

ACADEMIC SENATE PROPOSAL TRACKING SHEET
(Document To Be Originated by the Academic Senate Secretary On Canary Color Paper)

Proposal # 23-17	Title: New Course Proposal - BIOH 4XX Neurobiology of Disease
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(Proposal explanation, submitter and college dean signatures on attached program/degree or course revision form.)

All proposals MUST have their originating college faculty body (Arts, Sciences & Education; Health Sciences; Technical Sciences) approval and must be signed by the submitter and the college dean before being submitted to the Academic Senate Secretary.

1. Submit all proposals (using the appropriate Academic Senate program/degree and/or course revision forms or General Education Inclusion form) to the Academic Senate Secretary. **NOTE: Level 1 or Level 2 forms must be submitted concurrent with this proposal where applicable. For Education proposals, PEU approval must be received prior to forwarding the proposal to the Senate.**
2. The Academic Senate Secretary logs and numbers items and forwards them to the appropriate Academic Senate subcommittee(s): General Education (if applicable), or Curriculum. A digital copy of the proposal will be linked on the Academic Senate Proposal page by the Academic Senate Secretary.
3. The Academic Senate subcommittee(s) consider(s) the proposal. If approved, the proposal is returned to the Academic Senate Secretary for forwarding to the next committee. If a committee disapproves the proposal, the committee will provide written rationale to the originator, via the Academic Senate.* The originator may request that the item be forwarded to the next body for consideration. Upon completion of subcommittee action, the proposal will be returned to the Academic Senate Secretary for consideration at the next Academic Senate meeting.
4. The Academic Senate considers the proposal and recommends approval or disapproval. If approved, the proposal is forwarded to the Provost for consideration within 10 working days. If the Academic Senate disapproves the proposal, the Academic Senate will provide written rationale to the originator. * The originator may request that the item be forwarded to the Full Faculty for consideration, utilizing procedures set forth in the Senate Bylaws.
5. Approved proposals will be forwarded to the Provost. The Provost approves or disapproves the proposal. If approved, the proposal is then forwarded to the Chancellor. From this point forward, the Provost's Administrative Assistant will update the Proposal page on the website by contacting the webmaster.
7. The Chancellor approves or disapproves the proposal.
8. If approved, the proposal will then either be implemented or referred to MSU for further action. The tracking page on the Provost site will be updated as required.

Subcommittee and Academic Senate college representatives will notify their respective colleges of the progress of submitted proposals or the proposal may be tracked via the web page -- <http://www.msun.edu/admin/provost/senate/proposals.htm>

Documentation and forms for the curriculum process are also available on the web page: <http://www.msun.edu/admin/provost/forms.htm>

*** If a proposal is disapproved, it is returned to the Dean of the submitting college who then notifies the originator.**

See back for tracking form

	Date	Action Taken	Signature	Date	Comments/Reason for Disapproval	Sent to	Date	Transmittal E-mail sent
Received by Senate Secretary	12/1/2023	Tracking form initiated	DocuSigned by: Brittany Garden	12/1/2023		Committee	12/1/2023	DocuSign
General Education Committee (if applicable)		<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved	7131CC9454D9458					
Curriculum Committee (if applicable)	2/9/2024	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	DocuSigned by: Casey Donovan	2/9/2024				
Academic Senate	2/25/2024	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	DocuSigned by: Valerie Guyant	2/25/2024				
Provost		<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	1E 59431E27A1A3E	4/2/24				
Chancellor		<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	DocuSigned by: Gregory O'Keefe	6-4-2024				
MSU		<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved	N/A					
BOR		<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved	N/A					
NWCCU		<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved						
Provost		Advise originating college and Academic Senate of status. Update Web page.						
Registrar		Catalog/Policy Manual Update						

NOTE: The secretary of the Academic Senate will update the Academic Senate Proposal web page from initial receipt until the proposal reaches the Provost. The Provost's Administrative Assistant will ensure that the current status of each proposal is maintained on the Academic Senate Proposal web page from that point forward.

