SCHOOL OF MIND, BRAIN, AND BEHAVIOR

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Units Included within the Reorganization:

ARL Division of Neurobiology
Department of Psychology
Department of Speech, Language and Hearing Sciences
GIDP in Cognitive Science
GIDP in Neuroscience
McKnight Brain Institute (ARL)
Neural Systems Memory and Aging (ARL)
We propose the creation of a **School of Mind, Brain, and Behavior**, which would assemble departments and other units that share research and curricular interests related to the study of mind, brain, and behavior, under a common umbrella. By enhancing interdisciplinary research collaborations, the School would increase the likelihood of external funding, enable greater efficiencies of existing curricular and other services, attract outstanding new faculty to a growing area of research and curricular focus, attract students to a new undergraduate minor, and provide a vehicle for new community outreach and development activities. It would position the U of A to be more prominent and competitive in this broad intellectual and research arena, and increase the visibility of the U of A as a world-class institution. The School of Mind, Brain, and Behavior could stand alone or be part of a larger unit such as the College of Science or a newly merged College of Arts and Sciences or College of Science and Technology.

### Participating Units

#### Core Units

The School would consist of three core teaching-and-research units: **Psychology** (from SBS), **Speech, Language, & Hearing Sciences** (from COS), and a Department of **Neurobiology** founded by faculty of the existing ARLDN. The School would also be the institutional home of the **ARL Division of Neural Systems Memory and Aging**, the **McKnight Brain Institute**, and the **GIDPs of Cognitive Science and Neuroscience**. Moving these highly-ranked units under the School umbrella would allow them to expand their current impact while preserving their inherently interdisciplinary character, which is clearly an institutional strength. This group of core units would enable the School to investigate issues ranging from the identification of basic cellular, molecular and genetic mechanisms to the understanding of higher-level neural and cognitive mechanisms associated with individual and social behaviors, and to translate empirical findings into effective treatment protocols for neurological and psychological disorders.

#### Affiliated Units

In addition to the core units, we envision affiliated units and affiliated faculty from multiple departments and colleges. These affiliates would remain within their existing colleges and along with core faculty, would form clusters within the School based on shared curricular or research interests. For example, one curricular cluster might include faculty from core units along with Communication, Family Studies and Human Development (FSHD), Linguistics and Philosophy, whose programs currently share similar or cross-listed courses with core departments. A biomedical or neuroscience research group might include faculty from Biomedical Engineering, Molecular and Cellular Biology, Neurology, Pharmacology, Physiology, and Radiology. One might also imagine a computational modeling cluster, with faculty from Computer Science, Ecology and Evolutionary Biology, Linguistics, and Philosophy, a social/cultural cluster and a health psychology cluster with faculty from Communication, FSHD, and Mexican-American Studies, and a cognition and consciousness grouping with Philosophy. Additionally, drawing on current research programs within Philosophy and Psychology, the School would be poised to enhance interdisciplinary research and teaching in the intersection of ethics and psychology, including neuroethics. Faculty from each of these departments have expressed an interest in an affiliation with the School and in working with core faculty in self-organizing clusters to address complex research questions and enhance the education of students at all levels.

We view the GIDPs in Neuroscience and Cognitive Science as units with strong connections to affiliated programs and faculty both within and outside of the School. Initially, both programs would continue to function as GIDPs under the School administration, maintaining their strong interdisciplinary links to the more than 20 departments that they currently represent. Alternatively, each might form an Institute or move towards becoming a department. Cognitive Science currently has faculty lines that could support an undergraduate minor, and could provide a home for faculty from affiliated units who might prefer to be in the core Cognitive Science program rather than in a non-core unit, if that should become possible. We
also think that there should be strategic hires in the core units to fill in interdisciplinary gaps and enhance linkages both within and between core and affiliated units.

We believe that a reorganization of the aforementioned departments and units under one banner would generate greater opportunities for undergraduate and graduate student education and for new interdisciplinary research collaborations. It would also permit greater efficiencies for the administration of curriculum at both the undergraduate and graduate levels, and for more efficient delivery of business, IT and advising services.

