

Contact: Rachel Boon

REQUEST FOR NEW PROGRAM AT THE UNIVERSITY OF IOWA:
BACHELOR OF SCIENCE IN NEUROSCIENCE

Action Requested: Consider approval of the request by the University of Iowa to establish an interdisciplinary Bachelor of Science (BS) in Neuroscience program in the Department of Biology and Department of Psychological and Brain Sciences in the College of Liberal Arts and Sciences.

Executive Summary: The proposed BS in Neuroscience degree is an interdisciplinary undergraduate program that is closely aligned with the Board-approved Iowa Neuroscience Institute (INI). This new program will be the only undergraduate neuroscience program at a Regent institution. The proposed program addresses the Board of Regents Strategic Plan objective 1.1; "The Regent institutions provide clear pathways for students to enter, move through and complete their education and career goals." The program has been approved by all appropriate University of Iowa faculty and administrative committees, as well as unanimously by the Council of Provosts. Board staff recommends approval of this program.

Background:

Description of proposed program. In creating a single, interdisciplinary curriculum that draws from both the Department of Biology and the Department of Psychological and Brain Sciences, the neuroscience faculty within both departments will be able to combine forces and provide a comprehensive curriculum that will ensure students have broad exposure to, and understanding of, neuroscience across multiple levels of analysis, from the cellular and molecular to the behavioral and cognitive. Additionally, students in this major will be required to have sufficient grounding in cognates such as chemistry and physics, to provide them with a deeper understanding of the methods and context of neuroscience. Those neuroscience majors who wish to continue their studies in graduate (Ph.D.) or medical (M.D.) school will be well-prepared to do so through the integrated curriculum. The new neuroscience major will also be integrated with the recently launched Iowa Neuroscience Institute (INI), supported by a \$45 million grant from the Roy J. Carver Charitable Trust, and will provide undergraduate students with a portal to the impressive array of research opportunities, seminars, workshops and other events sponsored by the INI.

The Department of Biology currently offers a neurobiology "emphasis track" within the Biology BS degree, which we expect to be superseded by the proposed neuroscience major. Although this track has been successful within the larger biology major (with ~90 current students), it has inherent limitations of size and scope and does not fully reflect the curriculum and environment needed for a successful, interdisciplinary neuroscience major. Neuroscience as a field encompasses not only the cellular and molecular levels of analysis covered by biology coursework, but also the cognitive, systems, and behavioral levels of analysis that are covered by psychological and brain sciences coursework. Therefore, the fully integrated interdisciplinary neuroscience major will provide a comprehensive curriculum that will enable students to pursue careers in all realms of neuroscience.

Academic objectives. Because this major is interdisciplinary between the Departments of Biology and Psychological and Brain Sciences, the courses cover the full range of neuroscience, from the more molecular and cellular questions (e.g., developmental neurobiology) to more behavioral and cognitive questions (e.g., cognition and the brain). The neuroscience major includes introductory

courses on behavioral neuroscience, foundations of biology, animal physiology, fundamental neurobiology, and experimental design and statistics; hands-on laboratory courses focused on neuroscience and behavioral analysis; and advanced coursework focused on specific areas, such as neural development, stress and aging, and learning and memory. In addition, as neuroscience requires background in foundational sciences, the neuroscience major also requires cognate coursework in physics, chemistry and mathematics.

The academic objectives are as follows:

