APPLICATION FOR NEW COURSE

1. Submitted by College of Medicine ___________________________ Date May 26, 2005
   Department/Division offering course Anatomy and Neurobiology ___________________________

2. Proposed designation and Bulletin description of this course
   a. Prefix and Number ANA 780  
   b. Title* Special Topics in Neurobiology
   *NOTE: If the title is longer than 24 characters (including spaces), write a sensible title (not exceeding 24 characters) for use on transcripts Topics in Neurobiology
   c. Lecture/Discussion hours per week 1-3  
   d. Laboratory hours per week 0
   e. Studio hours per week 0  
   f. Credits 1-3

   g. Course description
   A lecture/seminar course offered based on contemporary topics in neurobiology. Course is designed to offer different emphasis in a given year and to cover timely topics.
   h. Prerequisites (if any)

   Consent of the course director.____

   i. May be repeated to a maximum of 6 credits where applicable (if applicable)

4. To be cross-listed as
   Prefix and Number ___________________________ Signature, Chairman, cross-listing department

5. Effective Date Spring 2006 (semester and year)

6. Course to be offered ☐ Fall ☑ Spring ☐ Summer

7. Will the course be offered each year? (Explain if not annually) ☐ Yes ☑ No
   The course will be offered when there is a timely topic in neurobiology that should be covered to benefit our students.

8. Why is this course needed?
   Currently our department has no mechanism with which to offer our students education in the most timely of topics in the fast changing world of neurobiology.

9. a. By whom will the course be taught? Department of Anatomy faculty.

   b. Are facilities for teaching the course now available? ☑ Yes ☐ No
      If not, what plans have been made for providing them?
APPLICATION FOR NEW COURSE

10. What enrollment may be reasonably anticipated? _______ 10 students per offering _______

11. Will this course serve students in the Department primarily? ☑ Yes ☐ No
   Will it be of service to a significant number of students outside the Department?
   If so, explain.
   Many students across campus interested in timely instruction in neurobiological issues
   would benefit from this course.
   Will the course serve as a University Studies Program course? ☐ Yes ☑ No
   If yes, under what Area?

12. Check the category most applicable to this course
   ☑ traditional; offered in corresponding departments elsewhere; special topics courses are commonplace
   ☐ relatively new, now being widely established
   ☐ not yet to be found in many (or any) other universities

13. Is this course applicable to the requirements for at least one degree or certificate at the
    University of Kentucky? ☑ Yes ☐ No

14. Is this course part of a proposed new program:
    If yes, which? ☐ Yes ☑ No

15. Will adding this course change the degree requirements in one or more programs?*
    If yes, explain the change(s) below

16. Attach a list of the major teaching objectives of the proposed course and outline and/or reference list to be used.

17. If the course is a 100-200 level course, please submit evidence (e.g., correspondence) that the Community College System has
    been consulted. ☐

18. If the course is 400G or 500 level, include syllabi or course statement showing differentiation for undergraduate and graduate
    students in assignments, grading criteria, and grading scales. ☐

19. Within the Department, who should be contacted for further information about the proposed course?
    Name: Douglas J. Gould, Ph.D. Phone Extension: 323-5484

*NOTE: Approval of this course will constitute approval of the program change unless other program modifications are proposed.
APPLICATION FOR NEW COURSE

Signature of Approval:

Department Chair

Dean of the College

Curriculum Committee

Undergraduate Council

Faculty Council

*University Studies

*Graduate Council

*Academic Council for the Medical Center

*Senate Council (Chair)

*If applicable, as provided by the Rules of the University Senate

May 24, 2005

Date

Date

Date of Notice to the Faculty

8/23/05

Date

9/20/05

Date

11/16/05

Date

Date of Notice to University Senate

ACTION OTHER THAN APPROVAL

Rev 3/04
ANA 780
Special Topics in Neurobiology

The list of topics to be covered in this course will change to offer different emphasis in a given year and to utilize the special research interests of resident and visiting investigators. This course may cover themes such as, but not limited to:

- newly developing methodologies
- molecular and cellular implications in disease and regeneration
- non-invasive imaging and diagnostic methodologies
- translational neuroscience

An example of a special topics syllabus is attached. The dates are for this fall, although we realize that the new course will not be active until the spring, 2006 semester.

