

: NEUROSCIENCE, BSLAS

In Workflow

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Approval Path

1. Tue, 19 Jan 2021 21:59:52 GMT
Deb Forgacs (dforgacs): Approved for U Program Review
2. Tue, 19 Jan 2021 22:01:13 GMT
Melissa Michael (mmichae): Approved for 1415 Head
3. Tue, 19 Jan 2021 22:01:41 GMT
Melissa Michael (mmichae): Approved for SMCB Head
4. Tue, 19 Jan 2021 22:02:23 GMT
Kelly Ritter (ritterk): Approved for KV Dean
5. Tue, 19 Jan 2021 22:07:58 GMT
John Wilkin (jpwilkin): Approved for University Librarian
6. Tue, 19 Jan 2021 23:05:08 GMT
Kathy Martensen (kmartens): Approved for Provost
7. Wed, 20 Jan 2021 15:53:04 GMT
Kathy Martensen (kmartens): Rollback to Provost for Senate EPC
8. Wed, 20 Jan 2021 19:47:01 GMT
Kathy Martensen (kmartens): Approved for Provost

New Proposal

Date Submitted: Tue, 19 Jan 2021 21:34:38 GMT

Viewing:: Neuroscience, BSLAS

Changes proposed by: Kelly Ritter

Proposal Type

Proposal Type:

Major (ex. Special Education)

Proposal Title:

If this proposal is one piece of a multi-element change please include the other impacted programs here. *example: A BS revision with multiple concentration revisions*

Establish a Bachelor of Science in Liberal Arts and Sciences in Neuroscience (BSLAS in Neuroscience), in the School of Molecular and Cellular Biology within the College of Liberal Arts and Sciences.

EP Control Number

EP:21.057

Official Program Name

Neuroscience, BSLAS

Effective Catalog Term

Fall 2022

Sponsor College

Liberal Arts & Sciences

Sponsor Department

Molecular and Cellular Biology

Sponsor Name

Brenda Anne Wilson, Associate Director for Undergraduate Education and Melissa Michael, Associate Director for Curriculum and Instruction, School of Molecular and Cellular Biology

Sponsor Email

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College Contact

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Program Description and Justification

Provide *abrief* description and justification of the program, including highlights of the program objectives, and the careers, occupations, or further educational opportunities for which the program will prepare graduates, when appropriate.

The BSLAS in Neuroscience is a program designed for students whose interests motivate them to desire in-depth preparation in the area of Neuroscience to prepare them for graduate school in neuroscience or neuropsychology, or medical school with a focus in Neurology or Psychiatry, or for a career in pharmaceutical industry and governmental agencies. The major allows students to combine the study of molecular and cellular biology with neuroscience, neurophysiology, neurochemistry, and neuropathology, to gain novel molecular but integrated perspectives on the study of the brain and its component physical and biological systems.

The proposed Neuroscience major is structured to provide students in their first two years with foundational knowledge and concepts through a series of core courses in neuroscience, molecular and cellular biology, genetics, chemistry, physics, math, psychology, and statistics that are essential for understanding the discipline. Students will also gain a foundational understanding of brain function at multiple levels of organization, including societal, by taking an introductory course for the degree program (MCB 170: Society & the Brain), then a core course in neurobiology (MCB 314: Introduction to Neurobiology). During their third and fourth years, students will select from intermediate and upper level courses that provide a solid

neuroscience curriculum covering a breadth of areas in the discipline of neuroscience, from brain, behavior and information processing to cellular and integrative neurosystems. Students will gain laboratory skills through core laboratory courses and an advanced neuroanatomy laboratory course. Students will also have the opportunity to gain research experience in the laboratories of neuroscience faculty within the School of MCB. The major culminates with two advanced courses that will serve collectively as capstone experiences for the major (MCB 461: Cell & Molecular Neuroscience and MCB 462: Integrative Neuroscience).

The field of neuroscience is a young, exciting, and highly interdisciplinary area that is growing at an exponential rate. Neuroscience is the study of the brain and nervous system from the molecular and cellular level in neurons of the nervous system to systems, organismal and evolutionary levels. Neuroscientists seek to understand how biological, chemical and physical processes in the brain accomplish complex functions, such as movement, sensation, communication, memory, emotion, consciousness and behavior. Because neuroscience is at the crux of understanding the biology of how the brain works, it will be the key to researching the causes and developing the biomedical solutions to the ongoing mental health crisis. Disorders ranging from autism, anorexia and Alzheimer's disease to substance abuse, epilepsy, schizophrenia, Parkinson's disease, and many more are on the rise and pose an enormous societal burden. It is critical that our students, who wish to meet this urgent need through their future neuroscience-based educational and professional career choices, have a strong foundation in Neuroscience, and this degree program will provide the means for them to achieve their goals.

The School of MCB has considered offering an undergraduate degree program in neuroscience for more than a decade. The graduate Neuroscience Program on our campus was originally partnered with the School of MCB before shifting to a stand-alone unit in the College of LAS a number of years ago. This is the perfect moment to follow through with the proposed degree program as our existing faculty strength in this diverse disciplinary area has increased with two new faculty hires this year and a possible third one next year. Undergraduates at UIUC are already formulating versions of the Neuroscience major by tailoring their MCB undergraduate major to meet their interest in neuroscience. Many MCB majors choose to also obtain a second major or a minor in Psychology, so as to explore other disciplinary areas of neuroscience, such as behavioral and cognitive neuroscience, and some create an Independent Program of Study for themselves targeted at Neuroscience. Since 2016, the School of MCB has offered a Certificate in Neuroscience with a recommended course sequence and selections that are in some ways similar to those of the proposed curriculum. We have seen a strong growth in popularity of this Certificate in Neuroscience, nearly doubling the number of students participating since 2016 (ranged from 25 per academic year to 50 in 2020). The proposed Neuroscience major builds on the existing offerings from the Department of Psychology with their two concentrations in Behavioral Neuroscience and Cognitive Neuroscience. It is our objective to round out the neuroscience offerings in the College of LAS with Neuroscience, making a full complement of opportunities for students in this area of study, depending on precisely where their interests lie. Students who graduate with the proposed BSLAS in Neuroscience will be prepared for graduate study in neuroscience or related areas, as well as medical school and other health professions. Students may also choose to move to industry or governmental work in policy areas or at National Laboratories, where research in this area is rapidly expanding.

Corresponding Degree

BALAS Bachelor of Arts in Liberal Arts and Sciences

Is this program interdisciplinary?

No

Academic Level

Undergraduate

Will you admit to the concentration directly?

No

Is a concentration required for graduation?

No

CIP Code

261501 - Neuroscience.

Is This a Teacher Certification Program?

No

Will specialized accreditation be sought for this program?

No

Institutional Context

University of Illinois at Urbana-Champaign

Describe the historical and university context of the program's development. Include a short summary of any existing program(s) upon which this program will be built.

Explain the nature and degree of overlap with existing programs and, if such overlap exists, document consultation with the impacted program's home department(s).

The University of Illinois at Urbana-Champaign has for a long time been the home of the graduate Neuroscience Program. This program was part of the School of Molecular and Cellular Biology for many years before more recently becoming a stand-alone entity in the College of Liberal Arts and Sciences. Because of this long history, it is unsurprising that the School of MCB would consider offering an undergraduate major in Neuroscience. It is our plan to fill a particular niche of Neuroscience on this campus to go along with the Department of Psychology's two concentrations in Behavioral Neuroscience and Cognitive Neuroscience. Together, these three degree programs or concentrations will offer the fullest possible range of options for our undergraduates in the area of neuroscience, while making full use of current and future faculty expertise and existing course offerings, while adding a few new opportunities for students. The Neuroscience degree program, as proposed, is meant to reflect the fact that there are three elements of neuroscience found in our College. We have partnered with Psychology to share two of their courses as required for this major (PSYC 100 and PSYC 210 or PSYC 224), and to offer one more as a possible elective course in the set of available options. Any overlap will exist only in these courses as there is adequate discrete neuroscience work being done in both the School of MCB and the Department of Psychology. We have opened our courses to psychology students, and brain & cognitive neuroscience students, who are interested in knowing a little more about the Neuroscience perspective found in courses in MCB (such as MCB 419, 461 and 462).

The proposed program also requires foundational courses from Physics, Chemistry and Math in order to support the neuroscience as well as the molecular and cellular biology coursework. The selected supporting coursework is very similar to that which is currently supporting the MCB and Biochemistry undergraduate degree programs in our School.

University of Illinois

Briefly describe how this program will support the University's mission, focus and/or current priorities. Demonstrate the program's consistency with and centrality to that mission.

This proposed program addresses several elements of the University's Strategic Plan:

- 1) This proposal creates a new degree program where one has not existed previously. Specifically, it will provide students with the opportunity to earn a B.S. degree in LAS with a major in Neuroscience where no such opportunity existed in the past. This degree can serve them in many ways, including strengthening their competitiveness for admission to more advanced neuroscience or related studies in graduate or professional programs and enhancing their competitiveness for employment in skilled workforce areas to positively impact their earning power and influence in industry or government jobs or other arenas.
- 2) This proposed degree program will support economic development by funneling more specially qualified Illinois residents into jobs in the State of Illinois and elsewhere.
- 3) This proposed program will reflect our campus-wide commitment to diversity by working to support all students such that they have what they need to succeed at Illinois. We work daily to meet the requirement that our courses are taught with consideration to issues of inclusivity and diversity. All students are important in our School of MCB community, and we continue to foster the development in each student of a sense of accomplishment, confidence, and pride in the work they do. These professional skillsets that our students develop positively impact the ability of our students to succeed in their future endeavors.

4) While serving the needs of targeted populations is the highest priority, this program also meets the need of our unit and campus to find innovative ways to attract new students to study at Illinois. This, in turn, will generate tuition revenue for the future so that funds can be reinvested in order to give our students the best possible experience. This program, as proposed, will provide a mechanism for sustainability with minimal new investment.

State of Illinois

Indicate which of the following goals of the Illinois Board of Higher Education's Strategic Initiative are supported by this program: (choose all that apply)

College Affordability - ensure college affordability for students, families, and taxpayers.

Educational Attainment - increase educational attainment to match the best-performing states.

High Quality Credentials to Meet Economic Demand - Increase the number of high-quality post-secondary credentials to meet the demands of the economy and an increasingly global society.

Integration of Educational, Research and Innovation Assets - Better integrate Illinois' educational, research and innovation assets to meet economic needs of the state and its regions.

Describe how the proposed program supports these goals.

Educational Attainment: By providing this new and unique Neuroscience degree program at the University of Illinois at Urbana-Champaign, we will be expanding capacity through improved access to higher education in Illinois that will not only serve our students to achieve skilled employment but also will facilitate educational opportunities for more undergraduate students and thereby improve the overall quality of education in Illinois.

College Affordability: Prior to the proposal of this degree program, the only way for students to earn a degree in Neuroscience, focused on the molecular aspects, at UIUC was to earn a PhD in Neuroscience. The advent of the BSLAS in Neuroscience will allow students to move directly to study the discipline of most interest to them at the bachelor's level, eliminating one step in their progression to the next level of education or employment. Tuition for this degree program will be the same as for the BSLAS in MCB and the BS in Biochemistry, and in that way, it provides a specialized path without the added cost of a master's degree in neuroscience prior to matriculation in advanced graduate study or professional school.

High Quality Credentials to Meet Economic Demand: The proposed Neuroscience degree program will help students achieve their educational and career objectives by providing a high-quality curriculum in a specific area that will lead to further education or meaningful employment with companies working to improve the quality of life for all citizens of Illinois. Whether it is to further their education in academia or to gain skilled employment in industry or government, students graduating with a BSLAS in Neuroscience will have the knowledge and skillsets necessary to succeed at their next career stage.

Integration of Educational, Research, and Innovation Assets: The proposed Neuroscience degree program will help prepare students for success in the global economy by providing a rigorous and focused BS degree that will make them more competitive for securing and retaining employment in this disciplinary area or matriculation in a graduate or professional degree program. The curriculum proposed for this degree program is designed to provide comprehensive and foundational concepts with critical thinking, problem-solving, and communication skillsets that will feed innovation and high performance in academia, industry, and government, as well as societal arenas. Students completing a BSLAS in Neuroscience degree will be highly prepared for exciting roles in academia, medicine, technology, business, industry, and government.

Admission Requirements

Desired Effective Admissions Term

Fall 2022

Provide a brief narrative description of the admission requirements for this program. Where relevant, include information about licensure requirements, student background checks, GRE and TOEFL scores, and admission requirements for transfer students.

The requirement for this degree program will be the same as for the non-degree granting biology program through which all students gain access to the BSLAS in Molecular and Cellular Biology. Specifically, the requirements will be those for all incoming freshman applicants to UIUC.

The details can be found at this URL: <https://admissions.illinois.edu/Apply/Freshman/requirements>, but can be summarized as follows:

English: 4 years required

Math: 3 or 3.5 years required, 4 years recommended

Social Sciences: 2 years required, 4 years recommended

Lab Sciences: 2 years required, 4 years recommended

Language other than English: 2 years required, 4 years recommended

Flexible academic units: 2 years required, 4+ years recommended

The proposed BSLAS in Neuroscience will be a rigorous degree program, but we want to remove as many barriers to matriculation as possible.

Describe how critical academic functions such as admissions and student advising are managed.

The only role we expect to play in the admission process is to consult with our college admission personnel on the total number of students we can advise on one day during summer orientation. The total number we have given for many years is 600 students per summer, but the actual number recently dropped to about 420 students. If we gain 200 new students in this degree program over the first four admission cycles, we will return to and exceed our old limit by just twenty students. We have the capacity to support these students right now. We will provide advising services for these students by adding one additional full-time academic advisor to our current group of 5 full-time and 4 part-time advisors. Our current student to advisor ratio is approximately 240 students to one full-time advisor. We will use our differential tuition funds to support this hire. We have indicated that we expect approximately 50 students to matriculate to this proposed program in the first year. We estimate that at least half of those students will come from current first-year biology students or current MCB or Biochemistry majors. That leaves approximately 25 new students at Illinois who will choose to study here because of the new Neuroscience degree program. This means that initially, we will be adding about 25 new students to our existing courses. We currently have enough seats availability in order to absorb 50 in each cohort, so the anticipated 25 will be even less disruptive.

Enrollment

Number of Students in Program (estimate)

Year One Estimate

50

5th Year Estimate (or when fully implemented)

200

Estimated Annual Number of Degrees Awarded

Year One Estimate

0

5th Year Estimate (or when fully implemented)

50

What is the matriculation term for this program?

Fall

What is the typical time to completion of this program?

4 years

What are the minimum Total Credit Hours required for this program?

120

Delivery Method

This program is available:

On Campus

Budget

Will the program or revision require staffing (faculty, advisors, etc.) beyond what is currently available?

Yes

Please explain/describe:

We do not expect to alter the number of faculty in MCB as a result of the creation of this degree program. The School of MCB already has many neuroscientists among the faculty from our departments, including two new neuroscientists who were hired this year. Faculty teaching load will not change as a result of this proposed degree program because the MCB required courses for this degree program currently have capacity to seat additional students or are delivered in sections and can scale. The student-faculty ratio may shift slightly, but given our current capacity, the addition of 50 students per cohort will not affect any one course in a significant way. Further, we expect that some of the students who will choose this major are likely to come from the group who would have selected MCB or Biochemistry in the absence of this degree program. This further reduces the overall effect on student-faculty ratios and class size. If any individual course sees increased pressure on enrollment, we will work with our faculty to find solutions so that the course can move forward with undiminished quality. We imagine that this might include the service of a course coordinator or additional graduate teaching assistants being assigned.

