have to take one of these existing courses to fulfill the requirement for global health. There are currently no introductory courses in public health or epidemiology at CWRU, so they are being created by EPBI. Course Action Forms have already been submitted for these 2 new courses.

### **Curriculum**

The proposed public health requires the completion of 15 credits

Required Courses (9 credits):

EPBI 101 (3 cr) Introduction to Public Health (projected to begin Spring 2017)

EPBI 301 (3 cr) Introduction to Epidemiology (projected to begin Fall 2017)

One of the following courses in Global Health (3 credits):

INTH 301 Introduction to Global Health

ANTH 359 Introduction to International Health

Electives (6 credits):

Students must choose 2 electives (6 credits) from within one of the following areas:

Global Health

Medical Anthropology

Medical Sociology

Mental Health

Nutrition and Health Promotion

The list of elective courses that are approved for this minor is in the Appendix. Students may petition to allow other courses to qualify. It should be noted that we hope to offer an Environmental Health elective theme in the future.

Some elective courses have prerequisites. These prerequisites have to be met to gain admission to the class as with any other course (or obtain instructor permission), but the prerequisites do not count toward the minor.

CWRU allows some double-counting of courses across majors and minors. This minor is imposing no rules of its own in this regard but will merely implement CWRU rules.

**Administration**

Director, Public Health Minor: Scott Frank, MD MS

We will have a director for the minor who will be responsible for advising students and managing the program. In fact, one of the jobs of the director will be to get more students in for advising. Feedback from other faculty with minor programs has been that many students tend to not seek advising and just follow the posted requirements and show up for certification. While some of this may be inevitable, we want to work to move these students to come for advising. This advising will likely cover not just the course selection but also advising relating to careers and choice of graduate/professional school programs. Using our estimate of 35 minors, plus 15 other students who seek advising but do not end up doing the minor, each class would produce 50 people in need of advising. Adding in overhead time for management of the program, and some additional advising sessions, we are allotting 15% effort for the program director (exclusive of teaching time).

We are in a very fortunate position. Scott Frank MD MS, is currently the director of the Master of Public Health (MPH) program and the director of the Shaker Heights Health Department. He has chosen to reduce his administrative burden and will be switching from leading the MPH program to leading the new minor. Dr. Frank created the MPH program and has led it since its inception in 1999. His long history of working with undergraduates in the IGS program will serve him well in this new position. Dr. Frank will also be teaching the required minor course, MPHP 101 Introduction to Public Health, which will be offered for the first time this Spring (2017).

#### Course Instructors:

Two new courses are being created by the EPBI department. MPHP 101 Introduction to Public Health was approved and will be offered this Spring (2017) by Scott Frank MD MS, the director for the new minor. This course will be offered every Spring semester. The other course, MPHP 301, Introduction to Epidemiology, is nearing approval (minor changes to the syllabus were requested), and is slated to be taught every Fall beginning 2017. This course will be taught by Catherine Stein PhD, an Associate Professor in the EPBI department with an excellent teaching track record.

#### Other Resources:

The administrative overhead associated with a minor, beyond the role of the program director, is not large. We are assigning 7.5% effort for this by Nickalaus Koziura, our Administrative Director for Non-Clinical Graduate Education.

#### Finances

At the University level, increased tuition revenue would be limited as this program's primary appeal will be to existing CWRU undergraduate students. We do believe that having a public health minor may attract some additional undergraduate students planning a future in a health profession. It may also play a role in some students choosing to complete their degree at CWRU rather than transfer. However, the potential impact in recruiting of a minor is likely to be limited. Some of these students may, as a result of this new minor and its new courses, end up doing the IGS BA/MPH program or the MPH traditional graduate program upon graduation. The primary impact of the new minor in terms of tuition revenue will be the tuition that goes to the EPBI department via the School of Medicine for the undergraduates who enroll in the 2 public health minor required courses that EPBI will be teaching. There will also be tuition revenue related to additional students taking the already existing courses that count as either the required course in global health or an elective.

We are conservatively estimating the number of public health minors per year at 35, of which 25-30 will be pre-health students. Steve Scherger, the pre-health advisor feels this is probably a little conservative in terms of pre-health, and the number of minors who are not pre-health is probably underestimated as well. We further estimate that the Intro to Public Health course will attract non-minors as well and would likely reach 60 students. We estimate the Intro to Epidemiology course would likely attract an extra 10 non-minors for a total enrollment of 45. There would likely be additional revenue from more students opting for our IGS BA/MPH program as a result of the introduction of the new minor and courses, or eventually enter our MPH graduate program after graduation. However, it is also possible that a few might opt for the minor over doing the BA/MPH. We are also not counting the students who

would choose our 300 level course in health education/communication/advocacy for a minor elective (there is a lot of room in that class to handle additional undergraduates).

At the School of Medicine, tuition return is distributed directly to the departments based on formulas. For undergraduate courses, the tuition return to the teaching department next year will be about \$1,400 per student enrolled in a 3-credit course.

New revenue:

MPHP 101 Introduction to Public Health	60	
<u>MPHP 301 Introduction to Epidemiology</u>	<u>45</u>	
		105 students x 1,400 = \$147,000

The resulting tuition return (\$147,000) allows for the assignment of substantial resources, including 20% faculty FTE for program director time, 2 course instructors (10% effort each), teaching assistants and some administrative staff time (7.5%) with some money (estimated \$3,000) allocated for support for student public health activities.

<b>PROJECTED SCENARIO</b>	
Tuition Return	\$147,000
Program Director, 15%	(\$33,000)
2 Course instructors (10% effort per course)	(\$32,000)
Teaching Assistants (2 per course; 3 credits paid per TA)	(\$21,000)
Administrative Assistant Time (7.5%)	(\$4,600)
Support for student public health activities	(\$2,500)
<b>Net Revenue</b>	<b>\$53,900</b>

Pessimistic Scenario:

Under the pessimistic scenario, there are only 20 public health minors, with 15 other students taking the Introduction to Public Health course but nobody else taking the Introduction to Epidemiology course.

MPHP 101 Introduction to Public Health            35

MPHP 301 Introduction to Epidemiology        20

55 students x \$1,400 = \$77,000

<b>PESSIMISTIC SCENARIO</b>	
Tuition Return	\$77,000
Program Director, 10%	(\$22,000)
2 Course instructors (10% effort per course)	(\$32,000)
Teaching Assistants (3 total; 3 credits paid per TA)	(\$15,750)
Administrative Assistant Time (5.0%)	(\$3,100)
Support for student public health activities	(\$2,000)
Net Revenue	\$2,150

Letters of Support are from all of the participating departments and centers, the Dean of the College of Arts & Sciences and the Pre-Health Advisor.

Cyrus Taylor, Dean of the College of Arts & Sciences

Steven Scherger, Pre-Health Advisor

Dale Dannefer, Chair of Sociology

Lawrence Greksa, Chair of Anthropology

Lee Thompson, Chair of Psychology

Hope Barkoukis, Chair of Nutrition

Mark Willis, Chair of Biology

James Kazura and Peter Zimmerman, Certificate Program in Global Health/Center for Global Health

Mark Aulisio, Chair of Bioethics

Jonathan Haines, Chair of Epidemiology and Biostatistics

Course Title	Course #	Prerequisites	Special Attribute	Semester	Notes
<b>Mental Health</b>					
Social Psychology	PSCL315	PSCL 101		every semester	
Health Psychology	PSCL317	PSCL 101, 315		Rotation	
Abnormal Psychology	PSCL321	PSCL 101		every semester	
Developmental Psychopathology	PSCL344	PSCL 230 or 321		Fall? Spring?	every year
Sociology of Mental Illness	SOCI 345	SOCI 101 Jr/Sr - might be waived	N/A	Rotation	
<b>Medical Anthropology</b>					
Health, Culture, & Disease: An Introduction to Medical Anthropol	ANTH215	N/A	N/A	Spring	
AIDS: Epidemiology, Biology, and Culture	ANTH 323	ANTH 102 or ANTH 103 or ANTH 105	N/A	Rotation	
Power, Illness, and Inequality: The Political Economy of Health	ANTH 326	Rec-ANTH 102 or ANTH 215		Rotation	
Anthropology and Public Health	ANTH 328	N/A		Rotation	
Maternal Health: Anthropological Perspectives on Reproductive Health & Healing in East Asia	ANTH 338	N/A	N/A	Fall	
<b>Introduction to International Health</b>	ANTH354	N/A	Global & Cultural Diversity	Spring	
	ANTH359	N/A	N/A	Fall	Elective if INTH 301 is taken as requirement
<b>Medical Sociology</b>					
Body, Culture and Disability	SOCI2xx	N/A		Rotation	
Health, Illness and Social Behavior	SOCI311	SOCI 101 Soph/Jr/Sr - might be waived	N/A	Fall	
Health Disparities	SOCI344	SOCI 101 Soph/Jr/Sr - might be waived	N/A	Rotation	
Sociology of Mental Illness	SOCI 345	SOCI 101 Jr/Sr - might be waived	N/A	Rotation	
Health Care Delivery	SOCI365	SOCI 101 Soph/Jr/Sr - might be waived	N/A	Rotation	
<b>Global Health</b>					
<b>Introduction to International Health</b>	ANTH359	N/A	N/A	Fall	Elective if INTH 301 is taken as requirement
<b>Fundamentals of Global Health</b>	INTH301	Limited to Juniors & Seniors	N/A	Spring	Elective if ANTH 359 is taken as requirement
Ecology & Evolution of Infectious Diseases	BIOL352	BIOL214 or BIOL251, MATH121 or MATH125, MATH122 or MATH126	N/A	Fall	
International Bioethics & Practice: Public Health in the Netherlands	BETH315B	N/A	Study Abroad, Global & Cultural	Spring	
AIDS: Epidemiology, Biology, and Culture	ANTH 323	ANTH 102 or ANTH 103 or ANTH 105	N/A	Rotation	
Health & Healing in East Asia	ANTH354	N/A	Global & Cultural Diversity	Spring	
<b>Nutrition and Health Promotion</b>					
Food is Medicine	NTRN 3xx		Not approved yet	new?	
Dietary Patterns	NTRN 343	NTRN201 - but OK w/o	N/A	Spring	
Child Nutrition, Development and Health	NTRN328	NTRN201 - but OK w/o	N/A	Fall/Spring	
Health Education, Communication and Advocacy	MPHP313	Limited to Juniors & Seniors	N/A	Fall	

Letters of Support are from all of the participating departments and centers, the Dean of the College of Arts & Sciences and the Pre-Health Advisor.

