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April 3, 2024

**KATHERINE S. NEWMAN**  
**PROVOST AND EXECUTIVE VICE PRESIDENT**  
**UNIVERSITY OF CALIFORNIA**

**Re: Approval of School of Computing, Information, and Data Sciences (SCIDS) at UC San Diego**

Dear Katherine:

In accordance with the Universitywide Review Processes for Academic Programs, Academic Units, and Research Units (the “Compendium”), the Academic Council solicited input from the Coordinating Committee on Graduate Affairs (CCGA), the University Committee on Planning and Budget (UCPB), and the University Committee on Educational Policy (UCEP), regarding UC San Diego’s proposal to establish a School of Computing, Information, and Data Sciences (SCIDS). The Senate’s three Compendium committees are unanimous in their support of UCSD’s proposal. UCEP identified several issues for the School and the San Diego Senate Division to consider as implementation proceeds.

Because SCIDS is a new school, Academic Council must approve per Senate Bylaw 125.B.7. The Academic Council endorsed the proposal at its March 27, 2024 meeting. I am enclosing the reviews conducted by CCGA, UCPB, and UCEP. I respectfully request that your office complete the process of obtaining the president’s approval.

Sincerely,

James Steintrager, Chair  
Academic Council

Cc: Academic Council  
Institutional Research and Academic Planning Analyst Procello  
UCSD Senate Division Executive Director Hullings  
Executive Director Lin

**COORDINATING COMMITTEE ON GRADUATE AFFAIRS (CCGA)**

Dean J. Tantillo, Chair  
[deanjtantillo@ucdavis.edu](mailto:deanjtantillo@ucdavis.edu)

**ACADEMIC SENATE**

University of California  
1111 Franklin Street, 12<sup>th</sup> Floor  
Oakland, California 94607-5200

February 16, 2024

**ACADEMIC SENATE CHAIR JAMES STEINTRAGER**

Dear Chair Steintrager,

On February 7, CCGA met and reviewed a proposal from the San Diego campus for a School of Computing, Information, and Data Sciences (SCIDS). After discussion, the proposal was approved 10-0-1.

In 2021, UCSD constituted a working group to explore the creation of a new school that would provide leadership in research, learning, and technological developments in the emerging areas of data, information, and computing sciences. That working group developed a pre-proposal for the School of Computing, Information, and Data Sciences. That pre-proposal was refined in consultation with the divisional senate, CCGA, and the Office of the President. The pre-proposal was approved by all of those bodies, and the campus submitted this full proposal in fall of 2023.

The founding units of SCIDS will be the Halicioğlu Data Science Institute (HDSI) and the San Diego Supercomputer Center (SDSC), which will be supported by joint interactions and affiliations with existing schools and academic departments, including Computer Science and Engineering (CSE), Electrical and Computer Engineering (ECE), Cognitive Science, and Mathematics.

CCGA secured external reviews from faculty with deep experience to evaluate this proposal. The reviewers responded favorably and felt that the foundation and organizational structure of SCIDS was strong, well thought-out, and addressed a significant, and as-yet-unmet, academic need. All the reviewers felt that SCIDS has the potential to make significant and broad contributions to the fields of computing, information, and data science. However, the reviewers also felt that the term "dotted-line relationship" used in the proposal lacked definition. They felt strongly that the proposal required a clearer distinction between SCIDS and its affiliated departments. This feedback was given to the proposers, and they responded in a positive and timely manner. The updated version of the full proposal now includes executed MOUs with those departments. In addition, the proposers constructed an MOU template which SCIDS can use as the basis for establishing future dotted-line affiliations.

The Lead Reviewer's letter, with more details, is attached. I submit this action for your review; please do not hesitate to contact me if you have questions regarding the proposal.

Sincerely,

A handwritten signature in green ink, appearing to read "J. Tantillo", with a long horizontal flourish extending to the right.

Dean J. Tantillo  
Chair, CCGA

c: Steven Cheung, Academic Senate Vice Chair  
Monica Lin, Academic Senate Executive Director  
Michael LaBriola, Academic Senate Assistant Director  
CCGA Members  
Chris Procello, Academic Planning and Research Analyst  
James Antony, UCSD Dean of the Graduate Division  
Lori Hullings, UCSD Academic Senate Executive Director  
Ashley Hill, UCSD Academic Senate Associate Director



DEPARTMENT OF COMPUTER SCIENCE

SANTA BARBARA, CALIFORNIA 93106-5110

To: Coordinating Committee on Graduate Affairs  
From: Chandra Krintz, Lead Reviewer (UCSB GC Chair)  
Date: 2/9/24

A handwritten signature in black ink, appearing to read "Chandra Krintz".