We plan to hire one additional full-time academic advisor prior to the time when this degree program comes online. This advisor would create overall capacity among our current School of MCB undergraduate advising team and the group will be able to absorb the additional students we expect. We also plan to hire one instructor/lecturer to support the introductory course for the degree program (MCB 170) and the new laboratory course (MCB 460: Neuroanatomy Lab) among other duties. We will use existing revenue streams in order to meet these needs, and so, we will not ask the College of LAS for additional funding for these positions.

We already have a very strong existing instructional program infrastructure that can absorb the new students we attract to this degree program. This is one of the main reasons we feel confident in our ability to add this program to our portfolio of undergraduate degree programs.

Additional Budget Information

We will not ask the College of LAS for additional funding due to the deployment of this degree program.

Resource Implications

Facilities

Will the program require new or additional facilities or significant improvements to already existing facilities?

No

Technology

Will the program need additional technology beyond what is currently available for the unit?

No

Non-Technical Resources

Will the program require additional supplies, services or equipment (non-technical)?

No

Resources

For each of these items, be sure to include in the response if the proposed new program or change will result in replacement of another program(s). If so, which program(s), what is the anticipated impact on faculty, students, and instructional resources? Please attach any letters of support/acknowledgement from faculty, students, and/or other impacted units as appropriate.

Faculty Resources

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc. Describe how the unit will support student advising, including job placement and/or admission to advanced studies.

We do not expect to alter the number of faculty in MCB as a result of the creation of this degree program. The School of MCB already counts many neuroscientists among the faculty from our departments, including two new neuroscientists hired this year. Faculty teaching load will not change as a result of this proposed degree program. The student-faculty ratio may shift slightly, but given our current capacity, the addition of 50 students per cohort will not affect any one course in a significant way. Further, we expect that some of the students who will choose this major are likely to come from the group who would have selected MCB or Biochemistry in the absence of this degree program. This further reduces the overall effect on student-faculty ratios and class size. If any individual course sees increased pressure on enrollment, we will work with our faculty to find solutions so that the course can move forward with undiminished quality. We imagine that this might include the service of a course coordinator or additional graduate teaching assistants being assigned.

We plan to hire one additional full-time academic advisor prior to the time when this degree program comes online. This advisor would create overall capacity among our current School of MCB undergraduate advising team and the group will be able to absorb the additional students we expect. Because many of the students in the Neuroscience degree program are likely to apply to Graduate Programs or Professional Schools, this new advising position will assure that we can accommodate every student who asks for advising. We plan to hire one instructor/lecturer to support the introductory course for the degree program (MCB 170) and the new laboratory course (MCB 460: Neuroanatomy Lab). We will use existing revenue streams in order to meet these needs.

MCB will use existing resources located within our School of MCB Career Development Team to support students as needed. We will encourage students to participate in the ACES & LAS Career Fair as well as the Illini Career & Internship Fair each year. Students will be encouraged to interact with employers through Handshake where they can apply for posted positions. The School of MCB Career Development Team will host information sessions throughout the year for companies interested in students with this major. Many of the students in the Neuroscience degree program are likely to apply for jobs that include pharmaceutical and biotechnology industry, chemical and nutritional industry, policy and other government positions, regulatory and consulting agencies, and nongovernmental organizations. Students earning the BSLAS in Neuroscience, like those in the MCB and BIOC BS degree programs, will have greater laboratory technique skills than many of their peers from other institutions. This comes mainly from the fact that our degree programs require a minimum of three intense laboratory courses, two at the 200-level and at least one at the 300- or 400-level. In many cases these skills turn out to be the deciding factor in hiring. We will further enhance this learning experience for our Neuroscience majors by providing an additional upper-level laboratory course in neuroanatomy.

Library Resources

Describe your proposal's impact on the University Library's resources, collections, and services. If necessary please consult with the appropriate disciplinary specialist within the University Library.

None

Instructional Resources

Will there be any reduction in other course offerings, programs or concentrations by your department as a result of this new program/proposed change?

No

Does the program include other courses/subjects impacted by the creation/revision of this program?

No

Financial Resources

How does the unit intend to financially support this proposal?

The School of MCB will support, through the use of differential tuition, this degree program by using our already-existing infrastructure in terms of faculty members to teach in the required and elective courses; additional seats in existing lecture and laboratory courses; and instructional program staff, academic advisors, and graduate teaching assistants to support increased enrollments that may occur over time. The proposed Neuroscience major is based on the foundational interdisciplinary science courses already in place for the existing MCB and Biochemistry majors. Students in all three majors will take a set of core courses during the first and second years of the respective programs. These core courses are important prerequisites for specialization in the area of Neuroscience, which will take place largely, but not exclusively, during the last five semesters in advanced 300- and 400-level courses.

We plan to hire one additional full-time academic advisor prior to the time when this degree program comes online. This advisor would create overall capacity among our current School of MCB undergraduate advising team, and the group will be able to absorb the additional students we expect.

Because many of the students in the Neuroscience degree program are likely to apply to Graduate Programs or Professional Schools, this new advising position will assure that we can accommodate every student who asks for advising. We plan to hire one instructor/lecturer to support the introductory course for the degree program (MCB 170) and the new laboratory course (MCB 460: Neuroanatomy Lab). We will use existing revenue streams in order to meet these needs.

Will the unit need to seek campus or other external resources?

No

Are you seeking a change in the tuition rate or differential for this program?

No

Market Demand

What market indicators are driving this proposal? If similar programs exist in the state, describe how this program offers a unique opportunity for students:

The demand for this program has been demonstrated for quite some time in that we first had students interested in 'creating' their own neuroscience program by majoring in MCB with a minor in psychology or the reverse, or double majoring in MCB and psychology. Once we developed the Neuroscience Certificate, we could quantify how many students were interested in studying the intersection between molecular and cellular biology and neuroscience. For several years now, we have issued Neuroscience Certificates to about 40 graduating MCB students each year. Increasingly, we see that the disciplinary area of neuroscience is heavily involved in seeking solutions to neurological disorders, with a heavy emphasis on human health. Where students who commonly major in MCB at Illinois frequently are focused on a career in medicine, or other health professions, so will students who choose to major in Neuroscience. In many ways we have been testing the waters for interest in a bachelor's level degree program in this area for quite some time, and this proposal is the culmination of that effort.

Currently, we are aware of the following bachelor's level "neuroscience" degree programs in the state of Illinois at Four-year Institutions.

University of Illinois at Chicago, BS in Neuroscience

Northwestern University, BS in Neuroscience

University of Chicago, BS in Neuroscience
DePaul University, BS in Neuroscience
Loyola University of Chicago, BS in Neuroscience
Illinois State University, BS in Biology-Concentration in Physiology, Neuroscience, and Behavior
Eastern Illinois University, BS in Neuroscience

Nearly all of these programs offer traditional neuroscience curricula as an amalgam of cognitive and behavioral psychology, psychology, biology, and neuroscience, with limited molecular and cellular emphasis. Our proposed program is distinct in that it is focused on Neuroscience with the inclusion of a few psychology courses to help students gain a full perspective of all the ways in which neuroscience manifests in modern research universities. We are confident that our addition to the existing programs in the state is unique without being blind to the family of neuroscience subdisciplines. This degree program will provide something that does not currently exist on our campus and that is a transcriptable degree program in Neuroscience. We believe that the demand for this disciplinary area is so strong, that the existence of this program will not only interest those students who would come to UIUC in any case, but it will invite new students who hadn't considered UIUC given that we didn't have a BSLAS in Neuroscience.

What type of employment outlook should these graduates expect? Explain how the program will meet the needs of regional and state employers, including any state agencies, industries, research centers, or other educational institutions that expressly encourage the program's development.

Graduates in this proposed program will enjoy a diverse set of options when it comes to future educational opportunities and employment. Neuroscience graduates will find each of the following areas rich with opportunities.

Academic Research and/or Teaching
Health-Related Careers
Global Health Organizations and Industry
Government Labs & Policy Agencies
Writing & Publishing
Non-Profit Research or Foundations
Creative Sector
Quantitative Fields

The State of Illinois will be able to benefit from citizens of the state being prepared for jobs in each area.

What resources will be provided to assist students with job placement?

MCB will use existing resources located within our School of MCB Career Development Office. Students will receive career advising as needed and will be encouraged to participate in the ACES & LAS Career Fair as well as the Illini Career & Internship Fair each year. Students will be encouraged to interact with employers through Handshake where they can apply for posted positions. The School of MCB Career Development Office will host information sessions throughout the year for companies interested in students with this major.

It is likely that a significant fraction of students earning this degree will not seek a job immediately after graduation, but rather will go forward with advanced education either in graduate or professional school. Advising resources to support these pathways already exist in the School of MCB, and these students will be served by the existing structures.

If letters of support are available attach them here:

NEURO BSLAS Letters of Support.pdf

Program Regulation and Assessment

Briefly describe the plan to assess and improve student learning, including the program's learning objectives; when, how, and where these learning objectives will be assessed; what metrics will be used to signify student's achievement of the stated learning objectives; and the process to ensure assessment results are used to improve student learning. (Describe how the program is aligned with or meets licensure, certification, and/or entitlement requirements, if applicable).

Briefly describe the plan to assess and improve student learning, including the program's learning objectives; when, how, and where these learning objectives will be assessed; what metrics will be used to signify student's achievement of the stated learning objectives; and the process to ensure assessment results are used to improve student learning.

This proposed degree program is not aligned with any licensure, certification, and/or entitlement requirements.

The School of MCB Instructional Program will provide guidance, career services and academic advising for students within the Neuroscience BS degree program. The School of MCB Courses and Curriculum Committee will provide faculty input and oversight regarding the evaluation of the program.

Learning Objectives for the degree of Bachelor of Science in Liberal Arts and Sciences, Major in Neuroscience

Upon successful completion of the Neuroscience undergraduate curriculum, students will be able to:

1. understand and appreciate the diversity of life as it evolved over time by processes of mutation, selection and genetic change.
2. illustrate that fundamental structural units define the function of all living things.
3. explain that the growth, development, and behavior of organisms are activated through the expression of genetic information in context.
4. summarize that living systems grow and change by processes based upon chemical transformation pathways and are governed by the laws of physics.
5. illustrate that living systems are interconnected and interacting across scales of space and time.
6. design a scientific process and employ the scientific method, demonstrating that neuroscience is evidence based and grounded in the formal practices of observation, experimentation, and hypothesis testing.
7. execute quantitative analysis to interpret data.
8. construct and utilize predictive models to study and describe complex systems.
9. apply concepts from other sciences in order to interpret molecular and neural phenomena.
10. communicate concepts of neuroscience to members of a diverse scientific community as well as to the general public.

The program learning objectives will be assessed in groups of three or four each academic year. We will produce a learning objectives map that will identify which courses support each learning objective. We will use a Degree Program Curriculum Map to assist in our understanding of how students move through the program and gain knowledge and skills that can be measured. We will use performance on selected questions on final exams in required courses. We will also collect evidence of integrated knowledge and skills by monitoring progress in projects that are part of two capstone courses taken in the fourth year (MCB 461: Cell and Neuroscience and MCB 462: Integrative Neuroscience). Through the use of rubrics, we will be able to determine whether and at what level students have attained the learning outcomes we have set for them. These courses will serve as our capstone experiences for the degree program, and every student in the program is required to take them both. We will also conduct annual focus groups with students to help us better understand the student experience in the program. Where students conduct undergraduate research or participate in experiential learning experiences such as internships or study abroad, we will look for evidence of content and skills mastery in their written research documents (posters and papers). We will use the information we collect to adjust course content if we find that objectives are not being met or not being met sufficiently. The results of all assessment work will be shared with those charged with the delivery of our courses with an eye toward catching objectives that we may not fully meet or areas where we could improve outcomes with adjustments. The results from assessment activities are shared with all members of the MCB Courses and Curriculum Committee comprised of two faculty members from each of our departments, Associate Directors for Graduate Education, Undergraduate Education, and Curriculum and Instruction, as well as one graduate student and one undergraduate student. The results are also shared with the Director for the School of Molecular and Cellular Biology.

Is the career/profession for graduates of this program regulated by the State of Illinois?

No

Program of Study

"Baccalaureate degree requires at least 120 semester credit hours or 180 quarter credit hours and at least 40 semester credit hours (60 quarter credit hours) in upper division courses" (source: <https://www.ibhe.org/assets/files/PrivateAdminRules2017.pdf>). For proposals for new bachelor's degrees, if this minimum is not explicitly met by specifically-required 300- and/or 400-level courses, please provide information on how the upper-division hours requirement will be satisfied.

All proposals must attach the new or revised version of the Academic Catalog program of study entry. Contact your college office if you have questions.

For new programs, attach Program of Study

ACADEMIC CATALOG ENTRY Overview Tab Neuroscience BSLAS.docx

ACADEMIC CATALOG ENTRY Neuroscience BSLAS.docx

Appendix I BSLAS Neuroscience.docx

NEUR BSLAS 24 Nov 2020_v2.pdf

Neuroscience BSLAS 4-yr Plan 11 Nov 2020_2.docx

Catalog Page Text

Catalog Page Text: Description of program for the catalog page. This is not official content, it is used to help build the catalog pages for the program. Can be edited in the catalog by the college or department.

Minimum Required Courses: 83-84 hours including 29 hours of 300- or 400-level courses. 12 hours of advanced level courses in the major must be taken on the Urbana-Champaign campus.

In addition, undergraduate research (MCB 290) in an MCB Neuroscience-designated lab is strongly recommended for students planning to go to graduate school. No more than 10 hours of MCB 290 credit may be counted towards the 120 hours required for a degree in Neuroscience.

Students earning a degree in Neuroscience may not also earn a second degree in the Specialized Curriculum in Biochemistry.

Students earning a degree in Neuroscience may not double major in Molecular and Cellular Biology.

Distinction

Students in Neuroscience can qualify for Distinction via one of the following:

Distinction for Excellence in Research:

To be eligible for graduation with Distinction a student must:

Complete 3 semesters of MCB 290, in an MCB Neuroscience-designated lab, for 2 credit hours or more each semester. Maintain a minimum cumulative GPA of 3.25 at the end of penultimate semester. Give at least one presentation at the Undergraduate Research Symposium or other approved venue. Obtain a letter of support from their Principal Investigator.

To be eligible for graduation with High Distinction a student must:

Complete 2 semesters of MCB 290, in an MCB Neuroscience-designated lab, for 2 credit hours or more each semester. Complete 1 semester of MCB 492 for 3 credit hours or more. Maintain a minimum cumulative GPA of 3.25 at the end of penultimate semester. Give at least one presentation at the Undergraduate Research Symposium or other approved venue. Obtain a letter of support from their Principal Investigator. Submit a written thesis that is approved by the Distinction Committee.

To be eligible for graduation with Highest Distinction a student must:

Complete 2 semesters of MCB 290, in an MCB Neuroscience-designated lab, for 2 credit hours or more each semester. Complete 1 semester MCB 492 for 3 credit hours or more. Maintain a minimum cumulative GPA of 3.90 at the end of penultimate semester. Give at least one presentation at the Undergraduate Research Symposium or other approved venue. Obtain a letter of support from their Principal Investigator. Submit a written thesis that is approved by the Distinction Committee.

Distinction for Excellence in Academics:

To be eligible for graduation with Academic Distinction a student must:

Maintain a major GPA of 3.90 or higher in the Neuroscience major (MCB/Neuroscience, Chemistry, Physics and Math courses for the Neuroscience major) at the end of their penultimate semester.

General education: Students must complete the Campus General Education requirements, including the campus general education language requirement.

Minimum required major and supporting course work: 83-84 hours, including 29 credit hours of 300- or 400-level courses; 12 hours of 300- and 400-level courses in the major must be taken on this campus.