Jonathan Haines, Chair of Epidemiology and Biostatistics

Cyrus Taylor, Dean of the College of Arts & Sciences

Steven Scherger, Pre-Health Advisor

Hope Barkoukis, Chair of Nutrition

Mark Aulisio, Chair of Bioethics

Lawrence Greksa, Chair of Anthropology

Mark Willis, Chair of Biology

Dale Dannefer, Chair of Sociology

Lee Thompson, Chair of Psychological Sciences

James Kazura and Peter Zimmerman, Certificate Program in Global Health/Center for Global Health



SCHOOL OF MEDICINE  
CASE WESTERN RESERVE  
UNIVERSITY

Jonathan L. Haines, PhD  
Professor and Chairman  
Department of Epidemiology and Biostatistics  
Mary W. Sheldon, MD Professor of Genomic Sciences  
Director, Institute for Computational Biology

Wolstein Research Building  
Suite 2-529  
2103 Cornell Avenue  
Cleveland, Ohio 44106

February 29, 2016

Phone 216.368.3197

Dr. Mendel Singer,  
Vice-Chair for Education  
Department of Epidemiology & Biostatistics  
School of Medicine  
Case Western Reserve University:

Dear Mendel:

The department of Epidemiology and Biostatistics fully supports this proposal for a new undergraduate minor in public health. This minor will answer the call of the Institute of Medicine to increase undergraduate education in public health. I think this is an important program for CWRU, and am prepared to provide the necessary resources of faculty and staff time and finances, including the provision of teaching assistants for the two proposed new courses. I am convinced that this very limited foray into undergraduate teaching is financially justified, as is elucidated in the proposal. We find that many students have no exposure to what public health is until very late in their undergraduate studies and often only after they graduate. They often express to us how much easier their career paths would have been had they been exposed to the field of public health earlier in college. Further there are many fields for which having some public health education is highly beneficial, as can be seen by the 10 dual-degree programs associated with our Master's program. This new minor, administered by my department but fully collaborative with about a half dozen other departments, will bring public health education to the CWRU undergraduate population and complement majors in the collaborating departments.

I am fully committed to supporting this new minor.

Sincerely,

A handwritten signature in cursive script that reads "Jonathan L. Haines".

Jonathan L. Haines, PhD  
Professor and Chair  
Department of Epidemiology and Biostatistics  
Director, Institute for Computational Biology  
Interim Chair, Department of Environmental Health Sciences  
Mary W. Sheldon, MD Professor of Genomic Sciences  
Case Western Reserve University School of Medicine

**Subject:** Re: Minor in Public Health  
**From:** Mendel Singer <mendel@case.edu>  
**Date:** 3/3/2016 8:26 PM  
**To:** "Cyrus C. Taylor" <cct@case.edu>  
**CC:** Beth Trecasa <bmt5@case.edu>, "Jill E. Korbin" <jek7@case.edu>, Cyrus Taylor <cct@cwru.edu>

Thank you again. I will be including this email message in my proposal.

mendel

On 3/1/2016 11:17 AM, Cyrus C. Taylor wrote:

Dear Mendel,

I am enthusiastic about your efforts to establish an undergraduate minor in public health at CWRU.

Such a program will be an important addition at an institution like ours with multiple strengths in health-related areas and a large proportion of students that have interests in health-related fields.

The public health minor you propose will be a complement to many majors and will contribute to the career goals of our students. In my view, the proposal is very collaborative and strongly aligned with multiple departments from the College of Arts & Sciences. The proposal calls for 2 new courses to be taught by Epidemiology and Biostatistics, so it is leveraging existing courses rather than competing. As a minor, it will enhance many of our programs.

I appreciate the consultative way you have progressed with this proposal and I look forward to collaborating with you on this initiative.

With very best wishes,

Cyrus

--  
Cyrus C. Taylor  
Dean of the College of Arts and Sciences &  
Albert A. Michelson Professor in Physics  
Case Western Reserve University  
10900 Euclid Ave.  
Cleveland, OH 44106-7068

Ph: 216-368-4437  
Cell: 216-246-9371  
Fax: 216-368-3842

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Re: Minor in Public Health

message. Thank you.

--

Mendel E. Singer, PhD MPH  
Associate Professor and Vice Chair for Education  
Director, MS Biostatistics  
MPH Director of Research  
Director, Jewish Community Health Initiative ([www.JewHealth.org](http://www.JewHealth.org))  
Dept. of Epidemiology and Biostatistics  
Case School of Medicine  
10900 Euclid Ave, WG-57  
Cleveland, OH 44106  
216-368-1951

Physical Address: WG-72



CASE WESTERN RESERVE  
UNIVERSITY EST. 1826

Office of Undergraduate Studies

10900 Euclid Avenue  
Cleveland, Ohio 44106-7028

Visitors and Deliveries  
Sears Building, Room 357

Phone 216.368.2928

Fax 216.368.4718

[www.case.edu](http://www.case.edu)

March 2, 2015

To Whom It May Concern:

I am writing in support of the Public Health Minor as currently proposed. My support is based on the demand that I believe exists among our undergraduate pre-health students for such a program and the benefits they would receive from it.

I am in agreement with the assertion made in the proposal that the minor would be a popular option for pre-health students who are seeking to enhance their undergraduate studies and their preparation for careers in the health sciences. The proposal estimates that there will be 35 minors per year, 25 of whom would be pre-health. I believe this is a conservative estimate and it could do much better. Many of our pre-health students are interested in opportunities to expand their preparation for their future careers and to distinguish themselves by exploring health-related topics beyond the core sciences required by the professional health science schools. The minor in Public Health would benefit our students in their professional development by equipping them with the core concepts of the public health framework in which they will operate. Such development will aid them in their applications to professional health science programs; but even more important, in their future careers as health care providers.

Please feel free to contact me if you would like to discuss further my support for the proposed Public Health minor.

Sincerely,

A handwritten signature in cursive script that reads "Steven P. Scherger".

Steven P. Scherger, PhD  
Director of Health Career Advising  
[steven.scherger@case.edu](mailto:steven.scherger@case.edu)



think beyond the possible

Department of Nutrition  
School of Medicine – Room WG 48  
2109 Adelbert Road  
Cleveland, Ohio 44106-4954  
216.368.2440

February 26, 2016

To: Dr. Mendel Singer

The Nutrition department has a growing relationship with the department of Epidemiology and Biostatistics, including a new dual-degree Master's program with an MS in Nutrition and MPH (Master's of Public Health). This new minor is another positive collaboration between these departments. The Obesity Epidemic is a major health concern which highlights the importance of combining nutrition and public health. Public Health Nutrition is a fast growing area of nutrition and a very popular Master's program here at CWRU. The offering of a minor in public health will bring the public health context and approach to our nutrition majors and better prepare them for the challenges of today and tomorrow. I have worked out which Nutrition courses would be good electives to offer students in this new minor with Mendel Singer, Vice Chair for Education in the Epidemiology and Biostatistics department. These particular courses are all very important to public health and suitable for the students doing the minor regardless of whether they are majoring in Nutrition. We will be able to accommodate the extra students.

On behalf of the Nutrition Department, we all enthusiastically endorse the proposal for a minor in public health.

Sincerely,

A handwritten signature in cursive script that reads 'Hope Barkoukis'.

Hope Barkoukis, PhD, RD, LD  
Interim Chair- Nutrition Dept.  
Associate Professor  
School of Medicine, CWRU



CASE WESTERN RESERVE  
UNIVERSITY  
SCHOOL OF MEDICINE

Mark P. Aulisio, Ph.D.  
Susan E. Watson Professor and Chair  
Department of Bioethics

MetroHealth Medical Center  
Rammelkamp Center  
2500 MetroHealth Drive  
Cleveland, Ohio 44109-1998

Case Western Reserve University  
School of Medicine  
10900 Euclid Avenue  
Cleveland, Ohio 44106-4976

Phone: 216-778-8497  
Fax: 216-778-3360

Phone: 216-368-6196  
Fax: 216-368-8713

February 26, 2016

Mendel E. Singer, PhD MPH  
Associate Professor and Vice Chair for Education  
Director, MS Biostatistics  
MPH Director of Research  
Director, Jewish Community Health Initiative ([www.JewHealth.org](http://www.JewHealth.org))  
Dept. of Epidemiology and Biostatistics  
Case School of Medicine  
10900 Euclid Ave, WG-57  
Cleveland, OH 44106

Dear Professor Singer,

I am delighted to offer our department's support for the proposed minor in public health. The minor is a good idea that will surely be popular with students. We do not see this new minor as being a competitor with our own, as it is very different with almost no overlap. There is one bioethics course listed as an elective, "Public Health in the Netherlands" (BETH 315B) and students doing the public health minor are welcome to take this course. Our department wholeheartedly supports this proposal and wishes you and your colleagues success in the approval process and implementation of the public health minor.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark P. Aulisio'.