Academic Senate Form 1 (Revised 4/4/2023)

COURSE REVISION FORMNEW DROPPED _____ MAJOR REVISION _____ FOR INFORMATION ONLY _____

- For purposes of this form, "For Information Only" should be used for catalog description or objective changes ONLY

College **Arts, Sciences & Education** Program Area **Biology (B65)**Submitter _____ Dean Beth Durovsky Date 4-5-24
Signature Signature (indicates "college" level approval)**Please provide a brief explanation & rationale for the proposed revision(s):**

This course is an elective in the proposed Biomedical Sciences & Human Health Track in the Biology Program. It represents a new course in the MUS system as well and draws on the background and experience of MSUN Biology faculty.

Course Prefix & No.: BIOH 4XX**Current Course Title:****Proposed Course Title (when applicable):** Neurobiology of Disease**Current # of Credits:****Proposed # of Credits (when applicable):** 3**[please specify degrees]:****Required by:****Selective in:****Elective in:** Biology – Biomedical Sciences & Human Health**General Education Category:****Lecture:** 3**Lecture/Lab:****Gradable Lab:****Lecture contact hours per week:** 3**Lab contact hours per week:****Current Catalog Description (include all prerequisites):****Proposed or New Catalog Description (include all prerequisites):**

This course is devoted to the exploration of the neurobiological mechanisms underlying neuropathology in the human brain. The course begins with an overview of basic neuroscience, covering both neuroanatomy and neurophysiology. This knowledge of structure and function is used to explore a variety of neurological disorders. This course incorporates traditional lectures with case studies, journal clubs, student presentations, and laboratory. Guest speakers from medical institutions present periodically during the semester. Case studies allow students to serve as a neuropathologist by assessing clinical symptomology and make appropriate diagnoses. Reading and discussing scientific journal articles allow students to participate in the scientific process, Exposing them to novel, cutting-edge clinical research discoveries. The laboratory component of the course provides a hands-on experience with brains and spinal cords from a number of different species to build an understanding of neuroanatomy. Prerequisites: BIOH 211/212 Human Anatomy and Physiology II Lecture and Lab or by permission of instructor.

Course Outcomes/Objectives:

1. Become familiar with the intricacies of the human nervous system.
2. Become familiar with the neuroanatomical structures and neurophysiology processes of the human brain.
3. Become familiar with Web-based comparative neuroanatomy atlases and other online resources.
4. Demonstrate an understanding of neurological disorders, and the neurobiological mechanisms that underlie these disorders.
5. Understand the clinical approaches for diagnostic criteria and therapeutic intervention as it relates to neurological disorders.
6. Develop skills in presenting, and critical thinking by evaluating and discussing published research, preparing lectures on neuro-related topics.

Please note additional instructional resources needed, if any (including library materials, special equipment, and facilities). Approval does not indicate support for new faculty or additional resources.

No additional resources are anticipated.

Instructor: Dr. Giuseppe P. Cortese

Lecture Room: HSC 101

Email: giuseppe.cortese@msun.edu

Lecture Time: MWF 3:00 – 3:50pm

Office: HSC 207

Office Hours: MW 9:00 – 10:30am ; T 12:30 – 2pm ; or by appointment

Course Description

This is a special topics course, devoted to the exploration of the neurobiological mechanisms underlying neuropathology in the human brain. We will begin the course with an overview of basic neuroscience, covering both neuroanatomy and neurophysiology. Then, we will apply our knowledge of structure and function to explore a variety of neurological disorders. This course will incorporate traditional lectures with case studies, journal clubs, student presentations, and laboratory. We will also have guest speakers from the medical institutions periodically during the semester. Case studies will allow students to serve as a neuropathologist by assessing clinical symptomology to make appropriate diagnoses. Reading and discussing scientific journal articles will allow students to participate in the scientific process, and expose students to novel, cutting-edge clinical research discoveries. The laboratory component of the course is designed to give students a hands-on experience with brains and spinal cords from a number of different species to build their understanding of neuroanatomy.

Learning Objectives

1. Become familiar with the intricacies of the human nervous system.
2. Become familiar with the neuroanatomical structures and neurophysiology processes of the human brain.
3. Become familiar with Web-based comparative neuroanatomy atlases and other online resources.
4. Demonstrate an understanding of the neurological disorders, and the neurobiological mechanisms that underlie these disorders.
5. Understand the clinical approaches for diagnostic criteria and therapeutic intervention as it relates to neurological disorders.
6. Develop skills in presenting, and critical thinking by evaluating and discussing published research, preparing lectures on neuro-related topics.