Minimum Hours required for graduation: 120 hours.

Statement for Programs of Study Catalog

Code	Title	Hours
Supporting Courses		
MATH 220 or MATH 221	Calculus Calculus I	30-31
MATH 231 or STAT 212	Calculus II Biostatistics	

CHEM 102 & CHEM 103 & CHEM 104 & CHEM 105	General Chemistry I and General Chemistry Lab I and General Chemistry II and General Chemistry Lab II	
CHEM 232	Elementary Organic Chemistry I	
CHEM 233	Elementary Organic Chem Lab I	
PHYS 101 & PHYS 102	College Physics: Mech & Heat and College Physics: E&M & Modern	
Neuroscience Introductory Courses		11
MCB 150	Molec & Cellular Basis of Life	
MCB 170	Society and the Brain	
PSYC 100	Intro Psych	
Neuroscience Core Courses		13
MCB 250	Molecular Genetics	
MCB 251	Exp Techniqs in Molecular Biol	
MCB 252	Cells, Tissues & Development	
MCB 253	Exp Techniqs in Cellular Biol	
PSYC 210 or PSYC 224	Behavioral Neuroscience Cognitive Psych	
Advanced Neuroscience Courses		14
MCB 314	Introduction to Neurobiology	
MCB 354	Biochem & Phys Basis of Life	
MCB 460	Neuroanatomy Laboratory	
MCB 461	Cell & Molecular Neuroscience	
MCB 462	Integrative Neuroscience	
Advanced Neuroscience Elective Courses		15
Five additional three- or four-credit hour courses (minimum of 15 hours) at the 300- to 400-level from the Approved Advanced Elective Courses List are also required. ¹		
Total Hours		83-84

¹ The Approved Advanced Elective Course List will be available on the MCB website (<https://mcb.illinois.edu/undergrad/>) and will be updated each semester to most accurately reflect the courses to be offered each academic year.

EP Documentation

Attach Rollback/Approval Notices

Re_ MCB Neuroscience BSLAS proposal.pdf

DMI Documentation

Program Reviewer Comments

Deb Forgacs (dforgacs) (Fri, 15 Jan 2021 15:45:53 GMT): Rollback: requested.

Kathy Martensen (kmartens) (Wed, 20 Jan 2021 15:53:05 GMT): Rollback: Rolling back for review by Budget & Resource Planning.

Kathy Martensen (kmartens) (Mon, 08 Feb 2021 18:50:20 GMT): Updated 4-yr. curriculum plan to accurately reflect range of hours of 120 min.

Key: 1026

ACADEMIC CATALOG ENTRY

Neuroscience, BSLAS

OVERVIEW TAB

for the degree of Bachelor of Science in Liberal Arts and Sciences Major in Neuroscience

school website: <https://mcb.illinois.edu/undergrad/>

school faculty: School Faculty

advising: MCB advising

overview of college admissions & requirements: Liberal Arts & Sciences

college website: <https://las.illinois.edu/>

email: undergrad@mcb.illinois.edu

The BSLAS in Neuroscience is an interdisciplinary program designed for students whose interests motivate them to desire in-depth preparation in the area of Neuroscience to prepare them for graduate school in neuroscience or neuropsychology, or medical school with a focus in Neurology, or for technical and governmental careers. The major allows students to combine the study of molecular and cellular biology with neuroscience, neurophysiology, neurochemistry, and neuropathology, to gain novel molecular but integrated perspectives on the study of the brain and its component physical and biological systems. The Neuroscience major provides foundational knowledge and concepts in molecular and cellular biology, genetics, psychology, chemistry, physics, math and statistics that are essential for understanding the discipline. Students will gain a foundational understanding of brain function at multiple levels of organization through a solid neuroscience curriculum covering a breadth of areas in the discipline of neuroscience, from brain, behavior and information processing to cellular and molecular neuroscience and integrative neurosystems. Students will gain laboratory skills through core laboratory courses and an advanced cell biology or neuroanatomy laboratory course. Students also have the opportunity to gain research experience in the laboratories of neuroscience faculty within the School of MCB.

Undergraduate degree programs in the School of Molecular & Cellular Biology

Biochemistry, BS

Molecular & Cellular Biology, BSLAS

Molecular & Cellular Biology Honors Concentration, BSLAS

Neuroscience, BSLAS

ACADEMIC CATALOG ENTRY

DEGREE REQUIREMENTS TAB

for the degree of Bachelor of Science in Liberal Arts and Sciences Major in Neuroscience

Minimum Required Courses: 83-84 hours including 29 hours of 300- or 400-level courses. 12 hours of advanced level courses in the major must be taken on the Urbana-Champaign campus.

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To be eligible for graduation with High Distinction a student must:

Complete 2 semesters of MCB 290, in an MCB Neuroscience-designated lab, for 2 credit hours or more each semester. Complete 1 semester of MCB 492 for 3 credit hours or more. Maintain a minimum cumulative GPA of 3.25 at the end of penultimate semester. Give at least one presentation at the Undergraduate Research Symposium or other approved venue. Obtain a letter of support from their Principal Investigator. Submit a written thesis that is approved by the Distinction Committee.

To be eligible for graduation with Highest Distinction a student must:

Complete 2 semesters of MCB 290, in an MCB Neuroscience-designated lab, for 2 credit hours or more each semester. Complete 1 semester MCB 492 for 3 credit hours or more. Maintain a minimum cumulative GPA of 3.90 at the end of penultimate semester. Give at least one presentation at the Undergraduate Research Symposium or other approved venue. Obtain a letter of support from their Principal Investigator. Submit a written thesis that is approved by the Distinction Committee.

Distinction for Excellence in Academics:

To be eligible for graduation with Academic Distinction a student must:

Maintain a major GPA of 3.90 or higher in the Neuroscience major (MCB/Neuroscience, Chemistry, Physics and Math courses for the Neuroscience major) at the end of their penultimate semester.

General education: Students must complete the Campus General Education requirements, including the campus general education language requirement.

Minimum required major and supporting course work: 83-84 hours, including 29 credit hours of 300- or 400-level courses; 12 hours of 300- and 400-level courses in the major must be taken on this campus.

Minimum Hours required for graduation: 120 hours.

Appendix I

Approved Advanced Elective Courses List: There will be an approved advanced course list for this degree program. Courses may be added and removed from this list as is appropriate. This will also accommodate new MCB courses offered by MCB faculty working in the area of neuroscience.

Approved Advanced Elective Courses

MCB 401: Cell & Membrane Physiology (3)*

MCB 402: Systems & Integrative Physiology (3)

MCB 419: Brain, Behavior & Info Processing (3)

MCB 432: Computing in Molecular Biology (3)

MCB 466: Neuro & Molecular Pharmacology (3)

MCB 481: Developmental Neurobiology (3)

IB 432: Genes and Behavior (3)

PSYC 302: Applied Neuroscience (3)

* credit hours in parentheses.



Proposal to Establish a New Degree of Bachelor of Science in Liberal Arts and Sciences in Neuroscience (BSLAS Neuroscience)

Submit completed proposals via email to Associate Dean Kelly Ritter (ritterk@illinois.edu). This proposal is being submitted by Professor Milan Bagchi, Director, School of Molecular and Cellular Biology, and by that submission he demonstrates his approval.

Proposal Title: Establish a New Degree of Bachelor of Science in Liberal Arts and Science in Neuroscience (BSLAS in Neuroscience), in the School of Molecular and Cellular Biology, College of Liberal Arts and Sciences.

Proposed effective date: Fall semester 2022

Sponsor(s): Professor Brenda Anne Wilson, Associate Director for Undergraduate Education, School of Molecular and Cellular Biology, 217-244-9631, wilson7@illinois.edu; Melissa Michael, Associate Director for Curriculum and Instruction, School of Molecular and Cellular Biology, 217-244-6238, mmichae@illinois.edu

College contact: Kelly Ritter, Associate Dean for Curricula and Academic Policy, College of Liberal Arts and Sciences, ritterk@illinois.edu

Is this program interdisciplinary? Yes / No If yes, list department.

Department of Chemistry, Department of Mathematics, Department of Physics, Department of Psychology, Department of Statistics, and School of Integrative Biology.

PROGRAM DESCRIPTION and JUSTIFICATION

1) Provide a brief description but concise description of your proposal.

The BSLAS in Neuroscience is an interdisciplinary program designed for students whose interests motivate them to desire in-depth preparation in the area of Neuroscience to prepare them for graduate school in neuroscience or neuropsychology, or medical school with a focus in Neurology or Psychiatry, or for a career in pharmaceutical industry and governmental agencies. The major allows students to combine the study of molecular and cellular biology with neuroscience, neurophysiology, neurochemistry, and neuropathology, to gain novel molecular but integrated perspectives on the study of the brain and its component physical and biological systems.

The proposed Neuroscience major is structured to provide students in their first two years with foundational knowledge and concepts through a series of core courses in neuroscience, molecular and cellular biology, genetics, chemistry, physics, math, psychology, and statistics that are essential for

understanding the discipline. Students will also gain a foundational understanding of brain function at multiple levels of organization, including societal, by taking an introductory course for the degree program (MCB 170: Society & the Brain), then a core course in neurobiology (MCB 314: Introduction to Neurobiology). During their third and fourth years, students will select from intermediate and upper level courses that provide a solid neuroscience curriculum covering a breadth of areas in the discipline of neuroscience, from brain, behavior and information processing to cellular and integrative neurosystems. Students will gain laboratory skills through core laboratory courses and an advanced neuroanatomy laboratory course. Students will also have the opportunity to gain research experience in the laboratories of neuroscience faculty within the School of MCB. The major culminates with two advanced courses that will serve collectively as capstone experiences for the major (MCB 461: Cell & Molecular Neuroscience and MCB 462: Integrative Neuroscience).

2) **Provide a justification of the program**, including how your unit decided to create this program, highlights of the program objectives, and the careers, occupations, or further educational opportunities for which the program will prepare graduates, when appropriate.

The field of neuroscience is a young, exciting, and highly interdisciplinary area that is growing at an exponential rate. Neuroscience is the study of the brain and nervous system from the molecular and cellular level in neurons of the nervous system to systems, organismal and evolutionary levels. Neuroscientists seek to understand how biological, chemical and physical processes in the brain accomplish complex functions, such as movement, sensation, communication, memory, emotion, consciousness and behavior. Because neuroscience is at the crux of understanding the biology of how the brain works, it will be the key to researching the causes and developing the biomedical solutions to the ongoing mental health crisis. Disorders ranging from autism, anorexia and Alzheimer's disease to substance abuse, epilepsy, schizophrenia, Parkinson's disease, and many more are on the rise and pose an enormous societal burden. It is critical that our students, who wish to meet this urgent need through their future neuroscience-based educational and professional career choices, have a strong foundation in Neuroscience, and this degree program will provide the means for them to achieve their goals.

The School of MCB has considered offering an undergraduate degree program in neuroscience for more than a decade. The graduate Neuroscience Program on our campus was originally partnered with the School of MCB before shifting to a stand-alone unit in the College of LAS a number of years ago. This is the perfect moment to follow through with the proposed degree program as our existing faculty strength in this diverse disciplinary area has increased with two new faculty hires this year and a possible third one next year. Undergraduates at UIUC are already formulating versions of the Neuroscience major by tailoring their MCB undergraduate major to meet their interest in neuroscience. Many MCB majors choose to also obtain a second major or a minor in Psychology, so as to explore other disciplinary areas of neuroscience, such as behavioral and cognitive neuroscience, and some create an Independent Program of Study for themselves targeted at Neuroscience. Since 2016, the School of MCB has offered a Certificate in Neuroscience with a recommended course sequence and selections that are in some ways similar to those of the proposed curriculum. We have seen a strong growth in popularity of this Certificate in Neuroscience, nearly doubling the number of students participating since 2016 (ranged from 25 per academic year to 50 in 2020). The proposed Neuroscience major builds on the existing offerings from the Department of Psychology with their two concentrations in Behavioral Neuroscience and Cognitive Neuroscience. It is our objective to round out the neuroscience offerings in the College of LAS with Neuroscience, making a full complement of opportunities for students in this area of study, depending on precisely where their interests lie.

Students who graduate with the proposed BSLAS in Neuroscience will be prepared for graduate study in neuroscience or related areas, as well as medical school and other health professions. Students may also choose to move to industry or governmental work in policy areas or at National Laboratories, where research in this area is rapidly expanding.

3) In addition, please provide an answer as to how your degree (120 hours of coursework) will satisfy this requirement: IBHE requires that all degree programs contain at least 40 credit hours in upper division courses as part of their overall degree. Not all 40 hours need to be in your major. Simply state how many of those 40 hours are achieved in your major. Upper division courses have been described as 300- and 400- level coursework and some 200-level courses in which multiple prerequisites are required.

The proposed program currently has 14 credit hours of explicitly required 300- and 400-level courses, and 15 credit hours of advanced elective courses plus 6 credit hours at the 200-level in courses with two pre-requisites (MCB 250 and CHEM 232) for a total of 35 of the desired 40 credit hours.

INSTITUTIONAL CONTEXT

University of Illinois at Urbana-Champaign

Mission: The University of Illinois at Urbana-Champaign is charged by our state to enhance the lives of the citizens in Illinois, across the nation and around the world through our leadership in learning, discovery, engagement and economic development.

1) Describe the historical and university context of the program's development. Include a short summary of any existing program(s) upon which this program will be built. Also, explain the nature and degree of overlap with existing programs and, if such overlap exists, document consultation with the impacted program's home department(s).

The University of Illinois at Urbana-Champaign has for a long time been the home of the graduate Neuroscience Program. This program was part of the School of Molecular and Cellular Biology for many years before more recently becoming a stand-alone entity in the College of Liberal Arts and Sciences. Because of this long history, it is unsurprising that the School of MCB would consider offering an undergraduate major in Neuroscience. It is our plan to fill a particular niche of Neuroscience on this campus to go along with the Department of Psychology's two concentrations in Behavioral Neuroscience and Cognitive Neuroscience. Together, these three degree programs or concentrations will offer the fullest possible range of options for our undergraduates in the area of neuroscience, while making full use of current and future faculty expertise and existing course offerings, while adding a few new opportunities for students. The Neuroscience degree program, as proposed, is meant to reflect the fact that there are three elements of neuroscience found in our College. We have partnered with Psychology to share two of their courses as required for this major (PSYC 100 and PSYC 210 or PSYC 224), and to offer one more as a possible elective course in the set of available options. Any overlap will exist only in these courses as there is adequate discrete neuroscience work being done in both the School of MCB and the Department of Psychology. We have opened our courses to psychology students, and brain & cognitive neuroscience students, who are interested in knowing a little more about the Neuroscience perspective found in courses in MCB (such as MCB 419, 461 and 462).

The proposed program also requires foundational courses from Physics, Chemistry and Math in order to support the neuroscience as well as the molecular and cellular biology coursework. The selected supporting coursework is very similar to that which is currently supporting the MCB and Biochemistry undergraduate degree programs in our School.

University of Illinois

University of Illinois' mission: The University of Illinois will transform lives and serve society by education, creating knowledge and putting knowledge to work on a large scale and with excellence.

2) Briefly describe how this program will support the University's mission, focus and/or current priorities. Demonstrate the program's consistency with and centrality to that mission.