1. **Gain a big picture understanding of neuroscience.** Students will learn the relationship between the different levels of analyses in neuroscience, and will grasp the big picture of how molecules and cells can generate brain circuits that build behavior and cognition.
2. **Design and analyze neuroscience experiments.** Students will learn how to conduct experiments, through classroom discussion, hands-on laboratory work, and detailed coursework on experimental design and statistical analysis. Students will also have opportunities for Honors and independent study research in the laboratories of Biology, Psychological and Brain Sciences, and INI faculty.
3. **Develop critical thinking skills.** Through the combination of all the courses offered, students will learn how to think critically about scientific data and the types of conclusions that can be reasonably drawn from data. Several courses will provide students with opportunities to reach and critique the primary literature.
4. **Develop communication skills.** Students will learn how to write scientifically, through course assignments, and how to present the results of scientific findings, through in-class presentations and research papers.
5. **Prepare for graduate school, medical school, or a first career step.** Through this major, students will develop a sufficiently broad and deep background that they will be well-prepared to graduate education in neuroscience or related life science fields, medical school or other health-related programs such as public health or nursing, or a first step in a career, including work in biomedical industries, academic laboratories and science education.

Need for proposed program. Over the past few decades, scientific advances in understanding how the brain works have fueled a dramatic increase in the area of neuroscience. The annual Society for Neuroscience meeting routinely draws over 30,000 attendees, including scientists as well as graduate and undergraduate students studying neuroscience. In 2014, President Obama put in place the BRAIN initiative to advance neuroscience, with over \$300 million in research investment from the NIH, NSF and several private organizations and corporations. Similar massive neuroscience funding initiatives have been launched internationally (e.g., the European Union's €1 billion Human Brain Project). Thus, it is clear that there is significant national and international interest in the field of neuroscience.

At the local level, Dr. Ted Abel was recently appointed as the first director for the INI, a substantial inter-college initiative to invest in, enhance and expand the neuroscience infrastructure at Iowa. One of the INI's goals, discussed in its founding proposal that was approved by the Board of Regents, includes the development of an undergraduate neuroscience major. Indeed, across the country, many universities, including 8 of 10 peer institutions (UCLA, Arizona, Indiana, Michigan, Minnesota, Ohio State, Texas and Wisconsin) have already developed and implemented successful interdisciplinary neuroscience majors. With the enormous momentum behind the INI, which seeks to make the University of Iowa a leading institution in neuroscience research and education, the time is right to establish the neuroscience major.

Within both the Biology (nearly 900 students) and Psychology (over 1200 students) majors, there are already significant populations of students interested in neuroscience. While these majors offer coursework covering, respectively, cell and molecular and behavioral and cognitive levels of analysis, the extensive non-neuroscience coursework also required for these majors currently prevents students from accessing a focused and comprehensive training in neuroscience. Additionally, this non-neuroscience coursework (e.g., courses in social psychology or evolution) likely discourages other life science-oriented students, who may choose other majors such as Health and Human Physiology or Biochemistry. Anecdotally, many Biology and Psychology majors have told our advisors and faculty that they would prefer to major in Neuroscience, if such a major were available. We are confident that a Neuroscience major will attract a broad and substantial swath of life science-oriented students already on the University of Iowa campus, as well as provide an appealing option for students who may consider attending the University of Iowa.

Link to institutional strategic plan. The Neuroscience major will address all three main components of the University's strategic plan: Research & Discovery, Student Success, and Engagement. Under Research & Discovery is included the tasks "support curricular innovations that promote collaboration" and "create research partnerships with universities and institutes that complement our areas of strength." Faculty neuroscientists in Biology and Psychological and Brain Sciences will be brought together in administering and teaching this new major, which will foster more collaborative research, some of which is already ongoing. Further, the link to the INI will create partnerships between students and faculty that will integrate neuroscience research across the entire campus.