Mark P. Aulisio  
Susan E. Watson Professor and Chair  
Department of Bioethics  
Director, Center for Biomedical Ethics, MetroHealth  
Case Western Reserve University



CASE WESTERN RESERVE  
UNIVERSITY  
COLLEGE OF ARTS AND SCIENCES

Lawrence P. Greksa, Ph.D.  
Professor and Chair  
Department of Anthropology

March 1, 2016

Fax (216)368-5334  
E-mail [Lawrence.greksa@case.edu](mailto:Lawrence.greksa@case.edu)

To: Mendel Singer  
Department of Epidemiology and Biostatistics

From: Lawrence Greksa  
Chair, Anthropology

RE: Proposed minor in Public Health

---

The Department of Anthropology is happy to participate in your proposed minor in public health. In particular, the Anthropology courses you have suggested as meeting the Medical Anthropology and Global Health requirements are ones which we believe can absorb any additional students who choose to take them as part of the minor. We suspect that some of our Medical Anthropology concentration majors will find this minor to be of interest.

*Lawrence Greksa*



CASE WESTERN RESERVE  
UNIVERSITY  
COLLEGE OF ARTS AND SCIENCES

**Department of Biology**

Case Western Reserve University  
10900 Euclid Avenue  
Cleveland, Ohio 44106-7080

Phone 216-368-3557  
Fax 216-368-4672  
[www.case.edu](http://www.case.edu)

Mendel E. Singer, PhD MPH  
Associate Professor and Vice Chair for Education  
Director, MS Biostatistics  
MPH Director of Research  
Director, Jewish Community Health Initiative  
Dept. of Epidemiology and Biostatistics  
Case School of Medicine  
10900 Euclid Ave, WG-57  
Cleveland, OH 44106

March 1, 2016

Dear Dr. Singer,

I am writing in support of the proposed undergraduate minor in public health. This new minor is welcome to the Biology department. We have many pre-health students who will find this minor to be a strong pairing with the major in biology, and for those biology majors with environmental interests, public health is also a natural pairing. There is only one course from my department listed as an elective in this proposal, and public health minor students are welcome to take this course. I am happy to support this proposal for a minor in public health.

If I can be of any further assistance please contact me.

Sincerely,

A handwritten signature in cursive script that reads "Mark A. Willis".

Mark A. Willis, PhD  
Professor and Chair  
Department of Biology



CASE WESTERN RESERVE  
UNIVERSITY  
COLLEGE OF ARTS AND SCIENCES

Department of Sociology  
Case Western Reserve University  
10900 Euclid Avenue  
Cleveland, Ohio 44106-7124

3-1-2016

Visitors and Deliveries  
226 Mather Memorial

Phone 216.368.2700  
Fax 216.368.2676

Professor Mendel Singer, PhD MPH  
Associate Professor and Vice Chair for Education  
Director, MS Biostatistics  
MPH Director of Research  
Director, Jewish Community Health Initiative  
Department of Epidemiology and Biostatistics  
Case School of Medicine  
10900 Euclid Avenue, WG-57  
Cleveland, OH 44106

[www.case.edu/artsoci/soci](http://www.case.edu/artsoci/soci)

Dear Professor Singer,

I am writing to express my support for the proposed undergraduate minor in Public Health. Our department has a great strength in Medical Sociology, and a minor in Public Health will serve as a great complement to the major at the same time that Public Health students will profit from the opportunity to broaden and ground their understanding in fields such as medical sociology. I expect there will be great interest in this new minor and it will fill a need for undergraduate education in Public Health. I have discussed the curriculum for this minor with Mendel Singer, the Vice Chair from the Epidemiology and Biostatistics department who is leading the effort for this new minor. I support this new minor as well as the use of the indicated Sociology courses for electives.

Sincerely,

A handwritten signature in black ink, appearing to read 'Dannefer', written over a light blue horizontal line.

Dale Dannefer  
Selah Chamberlain Professor of Sociology  
Chair, Department of Sociology



CASE WESTERN RESERVE  
UNIVERSITY

COLLEGE OF ARTS AND SCIENCES

Department of Psychological Sciences

Case Western Reserve University  
10900 Euclid Avenue  
Cleveland, Ohio 44106-7123

Phone 216-368-2686  
Fax 216-368-4891

<http://www.cwru.edu/artsci/pscl/>

March 6, 2016

Mendel E. Singer, PhD MPH  
Associate Professor and Vice Chair for Education  
Director, MS Biostatistics  
MPH Director of Research  
Dept. of Epidemiology and Biostatistics  
Case School of Medicine  
10900 Euclid Ave, WG-57  
Cleveland, OH 44106

Dear Professor Singer:

I am writing in support of the proposed minor in public health. This new minor will appeal to many students and will enhance their educational experience at CWRU. I have seen the proposal and am very much in support of it. Adding this minor to our psychology major or to our major in communication disorders makes for a very powerful combination, and will bring a new dimension to their education that will be very helpful for those continuing on to become mental health professionals or speech language pathologists. The proposal's list of elective courses includes 4 psychology courses. These courses were chosen carefully so they are both appropriate for the minors and there is room for these extra students. I approve of the minor and the use of our courses as electives.

Sincerely,

A handwritten signature in cursive script, reading "Lee Anne Thompson".

Professor and Chair



CASE WESTERN RESERVE  
UNIVERSITY EST. 1826

**Center for Global Health and Diseases**

March 14, 2016

Mendel E. Singer, PhD MPH  
Associate Professor and Vice Chair for Education  
Director, MS Biostatistics  
MPH Director of Research  
Dept. of Epidemiology and Biostatistics  
Case School of Medicine  
10900 Euclid Ave, WG-57  
Cleveland, OH 44106  
216-368-1951

Dear Dr. Singer:

We currently offer an undergraduate certificate in Global Health from the Center for Global Health & Diseases, and see a public health minor as a complementary piece that will strengthen our certificate program. Students interested in the public health minor and opting for the Global Health "track" may choose to pursue our certificate as well, and vice versa. Our course "Introduction to Global Health (INTH 301/401)" will serve as one of two options to meet the Global Health requirement for this new minor. There is room for expansion to accommodate all of the new students in the classroom.

I see this new minor as a great and welcome addition to the undergraduate curriculum.

Sincerely,

James W. Kazura, MD  
Professor of International Health &Z  
Medicine  
Director, Center for Global Health &  
Diseases  
Email: [jxk14@case.edu](mailto:jxk14@case.edu)

Peter A. Zimmerman, Ph. D.  
Professor of International Health, Genetics  
and Biology  
The Center for Global Health & Diseases  
Email: [paz@case.edu](mailto:paz@case.edu)

Mailing Address:  
Center for Global Health and Diseases  
CASE School of Medicine  
Wolstein Research Building  
10900 Euclid Avenue  
Cleveland, Ohio 44106-4938

Visitors and Deliveries:  
Center for Global Health and Diseases  
Case Western Reserve University  
Biomedical Research Building, 4<sup>th</sup> floor  
2109 Adelbert Road  
Cleveland, Ohio 44106-4938

Phone 216-368-0508  
Fax 216-368-4825 or 4882





SCHOOL OF MEDICINE  
CASE WESTERN RESERVE  
UNIVERSITY

William P. Schilling, Ph.D  
Professor  
Department of Physiology & Biophysics  
Case Western Reserve University

10900 Euclid Avenue  
Cleveland, Ohio 44106-4970

Office 216.778.8965  
Email: [wschilling@metrohealth.org](mailto:wschilling@metrohealth.org)  
<http://physiology.case.edu>

## MEMORANDUM

**To:** Pamela B. Davis, MD, PhD  
Dean, School of Medicine  
Case Western Reserve University

**From:** William Schilling, PhD  
Chair, Faculty Council

**Re:** Minor in Public Health

**Date:** March 28, 2016

At its March 21, 2016, meeting, the Faculty Council voted to recommend approval of an undergraduate minor in Public Health proposal. The minor will be offered by the Department of Epidemiology & Biostatistics in the School of Medicine.

In accordance with our SOM practices, an *ad hoc* committee composed of members of the Faculty Council Steering Committee, Graduate Directors, the SOM members of the Faculty Senate's Committee on Graduate Programs, the Associate Dean for Graduate Education and members from the undergraduate degree programs (Nutrition and Biochemistry) was created to review the program proposal. The *ad hoc* committee was chaired by Nicholas Ziats and met with Mendel Singer, Vice Chair for Education in the Department of Epidemiology & Biostatistics, and Scott Frank, Director of the Master of Public Health Program. The *ad hoc* committee reviewed the documents, discussed the proposal, and engaged with the program presenters. After the meeting was concluded a summary of minor changes was created. These changes were adopted and the revised proposal was circulated to the *ad hoc* committee for a vote. The *ad hoc* committee approved the reviewed proposal and it was sent to the Faculty Council for a discussion and vote.

After your review, I hope you will join me in recommending approval of the proposal for an undergraduate minor in Public Health by the Faculty Senate and Board of Trustees as required by the Faculty Handbook.

Please let me know if I can provide any additional information.

Thank you for your consideration.

Sincerely,

William P. Schilling, Ph.D.  
Faculty Council Chair  
Professor of Physiology and Biophysics

cc: Nicole Deming, JD, MA



SCHOOL OF MEDICINE  
CASE WESTERN RESERVE  
UNIVERSITY

Pamela B. Davis, M.D., Ph.D.  
Dean  
Senior Vice President for Medical Affairs

Office of the Dean

10900 Euclid Avenue  
Cleveland, Ohio 44106-4915

Visitors and Deliveries  
Biomedical Research Bldg., - Rm. 113

Phone 216-368-2825

Fax 216-368-2820

<http://casemed.case.edu>

March 28, 2016

Roy Ritzmann, PhD  
Chair, Faculty Senate  
c/o Rebecca Weiss, Secretary of the University Faculty  
Adelbert Hall  
7001

Dear Dr. Ritzmann:

As noted in the accompanying memo from Dr. Bill Schilling, Chair of the School of Medicine's Faculty Council, the Faculty Council has recommended approval of a new undergraduate minor in Public Health.

