

A Proposal for Reorganization of the College of Arts and Sciences

Submitted by John Cumalat, Department of Physics; Keith Julien, Department of Applied Mathematics.

The following departmental chairs have read this white paper and have discussed it with their departments. The chairs and the departments have voted to support the proposal to improve the college representation.

The Department of Geological Sciences and the Department of Ecology and Evolutionary Biology did not vote, but both chairs support the proposal as do several faculty members in their departments. The Department of Astrophysical and Planetary Sciences voted on the proposal and the department's vote was reported as 10 in favor, 1 opposed, 6 abstained, and 4 did not vote. The department's vote did not achieve the unit's required 75% in favor vote and they are not listed below.

Keith Julien	and	Department of Applied Mathematics
Jeffrey B. Weiss	and	Department of Atmospheric and Oceanic Sciences
Marcelo Carlos Sousa	and	Department of Biochemistry
Carl A. Koval	and	Department of Chemistry
M. Deane Bowers		Chair - Department of Ecology and Evolutionary Biology
Shemin Ge		Chair - Department of Geological Sciences
David Sherwood	and	Department of Integrative Physiology
Alexander Gorokhovsky	and	Department of Mathematics
Lee Niswander	and	Department of Molecular, Cellular and Developmental Biology
John P. Cumalat	and	Department of Physics
Jerry W. Rudy	and	Department of Psychology
Bert Covert		Chair - Department of Sociology
Brenda Schick	and	Department of Speech, Language, and Hearing Sciences
G. Lang Farmer		Divisional Dean of Natural Sciences
Ann Carlos		Divisional Dean of Social Sciences
Ruth-Ellen Kocher		Divisional Dean of Arts and Humanities

Executive Summary for College Reorganization

The future of education is to increase the number of students involved in cutting edge research and scholarly activities, exposing them to skills that will lead them to more marketable opportunities after they graduate. The Chancellor in his 2017 State of the Campus address proposed having 50% of the undergraduates involved in research and scholarly activities.

The signers of this white paper believe that the College of Arts and Sciences (CAS) can best address the Chancellor's goals through a fundamental reorganization of the College administrative structure and not by dividing the CAS into a set of smaller colleges. In the proposed reorganization, the current CAS Dean position, and the Divisional Dean positions for Natural Sciences, Social Sciences, and Arts and Humanities, would be eliminated and replaced by three Dean positions of equal status tied to each of the three College Divisions. The three Deans would be appointed by, and report directly to, the Provost and would work collaboratively in support of the missions of each Division and the College as a whole.

A reorganization in the CAS is required because the huge size, complexity and diverse missions of the departments in the CAS disadvantages the College in the campus budgeting process, limits the CAS Dean's flexibility in managing resources, and inhibits departments from competing most effectively for campus and extramural resources. Furthermore, the CAS is nearly twice the size of all of the other CU Boulder schools and colleges combined, with the Natural Science Division alone being larger than any other school or college. Nevertheless, the CAS is allowed only one seat at the Provost's Deans Council. The proposed reorganization would remedy the underrepresentation of the CAS faculty at the Deans Council by expanding their seats to three.

General Reorganization Proposal:

We suggest that CU Boulder can best deliver a liberal arts education by preserving the CAS as a large, interdisciplinary college. However, the College's effectiveness could be improved by eliminating the current Dean position and by elevating the responsibilities of the Divisional Deans. Currently, the CAS Dean meets with an individual department only once a year and departments play a limited role in the annual budget process. The current CAS Dean has an overwhelming number of responsibilities across three Divisions constituted of different disciplinary areas and very different academic cultures. The Dean is expected to be an expert in and to advocate for all of the activities of faculty, staff, and students within forty different academic departments. We argue that the result is a Dean who is spread too thin and who is too dissociated from the day to day activities of the College to effectively perform important college duties and long-term planning. For example, the Dean may have only a superficial familiarity with details of specific CAS Division issues and so is at a disadvantage when advocating on

behalf of the CAS at the Provost level, particularly when competing for resources with the Deans of smaller, more homogenous colleges.

Establishing smaller colleges which contain departments with similar needs and expectations is one possible way of remediating the problems outlined above with the current CAS. Smaller colleges would increase the representation of CAS academic departments in decision making at the university level. However, while carving out smaller colleges from the current CAS might provide greater visibility to faculty research and scholarly work and significantly improve representation, it could also fragment those departments with faculty members who may wish to belong to different colleges. Smaller colleges might also require duplication of some existing resources, including advising, budget officers, and human resources managers, and could cause a significant expansion in administration staff and associated expenses. Another drawback would be possibly creating barriers that could prevent faculty from effectively interacting across Colleges, both in terms of classroom teaching and research collaboration.