Under Student Success is included "capitalize on the rich synergies of UIHC, the health sciences, and the professional schools to provide an extraordinary student experience" and "promote undergraduate-to-graduate/professional programs." The Neuroscience major will do this by not only linking neuroscientists in Biology and Psychological and Brain Sciences, many of whom has secondary appointments in the Carver College of Medicine (CCOM), but also within the broader, cross-campus INI. Students will have research and seminar opportunities through the INI and, as undergraduates, will be exposed to the neuroscience community at the CCOM and UIHC. We plan to give undergraduates opportunities to meet with and learn from graduate students in the interdisciplinary graduate program in Neuroscience, to which some graduating seniors will likely apply, and with M.D./Ph.D. students specializing in neuroscience. Another task noted under Student Success is to "embed more career readiness...within majors." As noted below, INI funding is designated to hire a dedicated academic advisor with expertise in neuroscience to help students prepare for jobs and post-graduate education in their fields. A final task of note is "recruit and retain a more diverse...student body." The Neuroscience major will work with the Iowa Biosciences Academy, which is run out of the Department of Biology, to recruit underrepresented groups of students to join the major, and will engage in outreach to high school students in these groups to encourage them to explore neuroscience education at the University of Iowa. More broadly, considering the burgeoning interest in and focus on neuroscience research, providing a Neuroscience major will help the University of Iowa recruit talented students who might otherwise have attended peer institution with (as noted above) already-existing Neuroscience majors. This will help the University of Iowa "(b)ecome a Research I institution of choice for undergraduate students aspiring to pursue graduate or professional education," a main strategy under Student Success.

Finally, under Engagement, a main strategy is to "create pathways for students to pursue health careers and remain in Iowa." As noted above, the Neuroscience major will serve as a strong springboard for professional education in health-related arenas, including medical school, nursing

programs, and graduate programs in the life sciences and in public health). The curriculum is designed to enable students to take all the necessary courses for such professional education within a four-year plan, and to give them expertise in an area that has become increasingly important and valued in health-related training, particularly as our state and national populations age and face increased incidences of related brain-based disorders (e.g. Alzheimer's disease). As none of the Regents' universities currently offers a neuroscience major, the proposed major will create an avenue for students from Iowa to remain here for their undergraduate neuroscience training. This, in turn, increases the likelihood that they will remain in Iowa for the next step in their careers. Moreover, this major is likely to attract non-Iowan students to the University of Iowa, who may then pursue health-related careers in Iowa.

Within the CLAS Strategic Plan (2016-2021), the Neuroscience major will further the vision of "strengthening connections within CLAS and Between CLAS and other communities to address the grand challenges facing society." As noted above, as an interdepartmental initiative, the Neuroscience major will strengthen connections within CLAS; it will also facilitate connections between CLAS and other University of Iowa colleges (particularly the CCOM), as the major will receive support from and be integrated with the INI, a cross-college institute. As noted above, the Neuroscience major will also have the benefit of building connections among neuroscience faculty in different departments and colleges which addresses Goal 1 by "(e)nhanc(ing) collaborative research and creative work, especially by supporting research and scholarship centers in order to create vibrant cross-disciplinary intellectual communities." IN addition, the Neuroscience major will address Goal 2 by "strengthen(ing) connections between interdisciplinary research initiatives and student learning by expanding curricula and programs of study."

Relationship to existing programs at the institution. There is currently no Neuroscience major at the University of Iowa. As noted above, the Department of Biology currently offers a neurobiology emphasis track within the Biology BS degree, which is expected to be superseded by the proposed Neuroscience major. This track prepares students in the context of a broader Biology curriculum, and does not reflect the curriculum and environment needed for a successful, interdisciplinary neuroscience major. Neuroscience as a field encompasses not only cellular and molecular levels of analysis covered in biology, but also the cognitive, systems and behavioral levels of analysis that are covered by psychological and brain sciences. Indeed, the number of faculty neuroscientists in the Department of Biology and Psychological and Brain Sciences is roughly equivalent, and their expertise is complementary. Biology-Neurobiology track students are hampered in their ability to take the full panoply of neuroscience-related courses available on campus due to the amount of time spent on required Biology BS coursework in topics not directly related to neuroscience. Similarly, though some Psychology BA and BS majors take coursework in neuroscience offered by the Department of Biology and Psychological and Brain Sciences, they also much take a broad range of non-neuroscience courses as well. Thus, these students do not receive a firm background in cellular and molecular neuroscience necessary for a broad understanding of the field. In creating a single, interdisciplinary Neuroscience major, the faculty within both departments will be able to combine forces and provide a comprehensive curriculum.