Re: Review, report and recommendation, following update to materials, in support of establishment of a School of Computing and Data Science at UC San Diego

### Background

CCGA reviewed and approved (Feb 2023) a pre-proposal from UC San Diego for the establishment of a School of Computing and Data Science (SCIDS). The goal of SCIDS is to become an enduring academic unit at UCSD that leverages the intellectual and operational resources of the UCSD Halicioğlu Data Science Institute (HDSI) and the San Diego Supercomputer Center (SDSC). Following receipt of the pre-proposal approval, the UCSD task force charged with the establishment of SCIDS prepared and submitted a full proposal (Sep 2023) for consideration by CCGA. The full proposal addressed many of the concerns pointed out by the reviewers of the pre-proposal (i) by providing significantly more detail about many key structural and organizational aspects of SCIDS, and (ii) by responding directly to questions from the pre-proposal reviewers. A clear list of updates and items addressed can be found on pages 5 and 6 of the full proposal.

To evaluate this full proposal, we requested and received external reviews from those with deep experience in the architecting and leading academic computing and data science units. The full proposal was viewed favorably by the reviewers and it is clear that the foundation and organizational structure of SCIDS is strong, well thought out, and addresses a significant, and as yet unmet, academic need. The reviewers commented positively on the school's commitment to interdisciplinary research and its dedication to DEI/JEDI principles. They also appreciated the innovative structure of SCIDS and its alignment with existing strengths at UCSD. All reviewers felt that SCIDS, as defined in the full proposal, has the potential to make significant and broad contributions to the fields of computing, information, and data science.

All reviewers also felt that the term "dotted-line relationship" (or affiliation) which the authors use to refer to closely aligned departments at UCSD, lacked definition. The full proposal identifies three key dotted-lined departments at UCSD: Computer Science and Engineering (CSE), Electrical and Computer Engineering (ECE), and Mathematics (which houses the Statistics faculty). Because these departments will not be fully part of SCIDS (only HDSI and SDSC will be), but have significant overlap in terms of their intellectual scope, all reviewers felt strongly that the proposal required a clearer distinction between SCIDS and these departments. As part of this clarification, the reviewers requested that key details surrounding the relationships between SCIDS and these departments be formalized via memoranda of understanding (MOUs). The details requested included handling of joint faculty appointments, joint faculty recruitment, overlapping curricula, joint fundraising efforts, and governance. Indeed, the letters of support from these departments in the original full proposal also request that such MOUs be worked out, and note that little progress had been made toward their development at the time of submission.

After discussion, the CCGA (January 10th, 2024) requested that the task force address these concerns. It also requested that the proposers formulate and execute MOUs with these three key departments at UCSD, in order to move forward with consideration of this proposal.

### **Proposal revisions**

The UCSD SCIDS task force leadership responded in a positive and timely manner. They provided full proposal updates via a red-line revision on January 28th, 2024. Specifically, the task force worked with the three key dotted-line-affiliated departments (listed above) to define and execute MOUs with each. The updated version of the full proposal now includes these executed MOUs (Appendix 6). In addition, the task force constructed an *MOU template* (Appendix 2) which SCIDS can use as the basis for establishing future dotted-line affiliations.

### **Recommendations to CCGA**

The CCGA discussed the updated full proposal on February 7th, 2024. The committee felt that the key concerns with the proposal had been adequately addressed by the proposers. In particular, CCGA members felt that the MOUs provide a clear pathway to partnership with multiple departments at UCSD. Given my interactions with the proposers, the new materials submitted, and discussions with the external reviewers and CCGA members, I recommend approval of this proposal and look forward to the successful establishment of the UCSD SCIDS.

UNIVERSITY COMMITTEE ON PLANNING AND BUDGET (UCPB)  
Donald Senear, Chair  
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January 24, 2024

**JAMES STEINTRAGER, CHAIR,  
ACADEMIC COUNCIL**

**RE: UC SAN DIEGO SCHOOL OF COMPUTING, INFORMATION AND DATA SCIENCES  
PROPOSAL**

Dear Jim,

UCPB is pleased to comment on the proposed UCSD School of Computing, Information and Data Science (SCIDS), to be created by merging the Halicioğlu Data Science Institute (HDSI) and the San Diego Supercomputer Center (SDSC). The new school will be augmented by formal affiliations with the departments of Computer Science and Engineering, Electrical and Computer Engineering, and Cognitive Science and Mathematics, as well as with the Qualcomm Institute.