Instead, we propose that the CAS remain intact, but the current CAS Dean position, and the Divisional Dean positions for Natural Sciences, Social Sciences, and Arts and Humanities, would be eliminated and replaced by three Dean positions of equal status tied to each of the three College Divisions (see proposed organizational chart at end of this document). The result is an administrative structure similar to that of the College of Letters and Science at the University of California Berkeley. The three Deans would represent the current CAS divisions at Provost meetings and at research cabinets. The Deans would also represent their respective faculty, engage the faculty in creating annual budgets, fundraise for their divisions, hold regular meetings with Department Chairs, be responsible for convening committees for promotion and tenure cases, and have financial authority. An Associate Dean reporting to the Deans may be needed to ensure the smooth operation.

The Executive Dean will be responsible for the college infrastructure: Academic Advising and Student Success, Finance and Operations, Advancement, Undergraduate Education, Academic & Curricular Affairs, CAS Personnel Administration, Budget Office, Communications, the Financial Service Center, and Space Management and Construction. To maintain a community amongst the leadership, we view the position of Executive Dean as rotational to be occupied by one of the CAS Deans for a period of 2-3 years.

In terms of the College budget, we suggest each of the three Deans could advocate individually and in concert for new continuing budget allocations from the Provost to fund new, strategic initiatives with each Division. However, all three Deans would work together, along with appropriate departmental representatives, to create priorities for continuing funds released, say, by TTT faculty retirements and for the use of the annual CAS temporary budget. Further we propose a new position be created called *Director of Access and Recruiting*. The Director work directly with Admissions to obtain the best possible students.

Perspective of the Natural Sciences Division:

The Division of Natural Sciences is in favor of the proposed administrative changes to the CAS proposed here, for the reasons outlined in the following text. However, we note that even with such a model the Natural Science faculty will be the least represented faculty group on the Boulder campus.

We first state our core values so that it is clear that the Natural Sciences Division values a liberal arts education and considers the proposed administrative changes as being in support of, rather than diminishing, these values.

- 1) We support an inclusive liberal arts education. We consider such an education to be inherently “interdisciplinary” and we believe a student’s exposure to the arts, humanities, social sciences, and natural sciences is important.
- 2) The primary mission of the Natural Sciences Division is STEM education and research, in which knowledge is created and disseminated through the application of the scientific method.
- 3) A natural sciences education serves students who aspire to careers in the life, earth, physical and mathematical sciences but also must provide a means for all students to develop the critical thinking skills required of informed and independent members of society.
- 4) Faculty in natural science departments have an obligation to regularly participate in formal teaching of both undergraduate and graduate students, although the nature of that formal teaching should evolve to provide the best educational experience possible, given changes through time in pedagogical best practices, knowledge in our various disciplines, and student expectations, background, and preparation-level.

I. Advantages of a CAS administrative reorganization:

- A) The Natural Sciences Division is at a disadvantage when advocating for resources within the College based on number of majors (~60%) and PhD students (~70%) in the College, the number of TTT faculty (50%), and student credit hour generation (50%). It is interesting that despite the College of Engineering and Applied Sciences’ significant growth (which was not discussed with Natural Sciences departments), the Natural Sciences Division still had more than twice the number of Student Credit Hours as Engineering in the Spring 2017 semester. It is critical that the Natural Science Division be better represented at the Provost level.
- B) CAS is under-represented with respect to other colleges at the Provost’s level. Each college has a Dean, but the representation is one Dean per college. By most measures the CAS is about 60% of the campus, but in Dean’s meetings there are 10 Schools and Colleges – i.e. the CAS representation is 10%! Decisions made to expand the student body in a single college need to be approved by other units that can significantly impacted.

- C) Research is another area where the representation is determined via a senate model. CU has eleven institutes on campus and these are the research areas that the campus promotes. However, in several cases the research expenditures in NS departments are larger than most institutes. Again, it is important to have a divisional representative that is familiar with the research conducted in the division's departments.
- D) A fair distribution of development officers – for several years the Natural Sciences Division had no development officers – as a college we should have Advancement Officers assigned to our division. There are now 2-3 people assigned to Natural Sciences, but given the number of faculty in NS is equal to all other faculty outside of the college this is not equitable.

II. Resources

General funding and faculty lines allocated to the Natural Sciences Division seem low particularly when compared to resources received by departments in other Colleges (specifically in College of Engineering and Applied Sciences). The criteria used by the College and the Provost's Office in distributing resources is not transparent.

One example is the current Enrollment Enhancement Model. We use engineering as an example. The Enrollment Enhancement model is based on average engineering salaries versus average CAS salaries, yet most of the engineering students are taking classes in the natural sciences where there is little difference in salaries between Natural Sciences and Engineering faculty. In a model where the Natural Sciences CAS salaries were the same as Engineering, the distribution would be different.