This proposed program addresses several elements of the University's Strategic Plan:

- 1) This proposal creates a new degree program where one has not existed previously. Specifically, it will provide students with the opportunity to earn a B.S. degree in LAS with a major in Neuroscience where no such opportunity existed in the past. This degree can serve them in many ways, including strengthening their competitiveness for admission to more advanced neuroscience or related studies in graduate or professional programs and enhancing their competitiveness for employment in skilled workforce areas to positively impact their earning power and influence in industry or government jobs or other arenas.
- 2) This proposed degree program will support economic development by funneling more specially qualified Illinois residents into jobs in the State of Illinois and elsewhere.
- 3) This proposed program will reflect our campus-wide commitment to diversity by working to support all students such that they have what they need to succeed at Illinois. We work daily to meet the requirement that our courses are taught with consideration to issues of inclusivity and diversity. All students are important in our School of MCB community, and we continue to foster the development in each student of a sense of accomplishment, confidence, and pride in the work they do. These professional skillsets that our students develop positively impact the ability of our students to succeed in their future endeavors.
- 4) While serving the needs of targeted populations is the highest priority, this program also meets the need of our unit and campus to find innovative ways to attract new students to study at Illinois. This, in turn, will generate tuition revenue for the future so that funds can be reinvested in order to give our students the best possible experience. This program, as proposed, will provide a mechanism for sustainability with minimal new investment.

State of Illinois

The Public Agenda for Illinois Higher Education is a planning blueprint for the State of Illinois to direct state policies and resources to the higher education and career needs of Illinois residents and to address the current and future economic needs of the state.

3) Indicate which of the following goals of the Illinois Board of Higher Education's Strategic Initiative are supported by this program: (choose all that apply)

- Educational Attainment - increase educational attainment to match the best-performing states.
- College Affordability - ensure college affordability for students, families, and taxpayers.
- High Quality Credentials to Meet Economic Demand - Increase the number of high-quality post-secondary credentials to meet the demands of the economy and an increasingly global society.

- Integration of Educational, Research and Innovation Assets - Better integrate Illinois' educational, research and innovation assets to meet economic needs of the state and its regions.

4) Describe how the proposed program supports the goals above:

Educational Attainment: By providing this new and unique Neuroscience degree program at the University of Illinois at Urbana-Champaign, we will be expanding capacity through improved access to higher education in Illinois that will not only serve our students to achieve skilled employment but also will facilitate educational opportunities for more undergraduate students and thereby improve the overall quality of education in Illinois.

College Affordability: Prior to the proposal of this degree program, the only way for students to earn a degree in Neuroscience, focused on the molecular aspects, at UIUC was to earn a PhD in Neuroscience. The advent of the BSLAS in Neuroscience will allow students to move directly to study the discipline of most interest to them at the bachelor's level, eliminating one step in their progression to the next level of education or employment. Tuition for this degree program will be the same as for the BSLAS in MCB and the BS in Biochemistry, and in that way, it provides a specialized path without the added cost of a master's degree in neuroscience prior to matriculation in advanced graduate study or professional school.

High Quality Credentials to Meet Economic Demand: The proposed Neuroscience degree program will help students achieve their educational and career objectives by providing a high-quality curriculum in a specific area that will lead to further education or meaningful employment with companies working to improve the quality of life for all citizens of Illinois. Whether it is to further their education in academia or to gain skilled employment in industry or government, students graduating with a BSLAS in Neuroscience will have the knowledge and skillsets necessary to succeed at their next career stage.

Integration of Educational, Research, and Innovation Assets: The proposed Neuroscience degree program will help prepare students for success in the global economy by providing a rigorous and focused BS degree that will make them more competitive for securing and retaining employment in this disciplinary area or matriculation in a graduate or professional degree program. The curriculum proposed for this degree program is designed to provide comprehensive and foundational concepts with critical thinking, problem-solving, and communication skillsets that will feed innovation and high performance in academia, industry, and government, as well as societal arenas. Students completing a BSLAS in Neuroscience degree will be highly prepared for exciting roles in academia, medicine, technology, business, industry, and government.

ADMISSION REQUIREMENTS

1) Desired admissions term: *For LAS units, a fall semester effective term for all curricula will be requested, please indicate the proposed year*

Fall, 2022

2) Provide a brief description of the admission requirements for this program. Where relevant, include information about licensure requirements, student background checks, GRE and TOEFL scores, and admission requirements for transfer students.

The requirement for this degree program will be the same as for the non-degree granting biology program through which all students gain access to the BSLAS in Molecular and Cellular Biology. Specifically, the requirements will be those for all incoming freshman applicants to UIUC.

The details can be found at this [URL](https://admissions.illinois.edu/Apply/Freshman/requirements): <https://admissions.illinois.edu/Apply/Freshman/requirements>, but can be summarized as follows:

English: 4 years required

Math: 3 or 3.5 years required, 4 years recommended

Social Sciences: 2 years required, 4 years recommended

Lab Sciences: 2 years required, 4 years recommended

Language other than English: 2 years required, 4 years recommended

Flexible academic units: 2 years required, 4+ years recommended

The proposed BSLAS in Neuroscience will be a rigorous degree program, but we want to remove as many barriers to matriculation as possible.

3) Describe how critical academic functions such as admissions and student advising are managed.

The only role we expect to play in the admission process is to consult with our college admission personnel on the total number of students we can advise on one day during summer orientation. The total number we have given for many years is 600 students per summer, but the actual number recently dropped to about 420 students. If we gain 200 new students in this degree program over the first four admission cycles, we will return to and exceed our old limit by just twenty students. We have the capacity to support these students right now. We will provide advising services for these students by adding one additional full-time academic advisor to our current group of 5 full-time and 4 part-time advisors. Our current student to advisor ratio is approximately 240 students to one full-time advisor. We will use our differential tuition funds to support this hire. We have indicated that we expect approximately 50 students to matriculate to this proposed program in the first year. We estimate that at least half of those students will come from current first-year biology students or current MCB or Biochemistry majors. That leaves approximately 25 new students at Illinois who will choose to study here because of the new Neuroscience degree program. This means that initially, we will be adding about 25 new students to our existing courses. We currently have enough seats availability in order to absorb 50 in each cohort, so the anticipated 25 will be even less disruptive.

ENROLLMENT

1) Number of students in program estimates

Year 1 estimate: 50

Year 5 estimate (or when fully implemented): 200

2) Estimated Annual Number of Degrees Awarded (degrees, majors and concentrations ONLY)

Year 1: 0

Year 5 (or when fully implemented): 50 per year

3) Delivery Method, what is the program's primary delivery method? Choose from following:

Face to Face; Online & Face to Face; Online Only; Other- specify

If NOT face to face, please describe the use of this delivery method:

This program will be delivered primarily face to face, but through remote instruction only if made necessary by a pandemic such as the current COVID-19.

BUDGET

1) Will the program or revision require staffing (faculty, advisors, etc.) beyond what is currently available? If yes, please describe.

We do not expect to alter the number of faculty in MCB as a result of the creation of this degree program. The School of MCB already has many neuroscientists among the faculty from our departments, including two new neuroscientists who were hired this year. Faculty teaching load will not change as a result of this proposed degree program because the MCB required courses for this degree program currently have capacity to seat additional students or are delivered in sections and can scale. The student-faculty ratio may shift slightly, but given our current capacity, the addition of 50 students per cohort will not affect any one course in a significant way. Further, we expect that some of the students who will choose this major are likely to come from the group who would have selected MCB or Biochemistry in the absence of this degree program. This further reduces the overall effect on student-faculty ratios and class size. If any individual course sees increased pressure on enrollment, we will work with our faculty to find solutions so that the course can move forward with undiminished quality. We imagine that this might include the service of a course coordinator or additional graduate teaching assistants being assigned.

We plan to hire one additional full-time academic advisor prior to the time when this degree program comes online. This advisor would create overall capacity among our current School of MCB undergraduate advising team and the group will be able to absorb the additional students we expect. We also plan to hire one instructor/lecturer to support the introductory course for the degree program (MCB 170) and the new laboratory course (MCB 460: Neuroanatomy Lab) among other duties. We will use existing revenue streams in order to meet these needs, and so, we will not ask the College of LAS for additional funding for these positions.

We already have a very strong existing instructional program infrastructure that can absorb the new students we attract to this degree program. This is one of the main reasons we feel confident in our ability to add this program to our portfolio of undergraduate degree programs.

2) Please provide any additional budget information needed to effectively evaluate the proposal.

We will not ask the College of LAS for additional funding due to the deployment of this degree program.

RESOURCE IMPLICATIONS

1) Facilities- Will the program require new or additional facilities or significant improvements to already existing facilities?

We will not require new or remodeled facilities to deliver this degree program. The courses required for this degree program already exist with the exception of one advanced neuroanatomy lab course being

proposed for use by undergraduates in MCB, Biochemistry and this proposed Neuroscience degree programs. We will use existing laboratory space to deploy the new neuroanatomy lab course.

2) Technology- Will the program need additional technology beyond what is currently available for the unit?

We will require no additional technology.

3) Non-Technical Resources- Will the program require additional supplies, services or equipment (non-technical)?

We will not require any additional supplies, services, or equipment for which we would request financial assistance.

RESOURCES

1) Faculty Resources: Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc. Describe how the unit will support student advising, including job placement and/or admission to advanced studies.

We do not expect to alter the number of faculty in MCB as a result of the creation of this degree program. The School of MCB already counts many neuroscientists among the faculty from our departments, including two new neuroscientists hired this year. Faculty teaching load will not change as a result of this proposed degree program. The student-faculty ratio may shift slightly, but given our current capacity, the addition of 50 students per cohort will not affect any one course in a significant way. Further, we expect that some of the students who will choose this major are likely to come from the group who would have selected MCB or Biochemistry in the absence of this degree program. This further reduces the overall effect on student-faculty ratios and class size. If any individual course sees increased pressure on enrollment, we will work with our faculty to find solutions so that the course can move forward with undiminished quality. We imagine that this might include the service of a course coordinator or additional graduate teaching assistants being assigned.

We plan to hire one additional full-time academic advisor prior to the time when this degree program comes online. This advisor would create overall capacity among our current School of MCB undergraduate advising team and the group will be able to absorb the additional students we expect. Because many of the students in the Neuroscience degree program are likely to apply to Graduate Programs or Professional Schools, this new advising position will assure that we can accommodate every student who asks for advising. We plan to hire one instructor/lecturer to support the introductory course for the degree program (MCB 170) and the new laboratory course (MCB 460: Neuroanatomy Lab). We will use existing revenue streams in order to meet these needs.

MCB will use existing resources located within our School of MCB Career Development Team to support students as needed. We will encourage students to participate in the ACES & LAS Career Fair as well as the Illini Career & Internship Fair each year. Students will be encouraged to interact with employers through Handshake where they can apply for posted positions. The School of MCB Career Development Team will host information sessions throughout the year for companies interested in students with this major. Many of the students in the Neuroscience degree program are likely to apply for jobs that include pharmaceutical and biotechnology industry, chemical and nutritional industry, policy and other government positions, regulatory and consulting agencies, and nongovernmental organizations. Students earning the BSLAS in Neuroscience, like those in the MCB and BIOC BS degree programs, will

have greater laboratory technique skills than many of their peers from other institutions. This comes mainly from the fact that our degree programs require a minimum of three intense laboratory courses, two at the 200-level and at least one at the 300- or 400-level. In many cases these skills turn out to be the deciding factor in hiring. We will further enhance this learning experience for our Neuroscience majors by providing an additional upper-level laboratory course in neuroanatomy.

2) Library Resources: Describe your proposal's impact on the University Library's resources, collections, and services. If necessary, please consult with the appropriate disciplinary specialist within the University Library.

There will be no impact on the University Library above and beyond normal library business practices.

3) Instructional Resources: Will there be any reduction in other course offerings, programs or concentrations by your department as a result of this new program/proposed change? If yes, please describe.

There will be no reductions in course offerings, programs or concentrations as a result of this degree program.

4) Does this new program/proposed change result in the replacement of another program? If yes, please specify the program.

No, it does not.

5) Does the program include any required or recommended subjects that are offered by other departments? If yes, please list the courses. Explain how these additional courses will be used by the program and provide letters of support from the departments.

Request for support letters, and affirmation of support email messages, are enclosed from the Departments of Mathematics, Chemistry, Physics, Psychology, Statistics, and the School of Integrative Biology. Each of these units offer courses specifically required, or one of a set of elective courses, for the proposed program.

FINANCIAL RESOURCES

1) How does the unit intend to financially support this proposal?

The School of MCB will support, through the use of differential tuition, this degree program by using our already-existing infrastructure in terms of faculty members to teach in the required and elective courses; additional seats in existing lecture and laboratory courses; and instructional program staff, academic advisors, and graduate teaching assistants to support increased enrollments that may occur over time. The proposed Neuroscience major is based on the foundational interdisciplinary science courses already in place for the existing MCB and Biochemistry majors. Students in all three majors will take a set of core courses during the first and second years of the respective programs. These core courses are important prerequisites for specialization in the area of Neuroscience, which will take place largely, but not exclusively, during the last five semesters in advanced 300- and 400-level courses.

We plan to hire one additional full-time academic advisor prior to the time when this degree program comes online. This advisor would create overall capacity among our current School of MCB undergraduate advising team, and the group will be able to absorb the additional students we expect. Because many of the students in the Neuroscience degree program are likely to apply to Graduate

Programs or Professional Schools, this new advising position will assure that we can accommodate every student who asks for advising. We plan to hire one instructor/lecturer to support the introductory course for the degree program (MCB 170) and the new laboratory course (MCB 460: Neuroanatomy Lab). We will use existing revenue streams in order to meet these needs.

2) Will the unit need to seek campus or other external resources? If yes, please provide a summary of the sources and an indication of the approved support.

No. The School of MCB will use existing revenue lines to support this proposed degree program.

3) Will an existing tuition rate be used or continue to be used for this program? (degrees, majors and concentrations ONLY)? If no, please provide information on the request.

Yes, we expect that the existing differential tuition rate for all undergraduate majors in the School of Molecular and Cellular Biology will also apply to this major.

4) Is this program requesting self-supporting status? (degrees, majors and concentrations ONLY)? If yes, please explain.

No.

MARKET DEMAND

1) What market indicators are driving this proposal? If similar programs exist in the state, describe how this program offers a unique opportunity for students.

The demand for this program has been demonstrated for quite some time in that we first had students interested in 'creating' their own neuroscience program by majoring in MCB with a minor in psychology or the reverse, or double majoring in MCB and psychology. Once we developed the Neuroscience Certificate, we could quantify how many students were interested in studying the intersection between molecular and cellular biology and neuroscience. For several years now, we have issued Neuroscience Certificates to about 40 graduating MCB students each year. Increasingly, we see that the disciplinary area of neuroscience is heavily involved in seeking solutions to neurological disorders, with a heavy emphasis on human health. Where students who commonly major in MCB at Illinois frequently are focused on a career in medicine, or other health professions, so will students who choose to major in Neuroscience. In many ways we have been testing the waters for interest in a bachelor's level degree program in this area for quite some time, and this proposal is the culmination of that effort.

Currently, we are aware of the following bachelor's level "neuroscience" degree programs in the state of Illinois at Four-year Institutions.

University of Illinois at Chicago, BS in Neuroscience

Northwestern University, BS in Neuroscience

University of Chicago, BS in Neuroscience

DePaul University, BS in Neuroscience

Loyola University of Chicago, BS in Neuroscience

Illinois State University, BS in Biology-Concentration in Physiology, Neuroscience, and Behavior

Eastern Illinois University, BS in Neuroscience

Nearly all of these programs offer traditional neuroscience curricula as an amalgam of cognitive and behavioral psychology, psychology, biology, and neuroscience, with limited molecular and cellular emphasis. Our proposed program is distinct in that it is focused on Neuroscience with the inclusion of a few psychology courses to help students gain a full perspective of all the ways in which neuroscience manifests in modern research universities. We are confident that our addition to the existing programs in the state is unique without being blind to the family of neuroscience subdisciplines. This degree program will provide something that does not currently exist on our campus and that is a transcriptable degree program in Neuroscience. We believe that the demand for this disciplinary area is so strong, that the existence of this program will not only interest those students who would come to UIUC in any case, but it will invite new students who hadn't considered UIUC given that we didn't have a BSLAS in Neuroscience.