Evaluation

The evaluation methods, grading criteria and course objectives will be clearly defined in the student’s syllabus and made available to students prior to the start date of the course. The criteria will be determined by the course format. For example, a one credit hour, lecture only course may simply have a comprehensive final examinations, while a 3 credit hour course consisting of lecture and laboratory experiences may have an appropriate mixture of written and practical examinations factored into the overall evaluation. The following table gives further possibilities of credits, evaluation styles and hours/types of courses:

<table>
<thead>
<tr>
<th>CREDITS</th>
<th>HOURS/METHOD</th>
<th>EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 hr/wk, lecture only</td>
<td>final exam</td>
</tr>
<tr>
<td>1</td>
<td>1 hr/wk, laboratory exp</td>
<td>practical exam</td>
</tr>
<tr>
<td>1</td>
<td>1 hr/wk, small group discussion</td>
<td>research manuscript</td>
</tr>
<tr>
<td>2</td>
<td>2 hr/wk, lecture only</td>
<td>midterm &amp; final exam</td>
</tr>
<tr>
<td>2</td>
<td>2 hr/wk, lecture 1 hr, lab 1 hr</td>
<td>midterm, final and practical quiz</td>
</tr>
<tr>
<td>2</td>
<td>2 hr/wk, lecture &amp; small group</td>
<td>2 quizzes &amp; paper</td>
</tr>
<tr>
<td>3</td>
<td>3 hr/wk, lecture only</td>
<td>midterm, final and 2 quizzes</td>
</tr>
<tr>
<td>3</td>
<td>3 hr/wk, lab only</td>
<td>4 lab practical exams</td>
</tr>
<tr>
<td>3</td>
<td>3 hr/wk, lecture, lab &amp; small group</td>
<td>2 quizzes, lab practical &amp; paper</td>
</tr>
</tbody>
</table>

Grading
90-100% = A
80-89.9% = B
70-79.9% = C
<69.9% = E
Neurobiology of CNS Injury and Repair

There will be one midterm and a final exam (combination of multiple choice, short answer and short essay).

Weekly Course Outline:

1. **Wed., August 24th**: Introduction to CNS Injury (Hall/Chen):
   - Epidemiology of CNS Injury: SCI, TBI, Shaken Baby Syndrome, Ischemia and Hemorrhage
   - Basic Concepts of Post-Traumatic Pathology and Pathophysiology
     - i. Primary vs. secondary injury
     - ii. Apoptosis and necrosis
     - iii. Anterograde (Wallerian) vs. retrograde degeneration
     - iv. Demyelination and its functional consequences
     - v. Microvascular dysfunction
     - vi. Reactive gliosis
     - vii. Influence of secondary insults (e.g. shock, hypoxia, ischemia, hemorrhage)

2. **Wed., August 31st**: Overview of CNS Injury Animals Models
   - TBI (Saatman)
   - SCI (Rabchevsky)
   - Ischemic and hemorrhagic stroke models (Hall)

   - Excitotoxicity (Hall)
   - Reactive oxygen mechanisms (Hall)
   - Metabolic and mitochondrial dysfunction (Sullivan)

   - Calcium-mediated injury mechanisms (Saatman)
   - Programmed cell death mechanisms (Nottingham)

   - Inflammatory mechanisms
   - Intracellular signaling mechanisms
   - Influence of growth/trophic factors
   - Integration of secondary injury mechanisms

6. **Wed., September 28th**: Midterm Exam

7. **Wed., October 5th**: History of and Lessons Learned from Neuroprotective Clinical Trials
   - SCI (Hall)
   - TBI (Hatton)
   - Pharmacological principles of neuroprotective therapy evaluation (Hall)

8. **Wed., October 12th**: Post-Traumatic Demyelination and Remyelination (Knapp/Cambi)


