University Interdisciplinary Courses Committee

Proposal to Add or Revise a New or Special Topics INTD, UNIV, MISI or AIRF Undergraduate Course

NOTE: All fields are required unless otherwise specified.

1. Proposed Course Designation and Name (and Subtitle, if applicable)
For designation, indicate UNIV, INTD, MISI or AIRF and then add course name/subtitle. (e.g. "INTD Special Topics: Culture and Communication in Storrs")

Preparation for STEM Academic Research

2. Date of submission to UICC:

Tuesday, August 19, 2014; Resubmit: Friday, September 26, 2014;
Revise title & description: November 16, 2015 (final submit: December 18, 2015)

3. **Course Number** (see Note B): [The University Interdisciplinary Courses Committee will assign an appropriate number for courses without standard numbering]

- What is the appropriate level for this course?

1000-level ☐ **2000-level** X 3000-level ☐ 4000-level ☐

- Is there a special number suffix that would apply? (See Note B)
  Note: The UICC and Registrar's Office will assign a number for new courses that do not have standard numbers. If the course is a Special Topics, for example, use 1985 or 3895 for S/U graded and 1995 or 3995 for letter graded courses.

2100

4. Justification for course level: Please explain why the level chosen above is appropriate for the course.

Sophomores and juniors will enroll in this course

5. **Department(s), academic unit(s), and/or university unit(s) requesting this course** (see Note W):

Institute for Student Success

6. **Principal Contact Person** (Name, Phone Number, and e-mail address):

Renée M. Gilberti, Ph.D.
X 5146, renee.gilberti@uconn.edu

7. **Proposed Final catalog Listing** (see Note A to Note K, Note O, Note S):

Assemble this after you have completed the components below. This listing should not contain any information that is not listed below! See Note A for examples of how undergraduate courses are listed. **NOTE: Special Topics, skip to question 9**.

(Include abbreviation INTD or UNIV; course number (1XXX, 2XXX, etc.); skill code (if applicable); course title; semester offered; number of credits; prerequisites or recommended preparation (if applicable); consent of instructor (if applicable); exclusions (if applicable); repetition for credit (if applicable); open to sophomores or higher (if applicable); open to juniors or higher (if applicable); instructor(s) name(s) (if desired, in catalog copy); notice of S/U grading if appropriate; and complete course description ending with "Interdepartmental course (proposed sponsoring school(s) and/or college(s))" or "University course". General education content area(s) proposed (if applicable).)

Current title: UNIV 2100. The McNair Scholar. Spring.
Revised title: UNIV 2100. Preparation for STEM Academic Research. Spring.
One credit.
Preparation for STEM (science, technology, engineering, and mathematics) undergraduate research projects and academic research assignments to prepare for graduate school.

Further Information Related to Items included in Catalog listing:

8. **For New Courses,** indicate the semester, intersession, or summer session and year in which course will first be offered (example: Fall 2016 or Summer 2017). **Special Topic Courses**, please skip to question 9. (see Note R):

N/A

9. **For New Courses**, indicate the semester, intersession, or summer session in which the course will be offered on a regular basis (see Note C; check all that apply):

Fall ☐ **Spring** **X** Both ☐ Either ☐

Winter Intersession ☐ Summer Intersession ☐ Summer Session ☐

10. For **Special Topics Courses,** indicate which semester(s) the course has already been offered (example: Fall 2012, Summer 2013 or N/A). Please note that Special Topics courses may only be offered three times before they must be submitted as permanent new courses. **New courses, skip to question 11.**

UNIV 3995 Spring 2013, Spring 2014 – The McNair Scholar

11. For **Special Topics Courses,** indicate the semester, intersession, or summer session and year in which course will next be offered (example: Fall 2016 or Summer 2017). **New courses, skip to question 11.**

N/A

12. **Number of academic credits and rationale** (see Note D):

One credit. The course meets once per week throughout the semester. The students are assigned academic writing assignments, but no exams or quizzes.