2) What type of employment outlook should these graduates expect? Explain how the program will meet the needs of regional and state employers, including any state agencies, industries, research centers, or other educational institutions that expressly encourage the program's development.

Graduates in this proposed program will enjoy a diverse set of options when it comes to future educational opportunities and employment. Neuroscience graduates will find each of the following areas rich with opportunities.

- Academic Research and/or Teaching
- Health-Related Careers
- Global Health Organizations and Industry
- Government Labs & Policy Agencies
- Writing & Publishing
- Non-Profit Research or Foundations
- Creative Sector
- Quantitative Fields

The State of Illinois will be able to benefit from citizens of the state being prepared for jobs in each area.

3) What resources will be provided to assist students with job placement?

MCB will use existing resources located within our School of MCB Career Development Office. Students will receive career advising as needed and will be encouraged to participate in the ACES & LAS Career Fair as well as the Illini Career & Internship Fair each year. Students will be encouraged to interact with employers through Handshake where they can apply for posted positions. The School of MCB Career Development Office will host information sessions throughout the year for companies interested in students with this major.

It is likely that a significant fraction of students earning this degree will not seek a job immediately after graduation, but rather will go forward with advanced education either in graduate or professional school. Advising resources to support these pathways already exist in the School of MCB, and these students will be served by the existing structures.

PROGRAM REGULATION

1) Describe how the program is aligned with or meets licensure, certification, and/or entitlement requirements, if applicable.

Briefly describe the plan to assess and improve student learning, including the program's learning objectives; when, how, and where these learning objectives will be assessed; what metrics will be used to signify student's achievement of the stated learning objectives; and the process to ensure assessment results are used to improve student learning.

This proposed degree program is not aligned with any licensure, certification, and/or entitlement requirements.

The School of MCB Instructional Program will provide guidance, career services and academic advising for students within the Neuroscience BS degree program. The School of MCB Courses and Curriculum Committee will provide faculty input and oversight regarding the evaluation of the program.

Learning Objectives for the degree of Bachelor of Science in Liberal Arts and Sciences, Major in Neuroscience

Upon successful completion of the Neuroscience undergraduate curriculum, students will be able to:

1. understand and appreciate the diversity of life as it evolved over time by processes of mutation, selection and genetic change.
2. illustrate that fundamental structural units define the function of all living things.
3. explain that the growth, development, and behavior of organisms are activated through the expression of genetic information in context.
4. summarize that living systems grow and change by processes based upon chemical transformation pathways and are governed by the laws of physics.
5. illustrate that living systems are interconnected and interacting across scales of space and time.
6. design a scientific process and employ the scientific method, demonstrating that neuroscience is evidence based and grounded in the formal practices of observation, experimentation, and hypothesis testing.
7. execute quantitative analysis to interpret data.
8. construct and utilize predictive models to study and describe complex systems.
9. apply concepts from other sciences in order to interpret molecular and neural phenomena.
10. communicate concepts of neuroscience to members of a diverse scientific community as well as to the general public.

The program learning objectives will be assessed in groups of three or four each academic year. We will produce a learning objectives map that will identify which courses support each learning objective. We will use a Degree Program Curriculum Map to assist in our understanding of how students move through the program and gain knowledge and skills that can be measured. We will use performance on selected questions on final exams in required courses. We will also collect evidence of integrated knowledge and skills by monitoring progress in projects that are part of two capstone courses taken in the fourth year (MCB 461: Cell and Neuroscience and MCB 462: Integrative Neuroscience). Through the use of rubrics, we will be able to determine whether and at what level students have attained the learning outcomes we have set for them. These courses will serve as our capstone experiences for the degree program, and every student in the program is required to take them both. We will also conduct annual focus groups with students to help us better understand the student experience in the program. Where students conduct undergraduate research or participate in experiential learning experiences such as internships or study abroad, we will look for evidence of content and skills mastery in their written research documents (posters and papers). We will use the information we collect to adjust course content if we find that objectives are not being met or not being met sufficiently. The results of all assessment work

will be shared with those charged with the delivery of our courses with an eye toward catching objectives that we may not fully meet or areas where we could improve outcomes with adjustments. The results from assessment activities are shared with all members of the MCB Courses and Curriculum Committee comprised of two faculty members from each of our departments, Associate Directors for Graduate Education, Undergraduate Education, and Curriculum and Instruction, as well as one graduate student and one undergraduate student. The results are also shared with the Director for the School of Molecular and Cellular Biology.

2) Is the career/profession for graduates of this program regulated by the State of Illinois? If yes, please describe

No.

ACADEMIC CATALOG ENTRY

All proposals must submit the major requirements (courses, hours) for the proposed curricula. Please see the University of Illinois Academic Catalog- <http://catalog.illinois.edu/> for your unit for an example of the entry.

See next page.

ACADEMIC CATALOG ENTRY

Neuroscience, BSLAS

OVERVIEW TAB

for the degree of Bachelor of Science in Liberal Arts and Sciences Major in Neuroscience

school website: <https://mcb.illinois.edu/undergrad/>

school faculty: [School Faculty](#)

advising: [MCB advising](#)

overview of college admissions & requirements: [Liberal Arts & Sciences](#)

college website: <https://las.illinois.edu/>

email: undergrad@mcb.illinois.edu

The BSLAS in Neuroscience is an interdisciplinary program designed for students whose interests motivate them to desire in-depth preparation in the area of Neuroscience to prepare them for graduate school in neuroscience or neuropsychology, or medical school with a focus in Neurology, or for technical and governmental careers. The major allows students to combine the study of molecular and cellular biology with neuroscience, neurophysiology, neurochemistry, and neuropathology, to gain novel molecular but integrated perspectives on the study of the brain and its component physical and biological systems. The Neuroscience major provides foundational knowledge and concepts in molecular and cellular biology, genetics, psychology, chemistry, physics, math and statistics that are essential for understanding the discipline. Students will gain a foundational understanding of brain function at multiple levels of organization through a solid neuroscience curriculum covering a breadth of areas in the discipline of neuroscience, from brain, behavior and information processing to cellular and molecular neuroscience and integrative neurosystems. Students will gain laboratory skills through core laboratory courses and an advanced cell biology or neuroanatomy laboratory course. Students also have the opportunity to gain research experience in the laboratories of neuroscience faculty within the School of MCB.

Undergraduate degree programs in the School of Molecular & Cellular Biology

[Biochemistry, BS](#)

[Molecular & Cellular Biology, BSLAS](#)

[Molecular & Cellular Biology Honors Concentration, BSLAS](#)

[Neuroscience, BSLAS](#)

DEGREE REQUIREMENTS TAB

for the degree of Bachelor of Science in Liberal Arts and Sciences Major in Neuroscience

Minimum Required Courses: 83-84 hours including 29 hours of 300- or 400-level courses. 12 hours of advanced level courses in the major must be taken on the Urbana-Champaign campus.

In addition, undergraduate research (MCB 290) in an MCB Neuroscience-designated lab is strongly recommended for students planning to go to graduate school. No more than 10 hours of MCB 290 credit may be counted towards the 120 hours required for a degree in Neuroscience.

Students earning a degree in Neuroscience may not also earn a second degree in the Specialized Curriculum in Biochemistry.

Students earning a degree in Neuroscience may not double major in Molecular and Cellular Biology.

Distinction

Students in Neuroscience can qualify for Distinction via one of the following:

Distinction for Excellence in Research:

To be eligible for graduation with Distinction a student must:

Complete 3 semesters of MCB 290, in an MCB Neuroscience-designated lab, for 2 credit hours or more each semester. Maintain a minimum cumulative GPA of 3.25 at the end of penultimate semester. Give at least one presentation at the Undergraduate Research Symposium or other approved venue. Obtain a letter of support from their Principal Investigator.

To be eligible for graduation with High Distinction a student must:

Complete 2 semesters of MCB 290, in an MCB Neuroscience-designated lab, for 2 credit hours or more each semester. Complete 1 semester of MCB 492 for 3 credit hours or more. Maintain a minimum cumulative GPA of 3.25 at the end of penultimate semester. Give at least one presentation at the Undergraduate Research Symposium or other approved venue. Obtain a letter of support from their Principal Investigator. Submit a written thesis that is approved by the Distinction Committee.

To be eligible for graduation with Highest Distinction a student must:

Complete 2 semesters of MCB 290, in an MCB Neuroscience-designated lab, for 2 credit hours or more each semester. Complete 1 semester MCB 492 for 3 credit hours or more. Maintain a minimum cumulative GPA of 3.90 at the end of penultimate semester. Give at least one presentation at the Undergraduate Research Symposium or other approved venue. Obtain a letter of support from their Principal Investigator. Submit a written thesis that is approved by the Distinction Committee.

Distinction for Excellence in Academics:

To be eligible for graduation with Academic Distinction a student must:

Maintain a major GPA of 3.90 or higher in the Neuroscience major (MCB/Neuroscience, Chemistry, Physics and Math courses for the Neuroscience major) at the end of their penultimate semester.

General education: Students must complete the Campus General Education requirements, including the campus general education language requirement.

Minimum required major and supporting course work: 83-84 hours, including 29 credit hours of 300- or 400-level courses; 12 hours of 300- and 400-level courses in the major must be taken on this campus.

Minimum Hours required for graduation: 120 hours.

Supporting Courses		30-31
MATH 220 or MATH 221	Calculus Calculus I	4-5
MATH 231 or STAT 212	Calculus II Biostatistics	3
CHEM 102 & CHEM 103 & CHEM 104 & CHEM 105	General Chemistry I and General Chemistry Lab I and General Chemistry II and General Chemistry Lab II	8
CHEM 232	Elementary Organic Chemistry I	3
CHEM 233	Elementary Organic Chem Lab I	2
PHYS 101 & PHYS 102	College Physics: Mech & Heat and College Physics: E&M & Modern	10
Neuroscience Introductory Courses		11
MCB 170	Society and the Brain	3
MCB 150	Molec & Cellular Basis of Life	4
PSYCH 100	Introductory Psychology	4
Neuroscience Core Courses		13
MCB 250	Molecular Genetics	3
MCB 251	Exp Techniqs in Molecular Biol	2
MCB 252	Cells, Tissues & Development	3
MCB 253	Exp Techniqs in Cellular Biol	2
PSYC 210 or PSYC 224	Behavioral Neuroscience Cognitive Psychology	3
Advanced Neuroscience Courses		14
MCB 314	Introduction to Neurobiology	3
MCB 354	Biochem & Phys Basis of Life	3
MCB 460	Neuroanatomy Lab	2
MCB 461	Cell & Molecular Neuroscience	3
MCB 462	Integrative Neuroscience	3
Advanced Neuroscience Elective Courses		
Five additional three- or four-credit hour courses (minimum of 15 hours) at the 300- to 400-level from the Approved Advanced Elective Courses List are also required.*		15

Total = 83-84

*Appendix I contains the Approved Advanced Elective Course List. This list will be available on the MCB website and will be updated each semester to most accurately reflect the courses to be offered each academic year.

Appendix I

Approved Advanced Elective Courses List: There will be an approved advanced course list for this degree program. Courses may be added and removed from this list as is appropriate. This will also accommodate new MCB courses offered by MCB faculty working in the area of neuroscience.

Approved Advanced Elective Courses
MCB 401: Cell & Membrane Physiology (3)*
MCB 402: Systems & Integrative Physiology (3)
MCB 419: Brain, Behavior & Info Processing (3)
MCB 432: Computing in Molecular Biology (3)
MCB 466: Neuro & Molecular Pharmacology (3)
MCB 481: Developmental Neurobiology (3)
IB 432: Genes and Behavior (3)
PSYC 302: Applied Neuroscience (3)

* credit hours in parentheses.

MCB Undergraduate Major in Neuroscience (NS) 4-Year Plan

Course Category	First Year		Second Year		Third Year		Fourth Year	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
Program Introduction	MCB 170 (3)*							
Mathematics & Statistics	MATH 220 (5) or MATH 221 (4)	MATH 231 (3) or STAT 212 (3)						
Chemistry & Physics	CHEM 102 (3) CHEM 103 (1)	CHEM 104 (3) CHEM 105 (1)	CHEM 232 (3) CHEM 233 (2)	PHYS 101 (5)	PHYS 102 (5)			
Neuroscience and MCB	MCB 150 (4)		MCB 250 (3) MCB 251 (2)	MCB 252 (3) MCB 253 (2)	MCB 314 (3) MCB 354 (3)	MCB 460 Lab (2) Adv Elect. (3) Adv Elect. (3)	MCB 461 (3)** Adv Elect. (3)	MCB 462 (3)** Adv Elect. (3) Adv Elect. (3)
Psychology		PSYC 100 (4) = BS/SS Gen Ed		PSYC 210 (3) or PSYC 224 (3)				
Subtotal	15-16	11	10	13	11	8	6	9 TOTAL: 83-84
Other Requirements: Gen Ed/Language	LAS 101 (1) or LAS 122 (1)	GEEd Comp I (4)	GEEd (3) and GEEd (3) or language (4/5)	GEEd (3) or language (4/5)	GEEd (3) or language (4/5)	GEEd (3) and GEEd (3) or language (4/5)	GEEd (3) GEEd (3)	GEEd (3) GEEd (3)
Total Credit Hours	16-17	15	14-16	16-18	14-16	12-14	12	15 TOTAL: 114-123

*credit hours in parentheses

** MCB 461 and MCB 462 serve as capstone courses for this major, and will provide data for program assessment.

MCB 290: Undergraduate Research and MCB 492: Senior Thesis in designated MCB neuroscience-focused labs is encouraged.

IBHE Requirement of 40 hours at the 300- and 400-levels: The proposed program currently has 14 credit hours of explicitly required 300- and 400-level courses, and 15 credit hours of advanced elective courses plus 6 credit hours at the 200-level in courses with two pre-requisites (MCB 250 and CHEM 232) for a total of 35 of the desired 40 credit hours.

Approved Advanced Elective Courses List: There will be an approved advanced course list for this degree program. Courses may be added and removed from this list as is appropriate. This will accommodate new MCB courses offered by MCB faculty working in the area of neuroscience.

Approved Advanced Elective Courses
MCB 401: Cell & Membrane Physiology (3)
MCB 402: Systems & Integrative Physiology (3)
MCB 419: Brain, Behavior & Info Processing (3)
MCB 432: Computing in Molecular Biology (3)
MCB 466: Neuro & Molecular Pharmacology (3)
MCB 481: Developmental Neurobiology (3)
IB 432: Genes and Behavior (3)
PSYC 302: Applied Neuroscience (3)

General Education Courses Required

1 Composition I course (Comp I)

2 Behavioral or Social Science (BS/SS)

2 Humanities (HUM)

1 Non-Western Culture (NW)

1 Western Comparative Culture (WCC)

1 US Minority Culture (US)

1 Advanced Composition (ACP)

2 Natural Science & Technology- Life Sciences [6 hours required. Neuroscience Majors will fulfill this by taking MCB 150 (4) and CHEM 102 (3)]

2 Quantitative Reasoning [2 courses required. Neuroscience majors will fulfill this by taking MATH 220 (5) or MATH 221 (4) and MATH 231 (3) or STAT 212 (3)]

+

Language through 4th level of one language or through 3rd level of 2 languages other than English.