There are no other undergraduate programs that offer anything similar to this proposed program at the University of Iowa, thus, the proposed program will not duplicate any existing offerings. In addition, the proposed major will enhance other programs at the university.

Relationship to existing programs at other colleges and universities. Among the private colleges and universities in Iowa, approximately half of those surveyed have a neuroscience or neuroscience-related emphasis track or concentration. The latter do not provide appropriate comparison to the proposed neuroscience major. Even in those cases where there is a true

neuroscience major, comparison of their curricula with the curriculum of the proposed major at the University of Iowa indicates that our proposed major will be more comprehensive and integrated. This likely reflects the depth and breadth of the faculty in the two teaching departments contributing to the major in terms of the neuroscience background, a level that is generally found only at Research I institutions. Moreover, most of the faculty expected to contribute to the coursework in the proposed major receive significant external funding, leading to highly active research laboratories. As a result, the students in the proposed major will receive education from leading neuroscientists who are themselves contributing to the body of knowledge in the field. Moreover, the existence of these active research laboratories will enable students majoring in neuroscience to join these laboratories as undergraduate research assistants, either through the Honors program or through other independent study mechanisms. They will be able to learn techniques, experience the daily activities of a research laboratory, and, in the strongest cases, become authors on published papers. In contrast, the other colleges offering neuroscience majors in Iowa are not Research I institutions and, therefore, necessarily have different emphases and set of experiences than what we are able to offer. The opportunity to work in a neuroscience laboratory as part of the major will provide undergraduates at the University of Iowa with a significant benefit in terms of post-graduate education (e.g., graduate school). Additionally, the presence of the INI on our campus will provide our undergraduate with educational opportunities that simply cannot be found at any other institution of higher learning in the state of Iowa. These will include seminar series, workshops and social events where undergraduates will be able to discuss neuroscience research with top scientists from around the world.

Unique features. The University of Iowa has a large, vibrant community of neuroscientists who are leaders in the respective fields. For example, over 80 faculty from 4 colleges are part of the interdisciplinary graduate program in Neuroscience. The Departments of Biology and Psychological and Brain Sciences together have 22 tenured/tenure-track faculty members performing neuroscience-related work that ranges from the molecular to the cognitive and who have received considerable external funding, including grants from the National Institutes of Health. Moreover, as noted previously, the INI has been recently established. Given this momentum and the projected growth of neuroscience faculty on campus, this is an ideal moment to institute an undergraduate Neuroscience major at the University of Iowa.

Resources to establish a high-quality program. There are sufficient personnel to establish and maintain this major. These faculty will be assisted by two new lecturer hires that will be funded by the INI (funds for these hires are already in the existing budget; see letter of support from Dr. Ted Abel). One person will be hired as a 50% academic advisor, and will participate in course teaching for the Neuroscience major with remaining work time. A second person will be a full-time lecturer who will assist tenure-track faculty with laboratory courses and lecture courses as needed. New INI tenure-track faculty hiring is also underway, with a total of three new faculty projected to be added to the Department of Psychological and Brain Sciences (2) and Biology (1). These new faculty will also participate in teaching Neuroscience major courses. All facilities and equipment for this major are already in place: the required laboratory courses are already taught in the Department of Biology and the lab spaces for them are set up and fully functional. No new space or equipment will be immediately required.

Student demand. The neurobiology emphasis track in the Biology BS degree is typically one of the most popular with 90-100 majors (out of 900 Biology majors total). We expect at minimum this number of those students to now choose Neuroscience. We also expect that some other Biology majors may opt for Neuroscience, given the difference in the course requirements. Considering there are approximately 1200 students majoring in Psychology, if even a fraction of those students would opt for the new major, we would likely attract at least as many Psychology majors. Finally,

given that the University of Iowa has been one of the few Big Ten universities to lack a neuroscience major, launching one here should attract a cohort of new students who matriculate to the university in part due to the major. As an example of the unmet demand for a neuroscience major nationally, a little over four years after a neuroscience major started at The Ohio State University, there are now approximately 1200 undergraduates enrolled in the major. Given the size of the student population at Iowa, growth is expected to be ~300 majors in the first five years.