Teaching Mission

• Undergraduate

The School would grant undergraduate degrees in Psychology and Speech, Language, and Hearing Sciences. Neurobiology would organize and offer an undergraduate minor. This would allow this unit to contribute more fully to the institutional teaching mission. Neurobiology has surveyed students in undergraduate science classes, and has found strong interest in an undergraduate minor in Neurobiology. There are relatively few undergraduate programs in Cognitive Science nationally, and so an undergraduate program in this discipline would also likely attract significant numbers of students. Although Cognitive Science would enter the School as a GIDP, movement of faculty into that unit might allow it to evolve into a department that would offer an undergraduate minor as well as the graduate minor it currently offers.

We propose to develop an interdisciplinary Tier I course in Mind, Brain, and Behavior. This course would have multiple sections that could be team-taught or rotated among faculty in the School as well as faculty from affiliated units. The Mind, Brain, and Behavior course would cut across disciplinary boundaries and could be construed as Introductory to the sub-disciplines within the School. It would be offered as a two-semester Tier I class that would satisfy one requirement for both INDV and NATS. An interdisciplinary major, with a degree in Mind, Brain, and Behavior awarded by the School, is also a possibility down the road, and a brief survey of undergraduates in Psychology suggests that it would attract students. These new undergraduate programs and classes would require no additional resources; they would build on classes already offered in core or affiliated units.

Given national trends towards interdisciplinary education, we expect that a new undergraduate program in Neurobiology as well as School-based courses in Mind, Brain, and Behavior would be in high demand and would bring increased visibility to the U of A. We also believe that graduates from this School, because of their broadly-based education would be well-prepared for a range of graduate programs and professional careers.

• Graduate

The Departments of Psychology and Speech, Language, and Hearing Sciences, and the GIDP in Neuroscience currently offer graduate degrees. Cognitive Science offers a graduate minor. We anticipate the possibility of awarding joint Ph.D.s, in two disciplines within the School. The School structure would enrich the research training of all graduate students in the School, providing increased opportunities for interdisciplinary and cross-laboratory research experiences, and collaborations across units.

Research Mission

Restructuring departments/units under a School of Mind, Brain, and Behavior would have a positive effect on research collaborations, creating a synergy that has been building in recent years and that would be enhanced by increased interactions of graduate students and faculty across traditional boundaries. It also would encourage strategic hires and attract outstanding research scholars who would fuel new interdisciplinary collaborations. The School would position faculty to compete more effectively in a
funding environment that increasingly emphasizes interdisciplinary efforts (e.g., NIH, NSF) and relevance to clinical problems (e.g., NIH).

- **Outreach and Development**
  The core units proposed for the School already have a strong history of community service and outreach to southern Arizona and Mexico. We envision adding an outreach component that would target public education in a variety of ways. The School would become the co-sponsor of the highly successful Brain Awareness Week (presently sponsored by the Tucson Chapter of the Society for Neuroscience) and add opportunities for students to supplement their high school science courses with content related to mind, brain, and behavior. The School would also become the source and mechanism for the dissemination of information concerning how research findings, across the range of disciplines represented in the School, could be translated into real benefits for those with mental health or neurological disorders. We anticipate that this School of Mind, Brain, and Behavior, like similar institutes and initiatives at other prominent universities (e.g., Columbia, Princeton) would be very attractive to a broad range of donors.

- **Administrative Structure**
  We propose that the School preserve existing department structures, retaining the strong national rankings and status of the individual departments within their own disciplines. This also would facilitate accreditation and operation of the clinical programs in two of the units (Speech, Language, and Hearing Sciences, and Psychology). The school would be managed by an Advisory Council of department heads and directors of core units along with a School Director who would be appointed by the Dean from among the faculty of the core units.
  - The School Director would have responsibility for coordinating the distributed undergraduate curriculum and advising services, overseeing centralized IT support and business services, and representing the School to the Dean and central administration, and to the community. This individual would receive teaching release and a fiscal salary for time in service as School Director. Some portion of teaching revenues and ICR would flow to this level.
  - The School Director and Advisory Council would have joint responsibilities for identifying and promoting strategic directions for the School, coordinating core and affiliated units, and promoting School-wide development activities.
  - Department Heads and Program Directors would retain their current responsibilities at the department level including faculty evaluation, departmental promotion and tenure, development activities, and coordination with the relevant outside entities (e.g., accreditation, certification, and licensing bodies, state agencies). Department Heads would retain their current salary supplements and teaching relief. Graduate education would be managed at the department level.

