

1 December 2021

To: Jason Stajich, Chair  
Riverside Division

From: Theodore Garland, Jr., Chair, Executive Committee  
College of Natural and Agricultural Science

Re: Campus Review: Proposal for the establishment of a Department of  
Environment, Sustainability, and Health Equity in CHASS, UCR

The CNAS Executive Committee (EC) has reviewed the proposal for the establishment of a Department of Environment, Sustainability, and Health Equity, (ESHQ) to be housed in CHASS. Advancing sustainable and equitable interactions between humans and the environment is a critical part of the University and CNAS missions, and we welcome efforts to bring together humanities and natural sciences disciplines in this pursuit. However, we have identified a number of problems with the proposal and potential conflicts with some of our departments, particularly the Department of Environmental Sciences (ENSC). Major problems with the proposal include (1) overlap with the ENSC undergraduate program, (2) a poorly constructed and insufficient bachelor of science (BS) program, (3) a misalignment between the potential composition of ESHQ faculty and some of the proposed undergraduate major fields of study, and (4) a lack of evidence of post-graduation outcomes for previous Sustainability Studies majors.

(1) The proposal addresses the formation of a new Department of Environment, Sustainability, and Health Equity at UCR with an explicit goal to train students in the areas of Environment and Sustainability. The term “Environment” has been used loosely throughout the proposal. A comprehensive description of the environment as it relates to finding sustainable environmental solutions is defined as the physical, chemical,

and biological factors as well as processes that control transfer of mass and energy among multiple components of the Earth system as well as the human system that interacts with them. The new Department only marginally captures training in the latter. Therefore, using the words “Environment/Sustainability” and “Environmental/Sustainability” within the department and program names, respectively, are misleading and, as a result, will lead to misunderstanding and confusion when prospective students are exploring what major to pursue. Although ENSC was consulted in March 2021 about the potential addition of lower-division courses to ESHQ’s undergraduate degree programs, ENSC was not consulted before nor after March 2021 about the proposal for the new ESHQ department. In addition, a letter of support from ENSC was not requested by the author(s) during development of the proposal, leaving the inaccurate impression that ENSC declined to provide a letter of support when, in fact, ENSC was never asked nor consulted. As a result, potential overlap with ENSC as well as inaccurate and misleading statements of ENSC’s mission and undergraduate programs (page 29 of the proposal) could have been easily avoided through additional, direct consultation with ENSC over the last 1+ years. Further consultation with CNAS departments, particularly ENSC, is required, as it will result in a better union of natural and social sciences topics and training, which is necessary to advance sustainability. The EC sees many potential opportunities for synergy between a Department of Sustainability and Human Health Equity and CNAS Departments.

(2) The proposed Department falls short in adequate training of students in understanding of the natural environment, which is key to understanding how human actions impact the environment and vice versa. The proposed BS in Environmental and Sustainability Studies is of particular concern to us, as it only requires completion of 3 upper-division science courses - none of which are taught by potential ESHQ faculty. The new BS degree with concentration in climate studies aims to engage students with the natural environment. However, the curriculum focuses mainly in social sciences and falls short in training students in fundamental understanding of the climate system, which requires prior training in advanced mathematics, physics, biology, and chemistry. The courses included were clearly chosen on the basis of a lack of prerequisite courses rather than the construction of a firm basis of knowledge on particular environmental or sustainability fields of study. This will likely result in poor learning experiences for many ESHQ students because of the limited and haphazard nature of the course selection, and the fact that the selected courses are actually designed for

science majors with broader knowledge bases. In other words, the students would be set up to fail, not succeed.

(3) As noted above, it is disappointing to see the creation of a department where required scientific expertise is completely missing among the participating faculty (pages 2-3 of the proposal). As a result, it is unlikely that the participating faculty will be able to deliver and achieve many of the stated educational/research goals of the proposed department, as strong scientific and technical expertise in the natural sciences serve as the foundation for identification and mitigation of environmental health challenges that we continue to face at multiple scales within the United States and abroad. The fact that such expertise is required from faculty outside of ESHQ highlights the importance for deeper consultation with relevant CNAS Departments during the development of the new Department.

(4) We are concerned that the students graduating with degrees in the proposed majors will have poor post-graduation outcomes as a result of the training and education insufficiencies noted above. Although the proposal claims that the new Department will prepare students to effectively enter the workforce and contribute to the solutions of environmental and sustainability problems, only anecdotal evidence of outcomes for previous Sustainability Studies majors were provided. Therefore, the proposal should include post-graduation outcomes for nearly 187 students that have graduated with a BS in Sustainability Studies since 2016/2017 (page 24 of the proposal), as these data are critical for justifying expansion of enrollment within the new BS in Environmental and Sustainability Studies program. For example, what percentage of these graduates secured and held a job related to sustainability studies and, if so, what was the average salary and time from degree-to-employment compared to BS graduates with more advanced scientific/technical training? For graduates that elected to continue their education, what types of graduate/professional degree programs did these students enroll in and which universities did they attend?

Sincerely,

A handwritten signature in black ink that reads "Ted Harland". The signature is written in a cursive, flowing style.

Here are some of my comments on the proposal from CHASS to create a new department of Environment, Sustainability, and Health Equity. It may be too late now? I don't remember your due date. In any case, I assume that you received a lot of great comments on this already.

1. The proposed curriculum is poorly designed, particularly for the bachelor degrees in Environment and Sustainability Studies. The choice of courses seems haphazard. The BS plan will not give students sufficient core knowledge in scientific areas, and likely put them at a real disadvantage when they try to move on to careers or postgraduate programs. In addition, there are plenty of hidden pre-requisites (courses listed that require pre-requisites that are not explicitly listed) which would frustrate students and make it difficult for them to plan.
  - 2.
  3. Students will likely be confused by two BS degrees related to Environment. A more unified campus program would make more sense from a number of perspectives, including being less confusing to students. The way this program is set up, it looks like it would be trying to compete with the current CNAS majors. It would be good not to be creating additional silos.
  - 4.
  5. The proposal does discuss the importance of interdisciplinary collaborations, however, there was very little engagement on this proposal with CNAS. This is very disappointing, particularly given that there is substantial interest and expertise in the very subjects that the new ESHQ department would be formed around.
- 
4. There is not a need to disparage the Environmental Science major in order to promote an Environmental Studies major. Contrary to the suggestion on page 35, Environmental Science majors are not trained to be specialists who only address the technical components of specific issues. This is stereotyping scientists and is not helpful at all, particularly if a goal of this proposal is to encourage diversity in STEM.