13. **Instructional Pattern** (Describe the type of instruction (face-to-face, on-line, blended, etc.) and weekly pattern of class engagements and their nature (lecture, laboratories, discussion sections, discussion boards, blogs, on-line journals, etc.) (see Note E):

Face-to-face instruction, discussion, lectures, workshops, and online HuskyCT journal reflections

14. **Justification for creating this course** (see Note L):

Each McNair Scholar is required to take this course to prepare for their undergraduate and graduate school research endeavors. This course is an ideal primer for preparing academic research manuscripts and presentations. This course is truly beneficial for more students than those selected as McNair Scholars. Therefore, the course will be open to undergraduate STEM majors who aspire to pursue a STEM Ph.D. degree.

15. **Academic merit of course proposed** (see Note Li):

The structure of the course is designed to assist undergraduates in their professional development as they prepare for the academic rigors of graduate school. This course will provide them with a professional toolkit for success in and out of the classroom.

16. **Assessment Methods** (see Note Y):

Grading rubrics for writing assignments, participation in/ reflections about workshops, outside class assignments.

17. **Rationale for proposing as an INTD course** (see Note Lii):

N/A

18. **Rationale for proposing as an UNIV course** (see Note Liii):

To equip the McNair Scholars with the tools necessary to succeed in graduate school and to connect them with their fellow McNair Scholars. This course is truly beneficial for more students than those selected as McNair Scholars. Therefore, the course will be open to undergraduate STEM majors who aspire to pursue a STEM Ph.D. degree.

19. **Provide a brief history** of how this course was developed (see Note Lii and Liii):

When UConn was awarded funding by the US Dept of Education for the McNair Scholars Program, this course was established as UNIV 3995 (special topics in the fall of 2012) for spring 2013 for the first group of McNair Scholars. The course was taught under UNIV 3995 for spring 2014, and UNIV 2100 for spring 2015.

20. **Overlapping courses**: Briefly describe how the content of this course overlaps with others offered in the University. Justify the need for overlap. (see Note M)

There is a slight overlap with UNIV 1820 Exploring STEM Research 101, a First Year Experience course for students considering undergraduate research. The course we're proposing is more rigorous. This course is only for sophomores and juniors, whereas all freshmen and sophomore majors are the target population for UNIV 1820 courses.

21. **Proposed general education content area(s) and skill code(s)** (see Note T). Indicate all that apply: (**Not applicable to Special Topics courses**.)

Not a Gen Ed X W(riting) course ☐ Q(uantitative) course ☐ Both ☐

Content Area: 1 ☐ 2 ☐ 3 ☐ 3-Lab ☐ 4 ☐ 4-International ☐

22. **Grading basis** proposed (letter grading, satisfactory/unsatisfactory grading) and rationale (see Note U).

Letter grading – It is important to provide students with a realistic perspective of their level of academic writing skills with letter grades rather than simply deeming it satisfactory.

23. **Number of students** expected to enroll each time the course is offered:

15 students

24. **Number of class sections** associated with each offering of the course:

1 per spring semester

25. Estimated seats per class section:

50 seats – Oftentimes, we have presentations that the McNair Advisory Committee, the students' research mentors, and outside guests attend to provide evaluation of the presentations as well as support.

26. Classroom and technology requirements

Hi-tech: projector, screen, whiteboard or smart board.

27. **Effects on Other Departments**, academic programs, and University units. (see Note N) Other than overlap, how will this course affect other departments, academic programs and/or University units? Consider matters such as enrollments in courses in other departments, academic programs and University units, contributions to plans of studies (majors, minors, concentrations), requiring a prerequisite from another department, etc. Where there are identifiable effects, then indicate the names of departments, academic programs and/or University units, the contact person with whom you have communicated, and contact information. As an appendix to this proposal, summarize or reproduce departmental responses.

This one credit course will not affect any other departments.

28. **Campus availability:** List campuses at which course will be offered. If not generally available, please explain why. (No explanation needed for Special Topics courses which are, by nature, offered on a single campus.)

Storrs only.