Workforce need/demand. Both in the state of Iowa and nationally, there are recent initiatives to increase education in STEM (Science, Technology, Engineering, Mathematics) fields. As a life science discipline experiencing extensive growth, neuroscience fits firmly within this STEM realm. Furthermore, medical advances contribute to a general aging trend in the population nationally and in the state of Iowa, and with that comes increased impact of neurodegenerative disorders such as Alzheimer’s and Parkinson’s Diseases, strokes and neuropathies. AT the same time, neurodevelopmental disorders such as autism and ADHD have increased in relevance, and there is a great need to understand the neurological changes that underlie typical and atypical brain development. There will clearly be a need for the next generation of basic and clinical neuroscientists, neurologists and psychiatrists, nurses and elder care workers, genetic counselors, neuroscience educators, science writers and laboratory workers. The proposed major will provide an excellent educational background for a wide variety of these career paths.

The push for STEM education corresponds to the above-average projected growth in STEM-related jobs. According to the Bureau of Labor Statistics, STEM jobs are predicted to grow at a faster rate than the total job average: a projected growth of 13% between 2012 and 2022. Some related occupations such as “biological science teachers” are predicted to grow at 20% or more over this time. The category of “medical scientist”, which includes neuroscientists, is projected to grow 8% from 2014-2024, higher than the average. The U.S. Department of Commerce has reported that STEM jobs grew at three times the average rate from 2000-2010; moreover, from 2008-2018, they are predicted to grow at 17%, twice the rate of non-STEM jobs. Importantly, jobs in “life, physical, and social science” occupations have a median annual wage of \$62,160, much higher than the average of all occupations (\$36,200). In Iowa, the Governor’s STEM Advisory Council’s Roadmap (2011) has, as one of its seven targets, to make Iowa “a national leader in STEM workforce preparation and retention in STEM careers,” and suggests that colleges should improve and expand their STEM training programs.

Cost.

	TOTAL COSTS	TOTAL NEW COSTS (salary increases are assumed)
Year 1	\$131,340	Salary and fringe for 2 lecturer hires
Year 2	\$131,340	
Year 3	\$131,340	
Year 4	\$131,340	
Year 5	\$131,340	
Year 6	\$131,340	
Year 7	\$131,340	

Projected enrollment.

Undergraduate	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
Majors	30	80	150	225	300	300	300
Non-Majors	n/a						

Articulation agreement. Currently, there are no plans for articulation agreements.

Off-campus delivery. There are no plans to offer this program away from the SUI campus.

Accreditation. This program will not be separately accredited, but it is covered under the university's accreditation with the Higher Learning Commission.

Opportunities for internships. The major does not require an internship. However, students will have significant opportunities to engage in research in neuroscience laboratories across campus and will be encouraged to do so.

Marketing plan. If the major is approved, CLAS will work with Admissions and the UI Office of Strategic Communication to develop a marketing plan; generally, a new major is added to the application, to all relevant materials, and UI web sites to inform students about the major. Additionally, campus visit days highlight new majors as do special open houses and visits with high school counselors. Admissions will plan special events for future students to attend, such as talks and research discussion. Most importantly, faculty will meet with future students to discuss the major. The professional advisor for the major will also meet with future students who are invited to attend class on campus. Finally, the Associate Director for Education and Outreach of the INI (Dr. Joshua Weiner) will also promote the Neuroscience major at all INI events both at the University of Iowa and at national meetings.