Required Materials

1. Computer with audio and video capabilities.
2. Microsoft Word and PowerPoint (or similar software).
3. Wi-Fi and Internet access + MSUN digital library access.

Suggested Materials (not required)

1. Neuroanatomy Through Clinical Cases, third edition, Blumenfeld, H.; Oxford University Press, 2021
2. Functional and Clinical Neuroanatomy, first edition, Moini, J. and Piran, P.; Elsevier, 2020.

Brightspace

The instructor will utilize Brightspace to post all lecture slides. Announcements, updates, relevant links, and additional materials will also be posted to Brightspace. It is the responsibility of the student to access these materials, and keep up to date with the course. Please check Brightspace frequently.

General Policies

1. Attendance is required. Failure to participate in this course will result in a failing grade.
2. A course Brightspace will be used for all course materials. It will contain course syllabus, lecture slides, course grades, assignment instructions, journal articles, course resources, and all important and relevant course announcements. There will important web-links with other supplemental materials that will be posted, which are important for the laboratory component of the course.
3. **Clinical Seminars:** There will be a total of 5 clinical seminars during the semester.
 - a. Neuropathology lectures relating to the clinical topic will occur prior to seminars.
 - b. Seminars occur over 2 days:
 - i. Day 1: Students will be assigned a clinical case to assess. Students will then work together to evaluate the case, confirm diagnosis(ses), determining the neurobiological mechanisms of disease, and prepare a presentation of the case.
 - ii. Day 2: Students will present their clinical case to the class and professor.

****Detailed instructions will be posted on Brightspace before each case is assigned***

4. **Assigned Journal Article Questions:** There will be a total of 8 clinically-relevant journal articles assigned during the semester, which compliments a specific course topic. All articles will be posted on Brightspace (.pdf format). There will be 2-4 short essay questions (1-2 paragraphs maximum) pertaining to the article. Each assignment will be worth 25 points total. **Answers must be submitted via Brightspace on the due date listed in the syllabus.** Late submission will not be accepted. We will dedicate a lecture day to discuss the journal articles together, as a class.
5. Cell phones are not to be used during lecture. Taking notes on laptops is acceptable, if not disruptive.

Absences, Make-up Tests, and Grades

1. Make-up work is **only** allowed if the student has an approved and documented excused absence. it is the student's responsibility to notify the professor of planned absences **prior** to absence date. **Students will be given 1 day following an unplanned/unexcused absence to contact the professor to discuss the situation, otherwise the possibility of a make-up will be forfeited.** If absence is approved, the professor will arrange a make-up date and time with the student outside of class time.
 - a. Excused absences include:
 - Medical hospitalization (image of doctor's note with appropriate dates required)

- Funeral (image proving date of absence: obituary/wake)
 - NCAA sport and MSUN academic approved events (documentation from coaches and/or MSUN required).
- b. Unexcused absences include:
- Lack of a functional computer and/or Wi-Fi access
 - Brightspace malfunctions that are not legitimate. These may include accessing all lecture materials and incorrectly submitting assignments.
 - Not communicating with the professor in a timely fashion regarding the accessibility of materials, or ability to perform submissions, including excused absences.
 - Work schedules or vacation plans.
 - Sleeping in and/or not being prepared (or on time) for class (exams and labs).

***Note:** All excused absences must occur during the testing or due date, and notes must reflect this.

***Note:** Please communicate with the professor regarding unforeseen circumstances. Proper communication is important for both the student, and professor in order to gain a mutual understanding and proceed with an appropriate response that will not negatively impact the student's grade.

2. Late submissions are not acceptable. Failure to meet the scheduled deadlines will result in a 'zero' score.
3. *Significant Figure Rule:* Grades will be updated on the course Brightspace as frequently as possible. At the end of the semester, ONLY grades sitting at 0.5-0.9% will be bumped. For example: 70.5-70.9% will be rounded to a 71%. Grades at 70.0-70.4% will remain, and not be bumped.
4. There will be no extra credit opportunities for this course.