There is a growing need for professionals educated in public health and able to educate the general public on public health issues. There is a high demand for undergraduate public health programs nationally and the existing programs are very popular. The current faculty and staff in the Department of Epidemiology & Biostatistics are able to administer the undergraduate minor with existing resources. The Public Health program has worked to integrate existing course offerings from other departments to the benefit of all participants. The department and faculty have experience with the management of a wide variety of educational programs.

The proposal approval process is outlined in Dr. Schilling's memo. An *ad hoc* Committee was convened to review this new program and after revisions, the program was approved by the Faculty Council. I concur with the Faculty of Medicine and recommend approval of this undergraduate program.

Please submit the proposed Minor in Public Health to the appropriate committees for their review at their earliest opportunity. I would be pleased to answer any questions that might arise during the review process.

Thank you.

Sincerely,

Pamela B. Davis, MD, PhD

c: Dr. Bill Schilling, Chair, Faculty Council  
Nicole Deming, Assistant Dean for Faculty Affairs and Human Resources, SOM

enclosures



**CASE WESTERN RESERVE  
UNIVERSITY**

COLLEGE OF ARTS AND SCIENCES

Committee on Educational Programs  
College of Arts and Sciences  
Case Western Reserve University  
10900 Euclid Avenue  
Cleveland, Ohio 44106-7068

**MEMORANDUM**

**TO:** Cyrus Taylor, Dean  
**FROM:** Maggie Popkin, Chair  
Committee on Educational Programs  
**DATE:** September 27, 2016  
**SUBJECT:** CEP Comments on Proposal for a Minor in Public Health

The CEP met Friday, September 16, and considered the proposal for a Minor in Public Health which was forwarded by the FSCUE Curriculum Subcommittee on behalf of the School of Medicine. In keeping with the current protocol, the college must submit its evaluation to the FSCUE-CC by Friday, October 21, 2016. The CEP noted the following during its review:

- The Description on the Action Form notes "15 credits, plus a 200+-level statistics course anywhere in the University." The CEP members felt that including a list of courses that fit this requirement would be helpful.

This information has NOT been provided to the FSCUE-CC. As the CEP understands the process, these comments should come to you first in the event you would like any other A&S committee(s) to review the proposal. Again, the college's comments are due 10/21/16.

cc: J. Korbin  
M. Popkin

Approved for transmittal to FSCUE Curriculum Subcommittee:

A handwritten signature in black ink, appearing to read "Cyrus C. Taylor".

Cyrus C. Taylor  
Dean and Albert A. Michelson Professor in Physics  
College of Arts and Sciences

## Jeffrey Wolcowitz

---

**From:** Mendel Singer  
**Sent:** Wednesday, December 28, 2016 4:03 PM  
**To:** Jeffrey Wolcowitz  
**Cc:** jonathan kraines  
**Subject:** Revised Proposal for Undergraduate Minor in Public Health  
**Attachments:** Revised Proposal for Public Health Minor - Proposal and Supporting Documents - December 28 2016.pdf; CWRU Proposal for a New Undergraduate Minor in Public Health Dec 28 2016.docx

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

First, thank you for all your efforts in guiding this process!

Attached is the revised proposal, the first pages of which detail the changes made to the original proposal. I am also attaching a Word version of the heart of the proposal (without PAF, letters of support, appendix) with track edits and comments.

The request was to change the co-requisite of a 200+ level statistics course to a full requirement, with explicit listing of qualifying courses, permission to take these courses, and changing of the minor accordingly from 15 to 18 credits.

We had always assumed most students take a statistics course towards either their major or the quantitative reasoning requirement and hadn't thought we needed it as a requirement and merely listed it as a co-requisite. We have decided to drop the statistics requirement for this reason and several others. National guidelines for a public health minor do not include statistics as a requirement. Some statistics will in fact be taught in the required course in Epidemiology, and a little in the Intro to Public Health. We would like to keep the minor to 15 credits.

There were several other changes made, including leadership of the minor. Scott Frank has elected to step down from running our Master's in Public Health and take over the minor (and have more time to pursue large scale community projects). There are some other edits/updates.

The attached revised proposal begins with a listing of the changes made and the rationale behind them. Again, the Word document showing the track edits is also attached.

Please keep me posted about the process ahead, so I can report back to my chair.

Thank you very much - Happy Holidays!

mendel

--

Mendel E. Singer, PhD MPH  
Associate Professor and Vice Chair for Education Director, MS Biostatistics MPH Director of Research Director, Jewish Community Health Initiative ([www.JewHealth.org](http://www.JewHealth.org)) Dept. of Epidemiology and Biostatistics Case School of Medicine  
10900 Euclid Ave, WG-57  
Cleveland, OH 44106  
216-368-1951



SCHOOL OF MEDICINE

CASE WESTERN RESERVE  
UNIVERSITY

Mendel E. Singer, PhD MPH  
Associate Professor and Vice Chair of Education  
Director, MS Biostatistics  
MPH Director of Research  
Department of Epidemiology and Biostatistics

10900 Euclid Avenue, WG-57  
Cleveland, Ohio 44106-4945

Phone 216.368.1951  
Fax 216.368.3036  
mendel@case.edu

December 28, 2016

### **Summary of Revisions to Proposal for New Undergraduate Minor in Public Health**

The proposal for a new undergraduate minor in public health listed a statistics co-requisite. Comments on the proposal made the very reasonable argument that if it is ultimately required, then it should be listed as a full requirement. Further, an explicit list of courses that fill the requirement should be included along with permission of the corresponding department chairs granting permission for students in this minor to take those courses.

For the reasons stated below, we have decided to drop the statistics requirement. We have made other updates to the proposal, also detailed below.

#### *1. Removal of Statistics Co-Requisite*

The original proposal included a 3-credit co-requisite for a statistics course. This has now been dropped for the following reasons:

- a. Most students take a statistics course as part of their major or towards meeting their quantitative reasoning requirement (this was why it had only been listed as a co-requisite and not a requirement)
- b. The relevant statistics will be taught anyway in the required courses (mostly in “MPHP 301 Introduction to Epidemiology”, some in “MPHP 101 Intro to Public Health”)
- c. It is not part of the requirements according to the national guidelines for a public health minor.

#### *2. Change in Leadership of Minor*

The person who currently runs our Master’s program in Public Health (MPH), Scott Frank MD MS, has chosen to step down as director of the MPH program and move to directing the minor. At the time of the original proposal, he had been considering this change (after 17 years of running the MPH) but had not decided.

#### *3. Change in Instructor for required course, MPHP 301 Introduction to Epidemiology*

This course is now slated to be taught by Catherine Stein, PhD – one of our experienced Epidemiology faculty members who has an excellent teaching track record. It had originally been listed as being taught by Laura Santurri because she was going to head the minor and we felt it important for the leader to be someone who taught a required course. With the change in leadership, we are now free to have the course be taught by someone whose main focus is Epidemiology, rather than public health in general.

4. *Update on Status of the Two Proposed New Courses*

This proposal included the creation of two new courses, and listed them both with a date for submission of their course action forms. One of them (MPHP 101) has now been approved and will be taught for the first time this Spring. The other is close to approval, with minor edits requested to the syllabus. This course is due to be taught in Fall 2017. The proposal now reflects these updates.

5. *Updated Financial Projections*

Financial projections were revised. The % efforts now better reflect expectations over the 12-month contracts used in the School of Medicine. Thus, the 15% administrative time budgeted for the director of the minor equates to 20% time over 9 months, but is in fact 15% of the annual salary (note: numbers include fringe). The budget for public health initiatives (and awareness of the field and the minor), was adjusted downward, but remains generous (\$2,500 per year).

The revised proposal follows. Also attached is a Word version of the proposal with track edits showing all changes.

Sincerely,

A handwritten signature in cursive script that reads "Mendel E. Singer".

Mendel Singer, PhD MPH  
Associate Professor and Vice Chair for Education

Mendel Singer, PhD MPH

# Undergraduate Minor in Public Health

# Rationale

- Public health is a popular major and minor at other Universities
- Institute of Medicine has called for more undergraduate education in public health
- CWRU briefly had a major, but there were insufficient resources
- No comparable minor on campus
- UPDATE: All courses for the minor now exist
  - 2 new courses: one started this semester and the other in SIS for fall
- Collaborative with 6 other departments and 1 center
- Complements pre-health and majors in collaborating depts.