Evaluation plan. Each year, every major at the University of Iowa participates in campus-wide assessment of programs, with departments submitting their annual plans and steps taken for improvement to the Office of Assessment. Additionally, the College reviews new programs after the third year, asking the departmental chair or the program director to review the Undergraduate Educational Policy and Curriculum Committee (UEPCC) the enrollments, course offerings, progress toward degree, assessment outcomes, and other details. UEPCC then makes recommendations to the College on any needed changes to the program of study. Departments are also reviewed every five years by the College and by outside reviewers who are experts in the field and, at that time, all existing majors within a department are also reviewed, with curricular offerings and requirements discussed, and changes recommended.

Date of implementation. Creation of the proposed program will become effective upon approval by the Board of Regents and will be included in the University's General Catalog.

LETTERS OF SUPPORT



**COLLEGE OF
LIBERAL ARTS & SCIENCES**

Office of the Dean

240 Schaeffer Hall
Iowa City, Iowa 52242-3409
319-335-2611 Fax 319-335-3755
clas@uiowa.edu www.clas.uiowa.edu

February 22, 2017

P. Barry Butler
Executive Vice President and Provost
111 Jessup Hall

Dear Barry:

The College of Liberal Arts and Sciences has recently approved the attached proposal for a B.S. in Neuroscience.

The new major presents an opportunity for students to work with faculty who have an expertise in the field and who are involved in nationally funded research, providing students with significant research experiences that will enhance their education and future professional opportunities.

Additionally, the presence of the Iowa Neuroscience Institute (INI) on our campus will provide our undergraduates with educational enrichment experiences unavailable at other institutions of higher education in Iowa, providing seminars, workshops, and social events to help to create a neuroscience community.

We are very excited about the prospect of offering this new program of study for CLAS undergraduates.

Thank you for your support and help. If you have questions, please do let me know.

Sincerely,

A handwritten signature in cursive script that reads "Chaden Shalash".

Dean of the College of Liberal Arts and Sciences
UI Alumni Association Dean's Chair in the Liberal Arts & Sciences

c: Lon Moeller
Evalyn Van Allen-Shalash
Helena Dettmer
Joshua Weiner
Diane Slusarski
Jodi Plumert
Kathryn Hall
Brenda Gritsch

IOWA STATE UNIVERSITY
DEPARTMENT OF PSYCHOLOGY

W112 Lagomarcino Hall
Ames, Iowa 50011-3180
Phone (515) 294-1742
FAX: (515) 294-6424

January 10, 2017

Professor Jodie Plumert, Chair
Department of Psychological and Brain Sciences
The University of Iowa
11 Seashore Hall East
Iowa City, IA 52242

Dear Jodie,

Thank you for consulting with us about the proposed interdisciplinary Neuroscience major at the University of Iowa. Based on our review of the proposal, we do not see any duplication of existing majors (including Psychology) at Iowa State University. We fully support the creation of an interdisciplinary Neuroscience major at the University of Iowa, as this undergraduate major will dovetail nicely with the new Iowa Neuroscience Institute.

We have touched base with our dean, Dr. Beate Schmittmann, about the proposed major, and she also supports the creation of this new major at the University of Iowa. Please let me know if we can be of further assistance.

Sincerely yours,



Carolyn E. Cutrona, Ph.D.
Professor and Chair
Department of Psychology
Iowa State University

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

College of Agriculture and Life Sciences
Academic Programs
134 Curtiss Hall
513 Farm House Lane
Ames, Iowa 50011-1054
515 294-6614

January 27, 2017

Professor Diane C. Slusarski
Chair, Department of Biology
Wynn Institute for Vision Research
University of Iowa
246 Biology Building
Iowa City, IA 52242

Dear Professor Slusarski:

Professor Powell-Coffman brought the proposed interdisciplinary neuroscience major to the attention of the College of Liberal Arts and Sciences and the College of Agriculture and Life Sciences to insure that the relevant science disciplines had been consulted. On behalf of my colleague Associate Dean Amy Slagell (Liberal Arts and Sciences) and myself, we want to convey support for this innovative and important new program.

Best wishes for success.

