**Hybrid Course proposal & SAS requirements**

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**Re: abbreviated course description.**

**Applying Cognitive Science to Problems in the Real and Virtual- worlds**  
Examines how research findings have informed our understanding of human cognition, the role of essential processes from neurobiology, perception, and attention, and how these are used when we search, select and remember information, and when we reason and make decisions.

**Web site for the for the online materials:**

* Student access: <https://onlinelearning.rutgers.edu/ecollege-student-login>
* Reviewer access: <http://onlinelearning.rutgers.edu/ruonline-login>
  + *ID:* [*deborah.aks@rutgers.edu*](mailto:deborah.aks@rutgers.edu)*; pw: CogSciStudent*
* Course materials are available for review using login info above. Online delivery offers this useful pedagogical tool to help with [*course assessments*](#Assessment)*.*

**Re: Requirements of SAS undergraduate courses offered for credit in hybrid format.**

1. **Pedagogical reasons for a hybrid version of the course and its appropriateness.**
   * A unique feature of my proposed course is the application of Cognitive Science to virtual problems such as those that arise in online interactions. Thus, incorporating online (learning) materials into my course is highly appropriate as this topic relates closely to an important focus of the course. Examples of such problems relevant to the “virtual” world: (1) The role of human-computer interfaces in real world vs. virtual interactions. (2) Finding and evaluating online information: Using critical thinking skills to distinguish fact from fiction. (3) Online behaviors & the usability of web sites. (4) Online games, game theory, and application to reasoning skills.
   * **Student engagement and student participation** are critical learning ingredients not exclusive to face-to-face interactions. Established methods involve interspersing lectures (online or in-person) with questions, interactive exercises, and feedback. Online learning games and adaptive learning tools offer novel ways to get students engaged with learning material as I describe below.
   * **Customized student learning & adaptive learning** is (arguably) the foremost pedagogical reason to use online learning solutions. Adaptive learning software such as [*Pearson Mylab*](http://www.pearsonmylabandmastering.com/northamerica/) (which I am now reviewing), is one such solution. While customization can be as simple as allowing students to step through and review course material at their own pace (e.g., a video with lecture material can be paused & rewound); more remarkable are the recent advances in *Adaptive Learning software.* The new software adjusts instructional presentation to accommodate different learning styles so the sequence of steps a student takes through a course depends on their responses. Students take unique learning paths, moving at their own pace, and achieve mastery over course material superior to that found in the traditional classroom.
   * **Comparison with the traditional format of this or similar courses**

The proposed course is unique in a number of ways. One is that I am the first to propose this course here at Rutgers (as far as I know). Hence, comparison is difficult, but anyone interested in making comparison can do so easily since [content is available online for review](#Assessment).

**Hybrid vs. traditional format**. Discussions & exercises are among the main elements that differ. Threaded discussions can replace (some) in-person interactions with the advantage of not having a small number of students dominate the class (as is often the case in traditional teaching. Many students quiet in class become active participants in the online-discussions. Also alleviated is the common bias of teachers to attend more to some individuals (or gender) than others.

1. **Limits on class size, and expectations of demands on course instructors.**
   * Because the current version of this course includes research projects & writing assignments, class size should be limited to 15 students.
2. **Qualifications of the student target audience and prerequisites**
   * The target audience is undergraduate students interested in cognitive science. Introductory Psychology course, or equivalent is recommended but not required.
3. **Qualifications of the instructor(s) for online instruction**

I have over 15 years of experience in teaching with technology, and developing online course material for undergraduate students. Most recently, I have developed and taught a hybrid Cognitive Science class with Rutgers DOC Summer 2013 session. I also hold a PhD in Perceptual-Cognitive Science & now apply this expertise to research problems involving eye-tracking and visual attention. A current project (with Aresty Research student: Hua Yang) tests web-usability of online content.

1. **Numbers of hours and timing of required student online involvement.**
   * Students will be required to do a series of online activities, which should take at least 5 to 10 hours/week. I expect variability in the amount of time students spend on the course work since the nature of the online course is to accommodate individual learning styles. What is most critical is that students do the work effectively, and meet specific deadlines.
   * eCollege records the amount of time students spend on specific course content. Thus, monitoring student online involvements is easy and available for review.
2. **Rubric for evaluation of student online participation**.[[1]](#footnote-1)  
   One strength of having coursework online is the record of student participation. These records come in various forms:
   * Amount of time spent on specific online content is recorded (as noted above).
   * Discussion threads
   * Student assignments, projects & papers
   * Student feedback for assignments, projects & papers
   * *Course Assessments*:
     + Practice and real exams.
3. **Planned assessments**:
   * [Access to the web site for the course](#online)
   * Departmental evaluation of the success of the format.
     + I will arrange this with RuCCs.

* **Measures for ensuring academic integrity**, and specifically identity integrity, for the course. (For examples, testing issues need to be addressed in courses that involve exams.)  
  + ***Testing Issues****: Safeguards against cheating and identity fraud.*
  + *“ExamGuard*” is the exam delivery software built into eCollege. The way it reduces cheating is by freezing the screen so only exam materials are available on the computer. Since this is not an ideal solution to the cheating or identity problem, my plan is to have students take exams in a classroom equipped with computers. I will continue to proctor exams in-person until adequate technology solution is available. The latest tech solutions that I am aware involve recording students as they take an exam using the camera that is built-in to the pc where the student is taking the exam. Another near-future solution may involve use of finger scanning (similar to *iphone 5s* access technology). When these solutions are available and found to be reliable, I will update this report.
  + **Educating students about plagiarism** and [how to avoid plagiarism.](http://www.libraries.rutgers.edu/rul/libs/robeson_lib/flash_presents/avoidplag.html)

I include a lesson on plagiarism early in the course. Here is the description I include in my syllabus:

*Plagiarism is a serious ethical issue with serious academic consequences. Often students commit subtle, and not so subtle, forms of plagiarism. Often plagiarism is inadvertent and done without a student even being aware that he or she is committing a major academic violation that can result in expulsion from the University. Therefore, I have made available various resources (here and in eCollege) to help educate you on what plagiarism is, how to be aware of accidental plagiarism, and* [*how to avoid plagiarism.*](http://www.libraries.rutgers.edu/rul/libs/robeson_lib/flash_presents/avoidplag.html)

* *“TurnitIn” software* tool helps students learn about plagiarism. While it is far from perfect in finding all cases of copying, I have found it provides a very powerful deterrent, and has made students far more aware of inadvertent as well as deliberate cases of copying others work.
* *“ExamGuard*, the exam delivery software is described above along with other new technologies under development which can help safeguard against identity fraud while students take exams. We will also need to consider the impact on students from taking an exam while being recorded by their pc’s camera. But this is the topic of another conversation.

1. *eCollege* has a built in rubric function that helps structure “learning assessment.” It seems that this may be more pertinent to the goal of this report rather than focusing only on assessment of “student participation.” [↑](#footnote-ref-1)