PSYC 210: Behavioral Neuroscience (3), offered every fall and spring

Survey of current knowledge and speculation regarding the brain's role in perception, motivation, sexual behavior, thinking, memory, and learning, based upon human clinical data and research in animal models. Prerequisite: [PSYC 100](#), [PSYC 103](#), or consent of instructor.

This course satisfies the General Education Criteria for: Nat Sci & Tech - Life Sciences

OR

PSYC 224: Cognitive Psych (3), offered every fall, spring, summer

Introduction to the psychological study of human information processing and memory; acquisition, retrieval, and forgetting; and general knowledge, concepts, reasoning, and related issues in cognition. Prerequisite: [PSYC 100](#) or [PSYC 103](#).

PSYC 302 Applied Neuroscience (3)

Examines topics in neuroscience highly relevant to our daily lives, especially as it pertains to mental health. Topics include neurobiology related to anxiety, depression, addiction, exercise, learning, memory, and personality characteristics. Special attention will be paid to race, sex, and socioeconomic differences and their influence on both genetic risk and environmental stress. The class will emphasize critical thinking and conceptualization and will frequently include open discussions. Same as [NEUR 302](#). Prerequisite: [PSYC 100](#) or equivalent.; this is a spring only course.

IB 432: Genes and Behavior (3)

Concepts, methods, and problems in the analysis of the relationship between genes and behavior, the complex neurobiological processes that mediate action on behavior, in appropriate ecological and evolutionary contexts. Same as [ANTH 432](#), [NEUR 432](#), and [PSYC 432](#). 3 undergraduate hours. 3 graduate hours. Prerequisite: [IB 150](#) and [IB 204](#); or consent of instructor.

Subject: Re: Seeking your support for Neuroscience degree in the School of MCB
Date: Wednesday, November 11, 2020 at 2:01:45 PM Central Standard Time
From: Clarkson, Nikki Renee
To: Michael, Melissa

Subject:Re: Seeking your support for Neuroscience degree in the School of MCB
Date:Tue, 3 Nov 2020 12:01:40 -0600
From:Murphy, Catherine Jones <murphycj@illinois.edu>
To:Bagchi, Milan K <mbagchi@illinois.edu>
CC:Murphy, Catherine Jones <murphycj@illinois.edu>, Cox, Jenny L <jjcox@illinois.edu>, Silverman, Scott K <sks@illinois.edu>

Dear Milan,

The Department of Chemistry is on board with your new degree program in neuroscience; we understand that this will likely result in an increase in chemistry undergraduate enrollments, and therefore are willing to work with you and LAS to increase the TA support for chemistry to cover this.

Best,

Cathy

Catherine J. Murphy
Head, Department of Chemistry
Larry R. Faulkner Endowed Chair in Chemistry
Center for Advanced Study Professor
University of Illinois at Urbana-Champaign
A512 Chemical & Life Sciences Laboratory
Box 59-6
600 S. Mathews Ave.
Urbana, IL 61801
217.333.7680 voice
217.244.3186 fax
murphycj@illinois.edu

From: Bagchi, Milan K <mbagchi@illinois.edu>
Sent: Thursday, October 29, 2020 4:57 PM
To: Murphy, Catherine Jones <murphycj@illinois.edu>
Subject: Seeking your support for Neuroscience degree in the School of MCB

Dear Cathy:

The School of MCB will soon be submitting a proposal to establish a new degree of Bachelor of Science in LAS in Neuroscience. As you know, it took us a while to get to this point. I am writing to get your approval to use a few courses offered by your unit in our degree program. Please see a formal letter of request attached.

Please let me know via an email whether you approve this request. I thank you for your consideration and cooperation in this matter.

All the best,
Milan

Milan K. Bagchi, Ph.D.
Deborah Paul Endowed Professor
Director, School of Molecular and Cellular Biology
University of Illinois at Urbana-Champaign
534 Burrill Hall, 407 South Goodwin
Urbana, IL 61801

October 29, 2020

Professor Catherine Murphy
Head, Department of Chemistry

Dear Professor Murphy,

I write to request your support for our proposal to establish a new degree of Bachelor of Science in Liberal Arts and Sciences in Neuroscience (BSLAS), in the School of Molecular and Cellular Biology. In our 4-year plan document, it is most straightforward to see that we propose the inclusion of 6 CHEM courses as required in the major as follows:

- We propose that all students in this major will be required to take CHEM 102: General Chemistry I and CHEM 103: General Chemistry Lab I.
- We propose that all students in this major will be required to take CHEM 104: General Chemistry II and CHEM 105: General Chemistry Lab II.
- We propose that all students in this major will be required to take CHEM 232: Elementary Organic Chemistry I and CHEM 233 Elementary Organic Chem Lab I.

Our proposal estimates that we will admit 50 undergraduate students to this major each year which could affect your enrollment as follows:

- CHEM 102 and CHEM 103: possible addition of 50 students per cohort.
- CHEM 104 and CHEM 105: possible addition of 50 students per cohort.
- CHEM 232 and CHEM 233: possible addition of 50 students per cohort.

These courses are foundational to our proposed degree program and we are hopeful that your unit will be able to absorb extra students as outlined above.

All the best,



Milan Bagchi
Director, School of Molecular and Cellular Biology

Subject: Re: Seeking your support for Neuroscience degree in the School of MCB
Date: Wednesday, November 11, 2020 at 1:46:19 PM Central Standard Time
From: Clarkson, Nikki Renee
To: Michael, Melissa

Subject:RE: Seeking your support for Neuroscience degree in the School of MCB
Date:Fri, 30 Oct 2020 12:09:22 -0500
From:Tyson, Jeremy <tyson@illinois.edu>
To:Bagchi, Milan K <mbagchi@illinois.edu>

Dear Milan,

Thanks for your message. I am happy to support this proposal. We will be able to handle the addition of these students into the indicated courses.

In connection with your message, I am also reminded that one of our faculty members, Kay Kirkpatrick, is currently spending the year on leave with Neuroscience through the LAS Study in a Second Discipline Program, and Lee Deville also has an affiliation with the Neuroscience Program. I am wondering whether there may be opportunities for Math faculty to be involved with course development in connection with this new BSLAS degree. I could envision some interesting new cross-listed courses at the border between applied math and neuroscience.

Best regards,
Jeremy

Jeremy Tyson
Professor and Chair
Department of Mathematics
University of Illinois at Urbana-Champaign

From: Bagchi, Milan K <mbagchi@illinois.edu>
Sent: Thursday, October 29, 2020 4:43 PM
To: Tyson, Jeremy <tyson@illinois.edu>
Subject: Seeking your support for Neuroscience degree in the School of MCB

Dear Jeremy:

The School of MCB will soon be submitting a proposal to establish a new degree of Bachelor of Science in LAS in Neuroscience. As you know, it took us a while to get to this point. I am writing to get your approval to use a few courses offered by your unit in our degree program. Please see a formal letter of request attached.

Please let me know via an email whether you approve this request. I thank you for your consideration and cooperation in this matter.

All the best,

Milan

Milan K. Bagchi, Ph.D.
Deborah Paul Endowed Professor
Director, School of Molecular and Cellular Biology
University of Illinois at Urbana-Champaign
534 Burrill Hall, 407 South Goodwin
Urbana, IL 61801

October 29, 2020

Professor Jeremy Tyson
Chair, Department of Mathematics

Dear Professor Tyson,

I write to request your support for our proposal to establish a new degree of Bachelor of Science in Liberal Arts and Sciences in Neuroscience (BSLAS), in the School of Molecular and Cellular Biology. In our 4-year plan document, it is most straightforward to see that we propose the inclusion of 3 MATH courses as required in the major as follows:

- We propose that all students in this major will be required to take either MATH 220: Calculus or MATH 221: Calculus I.
- We propose that all students in this major also take either MATH 231: Calculus II or STAT 212

Our proposal estimates that we will admit 50 undergraduate students to this major each year which could affect your enrollment as follows:

- MATH 220 and 221: possible addition of a total of 50 total students distributed across these courses each year.
- MATH 231: possible addition of approximately 10 students from each cohort given that some will elect to take STAT 212. The MCB undergraduate major also gives students this choice and approximately 80% choose STAT 212.

These courses are foundational to our existing and proposed degree programs and we are hopeful that your unit will be able to absorb extra students as outlined above.

All the best,



Milan Bagchi

Director, School of Molecular and Cellular Biology

Subject: Re: Need your support for our proposed BS in Neuroscience program in LAS
Date: Wednesday, November 11, 2020 at 2:13:22 PM Central Standard Time
From: Clarkson, Nikki Renee
To: Michael, Melissa

From: "Grosse Perdekamp, Matthias" <mgp@illinois.edu>
Date: Wednesday, November 11, 2020 at 13:42
To: "Wilson, Brenda Anne" <wilson7@illinois.edu>
Cc: "DeMarco, Brian Leeds" <bdemarco@illinois.edu>
Subject: Re: Need your support for our proposed BS in Neuroscience program in LAS

Hi Brenda,

Brian looked at our capacity to include an additional 50 students in PHYS 101 and 102. This will be possible, and we are happy to support your proposal.

Kind Regards,
Matthias

Matthias Grosse Perdekamp
Professor and Head of the Department of Physics
University of Illinois - Urbana Champaign
+1 217 333 6544, mgp@illinois.edu

From: Wilson, Brenda Anne <wilson7@illinois.edu>
Sent: Wednesday, November 11, 2020 1:34 PM
To: Grosse Perdekamp, Matthias <mgp@illinois.edu>
Cc: DeMarco, Brian Leeds <bdemarco@illinois.edu>
Subject: Re: Need your support for our proposed BS in Neuroscience program in LAS

Hi Matthias,
I hope you are doing well.
Just checking to see if you all have had a chance to consider our proposal. We are hoping to submit it with your approval to the College committee by the end of this week.
Thanks much!
Take care,
Brenda

Brenda Anne Wilson, PhD
Professor of Microbiology
University of Illinois at Urbana-Champaign
217-244-9631
wilson7@illinois.edu

From: "Wilson, Brenda Anne" <wilson7@illinois.edu>
Date: Friday, November 6, 2020 at 15:16
To: "Grosse Perdekamp, Matthias" <mgp@illinois.edu>
Cc: "DeMarco, Brian Leeds" <bdemarco@illinois.edu>
Subject: Need your support for our proposed BS in Neuroscience program in LAS

Hi Matthias,

I am hoping that we can get your approval to use two physics courses (PHYS 101, PHYS 102) offered in your unit for our new BS degree program in Neuroscience.

A copy of the proposal and a formal letter of request from our School Director is attached.

Please let me know via email whether you approve this request. If you would like to talk more about this, I would be happy to do so.

Thanks for your help! Looking forward to hearing from you soon.

Best wishes and stay safe,

Brenda

Brenda Anne Wilson, PhD
Professor of Microbiology, College of LAS
Associate Director of Undergraduate Education, School of MCB
Professor of Pathobiology, College of Vet Med
Professor of Biomedical & Translational Sciences, Carle Illinois College of Med
Sandia-UIUC Faculty Fellow, OVCR
University of Illinois at Urbana-Champaign
217-244-9631
wilson7@illinois.edu

October 29, 2020

Professor Matthias Grosse Perdekamp
Chair, Department of Physics

Dear Professor Grosse Perdekamp,

I write to request your support for our proposal to establish a new degree of Bachelor of Science in Liberal Arts and Sciences in Neuroscience (BSLAS), in the School of Molecular and Cellular Biology. In our 4-year plan document, it is most straightforward to see that we propose the inclusion of 2 PHYS courses as required in the major as follows:

- We propose that all students in this major will be required to take PHYS 101: College Physics: Mech & Heat
- We propose that all students in this major will be required to take PHYS 102: College Physics: E & M and Modern.

Our proposal estimates that we will admit 50 undergraduate students to this major each year which could affect your enrollment as follows:

- PHYS 101: possible addition of a total of 50 total students taking this course in the second or third year of their B.S. program.
- PHYS 102: possible addition of a total of 50 total students taking this course in the second or third year of their B.S. program.

These courses are foundational to our proposed degree program and we are hopeful that your unit will be able to absorb extra students as outlined above.

All the best,



Milan Bagchi
Director, School of Molecular and Cellular Biology

Subject: Re: Seeking your support for Neuroscience degree in the School of MCB
Date: Wednesday, November 11, 2020 at 1:55:20 PM Central Standard Time
From: Clarkson, Nikki Renee
To: Michael, Melissa

Subject: Re: Seeking your support for Neuroscience degree in the School of MCB
Date: Wed, 28 Oct 2020 09:57:40 -0500
From: Wendy Heller <w-heller@illinois.edu>
To: Bagchi, Milan K <mbagchi@illinois.edu>
CC: maber@illinois.edu <maber@illinois.edu>, Jukes, Jane E <sj-jukes@illinois.edu>

Dear Milan,

I think this looks great. Congratulations on moving this forward. I agree that this proposal will provide a complementary but non-overlapping opportunity with our offerings for undergraduates. Furthermore, we can easily accommodate the enrollments of these students. Therefore, I approve this request.

Best,
Wendy

On Wed, Oct 28, 2020 at 9:25 AM Bagchi, Milan K <mbagchi@illinois.edu> wrote:

Dear Wendy:

The School of MCB will soon be submitting a proposal to establish a new degree of Bachelor of Science in LAS in Neuroscience. As you know, it took us a while to get to this point. I am writing to get your approval to use a few courses offered by your unit in our degree program. Please see a formal letter of request attached.

Please let me know via an email whether you approve this request. I thank you for your consideration and cooperation in this matter.

All the best,
Milan

Milan K. Bagchi, Ph.D.
Deborah Paul Endowed Professor
Director, School of Molecular and Cellular Biology
University of Illinois at Urbana-Champaign
534 Burrill Hall, 407 South Goodwin
Urbana, IL 61801

--

Wendy Heller

Pronouns: She/Her/Hers

Professor and Head

Psychology Department, University of Illinois

President, Society for Research in Psychopathology

603 E. Daniel St., Champaign 61820

email: w-heller@illinois.edu

Telephone: 217-333-0632

October 28, 2020

Professor Wendy Heller
Head, Department of Psychology

Dear Professor Heller,

I write to request your support for our proposal to establish a new degree of Bachelor of Science in Liberal Arts and Sciences in Neuroscience (BSLAS), in the School of Molecular and Cellular Biology. In our 4-year plan document, it is most straightforward to see that we propose the inclusion of three Psychology courses in the major as follows:

- We propose that all students in this major will take PSYC 100: Introductory Psychology and it will count as one of their General Education courses.
- We proposed that all students in this major will take either PSYC 210: Behavioral Neuroscience or PSYC 224: Cognitive Psychology.
- We propose to list PSYC 302: Applied Neuroscience as an advanced elective course where it will be one of a pool of ten courses.

Our proposal estimates that we will admit 50 undergraduate students to this major each year which could affect your enrollment as follows:

- PSYC 100: possible addition of 17-25 students joining this course each year given that it is offered in Fall, Spring and Summer terms.
- PSYC 210 and PSYC 224: possible addition of 50 students split between the courses in each cohort.
- PSYC 302: possible addition of 6 or fewer students per cohort given that it is an option included in a group of eight courses.

We hope that this degree program will complement your concentrations in Cognitive and Behavioral Neuroscience, and we think that the inclusion of these courses will broaden the experience for our students.

All the best,



Milan Bagchi
Director, School of Molecular and Cellular Biology

Subject: Re: Seeking your support for Neuroscience degree in the School of MCB
Date: Wednesday, November 11, 2020 at 1:52:27 PM Central Standard Time
From: Clarkson, Nikki Renee
To: Michael, Melissa

Subject: Re: Seeking your support for Neuroscience degree in the School of MCB
Date: Thu, 29 Oct 2020 21:30:38 -0500
From: Li, Bo <libo@illinois.edu>
To: Bagchi, Milan K <mbagchi@illinois.edu>

Dear Milan,

I approve this request and will notify the department for the Stat 212 registration. Hope your proposal will go smoothly!