# Details

- 15 credits
- Consistent with national guidelines for a public health minor
- Required Courses:
  - MPHP 101 Intro to Public Health
  - MPHP 301 Intro to Epidemiology
  - Global Health: INTH 401 or ANTH 359
- 2-course area of concentration:
  - Medical Anthropology
  - Medical Sociology
  - Mental Health
  - Nutrition and Health Promotion
  - Global Health
- Exploring new options with History and Law

# Faculty Senate Finance Committee report to Faculty Senate

April 27, 2017

Submitted by  
G. Starkman, Chair FSFC

# Faculty Senate Finance Committee

Glenn Starkman, chair and at-large member

Charles Korsmo, at-large member

Mary Quinn Griffin, at-large member

Cassandra Robertson, School of Law

Chris Winkelman, Frances Payne Bolton School of Nursing

Harihara Baskaran, Case School of Engineering

Kristin Victoroff, School of Dental Medicine

Ethan Mendel Singer, School of Medicine

Scott Fine, Weatherhead School of Management

Christine Cano, College of Arts and Sciences

Mark Singer, Jack, Joseph and Morton Mandel School of Applied Social Sciences

ex officio

Gerald Mahoney, Chair, Faculty Senate Faculty Compensation Committee

Mark H. Taylor, Chair, University Budget Committee

President's Designee:

John Sideras, Senior Vice President of Finance & CFO

# Administrative support

- Bob Brown, Treasurer
- Jon Carlson, VP for Financial Planning
- Peggy Reda, Executive Aide to CFO
- Krystina Schmidt, CPA, office of the CFO
- John Sideras, CFO
- Enrico Varricchio, Director of Finance
- Victoria Wright, AVP for University Planning and Administration

# FSFC Activities

Regular schedule of meetings with (vice/assoc)deans:  
MSASS (Gilmore), CAS (Taylor), SOM (Lester), Law  
(Berg&Scharf), Nursing (Kerr), WSOM (Collopy&Lester),  
(CSE, SODM reschedule next year)

- Review finances
- discuss co-governance around finances
- Look ahead to future
- Discuss progress on Financial Recovery Plans

# FSFC Activities

- Quarterly review of financial projections for the year
- Regular annual review of FY16 closing

# FSFC Activities

- Sept: Meet with President Snyder re: affiliation agreement with University Hospitals and financial implications for CWRU, esp. SOM
  - SOM:
    - Negative: Loss of previous revenue lines
    - Negative: assuming expenses previously paid by UH
    - Positive: certain previous expenses no longer incurred
    - Positive: new opportunities for clinical activities and partnerships
  - full short term impact unclear – ~10M\$/yr?
  - University will “make SOM whole” this year (after use of retained surplus?)

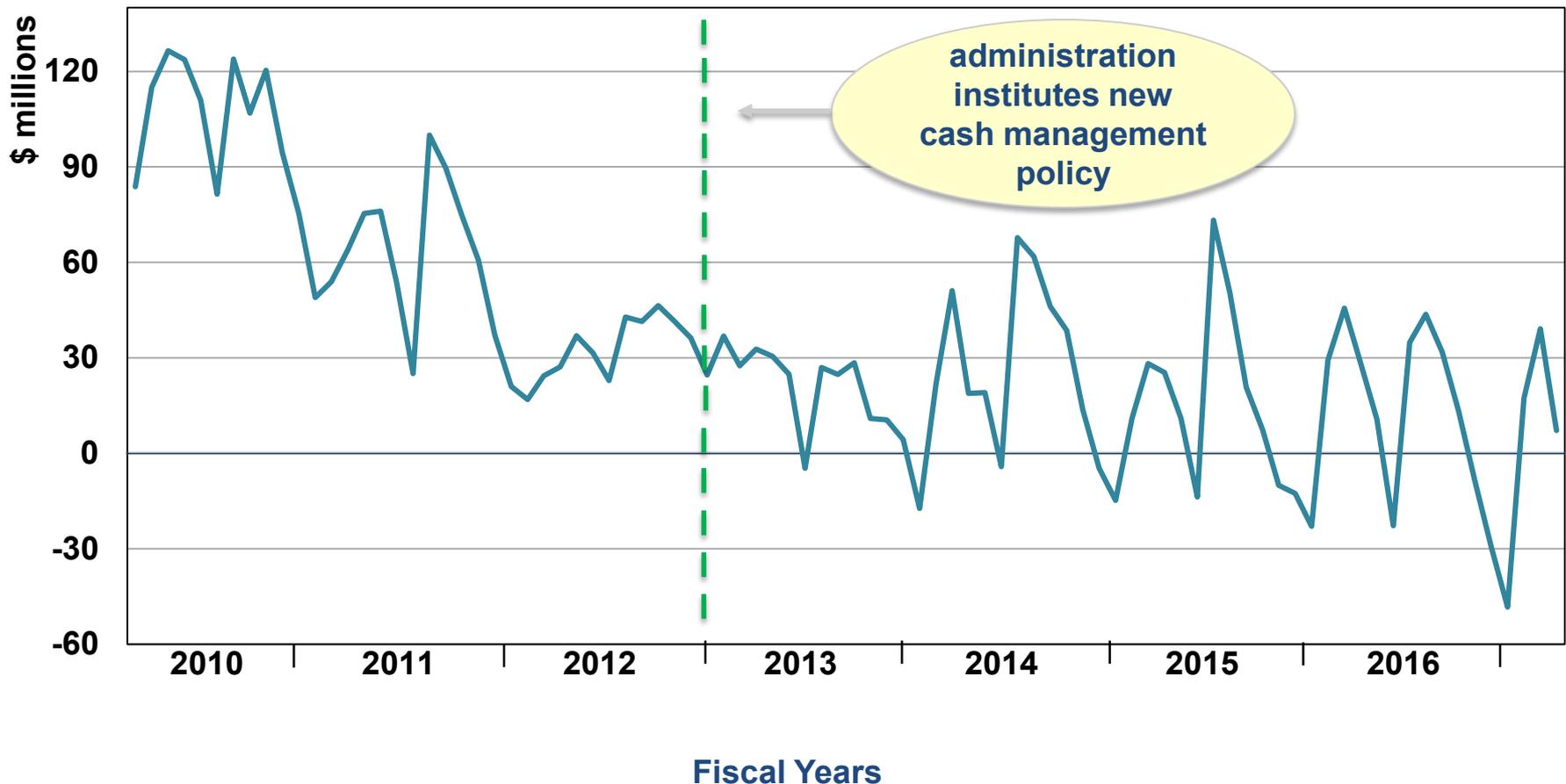
# FSFC Activities

- Many other specific reports, discussions, ...
  - Capital Budget
  - Strategic Expenditures
  - FSCUL
  - Chief Investment Officer
  - More to come in April & May

# Increased Line of Credit & Unrestricted Cash

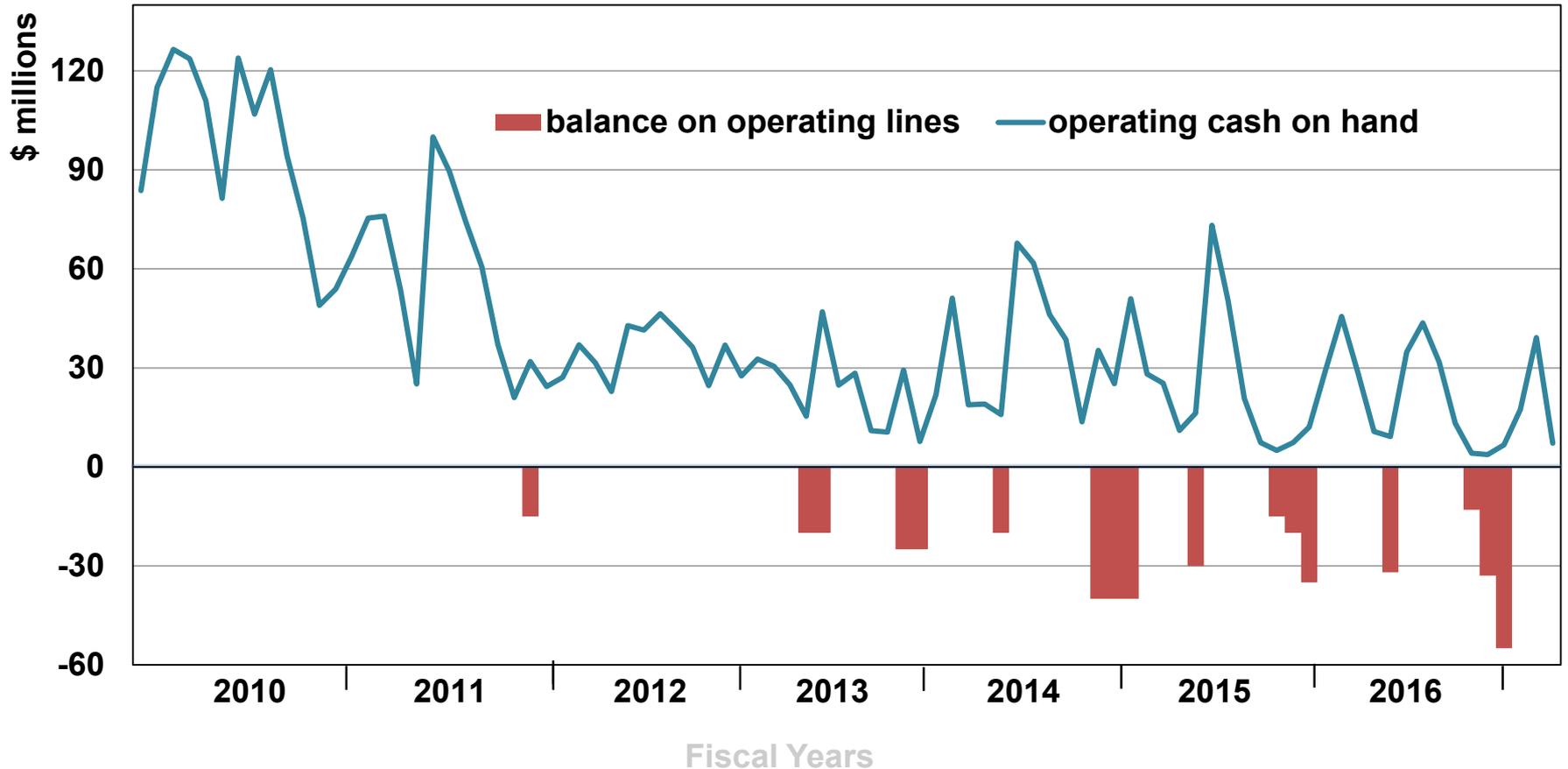
- December: Board of Trustees increased the University's Line of Credit from \$70M to \$100M
- Necessitated by increasing draws on the LOC

