PROPOSAL SUMMARY AND ROUTING FORM

Proposal Title: **BIOL 490 Neurobiology**

Initiating Unit or Individual: **M. Beth Zimmer**  
Contact Person's Name: **M. Beth Zimmer**  e-mail: zimmerm4@ferris.edu  phone: 231-591-5022  
Date or Term of Proposal Implementation: **Spring 2012**

- [ ] Group I - A – New degree/major or major, redirection of a current offering, or elimination of a degree, major or minor
- [ ] Group I - B – New minors or concentrations
- [X] Group II - A – Minor curriculum clean-up and course changes
- [X] Group II - B – New Course
- [ ] Group III - Certificates
- [ ] Group IV – Off-Campus Programs

<table>
<thead>
<tr>
<th>Group/Individual</th>
<th>Signature</th>
<th>Date</th>
<th>Vote/Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program or Academic Unit Faculty</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department Faculty</td>
<td></td>
<td>10/5/11</td>
<td>14 Forces Support</td>
</tr>
<tr>
<td>Department Head</td>
<td></td>
<td>10/5/11</td>
<td>6 Support with Concerns</td>
</tr>
<tr>
<td>College Curriculum Committee</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dean</td>
<td></td>
<td>10/10/11</td>
<td>X Support</td>
</tr>
<tr>
<td>University Curriculum Committee</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Affairs</td>
<td></td>
<td>10/3/11</td>
<td>6 Support</td>
</tr>
</tbody>
</table>

* Support with Concerns or Not Support must include a list of specific concerns. Votes must be shown for faculty groups. Administrators check appropriate action taken.

To be completed by Academic Affairs

President (Date Approved)  Board of Trustees (Date Approved)  President’s Council (Date Approved)
1. Proposal Summary
(Summary is generally less than one page. Briefly: state what is proposed with a summary of rationale and highlights. Additional rationale may be attached.)

Neurobiology is a new, experimental course designed for upper level biology students as an optional biology elective course. This will be a three credit lecture course geared toward Biology students interested biomedical research and medicine. This will give the students another upper-level elective choice that is relevant to the areas of science that interest them. The course will run for the first couple of years as an experimental course under the prefix BIOL 490.

We feel that there are enough students to fill a lecture course of this size. The size of the Biology student body has increased for several years and sections of all additional biology electives are running at or near full capacity; some classes routinely allow extra students and are above capacity. It does not appear that students that take Neurobiology will be drawn from any other particular course.

2. Summary of All Course Action Required*

   a. Newly Created Courses to FSU:
      Prefix   Number   Title
      Biol     490      Neurobiology

   b. Courses to be Deleted From FSU Catalog:
      Prefix   Number   Title

   c. Existing Course(s) to be Modified:
      Prefix   Number   Title

   d. Addition of existing FSU courses to program
      Prefix   Number   Title

   e. Removal of existing FSU courses from program
3. Summary of All Consultations

<table>
<thead>
<tr>
<th>Form Sent (B or C)</th>
<th>Date Sent</th>
<th>Responding Dept.</th>
<th>Date Received &amp; by Whom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form C</td>
<td>9/21/11</td>
<td>FLITE</td>
<td></td>
</tr>
</tbody>
</table>

4. Will External Accreditation be Sought? (For new programs or certificates only)

    __________ Yes    __________ No

If yes, name the organization involved with accreditation for this program.

5. Program Checksheets affected by this proposal.

NO checksheet directly affected. This is a Biology elective credit.
FLITE SERVICES CONSULTATION FORM

To be completed by the liaison librarian and approved by the Dean of FLITE. All returned forms should be included in the proposal. FLITE must respond within 20 calendar days of receipt of this form to insure that the form is included in the final proposal.

FAILURE TO RESPOND IS CONSIDERED AS SUPPORT OF THE CHANGE.

RE: Proposal Title: Biol 490 Neurobiology

Projected number of students per year affected by proposed change: 24

Initiator(s): Mary E Zimmer

Proposal Contact: Mary E. Zimmer Date Sent: Oct 5, 2011

Department: Biological Sciences Campus Address: 2004 ASC
(Please print)

Liaison Librarian Signature: ____________________________ Date: ____________

Dean of FLITE Signature: ____________________________ Date Returned: ____________

Based upon our review on ____________ (date), FLITE concludes that:

☐ Library resources to support the proposed curriculum change are currently available.

☐ Additional Library resources are needed but can be obtained from current funds.

☐ Support, but significant additional Library funds/resources are required in the amount of $__________.

☐ Does not support the proposal for reasons listed below.

Comment regarding the impact this proposal will have on library resources, collection development, programs, etc. Use additional pages if necessary.
NEW COURSE INFORMATION FORM
See Sample – Limit to Two Pages Please

Course Identification:
Prefix:  Number  Title
Biol  490  Neurobiology

Course Description:
This course covers the relationship between the structure and function of the nervous system. Topics covered include the structure and properties of excitable cells, synaptic transmission, neurochemistry, integration of information in simple systems, centrally programmed behavior, and learning and memory.