29. **Provide the name(s) of faculty or instructors who will be teaching and/or supervising the course.** Describe team-teaching or supervision arrangements proposed (if applicable). (see Note P):

Instructor: Renée M. Gilberti, Ph.D. – Program Coordinator, McNair Scholars Program

30. **Statement of support from proposing department(s), academic program(s), and/or University unit(s)** (Include the nature of the contract between sponsoring parties, sources of funding for the course, how the course will be staffed and supervised (e.g. by a department head). Also describe the agreed process for the joint development of the course between parties.) (see Note V):

The Program Coordinator of the McNair Scholars Program will be the instructor of record for this course. No source of funding is required for the course.

31. Date(s) of Approval by Departmental Curricula and Courses Committee(s) (or equivalent for academic programs and University units) (see Note Q):

Home Dept/Unit 1: 12-17-2015 Dept Name: McNair Scholars Program Advisory Board

Dept/Unit 2 (if INTD): mm-dd-yyyy Dept Name:

Dept/Unit 3 (if INTD): mm-dd-yyyy Dept Name:

32. Date(s) of Approval by Department Head, Academic Unit Head, or University Unit Director.

Maria D. Martinez, Ph.D., Institute for Student Success, Assistant Vice Provost

Home Dept/Unit 1: 12-17-2015 Dept Name:

Dept/Unit 2 (if INTD): mm-dd-yyyy Dept Name:

Dept/Unit 3 (if INTD): mm-dd-yyyy Dept Name:

33. Syllabus: Copy and paste course syllabus below. Syllabi are encouraged to observe best-practice standards and include such items as learning objectives, grading schemes and assessment information (see Note X):

(please see pages 6 - 14)

UNIV 2100: Preparation for STEM Academic Research

Fridays @ 12:15 – 1:15 PM, Family Studies 202

Instructor information:

Renée M. Gilberti, Ph.D. (Dr. Renée)
Rowe Center for Undergraduate Education, 204
Phone: 860.486.5146
e-mail: renee.gilberti@uconn.edu
Office hours: by appointment (AdvApp – Center for Academic Programs (CAP))

Course description: By the conclusion of this course, sophomore and junior undergraduates studying STEM (science (biology, chemistry, psychology (in pursuit of a BS or BA)), technology, engineering, and mathematics) will learn about graduate school and STEM career options, will improve their fluency writing academic research-relevant assignments, and enhance their professional communication skills for real-world interactions with professors and fellowship/scholarship interview scenarios.

Course Objectives:

At the culmination of this course, students will be able to:
Please note: LO is the abbreviation for learning outcome

LO1: Students will connect with experts in a field of intellectual interest.
LO2: Students will actively engage in the academic life of the university, in and out of the classroom.
LO3: Students will prepare to conduct directed research.

- **Course Objective 1: Collaborate with faculty and graduate students about research in the STEM disciplines (LO1, LO2).**

- **Course Objective 2: Describe research and enrichment opportunities at the undergraduate level to increase acceptance into graduate school programs (LO2).**

- **Course Objective 3: Explain the steps involved in applying to graduate school (LO3).**

  - Sub-objective (a): Describe the importance of following a prescribed timeline for the application process **(LO3)**.

  - Sub-objective (b): Evaluate which professors would be able to write STRONG letters of recommendation **(LO3)**.

- **Course Objective 4: Critically debate scientific literature by thinking and writing more analytically about STEM research topics (LO3)**

  - Sub-objective: Write a science research review paper on a STEM topic relevant to major and/ or faculty seminar **(LO3)**.

- **Course Objective 5: Outline and discuss the research presentation structure to prepare students for presentations of their STEM-focused research projects to the McNair community (LO1, LO2, LO3).**

Reading materials: The following reading materials will be provided:

- Writing center guides:
  - Writing a literature review: http://www.writingcenter.uconn.edu/pdf/Writing_a_Psychology_Literature_Review.pdf
  - Citation style guides: http://psychology.vanguard.edu/faculty/douglas-degelman/apa-style/ and http://owl.english.purdue.edu//media/pdf/20110928111055_949.pdf

- Examples of primary literature vs. review article
  - Review article: Noatynska, A., Gotta, M., and P. Meraldi. Mitotic spindle (DISorientation and DISease: Cause or consequence?. *J. Cell Biol*; 2012. 199 (7): 1025 - 1035.
  - Primary literature article: Clijsters, L., Ogink, J., and R. Wolthuis. The spindle checkpoint, APC/C^{Cdc20}, and APC/C^{Cdh1} play distinct roles in connecting mitosis to S phase. *J. Cell Biol.*; 2013. 201 (7): 1013 – 1026.