# The University's Operating Fund Is Cyclical, Peaking Twice Each Year when Tuition Payments Arrive.



Source: B. Brown, Treasurer

# To Maintain Sufficient Liquidity to Support Operations, the University Uses Two Bank Lines of Credit

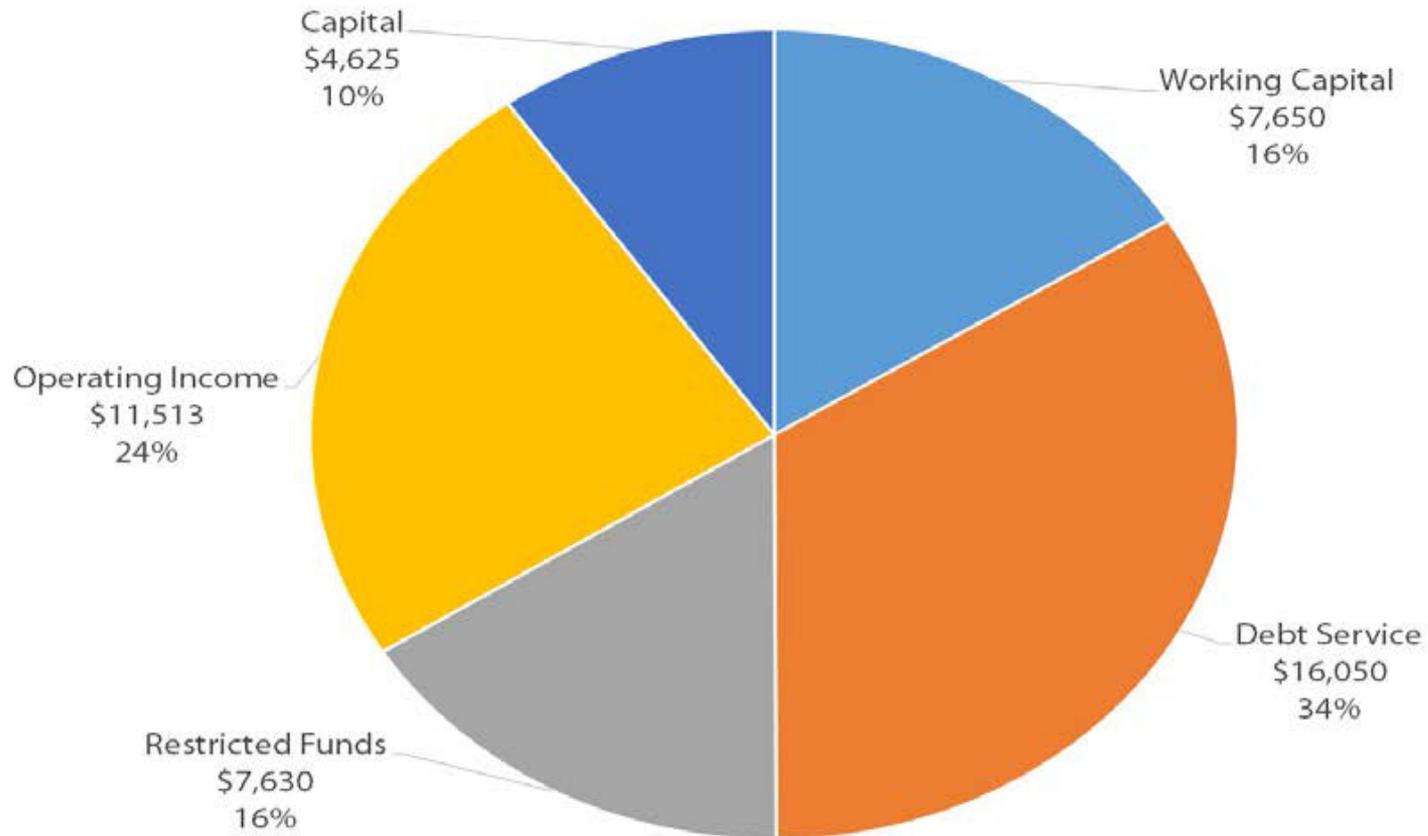


# Unrestricted Cash

- Increasing draws on the LOC on an annual basis
- Question: Has the university's unrestricted cash fund steadily declined, and if so why?
- Possible answers:
  - Pre-2013, operating funds and restricted (eg. construction) funds co-mingled; post 2013 some residual spending of previously co-mingled funds
  - Increased operating budget will result in increased amplitude of annual oscillations
    - But, only tuition (esp. undergraduate) has this coherent oscillation. Can explain ~ 30% of amplitude and none of any drift
- From 2014-2016 there was a \$50M net decrease in unrestricted cash per the Audited Financial Statements
  - vs. annual surpluses on operating budgets/actuals

# Uses of Unrestricted Cash

**Major Uses of Unrestricted Cash 2014 - 2016**  
(in thousands of dollars)



# Decline in Unrestricted Cash

From 2014-2016 there was a \$50M net decrease in unrestricted cash per the Audited Financial Statements:

- Non-recurring:
  - Debt Service –(\$16 million)
  - Operating Income –(\$12 million)
  - Capital –(\$5 million):
    - Restricted Funding
- Recurring:
  - Working Capital –(\$7million)
- Matter of ongoing interest to the FSFC:
  - Operating & capital budget and AFS “bottom lines”
  - Source of funds for Capital Budgets

More details:  
Friday, May 5<sup>th</sup>, 1:00-2:30pm  
Senior Classroom of  
Tinkham Veale University Center

# Distribution of appointments:

- 13 committees of the Faculty Senate comprised of ~130 seats (not counting *ex officio*, etc)
- 37 appointments in 2017 (projection of 4 appointments in 2018)

SON = 8

WSOM = 2

SOM = 8

SODM = 2

CAS = 5

MSASS = 2

LAW = 5

PHED = 1

CSE = 4

## 2017-2018 Faculty Senate Executive Committee

2017-2018	Elected Senator 2016-2019	Blazey	Leon	WSOM	Professor
2017-2018	Elected Senator 2015-2018	Strassfeld (Fall 2017)	Robert	LAW	Professor
2017-2018	Elected Senator 2016-2019	Perzanowski (Spring 2018)	Aaron	LAW	Professor
2017-2018	Elected Senator	TBD		CSE	
2016-2018	Elected Senator 2016-2018	Tulunoglu	Ibrahim	SODM	Associate Professor
2017-2018	Elected Senator 2016-2019	Miller	David	MSASS	Associate Professor
2017-2018	Elected Senator 2016-2019	Duffy	Evelyn	SON	Associate Professor
2017-2018	Elected Senator 2015-2018	Emmons	Kimberly	CAS	Associate Professor
2017-2018	Elected Senator	TBD		SOM	
2017-2018	chair	Colares	Juscelino	LAW	Professor
2017-2018	chair-elect	Beall	Cynthia	CAS	Professor
2017-2018	past-chair	Harte	Peter	SOM	Professor
	ex-officio	Baeslack	Bud		Provost
	ex-officio	Snyder	Barbara		President
	ex-officio	Weiss	Rebecca		Secretary of the University Faculty

## 2017-2018 Faculty Senate Executive Committee

2017-2018	Elected Senator 2016-2019	Blazey	Leon	WSOM	Professor
2017-2018	Elected Senator 2015-2018	Strassfeld (Fall 2017)	Robert	LAW	Professor
2017-2018	Elected Senator 2016-2019	Perzanowski (Spring 2018)	Aaron	LAW	Professor
2017-2018	Elected Senator	TBD		CSE	
2016-2018	Elected Senator 2016-2018	Tulunoglu	Ibrahim	SODM	Associate Professor
2017-2018	Elected Senator 2016-2019	Miller	David	MSASS	Associate Professor
2017-2018	Elected Senator 2016-2019	Duffy	Evelyn	SON	Associate Professor
2017-2018	Elected Senator 2015-2018	Emmons	Kimberly	CAS	Associate Professor
2017-2018	Elected Senator	TBD		SOM	
2017-2018	chair	Colares	Juscelino	LAW	Professor
2017-2018	chair-elect	Beall	Cynthia	CAS	Professor
2017-2018	past-chair	Harte	Peter	SOM	Professor
	ex-officio	Baeslack	Bud		Provost
	ex-officio	Snyder	Barbara		President
	ex-officio	Weiss	Rebecca		Secretary of the University Faculty

## New Faculty Senators

Akolkar	Rohan	CSE	Elected Senator	Associate Professor	2017-2020
Feldman	Steve	WSOM	Elected Senator	Professor	2017-2020
Hinze	Susan	CAS	Elected Senator	Associate Professor	2017-2020
Keri	Ruth A.	SOM	Elected Senator	Professor	2017-2020
Khalil	Ahmad M.	SOM	Elected Senator	Assistant Professor	2017-2020
Matthews	Anne	SOM	Elected Senator	Professor	2017-2020
Painter	Susan	SON	Elected Senator	Instructor	2017-2020
Pollis	Andrew	LAW	Elected Senator	Professor	2017-2020
Prince	Dana	MSASS	Elected Senator	Assistant Professor	2017-2020
Roperto	Renato	SODM	Elected Senator	Associate Professor	2017-2020
Saylor	Beverly	CAS	Elected Senator	Associate Professor	2017-2020
Schilling	William P.	SOM	Elected Senator	Professor	2017-2020
Shulman	Peter	CAS	Elected Senator	Associate Professor	2017-2020
Syed	Ali	SODM	Elected Senator	Assistant Professor	2017-2020
Tyler	Dustin	CSE	Elected Senator	Professor	2017-2020
Winkleman	Chris	SON	Elected Senator	Associate Professor	2017-2020