Course Outcomes and Assessment Plan:

Course outcomes:
By the end of the course students will be able to:

1) differentiate the structure and function of neurons and glia.
2) calculate an equilibrium potential, using the Nernst equation, and describe the events of an action potential.
3) discuss how neurotransmitters are released at a synapse.
4) discuss the anatomical, physiological, and neurochemical bases of particular examples of neural behavior, learning and memory.
5) critically read and analyze some current scientific literature.

Assessment:
Assignments - 1 @ 40 pts each
Paper summaries - 3 @ 40 pts each
Exams – 4 @ 100 pts each
Group poster presentation – 100 pts
Total points 660 pts

Course Outline including Time Allocation:

Course Outline

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Neuroanatomy – neurons and glia</td>
</tr>
<tr>
<td>2</td>
<td>Neurophysiology 1 – cable properties</td>
</tr>
<tr>
<td>Week</td>
<td>Topic</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Week 3</td>
<td>Neurophysiology 2 – action potential</td>
</tr>
<tr>
<td>Week 4</td>
<td>Neurophysiology 3 – synaptic transmission and chemistry</td>
</tr>
<tr>
<td>Week 5</td>
<td>Neurophysiology 4 – Neurotransmitters and receptors</td>
</tr>
<tr>
<td>Week 6</td>
<td>Synaptic plasticity</td>
</tr>
<tr>
<td>Week 7</td>
<td>Neural Integration</td>
</tr>
<tr>
<td>Week 8</td>
<td>Visual systems</td>
</tr>
<tr>
<td>Week 9</td>
<td>Lower motor neuron circuits</td>
</tr>
<tr>
<td>Week 10</td>
<td>Upper motor neuron control</td>
</tr>
<tr>
<td>Week 11</td>
<td>Modulation of movement by basal nuclei</td>
</tr>
<tr>
<td>Week 12</td>
<td>Modulation of movement by the cerebellum</td>
</tr>
<tr>
<td>Week 13</td>
<td>Learning and behavior</td>
</tr>
<tr>
<td>Week 14</td>
<td>Memory</td>
</tr>
<tr>
<td>Week 15</td>
<td>Poster presentations</td>
</tr>
</tbody>
</table>
CREATE NEW COURSE
Course Data Entry Form

FORM F
Create New Course
Rev. 07/23/07

I. ACTION TO BE TAKEN: CREATE A NEW COURSE
Notes
1. Complete each item in Section I and Section II.
2. If this course is to be used as a prerequisite for other university courses, Form Fs that reflect the prerequisite change must be submitted for those courses as well.

Term Effective (6 digit code only): 201201 Examples: 200801(Spring), 200805(Summer), 200808(Fall)
Note: The first four digits indicate year, the next two digits indicate month in which term begins.

II. PROPOSED FOR NEW COURSE: Complete all sections a through r. See manual for clarification.

a. Course Prefix
   BIOL

b. Number
   490

c. Enter Contact Hours per week in boxes.
   LECTure \[3\] LAB \[\] INDependent Study – Check (x) \[\]
   Practicum: \[\] Seminar: \[\]

d. Course Title: Neurobiology (Limit to 30 characters/spaces.)

e. College Code: AS f. Department Code: BIOL
Credit Hours: Check (x) type and enter maximum and minimum hours in boxes.
g. Type: \[\] Variable \[\x] Fixed h. Minimum Credit Hours \[3\] i. Maximum Credit Hours \[3\]
j. May Be Repeated for Added Credit: Check (x) \[\] Yes \[\x] No

k. Levels: Check (x) \[\x] Undergraduate \[\] Graduate \[\] Professional

l. Grade Method: Check (x) \[\x] Normal Grading \[\] Credit/No Credit only (Pass/Fail)

m. Does proposed new course replace an equivalent course? Check (x) \[\] Yes \[\x] No

n. Equivalent course: Prefix \[\] Number \[\] See instructions on Replacement courses.

o. CATALOG DESCRIPTION – Limit to 75 words – PLEASE BE CONCISE.
This course covers the relationship between the structure and function of the nervous system. Topics covered include the structure and properties of excitable cells, synaptic transmission, neurochemistry, integration of information in simple systems, centrally programmed behavior, and learning and memory.
p. Term(s) Offered: \[SP\] (See instructions for listing.) q. Max. Section Enrollment: \[24\]
r. Prerequisites/Co-requisites/Restrictions: (If none, leave blank.) Limited to 100 spaces. BIOL 205 OR BIOL 322.

UCC Chair Signature/Date:

Academic Affairs Approval Signature/Date:


To be completed by Academic Affairs Office: . Standard & Measures Coding and General Education Code
Basic Skill (BS) General Education (GE) Occupational Education (OC) G.E. Codes

Office of the Registrar use ONLY

Date Rec'd: Date Completed: Entered: SCACRS__SCADTL__SCARRES__SCAPREQ__
October 11, 2011

TO:    Don Flickinger, Associate Provost of Academic Affairs
       Meral Topcu, Chair, College Curriculum Committee

FR:    Karen Strasser, Interim Dean

RE:    BIOL 490 - Neurobiology

Enclosed for your information is the proposal for BIOL 490 - Neurobiology which I have approved to be offered Spring 2012 by the Department of Biology

Thank you.

Cc:    Joe Lipar
       Amy Truong