- Tips - letters of recommendation: (2013) Graduate School – Letters of Recommendation. Retrieved from University of California at Berkeley Career Center webpage: https://career.berkeley.edu/grad/gradletter.stm

- Critical thinking exercise: Kluger, J (July 8, 2013). The Happiness of Pursuit. *TIME*. Retrieved from http://www.time.com/time/magazine/article/0,9171,2146449,00.html

- Graduate School guides:

  - Excerpts from *Graduate School and You: A Guide for Prospective Graduate Students.* Council of Graduate Schools, Washington, DC. 2010.
  - (January 29, 2013). A Guide for Potential Grad Students: Should You Go To Graduate School?. Retrieved from http://www.petersons.com/graduate-schools/guide-students-graduate-school.aspx

HuskyCT:
- Assignments
- Reading materials
- Announcements
- Journal entry submissions
- Grade Center

Grading policy: Please refer to the following rubric on pages 8-9.

Class Participation: Your comments and opinions will make this course more dynamic. Therefore, class participation is strongly encouraged each day we meet. In a majority of the class sessions, assignments will be contingent on your class participation and, therefore, attendance.

Academic integrity: Please review these websites: http://community.uconn.edu/academic-integrity-faculty-faq/ and http://community.uconn.edu/the-student-code/
Please be aware there will be consequences for your actions. When in doubt, ask!

Late assignment policy:

- 10% off the final score per day late (24 hours from due date)
- Submission of assignment must be accompanied by a valid reason for tardiness

Absenteeism: If you miss a class, please be sure to inform me as soon as possible regarding your absence. It is your responsibility to submit assignments on time.

Snow and class cancellation policy: http://alert.uconn.edu/ Please utilize this website as well as the UConn official alerts to learn about weather-related class cancellations.

Disability policy: http://policy.uconn.edu/2011/05/24/people-with-disabilities-policy-statement/

Academic Support Services:

- Homer Babbidge Library: http://www.lib.uconn.edu/
- Writing Center (Homer Babbidge Library): http://learningcommons.uconn.edu/services/writingcenter.htm
- Quantitative Learning (Q) Center (Homer Babbidge Library): http://qcenter.uconn.edu/
- Academic Achievement Center: http://aac.uconn.edu/
- Center for Students with Disabilities: http://www.csd.uconn.edu/
- Peer Tutoring Lab in the School of Engineering: http://www.engr.uconn.edu/tutors.php

Diversity statement: "It is understood that the definition of diversity is ever changing and is constantly being ratified. Diversity encompasses the presence and participation of people who differ by age, color, ethnicity, gender, national origin, race, religion, and sexual orientation; and includes those with disabilities and from various socio-economic backgrounds. It encompasses not only individuals and groups, but also thoughts and attitudes. The fabric of diversity at our University must be woven in thought and in experience, within a climate where diverse views are welcomed and respected and where there is a commonality that comes from working together to effect constructive change." *The Report of the Diversity Action Committee of the University of Connecticut Board of Trustees, April, 16, 2002* http://www.ode.uconn.edu/diversity/

UNIV 2100 Syllabus (Spring 2016)