Best,
Bo

From: "Bagchi, Milan K" <mbagchi@illinois.edu>
Date: Thursday, October 29, 2020 at 4:49 PM
To: "Li, Bo" <libo@illinois.edu>
Subject: Seeking your support for Neuroscience degree in the School of MCB

Dear Bo:

The School of MCB will soon be submitting a proposal to establish a new degree of Bachelor of Science in LAS in Neuroscience. As you know, it took us a while to get to this point. I am writing to get your approval to use a few courses offered by your unit in our degree program. Please see a formal letter of request attached.

Please let me know via an email whether you approve this request. I thank you for your consideration and cooperation in this matter.

All the best,
Milan

Milan K. Bagchi, Ph.D.
Deborah Paul Endowed Professor
Director, School of Molecular and Cellular Biology
University of Illinois at Urbana-Champaign
534 Burrill Hall, 407 South Goodwin
Urbana, IL 61801

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October 29, 2020

Professor Bo Li
Chair, Department of Statistics

Dear Professor Li,

I write to request your support for our proposal to establish a new degree of Bachelor of Science in Liberal Arts and Sciences in Neuroscience (BSLAS), in the School of Molecular and Cellular Biology. In our 4-year plan document, it is most straightforward to see that we propose the inclusion of 1 STAT course as one of a pair of required in the major as follows:

- We propose that all students in this major will take either STAT 212: Biostatistics or MATH 231: Calculus II.

Our proposal estimates that we will admit 50 undergraduate students to this major each year which could affect your enrollment as follows:

- STAT 212: possible addition of a total of approximately 40 students choosing to take this course each year. Undergraduates in our BSLAS in Molecular and Cellular Biology have this same choice of courses and about 80% elect to take STAT 212.

This course is foundational to our proposed degree program and we are hopeful that your unit will be able to absorb extra students as outlined above.

All the best,



Milan Bagchi
Director, School of Molecular and Cellular Biology

Subject: Re: Seeking your support for Neuroscience degree in the School of MCB
Date: Wednesday, November 11, 2020 at 1:56:56 PM Central Standard Time
From: Clarkson, Nikki Renee
To: Michael, Melissa

Subject:RE: Seeking your support for Neuroscience degree in the School of MCB
Date:Tue, 3 Nov 2020 17:30:11 -0600
From:Caceres, Carla E <cecacere@illinois.edu>
To:Bagchi, Milan K <mbagchi@illinois.edu>
CC:Downie, Stephen R <sdownie@illinois.edu>

Dear Milan,
I approve your request to include IB342 Genes and Behavior as an elective for the new Neuroscience Major.
Best wishes,
Carla

From: Bagchi, Milan K <mbagchi@illinois.edu>
Sent: Wednesday, October 28, 2020 9:28 AM
To: Caceres, Carla E <cecacere@illinois.edu>
Subject: Seeking your support for Neuroscience degree in the School of MCB

Dear Carla,

The School of MCB will soon be submitting a proposal to establish a new degree of Bachelor of Science in LAS in Neuroscience. As you know, it took us a while to get to this point. I am writing to get your approval to use a few courses offered by your unit in our degree program. Please see a formal letter of request attached.

Please let me know via an email whether you approve this request. I thank you for your consideration and cooperation in this matter.

All the best,
Milan

Milan K. Bagchi, Ph.D.
Deborah Paul Endowed Professor
Director, School of Molecular and Cellular Biology
University of Illinois at Urbana-Champaign
534 Burrill Hall, 407 South Goodwin
Urbana, IL 61801

October 28, 2020

Professor Carla Caceres
Director, School of Integrative Biology

Dear Professor Caceres,

I write to request your support for our proposal to establish a new degree of Bachelor of Science in Liberal Arts and Sciences in Neuroscience (BSLAS), in the School of Molecular and Cellular Biology. In our 4-year plan document, it is most straightforward to see that we propose the inclusion of one IB course in the major as follows:

- We propose to list IB 432: Genes and Behavior as an advanced elective course where it will be one of a pool of eight courses.

Our proposal estimates that we will admit 50 undergraduate students to this major each year which could affect your enrollment as follows:

- IB 432: Genes and Behavior: possible addition of 6 or fewer students per cohort given that it is an option included in a group of eight courses.

The group of faculty who worked together with Mark Hauber in developing a vision for the Neuroscience degree program recommended that we include this course. We think that inclusion of this course as an option for an advanced elective course will broaden the experience for our students.

All the best,



Milan Bagchi
Director, School of Molecular and Cellular Biology

MCB Undergraduate Major in Neuroscience (NS) 4-Year Plan

Course Category	First Year		Second Year		Third Year		Fourth Year	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
Program Introduction	MCB 170 (3)*							
Mathematics & Statistics	MATH 220 (5) or MATH 221 (4)	MATH 231 (3) or STAT 212 (3)						
Chemistry & Physics	CHEM 102 (3) CHEM 103 (1)	CHEM 104 (3) CHEM 105 (1)	CHEM 232 (3) CHEM 233 (2)	PHYS 101 (5)	PHYS 102 (5)			
Neuroscience and MCB	MCB 150 (4)		MCB 250 (3) MCB 251 (2)	MCB 252 (3) MCB 253 (2)	MCB 314 (3) MCB 354 (3)	MCB 460 Lab (2) Adv Elect. (3) Adv Elect. (3)	MCB 461 (3)** Adv Elect. (3)	MCB 462 (3)** Adv Elect. (3) Adv Elect. (3)
Psychology		PSYC 100 (4) = BS/SS Gen Ed		PSYC 210 (3) or PSYC 224 (3)				
Subtotal	15-16	11	10	13	11	8	6	9 TOTAL: 83-84
Other Requirements: Gen Ed/Language	LAS 101 (1) or LAS 122 (1)	GEEd Comp I (4)	GEEd (3) and GEEd (3) or language (4/5)	GEEd (3) or language (4/5)	GEEd (3) or language (4/5)	GEEd (3) and GEEd (3) or language (4/5) Elective (3)	GEEd (3) GEEd (3) Elective (3)	GEEd (3) GEEd (3)
Total Credit Hours	16-17	15	14-16	16-18	14-16	15-17	15	15 TOTAL: 120-126

*credit hours in parentheses

** MCB 461 and MCB 462 serve as capstone courses for this major, and will provide data for program assessment.

MCB 290: Undergraduate Research and MCB 492: Senior Thesis in designated MCB neuroscience-focused labs is encouraged.

IBHE Requirement of 40 hours at the 300- and 400-levels: The proposed program currently has 14 credit hours of explicitly required 300- and 400-level courses, and 15 credit hours of advanced elective courses plus 6 credit hours at the 200-level in courses with two pre-requisites (MCB 250 and CHEM 232) for a total of 35 of the desired 40 credit hours.

Approved Advanced Elective Courses List: There will be an approved advanced course list for this degree program. Courses may be added and removed from this list as is appropriate. This will accommodate new MCB courses offered by MCB faculty working in the area of neuroscience.

Approved Advanced Elective Courses
MCB 401: Cell & Membrane Physiology (3)
MCB 402: Systems & Integrative Physiology (3)
MCB 419: Brain, Behavior & Info Processing (3)
MCB 432: Computing in Molecular Biology (3)
MCB 466: Neuro & Molecular Pharmacology (3)
MCB 481: Developmental Neurobiology (3)
IB 432: Genes and Behavior (3)
PSYC 302: Applied Neuroscience (3)

General Education Courses Required

1 Composition I course (Comp I)

2 Behavioral or Social Science (BS/SS)

2 Humanities (HUM)

1 Non-Western Culture (NW)

1 Western Comparative Culture (WCC)

1 US Minority Culture (US)

1 Advanced Composition (ACP)

2 Natural Science & Technology- Life Sciences [6 hours required. Neuroscience Majors will fulfill this by taking MCB 150 (4) and CHEM 102 (3)]

2 Quantitative Reasoning [2 courses required. Neuroscience majors will fulfill this by taking MATH 220 (5) or MATH 221 (4) and MATH 231 (3) or STAT 212 (3)]

+

Language through 4th level of one language or through 3rd level of 2 languages other than English.

PSYC 210: Behavioral Neuroscience (3), offered every fall and spring

Survey of current knowledge and speculation regarding the brain's role in perception, motivation, sexual behavior, thinking, memory, and learning, based upon human clinical data and research in animal models. Prerequisite: [PSYC 100](#), [PSYC 103](#), or consent of instructor.

This course satisfies the General Education Criteria for: Nat Sci & Tech - Life Sciences

OR

PSYC 224: Cognitive Psych (3), offered every fall, spring, summer

Introduction to the psychological study of human information processing and memory; acquisition, retrieval, and forgetting; and general knowledge, concepts, reasoning, and related issues in cognition. Prerequisite: [PSYC 100](#) or [PSYC 103](#).

PSYC 302 Applied Neuroscience (3)

Examines topics in neuroscience highly relevant to our daily lives, especially as it pertains to mental health. Topics include neurobiology related to anxiety, depression, addiction, exercise, learning, memory, and personality characteristics. Special attention will be paid to race, sex, and socioeconomic differences and their influence on both genetic risk and environmental stress. The class will emphasize critical thinking and conceptualization and will frequently include open discussions. Same as [NEUR 302](#). Prerequisite: [PSYC 100](#) or equivalent.; this is a spring only course.

IB 432: Genes and Behavior (3)

Concepts, methods, and problems in the analysis of the relationship between genes and behavior, the complex neurobiological processes that mediate action on behavior, in appropriate ecological and evolutionary contexts. Same as [ANTH 432](#), [NEUR 432](#), and [PSYC 432](#). 3 undergraduate hours. 3 graduate hours. Prerequisite: [IB 150](#) and [IB 204](#); or consent of instructor.

From: [Michael, Melissa](#)
To: [Martensen, Kathy](#)
Cc: [Bagchi, Milan K](#); [Ritter, Kelly Allison](#); [Miller, Nolan H](#)
Subject: Re: MCB Neuroscience BSLAS proposal
Date: Monday, February 8, 2021 3:33:44 PM
Attachments: [image001.png](#)
[Neuroscience BSLAS 4-yr Plan 11 Nov 2020 2.docx](#)

Dear Kathy,

Thank you for catching the issue with the total credit hours. I really appreciate it. Please feel free to go with your document.

We are all so very pleased that our proposal is moving along.

m

Melissa Michael

Assoc. Dir. for Curriculum & Instruction

School of Molecular & Cellular Biology

Univ. of Illinois at Urbana-Champaign

127 Burrill Hall, MC-119

Tel: 217.244.6238

mmichae@illinois.edu

----- Forwarded Message -----

Subject: RE: MCB Neuroscience BSLAS proposal

Date: Mon, 8 Feb 2021 12:55:59 -0600

From: Miller, Nolan H <nmiller@illinois.edu>

To: Bagchi, Milan K <mbagchi@illinois.edu>

CC: Ritter, Kelly Allison <critterk@illinois.edu>, Martensen, Kathy <kmartens@illinois.edu>

Hi Milan,

EPC just unanimously approved the Neuroscience proposal. Congratulations!

One small matter came up regarding the sample 4-year curriculum plan in the proposal. There is a path through that where the student only gets 114 hours. We think it is in your best interest to revise it so that it is clear students must have 120 hours to graduate. This is both because we want to make sure students clearly understand the requirements and also because this proposal goes to IBHE, and we want to make sure it is clear that we are fulfilling the 120 hour requirement for a major. (I know the 120 hour requirement appears other places in the proposal, but we don't want somebody who only reads one document to read the wrong one and cause problems that don't need to be caused!)

Kathy Martensen from the Provost's office has edited the document to clarify this point (so that it shows 120-126 hours), and I've attached it. Kathy says "I did need to adjust

the two semesters where it was showing an option minimum of 12; you'll see I added "Elective (3)" for those two semesters." This seems fine to me. If it's ok with you, then Kathy can probably close this out without you needing to do anything. (Otherwise, she'll let you know what you need to do.)

Best,

Nolan



NOLAN H MILLER

Daniel and Cynthia Mah Helle Professor in Finance | Department of Finance

Director, Center for Business and Public Policy

Gies College of Business | University of Illinois at Urbana-Champaign

217.244.2847 | nmiller@illinois.edu | <http://www.business.illinois.edu/nmiller>

Under the Illinois Freedom of Information Act any written communication to or from university employees regarding university business is a public record and may be subject to public disclosure.

October 29, 2020

Professor Catherine Murphy
Head, Department of Chemistry

Dear Professor Murphy,

I write to request your support for our proposal to establish a new degree of Bachelor of Science in Liberal Arts and Sciences in Neuroscience (BSLAS), in the School of Molecular and Cellular Biology. In our 4-year plan document, it is most straightforward to see that we propose the inclusion of 6 CHEM courses as required in the major as follows:

- We propose that all students in this major will be required to take CHEM 102: General Chemistry I and CHEM 103: General Chemistry Lab I.
- We propose that all students in this major will be required to take CHEM 104: General Chemistry II and CHEM 105: General Chemistry Lab II.
- We propose that all students in this major will be required to take CHEM 232: Elementary Organic Chemistry I and CHEM 233 Elementary Organic Chem Lab I.

Our proposal estimates that we will admit 50 undergraduate students to this major each year which could affect your enrollment as follows:

- CHEM 102 and CHEM 103: possible addition of 50 students per cohort.
- CHEM 104 and CHEM 105: possible addition of 50 students per cohort.
- CHEM 232 and CHEM 233: possible addition of 50 students per cohort.

These courses are foundational to our proposed degree program and we are hopeful that your unit will be able to absorb extra students as outlined above.

All the best,



Milan Bagchi
Director, School of Molecular and Cellular Biology

Subject: Re: Seeking your support for Neuroscience degree in the School of MCB
Date: Wednesday, November 11, 2020 at 2:01:45 PM Central Standard Time
From: Clarkson, Nikki Renee
To: Michael, Melissa

Subject: Re: Seeking your support for Neuroscience degree in the School of MCB
Date: Tue, 3 Nov 2020 12:01:40 -0600
From: Murphy, Catherine Jones <murphycj@illinois.edu>
To: Bagchi, Milan K <mbagchi@illinois.edu>
CC: Murphy, Catherine Jones <murphycj@illinois.edu>, Cox, Jenny L <jjcox@illinois.edu>, Silverman, Scott K <sks@illinois.edu>

Dear Milan,

The Department of Chemistry is on board with your new degree program in neuroscience; we understand that this will likely result in an increase in chemistry undergraduate enrollments, and therefore are willing to work with you and LAS to increase the TA support for chemistry to cover this.

Best,

Cathy

Catherine J. Murphy
Head, Department of Chemistry
Larry R. Faulkner Endowed Chair in Chemistry
Center for Advanced Study Professor
University of Illinois at Urbana-Champaign
A512 Chemical & Life Sciences Laboratory
Box 59-6
600 S. Mathews Ave.
Urbana, IL 61801
217.333.7680 voice
217.244.3186 fax
murphycj@illinois.edu

From: Bagchi, Milan K <mbagchi@illinois.edu>
Sent: Thursday, October 29, 2020 4:57 PM
To: Murphy, Catherine Jones <murphycj@illinois.edu>
Subject: Seeking your support for Neuroscience degree in the School of MCB

Dear Cathy:

The School of MCB will soon be submitting a proposal to establish a new degree of Bachelor of Science in LAS in Neuroscience. As you know, it took us a while to get to this point. I am writing to get your approval to use a few courses offered by your unit in our degree program. Please see a formal letter of request attached.