Sincerely,



David Acker
Associate Dean, Academic and Global Programs
Raymond and Mary Baker Chair in Global Agriculture
Professor, Agricultural Education
College of Agriculture and Life Sciences
Iowa State University
Ames, Iowa 50011-1050 USA

Department of Psychology



January 25, 2017

Professor Jodie Plumert, Chair
Department of Psychological and Brain Sciences
The University of Iowa
11 Seashore Hall East
Iowa City, IA 52242

Dear Jodie,

Thank you for sending us the proposal for the new interdisciplinary neuroscience major at the University of Iowa. We have reviewed the proposal and do not see any duplication of our major at the University of Northern Iowa. We fully support the creation of an interdisciplinary Neuroscience major at the University of Iowa, as this undergraduate major will provide new opportunities for undergraduate students to receive training in this emerging field.

We have touched base with our interim dean, Patrick Pease, about the proposed major, and he also supports the creation of this new major at the University of Iowa. Please let me know if we can be of further assistance.

Sincerely,

Adam Butler
Professor and Head

Department of Biology



January 27, 2017

Professor Diane C. Slusarski, Chair
Department of Biology
The University of Iowa
143 Biology Building
Iowa City, IA 52242

Dear Diane,

We appreciate your reaching out to consult with us about the proposed interdisciplinary Neuroscience major at the University of Iowa. We have evaluated your proposal and do not see any duplication of your proposed program and the current offerings in the Department of Biology at the University of Northern Iowa. Our faculty are supportive of your efforts and new proposed interdisciplinary Neuroscience major at the University of Iowa.

We wish you much luck!

A handwritten signature in blue ink that reads "David K. Saunders". The signature is written in a cursive style with a large initial "D".

David K. Saunders, Professor and Head
Department of Biology



Ted Abel, Ph.D.
Director, Iowa Neuroscience Institute
Professor, Molecular Physiology and Biophysics

January 12, 2017
Undergraduate Education Policy and Curriculum Committee
College of Liberal Arts and Sciences

Dear Colleagues,

I am pleased to write to you in support of the proposal before you to institute a new undergraduate Neuroscience major, to be administered jointly by the Departments of Biology and Psychological and Brain Sciences (PBS). As the report discusses, this is an exciting time of unprecedented growth in the field of neuroscience, both internationally and right here at the University of Iowa. I accepted the position of Director of the Iowa Neuroscience Institute (INI) because of the outstanding commitment of resources being made by the Carver College of Medicine and the Roy J. Carver Charitable Trust. This commitment provides us with the means to bring Iowa into the top rank of worldwide centers for neuroscience research and teaching. One goal of the INI is education and outreach, and the institution of a Neuroscience major that will match the needs and interests of a growing number of students is paramount.

To this end, I have consulted closely with the two department DEOs, Dr. Diane Slusarski (Biology) and Dr. Jodie Plumert (PBS), with Dr. Joshua Weiner (Biology), who will serve as my Associate Director of Education and Outreach for the INI, and with Dr. Ryan LaLumiere (PBS), who will serve as Director of the proposed major. They have prepared this major proposal with my support and encouragement, and I have committed significant resources toward the major's success, including salaries for both an Advisor/Lecturer and a Lab Coordinator/Lecturer position, teaching assistant support, and an administrative supplement for Dr. Weiner. I am excited by the proposed major, which I think will provide rigorous and comprehensive training at Iowa for the next generation of impactful neuroscientists and physicians. The INI is also committed to several faculty hires over the next year, including planned hires in PBS and Biology, which will bolster the teaching and research missions of the major's administrative homes. This new undergraduate Neuroscience major has my full support, and I look forward to integrating our undergraduate students into the exciting growth in neuroscience that will be taking place on campus in the next few years. Please don't hesitate to contact me if I can provide any further information.

Sincerely,

A handwritten signature in black ink that reads "Ted Abel".