Student Responsibilities:

1. Attend all classes, and actively participate in all class activities.
2. Be on-time and prepared.
3. Respect other students by refraining from disruptive behavior during class time.

Academic Integrity

Academic misconduct including, but not limited to cheating, plagiarism, multiple submissions, or facilitating others' misconduct will not be tolerated. Evidence of cheating or plagiarism will result in a zero (0) score on the assigned work, and the student(s) will be referred to the Dean of Students office for disciplinary action. Please make sure that the work you submit is your own work! More information regarding academic misconduct can be found here: <https://www.msun.edu/admin/policies/600/601-2.aspx>

Accessibility Statement

As directed by Section 504 of the Rehabilitation Act and the Americans with Disability Act (ADA), any students with physical or learning disabilities have access to a variety of services at MSU-Northern. In order to access

these services, students are encouraged to meet with the Accessibility Resource Coordinator, Johnna Antonich. During the meeting, the student will complete an application, provide documentation of their disability (an IEP from high school, any Veteran or DV, and/or clinical documentation from a licensed professional), and complete accommodations request forms for their courses.

*Johnna Antonich, Coordinator of Accessibility Resources
Cowan Hall 213C, 406-265-3533, johnna.antonich@msun.edu*

Veterans Statement

Veterans, Drilling Guard/Reserve Members, and active-duty military personnel with special circumstances (e.g., upcoming deployments, drill requirements, disabilities) are welcome and encouraged to communicate these, in advance, if possible, to the instructor.

The MSU-Northern Office of Veteran Services is committed to serving all the needs of our veterans and assisting them during their transition from military life to that of a student. If you are a student veteran or veteran dependent and need any assistance with your transition, please contact Joshua Gomez, the coordinator of Veteran Services at MSU-Northern.

*Joshua Gomez, Veterans Services Coordinator, Cowan Hall 220, 406-265-4190
joshua.gomez@msun.edu*

Brightspace Technical Support

This course uses the Brightspace Learning Management System for course content, communication, and grading. Email brightspace@msun.edu or contact Jason Geer or Brittany Garden in the Office of Teaching & Learning Excellence for Brightspace support.

*Jason Geer
Cowan Hall 104, 265-3767
jason.geer@msun.edu*

*Brittany Garden
Cowan Hall 104, 265-3701
brittany.garden@msun.edu*

Course Grading

Lecture Grades:	
8 – Assigned Journal Questions (25pts each)	200 points
5 – Clinical Seminars (50pts each)	250 points
Total Points	450 points

Grading Scale:

A	93%-100%	B-	80%-82%	D+	67%-69%
A -	90%-92%	C+	77%-79%	D	63%-66%
B+	87%-89%	C	73%- 76%	D -	60%-62%
B	83%-86%	C -	70%-72%	F	0-59%

Tentative Course Schedule	
WEEK 1:	<i>Jan 9 – 13</i>
M:	No Class
W:	No Class
F:	No Class
WEEK 2:	<i>Jan 16 – Jan 20</i>
M:	NO CLASS
W:	Course Introduction & Syllabus
F:	Introduction to Neuroscience: Neuroanatomy
WEEK 3:	<i>Jan 23 – Jan 27</i>
M:	Introduction to Neuroscience: Neuroanatomy
W:	Introduction to Neuroscience: Neuroanatomy
F:	Introduction to Neuroscience: Neurophysiology ⇒ Posted: Journal Article 1: (assignment due week 4)
WEEK 4:	<i>Jan 30 – Feb 3</i>
M:	Journal Article 1 Discussion
W:	Introduction to Neuroscience: Neurophysiology
F:	Introduction to Neuroscience: Neurophysiology ⇒ DUE: Journal Article 1: Assignment due Monday (Jan 30) by 12pm (Brightspace submission) ⇒ Posted: Journal Article 2: (assignment due week 5)
WEEK 5:	<i>Feb 6 – Feb 10</i>
M:	Journal Article 2 Discussion
W:	Introduction to Neuroscience: Spinal Cord & Spinal Nerves
F:	Introduction to Neuroscience: Spinal Cord & Spinal Nerves ⇒ DUE: Journal Article 2: Assignment due Monday (Feb 6) by 12pm (Brightspace submission) ⇒ Posted: Journal Article 3: (assignment due week 6)
WEEK 6:	<i>Feb 13 – Feb 17</i>
M:	Journal Article 3 Discussion
W:	Introduction to Neuroscience: Spinal Cord & Spinal Nerves
F:	Lecture: The Neurological Exam & Clinical Assessment ⇒ DUE: Journal Article 3: Assignment due Monday (Feb 13) by 12pm (Brightspace submission) ⇒ Posted: Journal Article 4: (assignment due week 7)