Please let me know via an email whether you approve this request. I thank you for your consideration and cooperation in this matter.

All the best,
Milan

Milan K. Bagchi, Ph.D.
Deborah Paul Endowed Professor
Director, School of Molecular and Cellular Biology
University of Illinois at Urbana-Champaign
534 Burrill Hall, 407 South Goodwin
Urbana, IL 61801

October 29, 2020

Professor Jeremy Tyson
Chair, Department of Mathematics

Dear Professor Tyson,

I write to request your support for our proposal to establish a new degree of Bachelor of Science in Liberal Arts and Sciences in Neuroscience (BSLAS), in the School of Molecular and Cellular Biology. In our 4-year plan document, it is most straightforward to see that we propose the inclusion of 3 MATH courses as required in the major as follows:

- We propose that all students in this major will be required to take either MATH 220: Calculus or MATH 221: Calculus I.
- We propose that all students in this major also take either MATH 231: Calculus II or STAT 212

Our proposal estimates that we will admit 50 undergraduate students to this major each year which could affect your enrollment as follows:

- MATH 220 and 221: possible addition of a total of 50 total students distributed across these courses each year.
- MATH 231: possible addition of approximately 10 students from each cohort given that some will elect to take STAT 212. The MCB undergraduate major also gives students this choice and approximately 80% choose STAT 212.

These courses are foundational to our existing and proposed degree programs and we are hopeful that your unit will be able to absorb extra students as outlined above.

All the best,



Milan Bagchi

Director, School of Molecular and Cellular Biology

Subject: Re: Seeking your support for Neuroscience degree in the School of MCB
Date: Wednesday, November 11, 2020 at 1:46:19 PM Central Standard Time
From: Clarkson, Nikki Renee
To: Michael, Melissa

Subject:RE: Seeking your support for Neuroscience degree in the School of MCB
Date:Fri, 30 Oct 2020 12:09:22 -0500
From:Tyson, Jeremy <tyson@illinois.edu>
To:Bagchi, Milan K <mbagchi@illinois.edu>

Dear Milan,

Thanks for your message. I am happy to support this proposal. We will be able to handle the addition of these students into the indicated courses.

In connection with your message, I am also reminded that one of our faculty members, Kay Kirkpatrick, is currently spending the year on leave with Neuroscience through the LAS Study in a Second Discipline Program, and Lee Deville also has an affiliation with the Neuroscience Program. I am wondering whether there may be opportunities for Math faculty to be involved with course development in connection with this new BSLAS degree. I could envision some interesting new cross-listed courses at the border between applied math and neuroscience.

Best regards,
Jeremy

Jeremy Tyson
Professor and Chair
Department of Mathematics
University of Illinois at Urbana-Champaign

From: Bagchi, Milan K <mbagchi@illinois.edu>
Sent: Thursday, October 29, 2020 4:43 PM
To: Tyson, Jeremy <tyson@illinois.edu>
Subject: Seeking your support for Neuroscience degree in the School of MCB

Dear Jeremy:

The School of MCB will soon be submitting a proposal to establish a new degree of Bachelor of Science in LAS in Neuroscience. As you know, it took us a while to get to this point. I am writing to get your approval to use a few courses offered by your unit in our degree program. Please see a formal letter of request attached.

Please let me know via an email whether you approve this request. I thank you for your consideration and cooperation in this matter.

All the best,

Milan

Milan K. Bagchi, Ph.D.
Deborah Paul Endowed Professor
Director, School of Molecular and Cellular Biology
University of Illinois at Urbana-Champaign
534 Burrill Hall, 407 South Goodwin
Urbana, IL 61801

October 29, 2020

Professor Matthias Grosse Perdekamp
Chair, Department of Physics

Dear Professor Grosse Perdekamp,

I write to request your support for our proposal to establish a new degree of Bachelor of Science in Liberal Arts and Sciences in Neuroscience (BSLAS), in the School of Molecular and Cellular Biology. In our 4-year plan document, it is most straightforward to see that we propose the inclusion of 2 PHYS courses as required in the major as follows:

- We propose that all students in this major will be required to take PHYS 101: College Physics: Mech & Heat
- We propose that all students in this major will be required to take PHYS 102: College Physics: E & M and Modern.

Our proposal estimates that we will admit 50 undergraduate students to this major each year which could affect your enrollment as follows:

- PHYS 101: possible addition of a total of 50 total students taking this course in the second or third year of their B.S. program.
- PHYS 102: possible addition of a total of 50 total students taking this course in the second or third year of their B.S. program.

These courses are foundational to our proposed degree program and we are hopeful that your unit will be able to absorb extra students as outlined above.

All the best,



Milan Bagchi
Director, School of Molecular and Cellular Biology

Subject: Re: Need your support for our proposed BS in Neuroscience program in LAS
Date: Wednesday, November 11, 2020 at 2:13:22 PM Central Standard Time
From: Clarkson, Nikki Renee
To: Michael, Melissa

From: "Grosse Perdekamp, Matthias" <mgp@illinois.edu>
Date: Wednesday, November 11, 2020 at 13:42
To: "Wilson, Brenda Anne" <wilson7@illinois.edu>
Cc: "DeMarco, Brian Leeds" <bdemarco@illinois.edu>
Subject: Re: Need your support for our proposed BS in Neuroscience program in LAS

Hi Brenda,

Brian looked at our capacity to include an additional 50 students in PHYS 101 and 102. This will be possible, and we are happy to support your proposal.

Kind Regards,
Matthias

Matthias Grosse Perdekamp
Professor and Head of the Department of Physics
University of Illinois - Urbana Champaign
+1 217 333 6544, mgp@illinois.edu

From: Wilson, Brenda Anne <wilson7@illinois.edu>
Sent: Wednesday, November 11, 2020 1:34 PM
To: Grosse Perdekamp, Matthias <mgp@illinois.edu>
Cc: DeMarco, Brian Leeds <bdemarco@illinois.edu>
Subject: Re: Need your support for our proposed BS in Neuroscience program in LAS

Hi Matthias,
I hope you are doing well.
Just checking to see if you all have had a chance to consider our proposal. We are hoping to submit it with your approval to the College committee by the end of this week.
Thanks much!
Take care,
Brenda

Brenda Anne Wilson, PhD
Professor of Microbiology
University of Illinois at Urbana-Champaign
217-244-9631
wilson7@illinois.edu

From: "Wilson, Brenda Anne" <wilson7@illinois.edu>
Date: Friday, November 6, 2020 at 15:16
To: "Grosse Perdekamp, Matthias" <mgp@illinois.edu>
Cc: "DeMarco, Brian Leeds" <bdemarco@illinois.edu>
Subject: Need your support for our proposed BS in Neuroscience program in LAS

Hi Matthias,

I am hoping that we can get your approval to use two physics courses (PHYS 101, PHYS 102) offered in your unit for our new BS degree program in Neuroscience.

A copy of the proposal and a formal letter of request from our School Director is attached.

Please let me know via email whether you approve this request. If you would like to talk more about this, I would be happy to do so.

Thanks for your help! Looking forward to hearing from you soon.

Best wishes and stay safe,

Brenda

Brenda Anne Wilson, PhD
Professor of Microbiology, College of LAS
Associate Director of Undergraduate Education, School of MCB
Professor of Pathobiology, College of Vet Med
Professor of Biomedical & Translational Sciences, Carle Illinois College of Med
Sandia-UIUC Faculty Fellow, OVCR
University of Illinois at Urbana-Champaign
217-244-9631
wilson7@illinois.edu

October 28, 2020

Professor Wendy Heller
Head, Department of Psychology

Dear Professor Heller,

I write to request your support for our proposal to establish a new degree of Bachelor of Science in Liberal Arts and Sciences in Neuroscience (BSLAS), in the School of Molecular and Cellular Biology. In our 4-year plan document, it is most straightforward to see that we propose the inclusion of three Psychology courses in the major as follows:

- We propose that all students in this major will take PSYC 100: Introductory Psychology and it will count as one of their General Education courses.
- We proposed that all students in this major will take either PSYC 210: Behavioral Neuroscience or PSYC 224: Cognitive Psychology.
- We propose to list PSYC 302: Applied Neuroscience as an advanced elective course where it will be one of a pool of ten courses.

Our proposal estimates that we will admit 50 undergraduate students to this major each year which could affect your enrollment as follows:

- PSYC 100: possible addition of 17-25 students joining this course each year given that it is offered in Fall, Spring and Summer terms.
- PSYC 210 and PSYC 224: possible addition of 50 students split between the courses in each cohort.
- PSYC 302: possible addition of 6 or fewer students per cohort given that it is an option included in a group of eight courses.

We hope that this degree program will complement your concentrations in Cognitive and Behavioral Neuroscience, and we think that the inclusion of these courses will broaden the experience for our students.

All the best,



Milan Bagchi
Director, School of Molecular and Cellular Biology

Subject: Re: Seeking your support for Neuroscience degree in the School of MCB
Date: Wednesday, November 11, 2020 at 1:55:20 PM Central Standard Time
From: Clarkson, Nikki Renee
To: Michael, Melissa

Subject: Re: Seeking your support for Neuroscience degree in the School of MCB
Date: Wed, 28 Oct 2020 09:57:40 -0500
From: Wendy Heller <w-heller@illinois.edu>
To: Bagchi, Milan K <mbagchi@illinois.edu>
CC: maber@illinois.edu <maber@illinois.edu>, Jukes, Jane E <sj-jukes@illinois.edu>

Dear Milan,

I think this looks great. Congratulations on moving this forward. I agree that this proposal will provide a complementary but non-overlapping opportunity with our offerings for undergraduates. Furthermore, we can easily accommodate the enrollments of these students. Therefore, I approve this request.

Best,
Wendy

On Wed, Oct 28, 2020 at 9:25 AM Bagchi, Milan K <mbagchi@illinois.edu> wrote:

Dear Wendy:

The School of MCB will soon be submitting a proposal to establish a new degree of Bachelor of Science in LAS in Neuroscience. As you know, it took us a while to get to this point. I am writing to get your approval to use a few courses offered by your unit in our degree program. Please see a formal letter of request attached.

Please let me know via an email whether you approve this request. I thank you for your consideration and cooperation in this matter.

All the best,
Milan

Milan K. Bagchi, Ph.D.
Deborah Paul Endowed Professor
Director, School of Molecular and Cellular Biology
University of Illinois at Urbana-Champaign
534 Burrill Hall, 407 South Goodwin
Urbana, IL 61801

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Wendy Heller

Pronouns: She/Her/Hers

Professor and Head

Psychology Department, University of Illinois

President, Society for Research in Psychopathology

603 E. Daniel St., Champaign 61820

email: w-heller@illinois.edu

Telephone: 217-333-0632

October 29, 2020

Professor Bo Li
Chair, Department of Statistics

Dear Professor Li,

I write to request your support for our proposal to establish a new degree of Bachelor of Science in Liberal Arts and Sciences in Neuroscience (BSLAS), in the School of Molecular and Cellular Biology. In our 4-year plan document, it is most straightforward to see that we propose the inclusion of 1 STAT course as one of a pair of required in the major as follows:

- We propose that all students in this major will take either STAT 212: Biostatistics or MATH 231: Calculus II.

Our proposal estimates that we will admit 50 undergraduate students to this major each year which could affect your enrollment as follows:

- STAT 212: possible addition of a total of approximately 40 students choosing to take this course each year. Undergraduates in our BSLAS in Molecular and Cellular Biology have this same choice of courses and about 80% elect to take STAT 212.

This course is foundational to our proposed degree program and we are hopeful that your unit will be able to absorb extra students as outlined above.

All the best,



Milan Bagchi
Director, School of Molecular and Cellular Biology

Subject: Re: Seeking your support for Neuroscience degree in the School of MCB
Date: Wednesday, November 11, 2020 at 1:52:27 PM Central Standard Time
From: Clarkson, Nikki Renee
To: Michael, Melissa

Subject: Re: Seeking your support for Neuroscience degree in the School of MCB
Date: Thu, 29 Oct 2020 21:30:38 -0500
From: Li, Bo <libo@illinois.edu>
To: Bagchi, Milan K <mbagchi@illinois.edu>

Dear Milan,

I approve this request and will notify the department for the Stat 212 registration. Hope your proposal will go smoothly!

Best,
Bo

From: "Bagchi, Milan K" <mbagchi@illinois.edu>
Date: Thursday, October 29, 2020 at 4:49 PM
To: "Li, Bo" <libo@illinois.edu>
Subject: Seeking your support for Neuroscience degree in the School of MCB

Dear Bo:

The School of MCB will soon be submitting a proposal to establish a new degree of Bachelor of Science in LAS in Neuroscience. As you know, it took us a while to get to this point. I am writing to get your approval to use a few courses offered by your unit in our degree program. Please see a formal letter of request attached.

Please let me know via an email whether you approve this request. I thank you for your consideration and cooperation in this matter.

All the best,
Milan

Milan K. Bagchi, Ph.D.
Deborah Paul Endowed Professor
Director, School of Molecular and Cellular Biology
University of Illinois at Urbana-Champaign
534 Burrill Hall, 407 South Goodwin
Urbana, IL 61801

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October 28, 2020

Professor Carla Caceres
Director, School of Integrative Biology

Dear Professor Caceres,

I write to request your support for our proposal to establish a new degree of Bachelor of Science in Liberal Arts and Sciences in Neuroscience (BSLAS), in the School of Molecular and Cellular Biology. In our 4-year plan document, it is most straightforward to see that we propose the inclusion of one IB course in the major as follows:

- We propose to list IB 432: Genes and Behavior as an advanced elective course where it will be one of a pool of eight courses.

Our proposal estimates that we will admit 50 undergraduate students to this major each year which could affect your enrollment as follows:

- IB 432: Genes and Behavior: possible addition of 6 or fewer students per cohort given that it is an option included in a group of eight courses.

The group of faculty who worked together with Mark Hauber in developing a vision for the Neuroscience degree program recommended that we include this course. We think that inclusion of this course as an option for an advanced elective course will broaden the experience for our students.

All the best,



Milan Bagchi
Director, School of Molecular and Cellular Biology

Subject: Re: Seeking your support for Neuroscience degree in the School of MCB
Date: Wednesday, November 11, 2020 at 1:56:56 PM Central Standard Time
From: Clarkson, Nikki Renee
To: Michael, Melissa

Subject:RE: Seeking your support for Neuroscience degree in the School of MCB
Date:Tue, 3 Nov 2020 17:30:11 -0600
From:Caceres, Carla E <cecacere@illinois.edu>
To:Bagchi, Milan K <mbagchi@illinois.edu>
CC:Downie, Stephen R <sdownie@illinois.edu>

Dear Milan,
I approve your request to include IB342 Genes and Behavior as an elective for the new Neuroscience Major.
Best wishes,
Carla

From: Bagchi, Milan K <mbagchi@illinois.edu>
Sent: Wednesday, October 28, 2020 9:28 AM
To: Caceres, Carla E <cecacere@illinois.edu>
Subject: Seeking your support for Neuroscience degree in the School of MCB

Dear Carla,

The School of MCB will soon be submitting a proposal to establish a new degree of Bachelor of Science in LAS in Neuroscience. As you know, it took us a while to get to this point. I am writing to get your approval to use a few courses offered by your unit in our degree program. Please see a formal letter of request attached.

Please let me know via an email whether you approve this request. I thank you for your consideration and cooperation in this matter.

All the best,
Milan

Milan K. Bagchi, Ph.D.
Deborah Paul Endowed Professor
Director, School of Molecular and Cellular Biology
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534 Burrill Hall, 407 South Goodwin
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