III. Infrastructure

The Natural Sciences Division has building needs that remain unmet after decades (e.g. H-wing of Duane, Cristol Chemistry renovation). Other examples include IPHY whose faculty and researchers are housed in five different buildings and Applied Math, a unit housed in six different locations. CAS seems to have little direct influence on which CU-Boulder building projects are approved annually.

IV. Bachelor of Science Degrees

The Natural Science departments would like to respond positively to student requests to change our Bachelor of Arts degree to a Bachelor of Science degree. There is an external view that a BA degree requires less rigorous coursework, particularly with respect to mathematics and/or science courses. Of course, that is not true at CU. The argument has been that in the CAS we can't change from a BA degree. Yet, CMCI offers both BS and BA degrees.

V. Differential Tuition for Natural Sciences

If one looks at the tuition after COF in different colleges for each semester, then we find for students first enrolled in Fall 2017:

College	In-state Tuition	Out-of-State Tuition
A&S	\$5124	\$17,191
Engineering	\$6780 (\$1,656)	\$18,645 (\$1,454)
CMCI	\$5952 (\$828)	\$17,989 (\$798)

The tuition in the Natural Science departments should be the same as Engineering – this should be an additional \$10 Million in revenue. It is very hard to argue that tuition should be higher in CMCI than in the Natural Sciences.

Students majoring in departments in the Natural Sciences Division should be charged differential tuition.

VI. Start up and retention packages

Most departments have, or will have, difficulty in meeting their University/College mandated contributions to faculty startup and retention packages. How can such cost be met, or contained (without diminishing our ability to compete for best faculty)?

A Natural Sciences Dean would be able to make competitive startups a priority.

VII. Additional Topics to Consider

- 1) Campus should provide continuing funding for “service centers”, those instrumentation facilities that provide services both within and between departments (and the college). Such baseline funding would help supply local IT support, lab managers and instrument service contracts.
- 2) The Natural Sciences Division has some of its departments located on the main campus and some on the east campus. The Natural Sciences faculty as a whole must be consulted about future plans for the expansion of academic and research programs on east campus.

College administrative structure- Basic departmental activities (instructor, lecturer and faculty hiring, for example) are impeded by College administrative structure. Streamlining is required.

Chart of College Reorganization Model

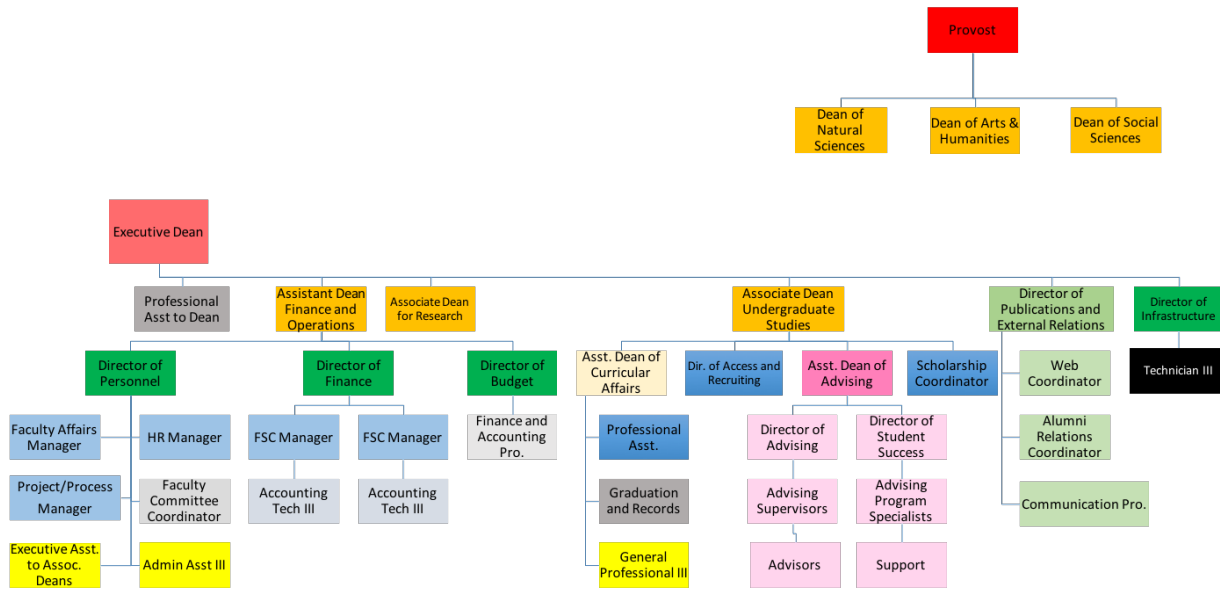


Figure 1: Proposed Reorganization Model for the College of A&S. The current Divisional Deans become Deans and report directly to the Provost. The Executive Dean duties are assumed by one of the Deans. (Note there is a new position called Director of Access and Recruiting.)