## 2017-2018 Faculty Senate Standing Committee Chairs

Faculty Senate Committee on By-Laws	Ledford	Kenneth	chair, 2016-2018	CAS
Faculty Senate Committee on Faculty Compensation	Mahoney	Gerald	chair, 2015-2018	MSASS
Faculty Senate Committee on Faculty Personnel	Bendik-Keymer	Jeremy	chair, 2016-2018	CAS
Faculty Senate Finance Committee	Starkman	Glenn	chair, 2016-2018	CAS
Faculty Senate Committee on Graduate Studies	MacDonald	Paul	chair, 2015-2018	SOM
Faculty Senate Committee on Information and Communication Technology	Hauck	Steven	chair, 2016-2018	CAS
Faculty Senate Committee on Minority Affairs	Hickman	Ronald	chair, 2016-2018	SON
Faculty Senate Nominating Committee	McEney	Maureen	chair, 2016-2018	SOM
Faculty Senate Committee on Research	Baskaran	Harihara	chair, 2017-2018	CSE
Faculty Senate Committee on Undergraduate Education	Chottiner	Gary	chair, 2017-2018	CAS
Faculty Senate Committee on Undergraduate Education	Eppell	Steven	vice chair, 2017-2018	CSE
Faculty Senate Committee on University Libraries	Iversen	Paul	chair, 2016-2018	CAS
Faculty Senate Committee on Women Faculty	Palomo	Leena	chair, Spring 2016-2018	SODM



# Faculty Senate Committee Nominations 2017-2018

April 27, 2017  
Faculty Senate Nominating  
Committee

# Thanks to the members of the 2016-2017 Nominating Committee:

Corbin Covault, CAS

Kathleen Farkas, MSASS

Gregory Jonas, WSOM

Patrick Kennedy, PHED

John Lewandowski, CSE

Maureen McEnery, SOM (chair)

Kathryn Mercer, LAW

Carol Musil, SON

Leena Palomo, SODM

Juscelino Colares, *ex officio*

# Recruiting New Membership for Faculty Senate Standing Committees

- Faculty Interest Survey is emailed to all faculty at the end of the fall semester. Approximately 275 faculty members expressed an interest in the fall of 2016 in serving on Senate committees.
- Each member of the Nominating Committee takes responsibility for recruiting members for a standing committee. Each member also recommends faculty from his or her constituent faculty for membership on any of the standing committees.
- The Nominating Committee contacts faculty who volunteered for a committee and receives input from current chairs.
- The Faculty Senate approves new members to the standing committees; the Executive Committee approves the appointment of all standing committee chairs.
- **New members and members who agreed to an additional term are highlighted in yellow and require approval by the Senate.**

# Faculty Senate Committee on By-Laws

2016-2019	Chair, 2016-2018	Ledford	Kenneth	CAS	Associate Professor	History
2015-2018; 2012-2015		McEnery	Maureen	SOM	Associate Professor	Neurology UH
2015-2018; 2012-2015; 2009-2012		Palomo	J. Martin	SODM	Professor	Orthodontics
2016-2019; 2013-2016		DiFeo	Analisa	SOM	Assistant Professor	Comprehensive Cancer Center
2016-2019; 2013-2016		Haywood	Valerie	CAS	Senior Instructor	Biology
2017-2020; 2014-2017 (Started fall 2016)		Madigan	Elizabeth	SON	Professor	Nursing
	unofficial guest	Fulton	Arlishea	Representative from Office of General Counsel		
	unofficial guest	Langell	Lois	Office of the Provost		
	unofficial guest	Weiss	Rebecca	Secretary of the University Faculty		

# Faculty Senate Committee on Faculty Compensation

2017-2020		Aminoshariae	Anita	SODM	Associate Professor	Endodontics
2015-2018 *Sabbatical spring 2018; 2012-2015	Chair- 2015-18	Mahoney	Gerald	MSASS	Professor	MSASS
2015-2018		Overholser	James	CAS	Professor	Psychological Sciences
2017-2020; 2014-2017 (sabbatical spring 2017)		Sauve	Genevieve	CAS	Associate Professor	Chemistry
2015-2018		Swain	James	SOM	Associate Professor	Nutrition
2016-2019		Townsend	Aloen	MSASS	Professor	MSASS
2015-2018		Whitehouse	Peter	SOM	Professor	Neurology UH
2016-2019 (Started fall 2016)		Winkelman	Chris	SON	Associate Professor	Nursing
2016-2019		Yu	Xin	CSE	Professor	Biomedical Engineering - CASE
	CFO or designee	Gregory	Carolyn			
	provost or designee	Singer	Lynn			

## Faculty Senate Committee on Faculty Personnel

2015-2018	chair, 2016-2018	Bendik-Keymer	Jeremy David	CAS	Associate Professor	Philosophy
2015-2018		Cano	Christine	CAS	Associate Professor	Modern Languages and Literature
2017-2020; 2014-2017 (Started fall 2016)		Eppell	Steven	CSE	Associate Professor	Biomedical Engineering
2015-2018 (Started fall 2016)		Lou	Hua	SOM	Associate Professor	Genetics
2017-2020; 2014-2017 (Started spring 2017)		Marshall	Patricia	SOM	Professor	Bioethics
2016-2019		Musil	Carol	SON	Professor	Nursing
2016-2019; 2013-2016		Papachristou	Christos	CSE	Professor	Electrical Engineering and Computer Science
2017-2020; 2014-2017		Pinto	Andres	SODM	Associate Professor	Oral Medicine
2017-2020; 2014-2017 (Started spring 2017)		Pollis	Andrew	LAW	Professor	School of Law
	<i>ex officio</i> , Faculty Diversity Officer	Davis Reddix	Donna		Faculty Diversity Officer	Office for Inclusion, Diversity, & EO
	Replacing Lynn when she is not available	Langell	Lois		Special Assistant to the Provost	Office of the Provost
	<i>ex officio</i> , member of Faculty Compensation	Overholser	James	CAS	Professor	Psychological Sciences
	<i>ex officio</i> , president's designee	Singer	Lynn		Deputy Provost & VP for AA	Office of the Provost

# Faculty Senate Finance Committee

2017-2020; 2014-2017 (Started spring 2017)	at-large member	Korsmo	Charles	LAW	Associate Professor	School of Law
2016-2019	at-large member (on Senate 2014-17)	Griffin	Mary Quinn	SON	Professor	Nursing
2015-2018 (started fall 2016)	at-large member (on Senate 2016-19), chair, 2016-2018	Starkman	Glenn	CAS	Professor	Physics
2016-	school representative (CAS)	Cano	Christine	CAS	Associate Professor	MLL
2015-	school representative (CSE)	Baskaran	Harihara	CSE	Professor	Chemical & Biomolecular Eng
2015-	school representative (LAW)	Robertson	Cassandra	LAW	Professor	Law
2015-	school representative (MSASS)	Singer	Mark	MSASS	Professor	MSASS
2016-	school representative (SODM)	Victoroff	Kristin	SODM	Associate Professor	Community Dentistry
2016-	school representative (SOM)	Singer	Ethan Mendel	SOM	Associate Professor	Epid and Biostats
2017-	school representative (SON)	Madigan	Elizabeth	SON	Professor	Nursing
2016-	school representative (WSOM)	Fine	Scott	WSOM	Professor	Banking and Finance
	<i>ex officio</i> , chair of Faculty Compensation	Mahoney	Gerald	MSASS	Professor	MSASS
	<i>ex officio</i> , chair of University Budget Committee	Taylor	Mark	WSOM	Professor	Accountancy/Busin ess Law
	regular guest and participant	Sideras	John	UGEN	Senior Vice President of Finance and CFO	Finance and Administration

# Faculty Senate Committee on Graduate Studies

2017-2020, 2014-2017; 2011-2014 (Started fall 2012)		Barkoukis	Hope	SOM	Associate Professor	Nutrition
2016-2019; 2013-2016		Gary	Faye	SON	Professor	Nursing
2015-2018		Gurkan	Umut	CSE	Assistant Professor	Mechanical and Aerospace Engineering
2017-2020		Joachim	Voss	SON	Professor	Nursing
2015-2018; 2012-2015		Li	Jing	CSE	Associate Professor	EECS
2017-2020, 2014-2017	Chair 2015-2018	MacDonald	Paul	SOM	Associate Professor	Pharmacology
2016-2019; 2013-2016 (Started fall 2014)		McGrath	Janet	CAS	Professor	Anthropology
2015-2018		Palomo	Leena	SODM	Associate Professor	Periodontics
2016-2019		Peck	Simon	WSOM	Associate Professor	Design and Innovation
	<i>ex officio</i>	Rozek	Charles		Vice Provost and Dean, Graduate Studies	Graduate Studies
	<i>ex officio</i>	Hamel	Lynmarie		Senior Associate Dean, Graduate Studies	Graduate Studies
	<i>ex officio</i> , Associate VP Research	Endy	Stephanie		Associate VP	Research

# Faculty Grievance Panel

Hussein	Assaf	SODM	Comprehensive Care
Christine	Cano	CAS	Modern Languages and Literatures
Cathy	Carlin	SOM	Physiology and Biophysics
Hillel	Chiel	CAS	Biology
Christos	Papachristou	CSE	Electrical Eng. & Computer Science
David	Miller	MSASS	MSASS
Sara	Debanne	SOM	Epidemiology & Biostatistics
Robin	Dubin	WSOM	Economics
Fady	Faddoul	SODM	Dentistry: General
Patricia	Higgins	SON	Nursing
Lynn	Kam	SOM	Nutrition
Ken	Ledford	CAS	History
Patricia	McDonald	SON	Nursing
William	Merrick	SOM	Biochemistry
Sharon	Milligan	MSASS	MSASS
Jim	Overholser	CAS	Psychological Sciences
Leena	Palomo	SODM	Periodontics
Simon	Peck	WSOM	Design & Innovation
Cassandra	Robertson	LAW	Clinical Programs
Deepak	Sarma	CAS	Religious Studies
Susan	Case	WSOM	Organizational Behavior
Amy	Zhang	SON	Nursing
Kathleen	Farkas	MSASS	MSASS
Janine	Galeski	SON	Nursing
Susan	Ludington	SON	Nursing

