Program Approval Form

For approval of new programs and deletions or modifications to an existing program.

Action Requested:

- [ ] Create New (SCHEV approval required except for minors and certificates)
- [ ] Delete Existing
- [X] Modify Existing (check all that apply)
  - [ ] Title (SCHEV approval required except for minors, certificates)
  - [X] **Concentration** (Choose one): [ ] *Add* [ ] *Delete* [X] *Modify*
    - [ ] Degree Requirements
    - [ ] Admission Standards
    - [ ] Application Requirements
    - [ ] Other Changes: _____

Type (Check one)**:**

- [ ] B.A. [ ] B.S. [ ] Minor
- [ ] Undergraduate Certificate
- [ ] M.A. [X] M.S. [ ] M.Ed.
- [ ] Ph.D. [ ] Graduate Certificate
- [ ] Other: _____

College/School:	College of Science	**Department:**	School of Systems Biology		
Submitted by:	Ancha Baranova, Ph.D.	**Ext:**	571-334-1145	**Email:**	abaranov@gmu.edu

Effective Term: Fall 2015

Please note: For students to be admitted to a new degree, minor, certificate or concentration, the program must be fully approved, entered into Banner, and published in the University Catalog.

Justification: (attach separate document if necessary)

See attached.

	Existing	New/Modified
Program Title: (Required) Title must identify subject matter. Do not include name of college/school/dept.	M.S. Biology	
Concentration(s):	Neuroscience	
Admissions Standards / Application Requirements: (Required only if different from those listed in the University Catalog)		
Degree Requirements: Consult University Catalog for models, attach separate document if necessary using track changes for modifications		Please see attached.
Courses offered via distance: (if applicable)	N/A	
TOTAL CREDITS REQUIRED:	30	30

Approval Signatures

Department	Date	College/School	Date	Provost's Office *Interdisciplinary Council Use Only*	Date

If this program may impact another unit or is in collaboration with another unit at Mason, the originating department must circulate this proposal for review by those units and obtain the necessary signatures prior to submission. Failure to do so will delay action on this proposal.

Unit Name	Unit Approval Name	Unit Approver's Signature	Date
	.		

For Graduate Programs Only

Graduate Council Member	Provost Office	Graduate Council Approval Date

For Registrar Office's Use Only: Received_____Banner_____Catalog_____

revised 5/5/10

Justification for the Proposed Changes in Coursework required for the Concentration in Neuroscience

The Neuroscience curriculum has changed since the MS Biology concentration in Neuroscience was approved. Courses have changed and/or are no longer offered. Dr. Avrama (Kim) Blackwell and Dr. Ancha Baranova have collaborated to determine current course offerings in the Neuroscience Department and have recommended changes to the MS Biology degree concentration also to reflect these changes. Also recommended is the addition of 2 seminars to be in line with the other MS Biology degree concentrations' requirements.

Changes are noted in red:

▲ MS BIOL Concentration in Neuroscience (NEUR)

Students pursuing the concentration in neuroscience take:

1-3 credits of research methodology

- BIOL 690 - Introduction to Graduate Studies in Biology Credits: 1-2

  or
- NEUR 702 – Research Methods Credits: 3

12-13 credits of core neuroscience chosen from the following:

- NEUR 601 - Developmental Neuroscience Credits: 3
- NEUR 602 - Cellular Neuroscience Credits: 3
- NEUR 603 - Mammalian Neuroanatomy Credits: 3
- NEUR 701 - Neurophysiology Laboratory Credits: 3
- NEUR 604 - Ethics in Scientific Research Credits: 1-3 or BINF 705 Research Ethics Credits: 1
- NEUR 600 – Chemistry and the Brain Credits: 3

  (removed NEUR 709 seminar)

2 credits of seminar chosen from the following:

- BIOL 695 - Seminar in Molecular, Microbial, and Cellular Biology Credits: 1
- BIOS 704 – Topics in Biosciences Credits: 1
- NEUR 709 – Neuroscience Seminars Credits: 1

3-4 credits of statistics chosen from the following:

- PSYC 611 - Advanced Statistics Credits: 4
- STAT 535 - Analysis of Experimental Data Using SPSS Credits: 3
- STAT 544 - Applied Probability Credits: 3
- STAT 554 - Applied Statistics Credits: 3
- ECE 528 - Introduction to Random Processes in Electrical and Computer Engineering Credits: 3

2-11 credits of electives

Suggested electives include but are not limited to:

- BIOL 583 - General Biochemistry Credits: 4
- BIOL 568 - Advanced Topics in Molecular Genetics Credits: 3
- BIOL 682 - Advanced Eukaryotic Cell Biology Credits: 3
- BINF 630 - Bioinformatics Methods Credits: 3
- BINF 705 – Research Ethics Credits: 1
- BIOS 741 - Genomics Credits: 3
- BIOL 666 - Human Genetics Concepts for Health Care Credits: 3
- BIOL 566 - Cancer Genomics Credits: 3
- BIOS 742 - Biotechnology Credits: 3
- BIOS 743 - Genomics, Proteomics, and Bioinformatics Credits: 3
- BIOS 744 - Molecular Genetics Credits: 3
- NEUR 689 – Topics in Neuroscience Credits: 3

1-6 credits of research

either 1-3 credits of **BIOL 798** - Master's Research Project Credits: 1-3
or 3-6 credits of **BIOL 799** - Thesis Credits: 1-6

Total: 30 credits