Week 1: 1/22	Introduction/ HuskyCT/ HuskyCT journal + intro to all Scholars
Homework:	Personal thinking exercise: Personal statement about *your* UConn goals: 1.5 page, double spaced, size 12 font, 1 inch margins all around **Due by 12 noon, 1/29**
Week 2: 1/29	Library workshop + Introduction to research paper structure and citations
Homework:	HuskyCT reflect: academic misconduct: your opinion *and* find an example in the news 500 - 700 words (**due 2/12)** **+** Choose topic for lit review; build a basic outline (**due 2/12)**
Week 3: 2/5	Dr. Renée's Ph.D. presentation (as an example of a STEM Ph.D. project)
Homework:	Set up RefWorks account (see link in library pres.) + Work on rough draft of research paper
Week 4: 2/12	**Bring your laptop/ tablet:** LinkedIn workshop
Homework:	Develop your resume and create your LinkedIn page (find me and connect) + Work on rough draft of research paper
Week 5: 2/19	Ph.D. student & senior McNair Scholars applying to Ph.D. programs: panel #1
Homework:	HuskyCT reflect on today's seminar + Work on rough draft of research paper
Week 6: 2/26	Peer edit each other's outlines
Homework	Build paper from today's edits
Week 7: 3/4	**UMass Medical/ Graduate School trip, Worcester, MA**
Week 8: 3/11	Structure of research proposal **(for Juniors)**
Homework	Begin outline of research proposal – to be discussed during next individual meeting
SPRING BREAK:	**3/14 – 18:** Work on near-final draft
Week 9: 3/25	Ph.D. student & senior McNair Scholars applying to Ph.D. programs: panel #2
Homework	HuskyCT reflect on today's seminar + Work on near-final draft of lit review
Week 10: 4/1	Conversations with STEM professors on Ph.D. program admissions committees
Homework	Work on near-final draft – Bring portfolio to next individual meeting **RESEARCH PAPER is due before 12 noon, 4/15**
Week 11: 4/8	**Presented by Ph.D. students Oliver and Andrea:** Building a professional portfolio
Homework	HuskyCT reflect on today's seminar + Build your research proposal presentation + Finish paper
Week 12: 4/15	Practice research proposals
Homework	Polish your presentation
Week 13: 4/22	Research proposal presentations
Homework	HuskyCT: reflect on research proposal presentations
Week 14: 4/29	Research proposal presentations
Homework	HuskyCT: reflect on research proposal presentations

Mandatory outside of class assignments:

- **Due week 1:** Bookmark http://www.cap.uconn.edu/msp/
- **Due week 1:** "Like" https://www.facebook.com/UConnMcNair
- **Due week 4 - 5:** Create a LinkedIn page
- **Due Friday March 25, 2016:** Identify 2 professors you have had, or currently have, to *prepare early* for asking for STRONG letters of recommendation * make a connection! *
    - Write about the connections in the Journal folder.
- **Due Friday April 22, 2016:** Attend at least 1 Ph.D. defense (in or out of major) + HuskyCT reflect

Handout for Success: Writing Assessment Scoring Sheet

RESEARCH PAPER
60/ 100:
(5/60) Introduction (1/4 page, single spaced outline format):

- Clearly address the topic
- Concisely introduce the topic

(30/60) Body/ Literature review (3 – 5 pages, double spaced, full paragraphs):

- Content is relevant to logic and flow
- Concise, yet thorough
- References are well-integrated
- References are pertinent to topic

(10/60) Discussion (less than 1 page, single spaced outline format):

- Thoughtful analysis on multiple perspectives

(15/60) References (5 – 8 initial peer-reviewed primary literature references):

- Sufficient number of primary literature references
- Proper citation style for your field (APA, MLA,Vancouver)
    - Choose the style that is used for the majority of the journal articles you are reading
    - Format your references the same way
    - Note at the end of this section that all refs have been checked on Ulrichsweb to confirm they are from peer-reviewed journals

24 / 100: Critical analysis with multiple perspectives:
(in body and discussion)

- (12/24) Well-developed summaries of perspectives
- (12/24) Multiple perspectives

16 / 100: Mechanics:

- (8/15) Proper outline format (intro, discussion)
- (4/15) Grammar, spelling, punctuation, sentence structure
- (1/15) Font: Times New Roman, size 12
- (1/15) Single-spaced outline; double-spaced body
- (0.5/15) 1 inch margins, all sides
- (0.5/15) File name: LastName_FirstName STEM RP.doc
- (1/15) Name in header only (insert page #)
    - No cover page; no name, date, class info on page 1

AN ESSAY TO YOURSELF IN LETTER FORMAT: ***This is not graded, but this is a guide for how different aspects would be weighted. We will be continuously working on your motivational message for your essays during individual meetings!***