Ted Abel, Ph.D.
Director, Iowa Neuroscience Institute
Professor, Molecular Physiology and Biophysics, Psychiatry and Biochemistry
Carver College of Medicine, University of Iowa

Carver College of Medicine • University of Iowa
2312 Pappajohn Biomedical Discovery Building • 162 Newton Road
Iowa City, IA 52242-1903
(319) 353-4534 • ted-abel@uiowa.edu



THE UNIVERSITY OF IOWA
Neuroscience Graduate Program



February 12, 2017

Jodie Plumert, PhD
W311 SSH
Department of Psychology, University of Iowa

Dear Jodie,

I have read the proposal from the departments of Psychology and Biology to offer a new undergraduate major in neuroscience (BS degree). I am fully supportive of this proposal, and I have every reason to believe that this will be a hugely popular and successful undergraduate offering. The collaborative efforts of Psychology and Biology to bring this idea to fruition are admirable, and I appreciate everything you and Professor Shusarski have done to make this happen.

I would also like to emphasize that from my perspective as Director of the Neuroscience PhD Program here at Iowa, this new undergraduate major in neuroscience is especially compelling. Our Program will benefit greatly from having well prepared undergraduates who can compete successfully for matriculation into the PhD program. Keeping the best of our own – bright, capable, and highly promising Iowa undergrads – at the University of Iowa, and matriculating them into our PhD program, would benefit the neuroscience community, the faculty, our research and teaching missions, and the institution in general. I see many positives for the undergraduate major in neuroscience, and I fully expect this to have a major benefit to our PhD Program.

Best of luck with the application, and please let me know if I can be of further assistance.

Sincerely,

Daniel Tranel, PhD
Program Director
Neuroscience Graduate Program

Daniel Tranel, PhD
Neuroscience
Graduate Program

200 Hawkins Dr. #2007 RCP
Iowa City, IA 52242-1053, USA

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COLLEGE OF
LIBERAL ARTS & SCIENCES

Department of Health and
Human Physiology

E302 Field House
Iowa City, Iowa 52242-1111
319-384-4664 Fax 319-335-6966

Tuesday, January 17, 2017

Jodie Plumert, PhD
Professor and Chair of Psychological and Brain Sciences
University of Iowa
Iowa City, IA 52242

Dear Jodie:

I am writing to express my strong support for the proposed interdisciplinary neuroscience major. Neuroscience aims to develop a better understanding of the many functions of the human brain, which was recognized in the 2013 Presidential announcement of the Brain Initiative as a focus of the National Institutes of Health. The brain is the organ that gives us the ability to learn, think and communicate which form the bases of all human endeavors. With its strong foundation in Neuroscience through the Neuroscience graduate program and the recently established Iowa Neuroscience Institute the University of Iowa is uniquely positioned to offer an outstanding undergraduate Neuroscience program. The Department of Psychological and Brain Sciences and Department of Biology have developed this major with a rigorous set of courses that will provide excellent preparation for postgraduate education in research (PhD) and in the health professions (MD, DPT, etc.).

In conclusion, I strongly recommend approval of the B.S. in Neuroscience at the University of Iowa.

Sincerely,

Warren G. Darling, Ph.D.
Professor and Chair of Health and Human Physiology
University of Iowa
Iowa City, IA 52242

College of Humanities, Arts and Sciences
Office of the Dean



February 26, 2017

Chaden Djalai
Dean, College of Liberal Arts and Sciences
240 SH
University of Iowa
Iowa City, IA 52242

Dean Djalali,

The College of Humanities, Arts and Sciences at the University of Northern Iowa supports the creation of a BS degree in Neuroscience at the University of Iowa.

The degree does not duplicate degree programs at the University of Northern Iowa. Many of the courses in the major are not offered on our campus.

The University of Iowa should be applauded for their efforts to create interdisciplinary programs within the College of Liberal Arts and Sciences.

Sincerely,

A handwritten signature in purple ink, appearing to read "John Fritch".

John Fritch
Dean, College of Humanities, Arts and Sciences