# Faculty Senate Committee on Information and Communication Technology

2015-2018		Dazard	Jean-Eudes	SOM	Assistant Professor	Nutrition
2017-2020; 2014-2017; 2011-2014 (Started fall 2013)		Fox	Carol	LAW	Senior Instructor	Law
2016-2019; 2013-2016	chair, 2014-2016	Herin	Angelina	CAS	Assistant Professor	Theater
2016-2019	chair, 2016-2018	Hauck	Steven	CAS	Professor	Earth, Environment, Planetary
2017-2020		Khalil	Ahmad	SOM	Assistant Professor	Genetics
2017-2020		Taylor	Derek	SOM	Assistant Professor	Pharmacology
2015-2018; 2012-2015		Teich	Sorin	SODM	Associate Professor	Comprehensive Care
2015-2018		Wojtkowski	Todd	PHED	Assistant Professor	PHED
2016-2019		Wood	Zoe Breen	MSASS	Associate Professor	MSASS
	<i>ex officio</i> , FSCUL, chair or designee	Iversen	Paul	CAS		
	<i>ex officio</i> , provost or designee	Baeslack	Bud		Provost	Office of the Provost
	<i>ex officio</i> , University Librarian	Hirshon	Arnold		University Librarian	University Libraries Information
	<i>ex officio</i> , VP ITS	Workman	Sue		Vice President IT, CIO	Technology Services

# Faculty Senate Committee on Minority Affairs

2015-2018; 2012-2015	chair, 2013- fall 2015	Fountain	T. Kenny	CAS	Assistant Professor	English
2017-2020, 2014-2017	chair, 2016-2018	Hickman	Ron	SON	Assistant Professor	Nursing
2016-2019; 2013-2016	chair, spring 2016	Palomo	Leena	SODM	Associate Professor	Periodontics
2015-2018 (Started fall 2016)		Prica	Marija	CSE	Assistant Professor	EECS
2015-2018		Quinones-Mateu	Miguel	SOM	Assistant Professor	Pathology
2017-2020, 2014- 2017		Yearby	Ruqaiijah	LAW	Professor	Law
	<i>ex officio</i> , provost designee, diversity	Davis Reddix	Donna		Faculty Diversity Officer	Inclusion, Diversity & EO
	<i>ex officio</i> , provost designee, diversity	Mobley	Marilyn		VP	Inclusion, Diversity & EO

# Faculty Senate Nominating Committee

2016-2018		Covault	Corbin	CAS	Professor	Physics
2016-2018; 2014-2016		Jonas	Gregory	WSOM	Associate Professor	Accountancy
2016-2018		Kennedy	Patrick	PHED	Associate Professor	Phys. Ed & Athletics
2016-2018		Lewandowski	John	CSE	Professor	Material Science
2017-2019; 2015-2017	chair, 2016-2018	McEnery	Maureen	SOM	Associate Professor	Neurology UH
2017-2019; 2015-2017		Mercer	Kathryn	LAW	Professor	Law
2017-2019		Miller	David	MSASS	Associate Professor	MSASS
2017-2019; 2015-2017		Musil	Carol	SON	Professor	Nursing
2016-2018		Palomo	Leena	SODM	Associate Professor	Periodontics
	<i>ex officio</i> , FS chair-elect	Beall	Cynthia	CAS	Professor	Anthropology
	regular guest	Weiss	Rebecca		Secretary of the University Faculty	Office of the Provost

# Faculty Senate Committee on Research

2015-2018; 2012-2015		Averbook	Bruce	SOM	Associate Professor	Surgery MHMC
2017-2020, 2014-2017	chair, 2017-2018	Baskaran	Harihara	CSE	Associate Professor	Chemical Engineering
2017-2020		Bucaro	Anthony	WSOM	Professor	Accountancy
2012-2015; 2015-2018		Jankowsky	Eckhard	SOM	Associate Professor	RNA Molecular Biology
2017-2020		Jill	Davis	CAS	Assistant Professor	Theatre
2016-2019		Kenneley	Irena	SON	Associate Professor	Nursing
2016-2019		Pandiyar	Pushpa	SODM	Assistant Professor	Biological Sciences
2016- 2019		Papachristou	Christos	CSE	Professor	Electrical Engineering and Computer Science
2017-2020 (on sabbatical fall 2017), 2014-2017		Short	Betsy	CAS	Professor	Psychological Sciences
	<i>ex officio</i> , Associate VP Research	Endy	Stephanie		Associate VP	Research
	<i>ex officio</i> , Dean Graduate Studies	Rozek	Chuck		Dean	Graduate Studies

# Faculty Senate Committee on Undergraduate Education

2015-2018	at-large member, chair	Chottiner	Gary	CAS	Professor	Physics
2015-2018	at-large member, past chair	Dubin	Robin	WSOM	Professor	Economics
2017-2020	at-large member, vice-chair	Eppell	Steven	CSE	Associate Professor	Biomedical Engineering
2017-	school representative (BIOC/NUTR)	Cavallo	David	SOM	Assistant Professor	Nutrition
2016-	school representative (CAS)	Shulman	Peter	CAS	Associate Professor	History
2016-	school representative (CSE)	Yu	Xiong (Bill)	CSE	Professor	Civil Engineering
2012-	school representative (PHED)	Schmuhl	Eric	PHED	Instructor	Physical Education and Athletics
2014-	school representative (SON)	Hopkins	Julie	SON	Instructor	Nursing
2017-	school representative (WSOM)	TBD		WSOM		
	<i>ex officio</i> , provost	Baeslack	Bud		Provost	Office of the Provost
	provost designee, ug administrator, non-voting	Bischoff	Richard		Vice President	Enrollment Management
	provost designee, ug administrator, non-voting	Feke	Don		Vice Provost	Undergraduate Education
	provost designee, ug administrator, non-voting	Stark	Lou		Vice President	Student Life
	provost designee, ug administrator, non-voting	Wolcowitz	Jeff		Dean	Undergraduate Studies

## Faculty Senate Committee on University Libraries

2015-2018		Gerhart	Peter	LAW	Professor	Law
2016-2019; 2013-2016		Prina	Silvia	WSOM	Associate Professor	Economics
2016-2019	chair, 2016-2018	Iversen	Paul	CAS	Associate Professor	Classics
2015-2018		Gibbons	Joseph	SOM	Assistant Professor	Hematology/Oncology
2017-2020; 2014-2017		Gratzl	Miklos	CSE	Associate Professor	Biomedical Engineering
2015-2018; 2012-2015		Gridley	Sarah	CAS	Assistant Professor	English
2017-2020		Hagiwara	Takao	CAS	Associate Professor	Japanese
2017-2020; 2014-2017 (Started spring 2017)		Kenneley	Irena	SON	Associate Professor	Nursing
2015-2018		Montagnese	Thomas	SODM	Assistant Professor	Dental Medicine
2016-2019; 2013-2016 (Started fall 2014)		Strom	Gerald	MSASS	Senior Instructor	MSASS
	<i>ex officio</i> , FSCICT, chair or designee	Hauck	Steven	CAS	Professor	Earth, Environment, Planetary
	<i>ex officio</i> , Interim Director, Health Sciences Library	Blazar	Kathleen	SOM	Interim Director	Health Sciences Library
	<i>ex officio</i> , Law Library	Custer	Joseph	LAW	Library Director	Law Library
	<i>ex officio</i> , MSASS Library	Skutnik	Samantha	MSASS	Director	MSASS Library
	<i>ex officio</i> , University Librarian	Hirshon	Arnold		University Librarian	University Libraries Information and Technology Services
	<i>ex officio</i> , VP ITS	Workman	Sue		VP and CIO	

# Faculty Senate Committee on Women Faculty

2015-2018		Backus	Amy	PHED	Athletic Director and Professor	PHED
2017-2020		Dellas	Alexandra	PHED	Assistant Coach	Basketball
2014-2017		Dimitropoulos	Anastasia	CAS	Associate Professor	Psychological Sciences
2017-2020		Hardesty	Christina	SOM	Assistant Professor	Orthopaedics/Pediatrics
2016-2019		Holmes	Megan	MSASS	Assistant Professor	MSASS
2016-2019		Mercer	Katie	LAW	Professor	Law
2015-2018; 2012-2015	chair, 2015-2018	Palomo	Leena	SODM	Associate Professor	Periodontics
2016-2019		Prica	Marija (Maya)	CSE	Assistant Professor	Electrical Eng. & Com Sci
2016-2019		Prince-Paul	Maryjo	SON	Assistant Professor	Nursing
2017-2020; 2014-2017; 2011-2014 (Started spring 2013)		Przeworski	Amy	CAS	Assistant Professor	Psychological Sciences
	<i>ex officio</i> , Minority Affairs Committee Chair	Hickman	Ronald	SON	Associate Professor	Nursing
	<i>ex officio</i> , PACoW chair or designee	TBD				
	<i>ex officio</i> , provost or designee	Singer	Lynn		Deputy Provost & VP for AA	Office of the Provost
	<i>ex officio</i> , Women Faculty SOM, chair or designee	Stiefel	Usha		Associate Professor	Medicine
	<i>ex officio</i> , Women's Center, chair or designee	Nielson	Lisa		Director (Interim)	Women's Center