80 /100

(50/80) Body:

- (20/50) What is your motivation behind your current academic goals? (1 – 3 sentences)
- (30/50) What is YOUR story? (1 page)
  - *Be inspirational!*

(30/80) Closing Remarks (1 paragraph):

- End with "oomph"
- Leave a lasting, positive impression

20 / 100: Mechanics:

- (8/20) Proper grammar, spelling, and punctuation
- (8/20) Proper sentence structure
- (0.5/20) Font: Times New Roman, size 12
- (1/20) Double-spaced
- (1/20) 1 inch margins, all sides
- (0.5/20) Name in header only
  - No cover page; no name, date, class info on page 1
- (0.5/20) Adhere to 1.5 page limit
- (0.5/20) File name: LastName_FirstName Letter.doc

Establishing a faculty mentor (30pts)

(5/30) List top 5-7 faculty mentors and their departments, include WHY you're passionate about their work

(5/30) Devise email to send to faculty mentors to discuss potential of joining their research group during AY, summer after junior year, through senior year

(5/30) Send email with attachments: course agenda, resume

(5/30) Meet with faculty mentors to discuss potential projects

(10/30) Confirm faculty mentor

GRADE DETERMINATION

Establish faculty mentor (+ design presentation)	30%
Literature Review	20%
Ph.D. dissertation defense + reflection	15%
Journal - Weekly entries of experience	10%
Identify 2 strong letter writers	10%
Academic misconduct writing assignment	5%
Social media/ LinkedIn connection	5%
Personal statement (not graded, but must complete assignment)	5%

Letter grades	**Scale**
A	100 - 95
A-	94 - 90
B+	89 - 88
B	87 - 85
B-	84 - 80
C+	79 - 78
C	77 - 75
C-	74 - 70
D+	69 - 68
D	67 - 65
D-	64 - 60
F	59 - 0

- **(30%)**
  - **Establish a faculty mentor:** Actively attempt to identify a faculty mentor this spring semester to begin your McNair/ undergraduate research project.
    - McNair Scholars: You are expected to begin shadowing researchers and starting on your project during the academic year in preparation for McNair summer, whether it's this summer or next summer.

  - **Proposal design presentation:** For those of you who intend to conduct your research projects this summer, you will defend the design of your project in April in front of the McNair Advisory Committee, Scholars, and faculty mentors.

    This component will be taken in to consideration for your grade.

- **Writing**
  - **(20%) Literature review (research summary paper) about research topic of interest (not necessarily your project!):** designed to advance the Scholars' use of vocabulary, grammar, mechanics, argumentation, style, and peer review.

  - **(5%) Personal statement: Articulation of academic/ McNair goals:** Establish your goals for your junior and senior years as UConn undergraduates with a focus on opportunities and requirements. A final writing assignment will refine and expand on this letter after a peer review session.

  - **(10%) Journal entries:** reflections about seminars/ events attended throughout the semester. More details will be provided on Husky CT, where journal entries will be submitted.

- **(15%) Ph.D. Dissertation Defense and Reflection:** Attend a Ph.D. defense presentation and reflect in Husky CT journal. Discuss the research problem, method(s), contributions to the research field, and any new questions arising from the research project. See: outside of class assignments page for more info.

- **(10%) Identify 2 professors who can provide you with STRONG letters of recommendation for research opportunities, graduate school:** Begin a dialogue with at least 2 professors in order to be able to ask them for STRONG letters of recommendation in the months/ years ahead. We all have a journey that started with a small dose of inspiration or serendipity. Learn about your professors' journeys to where they are today! See: outside of class assignments page for more info.

- **(5%) Academic Misconduct:** Graduate study and research demand advanced levels of ethical diligence. In addition to standards of academic integrity outlined by the University of Connecticut, you will be held to exceptional and meticulous guidelines as doctoral students, so it's best to begin this practice now. Documents for review and on-line training are available at these websites: http://community.uconn.edu/academic-integrity-faculty-faq/ and http://irb.uconn.edu/

- **(5%) Social media/ networking connection: Facebook, LinkedIn …** See: outside of class assignments page for more info.