REQUEST FOR A NEW COURSE
University of Central Oklahoma

Course Subject (Prefix), Number, and Title:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Number</th>
<th>Recommended Course Title (maximum of 30 characters)</th>
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<tbody>
<tr>
<td>PSY</td>
<td>3XX3</td>
<td>Computational Modeling</td>
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Course Title: (full title of course if longer than 30 characters)

For information regarding CIP codes contact your department chair or visit: http://www.uco.edu/academic-affairs/ir/program_inventory.asp

CIP Code: 42.0101

For graduate courses, please attach a syllabus for this course. (See syllabus requirement policy 2.2.)

Course description as it will appear in the appropriate catalog.

Models and simulations help psychologists and data scientists make sense of large data sets collected from the smallest sub-neural level to the biggest societal level. They also help us develop artificial intelligence and deep-learning solutions to practical issues. Software simulations help us design, implement, evaluate, compare, and test model predictions about neural processes, response probabilities, response times and other behavior. Students will create and test computational models, make decisions about them, and explain what we can and cannot learn from them.

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Psychology
Department submitting the proposal

Nora D. Gayzur ngayzur@uco.edu 5422
Person to contact with questions email address Ext. number

Approved by:

[Signatures and dates]

Office of Academic Affairs Date
Effective term for this new course (Assigned by the Office of Academic Affairs.)
1. Does this course have an undergraduate / graduate counterpart?
   ____ Yes  X No

2. Is this proposal part of a larger submission package including a program change?
   X Yes  ____ No

3. Does this new course affect a teacher preparation program? (All courses required for any teacher preparation program must have approval from the Council on Teacher Education (CTE) before approval from AACC or Graduate Council.)
   ____ Yes  X No  If yes, send copy of proposal to the Education Curriculum Committee Chair, Dr. Darla Fent.

4. Has this course been previously taught as a common course (4910 seminar, 4960 institute, etc.)?
   ____ Yes  X No  If yes, when was the most recent offering?

5. Does this course affect majors or minors outside the department?
   ____ Yes  X No  If yes, provide name(s) of department chair(s) contacted, dates, and results of discussion.

6. Prerequisite courses:
   Example 1: MATH 1213 and (MATH 2165 or MATH 2185) and CHEM 1213 Example 3: 8 hours of biology including BIO 1404
   Example 2: (ACCT 2113 and 2213) and (MGMT 3013 or ISOM 3613)
   PSY 2753: Psychological Statistics

7. Co-requisite(s): Which of the above prerequisite courses, if any, may be taken in the same semester as the proposed new course?
   N/A

8. Concurrent enrollment: Courses that must be taken the same semester. Example: lab courses.
   N/A

9. Will this course have enrollment restrictions?
   ____ Yes  X No  If No, go to question 13.

10. Specify which major(s) may or may not take this course. Specifying a major, excludes all other majors from enrolling.
    Check one:  May ________  May not ________

    Major Code: ____________________________

11. Which of the following student classification(s) may enroll in this course?
    Check all that apply:
    Graduate  (2) 19+ hours
    Graduate  (1) 0-18 hours
    Post Baccalaureate *
    Senior
    Junior
    Sophomore
    Freshman
    * Graduate level courses are not open to Post Baccalaureate students.

12. Check or list other restrictions for this course.
    Admission to Graduate Programs
    Admission to Nursing Program
    Admission to Teacher Education
    Other

Academic Affairs Form
August, 2015

Functional Review _____
undergraduate proposals only)
13. Course objectives: Objectives should be observable, measurable and include scholarly or creative activities to meet the course level characteristics. Course objectives should also be in line with the course description. (Please refer to instructional objectives documents at: http://www.uco.edu/academic-affairs/faculty-staff/aacc.asp#FAQ/Helpful%20Hints.)

As a result of this course, students will:

1. **Know** terminology, specific facts, methodology in psychology, and the theories behind current research in the field;
2. **Comprehend** the findings of current research in the field and their implications;
3. **Apply** previously learned information to the content of this course;
4. **Analyze** current research in the field, such that the research paradigms can be identified and inferences can be drawn;
5. **Synthesize** knowledge, by integrating concepts from previous courses with newly learned information to produce new and/or original thoughts; and
6. **Evaluate** material and research for a given purpose, based on knowledge, personal values, and opinion.


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Course Detail Information:

14. Contact Hours (per week)

   3 Lecture hours (in class)

   ___ Lab hours (also studios)

   ___ Other (outside activities)

15. Repeatable course.

   ___ Number of times this course can be taken for credit.

16. Schedule type: (select one only)

   ___ Activity P.E. (A)

   ___ Lab only (B)

   X Lecture/Lab (C)

   ___ Lecture only (L)

   ___ Recitation/Lab (R)

   ___ Student Teaching (STU)

   ___ Studio Art/Design (XSU)

17. List existing course(s) for which this course will be a prerequisite. Adding a “new course” as a prerequisite to an existing course will likely cause enrollment problems. (Please submit a prerequisite change form for each course for which this course will serve as a prerequisite.)

   None

18. What resources, technology or equipment must be acquired to teach this course? List items, which must be purchased and estimate cost. (Be specific, e.g., technology software, equipment, computer lab; etc.)