WEEK 7: Feb 20 – Feb 24

M: NO CLASS

W: Journal Article 4 Discussion

F: Neuropathology Lecture: Developmental Disabilities (Autism Spectrum Disorder & Downs Syndrome)

⇒ DUE: Journal Article 4: Assignment due Tuesday (Feb 21) by 12pm (Brightspace submission)

⇒ No Journal Article this week

WEEK 8: Feb 27 – Mar 3

M: Neuropathology Lecture: Developmental Disabilities (Autism Spectrum Disorder & Downs Syndrome)

W: Clinical Case Conference (Part 1): Breakout Group – assessing clinical case & preparing lecture

F: Clinical Case Conference (Part 2): Full Class – presentation of case

⇒ Posted: Journal Article 5: (assignment due week 9)

WEEK 9: Mar 6 – Mar 10

M: Journal Article 5 Discussion

W: Neuropathology Lecture: Diseases of the PNS (Myasthenia Gravis)

F: NO CLASS

⇒ DUE: Journal Article 5: Assignment due Monday (Mar 16) by 12pm (Brightspace submission)

⇒ No Journal Article this week

WEEK 10: Mar 13 – Mar 17

NO CLASS (Spring Break)

WEEK 11: Mar 20 – Mar 24

M: Neuropathology Lecture: Diseases of the PNS (Myasthenia Gravis)

W: Clinical Case Conference (Part 1): Breakout Group – assessing clinical case & preparing lecture

F: Clinical Case Conference (Part 2): Full Class – presentation of case

⇒ Posted: Journal Article 6: (assignment due week 12)

WEEK 12: Mar 27 – Mar 31

M: Journal Article 6 Discussion

W: Neuropathology Lecture: Diseases of the CNS (Epilepsy)

F: Neuropathology Lecture: Diseases of the CNS (Epilepsy)

⇒ DUE: Journal Article 6: Assignment due Monday (Mar 27) by 12pm (Brightspace submission)

WEEK 13: Apr 3 – Apr 7

M: Clinical Case Conference (Part 1): Breakout Group – assessing clinical case & preparing lecture

W: Clinical Case Conference (Part 2): Full Class – presentation of case

F: Neuropathology Lecture: Diseases of the CNS (Alzheimer's Disease)

WEEK 14: Apr 10 – Apr 14

M: Neuropathology Lecture: Diseases of the CNS (Alzheimer's Disease)

W: Clinical Case Conference (Part 1): Breakout Group – assessing clinical case & preparing lecture

F: Clinical Case Conference (Part 2): Full Class – presentation of case

⇒ Posted: Journal Article 7: (assignment due week 15)

WEEK 15: Apr 17 – Apr 21

M: Journal Article 7 Discussion

W: Neuropathology Lecture: Diseases of the CNS (Motor Disorders)

F: Neuropathology Lecture: Diseases of the CNS (Motor Disorders)

⇒ DUE: Journal Article 7: Assignment due Monday (Apr 17) by 12pm (Brightspace submission)

WEEK 16: Apr 24 – Apr 28

M: Clinical Case Conference (Part 1): Breakout Group – assessing clinical case & preparing lecture

W: Clinical Case Conference (Part 2): Full Class – presentation of case

F: NO CLASS

⇒ Posted: Journal Article 8: (assignment due week 15)

WEEK 17: May 1 – May 5

FINAL EXAM

Tuesday, May 2nd @ 8am

⇒ Journal 8 Article Discussion

⇒ DUE: Journal Article 8: Assignment due day of Final by 8am (Brightspace submission)