- **Process of Consultation**
  This proposal was initiated by the Department of Psychology and other units that share research and curricular interests with Psychology including Communication, Linguistics, Philosophy, and the GIDP in Cognitive Science from the College of SBS; Speech, Language and Hearing Sciences from the College of Science; the ARL Divisions of Neurobiology, and Neural Systems, Memory and Aging, as well as the Evelyn F. McKnight Brain Institute; Family Studies and Human Development from the College of Agriculture and Life Sciences; and the GIDP in Neuroscience. Following discussions amongst the heads of these units and their discussions with their faculty, the core units emerged. Other units opted for affiliate status, and individual faculty from other departments expressed an interest in being involved. The proposal was discussed with Joaquin Ruiz, the Dean of the College of Science, who indicated that it fit well within the organizational structure of the College of Science, with Michael Cusanovich, Director of the ARL, and with Ed Donnerstein, the Dean of SBS. Faculty, students and staff in the core units were engaged in discussion and contributed to the ideas developed in this proposal. Several of the units that chose affiliate status also made significant contributions to the proposal. Faculty and students in the teaching-and-research core units support this proposal, as do several faculty from the affiliated units.
Projected Savings
The greatest savings and efficiencies of this proposal would be realized at the level of the undergraduate curriculum primarily through a mechanism of shared courses across the School and its affiliates. We recommend that the lower-division undergraduate curriculum be handled at the level of the School in order to take advantage of several of these shared courses. We make the following recommendations and note that several of them involve increasing numbers of students. Thus these strategies may make sense only if tuition dollars follow student credit hours.

- Teaching responsibilities for existing INDV101 classes that are currently taught by Psychology and Philosophy, could be more broadly distributed to psychologists who are currently located in both core and affiliated departments, creating more seats to meet current demand. This would reduce the need for adjunct instruction of these courses.
- Real-time Web-based sections of some Gen-Ed and large undergraduate classes could be added. This would increase the number of seats per section, and reduce the number of sections, without requiring additional resources, such as space or adjunct instructors.
- The School would offer lower-division undergraduate courses in research design and statistics that would combine classes currently taught in individual departments.
- The School would offer research design, statistics, research ethics, and grant writing courses at the graduate level. These are competencies needed by all graduate students in the School and would eliminate low-enrollment classes within each of the participating departments. In addition, graduate-level seminars would be offered school-wide, with faculty teaching on a rotating basis.
- Similar courses that are currently taught in multiple core and affiliated departments (we estimate that there are at least 9 of these) would be reconfigured to better fit the needs of students in multiple departments and offered as cross-listed courses.
- Because existing faculty in the ARLDN would launch an undergraduate minor, we anticipate an influx of students to these courses without need for additional faculty.

Curriculum-level savings: Eliminating adjunct instructors in Psychology (9) and Speech, Language and Hearing Sciences (6) could potentially save = $142,000 ($82K + $60K).

Increased revenues of uncertain amounts would be expected from the addition of students enrolling in the new minor and other expanded courses, and increased ICR from new grants.

We also anticipate savings through centralization of the Business Office: These savings are estimated on the basis of 3 of the core units (Cog Sci, Psych, and SLHS). Accounts for Neurobiology, Neuroscience, Neural Systems Memory and Aging, and the McKnight Brain Institute are currently handled through the ARL Business Office, so it is difficult to determine how much management would be required for those units. The 3 other core units employ 4 Business Managers and 1.5 Administrative Assistants to assist with business transactions (they are currently funded on a combination of state and ICR dollars). We estimate that we would be able to cut that number approximately in half, reducing the Business staff to 2 Business Managers and 1 Administrative Assistant. Savings would be $126,853. for two Business Managers, and $36,664. for a .5FTE Admin Assistant for a total savings of $163,517.

These savings would be modestly reduced by the need to pay a summer salary to the School Director; the exact amount would depend on the individual’s current academic salary.