   Free, open-source software Python and R which are already approved for classroom use.

19. The UCO Library has the required library resources available for this new course?

   x Yes  No  If yes, provide names of Librarian/Faculty Liaisons contacted, dates, and results of discussion.

   According to Kirsten Davis (February 28, 2020; see attached), “given that these are essentially
rearrangements of existing programs/classes, things should be fine from a resources perspective."

If no, what additional library resources must be acquired for this new course? List items which must be purchased and estimated cost. (Be specific, e.g., books, magazines, journals, etc.)

Not applicable/None needed

20. Names of current faculty qualified to teach this course.
   Mickie Vanhoy; J. Adam Randell

21. Additional faculty (adjunct or full-time) required and specific competencies required to teach this course:
   No additional faculty required. Competency includes a background in quantitative methods in psychology.

22. How will this course be staffed and equipped? Identify the additional costs associated with this new course. If no costs, explain why not.
   This course will be part of the regular rotation of courses offered in the major and will not require any new staff or equipment to be offered; that is, faculty loads will be adjusted to accommodate changes in the curriculum (specifically, the number of core required classes will decrease to allow to the addition of elective courses in the curriculum). As such, the funds to support this course will come from an internal reallocation of the departmental budget.

23. Identify the source(s) of funds for any additional costs for the new course. i.e. internal reallocations, special fees from students, etc. If you plan to propose special fees be assessed for this course, be aware there is a separate approval process for special fees.
   This course will be part of the regular staggered rotation of courses offered in the major and will not require any new staff or equipment to be offered; that is, faculty loads will be adjusted to accommodate changes in the curriculum (specifically, the number of core required classes will decrease to allow to the addition of elective courses in the curriculum). As such, the funds to support this course will come from an internal reallocation of the departmental budget.

24. Projected enrollment for two academic years following approval of new course:

<table>
<thead>
<tr>
<th>Semester</th>
<th>2021</th>
<th>2022</th>
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</thead>
<tbody>
<tr>
<td>Fall</td>
<td>0 (staggered rotation)</td>
<td>35</td>
</tr>
<tr>
<td>Spring</td>
<td>0 (staggered rotation)</td>
<td>35</td>
</tr>
<tr>
<td>Summer</td>
<td></td>
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25. Using State Regents' definition of liberal arts and sciences (quoted below), characterize the course as follows:
   - Non-liberal arts and sciences
   - Liberal arts and sciences
   
   "The liberal arts and sciences are defined as those traditional fields of study in the humanities; social and behavioral sciences; communications; natural and life sciences, mathematics; and the history, literature, and theory of fine arts (music, art, drama, dance). Courses in these fields whose primary purpose is directed toward specific occupational or professional objectives, or courses in the arts which rely substantially on studio or performance work are not considered to be liberal arts and sciences for the purpose of this policy. Courses required for the General Educational Program are not necessarily synonymous or mutually exclusive with the liberal arts and sciences." State Regents Policy and Procedures. Chapter 2, Section 5, "Degree Requirements" part 1, (2). P. II-2-86

26. Please provide a concise, yet comprehensive, statement that explains the reasons for requesting the new course. Include documentation or assessment information supporting the specific request (if possible). Indicate the expected source of student enrollment (majors, minors, programs etc.)
The major is being revised in response to self-study results and external feedback. According to national data, this is a typical specialized course for psychology majors and minors.

27 Which of the six transformative learning tenets does this course incorporate? (check all that apply or only those that apply) This question was a directive from the Provost and is used for informational purposes.

- Disciplined Knowledge
- Leadership
- Research, Scholarly and Creative Activities
- Service Learning and Civic Engagement
- Global and Cultural Competencies
- Health and Wellness

28. Clearly explain how the characteristics of this course meet or exceed those outlined in Course Level Characteristics. (Copy and paste table from “Course Level Characteristics” document for the appropriate course level of proposed course. Document may be found on: http://sites.uco.edu/academic-affairs/files/course-level-characteristics-table.doc)

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<th>Please describe how this course meets this requirement.</th>
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<tr>
<td>1. It is assumed that students in these courses have completed sufficient course work to have attained junior standing.</td>
<td>This will be met by students meeting the prerequisites Psychological Statistics (a 2000 level course).</td>
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<tr>
<td>2. These courses should be offered at a level of instruction that assumes a foundation of study in the discipline, which most often would have been gained through one or more introductory courses.</td>
<td>This will be met by students meeting the prerequisites of Psychological Statistics (a 2000 level course).</td>
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<td>3. Students in these courses should be required to undertake a scholarly activity in addition to classroom instruction, such as a written research project, library assignment, juried performance, or creative work.</td>
<td>This course is an in-depth study of the sub-specialty within quantitative psychology that is concerned with the creation, evaluation, and application of computer models and simulations. Students are expected to apply their previous scholarly experiences to the synthesis of their projects.</td>
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<td>4. These courses should be more specialized in content than lower division courses.</td>
<td>Having satisfied the required prerequisite courses students will utilize the knowledge gained from statistics and methodology to explore computational models and simulations.</td>
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