10. **Wed., October 26th**: Mechanisms of Post-Traumatic Plasticity and Regeneration- Part 2 (Chen)
11. **Wed., November 2\textsuperscript{nd}:** Mechanisms of Neurogenesis and Stem Cell /Progenitor Cell Transplantation Strategies (Chen)

**Wed., November 9\textsuperscript{th}:** No class due to conflict with Neurotrauma Symposium

**Wed., November 16\textsuperscript{th}:** No class due to conflict with Society for Neuroscience Meeting

12. **Mon., November 21\textsuperscript{st}:** Neurological Sequelae of CNS Injury SCI
   - Spasticity (**Kitzman**)
   - Neuropathic pain (**Smith**)
   - Autonomic dysfunction (**Rabchevsky**)
   - Post-traumatic epilepsy (**D'Ambrosio**)

13. **Wed., November 30\textsuperscript{th}:** Overview of Worldwide Research in CNS Injury: Who are the Other Players (**Hall**)

**Wed., December 5\textsuperscript{th}:** No Class due to conflict with Asilomar Regeneration Meeting

14. **Wed., December 14\textsuperscript{th}:** Final Exam: covering material since midterm exam
October 7, 2005

MEMORANDUM

TO: Deans, Department Chairs and Members of the University Senate

FROM: Jay A. Perman, M.D.
Dean and Vice President for Clinical Affairs

RE: New Course Application(s)

The Faculty Council of the College of Medicine has approved and submits for your consideration and approval the following new course application(s):

**ANA 780 – Special Topics in Neurobiology**
**Description:** A lecture/seminar course offered based on contemporary topics in neurobiology designed to offer different emphasis in a given year and covering timely topics.
**Justification:** Currently we have no mechanism to offer students education in the timeliest topics in the fast changing world of neurobiology – this course will address this issue.

**ANA 609 – Educational Strategies in the Anatomical Sciences**
**Description:** This course informs and examines multiple aspects of teaching the Anatomical Sciences.
**Justification:** Provides discipline specific teaching information/background to our students and satisfies a requirement of the Graduate Certificate in Anatomical Sciences.
October 7, 2005

MEMORANDUM

TO:     David S. Watt, PhD
        Associate Provost for Academic Affairs
        Chair, Health Care Colleges Council

FROM:   Jay A. Perman, M.D.
        Dean and Vice President for Clinical Affairs

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Hi Cleo-

There is no syllabus, the syllabus will be made in advance of whatever the course topic is. As it is a special topics course. Can you tell me what this is in regard to?

Thanks,
Doug

-----Original Message-----
From: Cleo Price [mailto:ecprice@uky.edu]
Sent: Wednesday, December 14, 2005 10:26 AM
To: Douglas J. Gould
Subject: Re: credits

Professor Gould,

I am working on the course proposal ANA 780. My job is to insure the proposal will be meet the criteria established by the Graduate Council. One item I am not finding is the course syllabus. Can you provide me with a copy so I can attach it to the proposal?

Thanks,
Cleo Price

At 09:31 AM 11/29/2005 -0500, you wrote:
> Hello Cleo-
> >
> >Here are my two questions from this morning-
> >
> >1) What is the length of time that courses are transferable for the
> >Masters and Doctoral programs.
> >
> >2) What is the number of credits that are transferrable for certificate
> >programs and what is the length of time those courses are eligible.
> >
> >Thanks!
> >Doug
> >
> Douglas J. Gould, Ph.D.
> Associate Professor
> Director of Graduate Studies
> Director of Undergraduate Research
> MN 208 Chandler Medical Center
> Department of Anatomy & Neurobiology
> University of Kentucky
> Lexington, KY 40536-0298
> Phone: (859) 323-5484
> Fax: (859) 323-5946
>
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> attachments, if any.
To: "Douglas J. Gould" <dgould@pop.uky.edu>
From: Cleo Price <cprice@uky.edu>
Subject: Re: credits
Cc: 
Bcc: 
Attached:

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Douglas J. Gould, Ph.D.
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Director of Graduate Studies
Director of Undergraduate Research
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Department of Anatomy & Neurobiology
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