A Dean will be appointed for the School with directors for both HDSI and SDSC. HDSI will have Department status, with commensurate staffing. Costs for the Dean's Office are projected to be roughly \$1.8M/year, growing to \$2M/year. The home schools of units sharing intellectual overlap with the new School will retain primary oversight of their units. Academic connections via dotted line connections will include input on management of the School's undergraduate programs, management of courses that offer credit in degree programs across departments, affiliate status for faculty with joint recruitment and advising of doctoral students and postdoctoral scholars, and coordinated FTE planning and recruitment.

In its review of the pre-proposal for the new school a year ago, UCPB found the concept of the new school and its academic justification focused on turning data into knowledge to be very attractive. The HDSI offers large and expanding undergraduate programs that have graduated two cohorts of data scientists to date and are expected to drive much of the growth of the School. Both HDSI and SDSC offer major research components that support graduate and postdoctoral training supported by robust extramural grant funding.

The committee flagged several issues for clarification and is generally pleased with how these are addressed in the full proposal. We note that both founding units are currently financially stable. Anticipated growth after the merger can be expected to increase funding from several sources including tuition from enrollment growth, sponsored research program growth, new revenue-generating programs such as self-supporting master's degrees, and new opportunities for industry collaboration and philanthropy. The proposal clarifies that these fund sources will underwrite its growth rather than shifting funds from existing campus programs. The

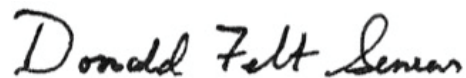
expectations for faculty recruitment are ambitious, perhaps overly so. The program will have to manage this carefully to address explosive undergraduate interest in data science that is being experienced at UCSD as at other UC campuses, without exacerbating a systemwide trend to replace ladder-rank faculty with lecturers to handle the instructional load.

The current space need for the new school is met by the recent move of HDSI to the Data Science Building in Warren College. However, to accommodate the likely growth of the school and the SDSC data center, the new school needs a larger dedicated building. By 2030, when the proposed School is expected to be at capacity, it will need 20-30,000 additional square feet for offices, laboratories, research spaces and the data center. Current buildings, the Data Science and SDSC buildings, will not accommodate these anticipated space needs. The proposal suggests that the campus add a dedicated building for SCIDS. This will have to be a high campus priority for philanthropic support.

Previous reviews of the proposal noted a lack of formal data ethics coursework for students in the new School. The full proposal clarifies that the graduate programs have robust ethics training, and they have added a mandatory ethics elective, in fairness and algorithmic decision-making to the undergraduate curriculum. In addition, the program has addressed questions about how it will attract a diverse student body by adding courses targeted to non-STEM majors and programs to specifically target URM undergraduate students. Part of the proposal includes hiring a full-time diversity and outreach coordinator. They plan to continue their practice of using their endowment funds for a K-12 outreach program.

UCPB is pleased to see the program's response to feedback on the pre-proposal and is in favor of approval of the new School.

Sincerely,

A handwritten signature in black ink that reads "Donald Felt Senear". The signature is written in a cursive, flowing style.

Donald Senear, Chair  
UCPB

Attachment

cc: UCPB, CCGA, UCEP

# UCPB School of Computing, Information and Data Sciences (UCSD) Review

*Name and location of program:* School of Computing, Information and Data Sciences at UCSD

*Lead reviewer:* Raphael Kudela, UC Santa Cruz

## ***Academic Justification:***

A new school of Computing, Information and Data Science (SCIDS) will merge the Halicioğlu Data Science Institute (HDSI) and the San Diego Supercomputer Center (SDSC), with direct connections to several departments (Computer Science and Engineering, Electrical and Computer Engineering, Cognitive Science, and Mathematics). The argument is that HDSI and SDSC are unique, and that the combination will result in a “whole is greater than the sum of its parts” integrated entity that combines traditional strength in computing and computational sciences with (SDSC) with one of the fastest growing academic units (HDSI)

The academic justification focuses on “turning data into knowledge”. The broad mission of the proposed School will include student training and experience, research excellence, and development and sustenance of the next generation data infrastructure. HDSI was established in 2018, and the governing faculty council of HDSI consists of faculty drawn from nearly all schools including health and marine sciences. The program has over 800 students in its major and 200+ students in its minor, and has graduated two cohorts of data scientists. HDSI will become the primary data science department in SCIDS. It will also function like an interdisciplinary campus unit by bringing data sciences broadly to multiple disciplines on campus through formal (founding members) and dotted-line academic connections to multiple programs.

## **Administrative Structure**

SCIDS will appoint a Dean for the school, with a Director for HDSI and a Director for SDSC. HDSI will act as the de facto department for the data sciences program (BS, minor, and 3 existing plus 2 proposed graduate programs). HDSI will acquire Department status in the new school with the required staffing and SDSC initially will continue as currently constituted. Other academic units like (CSE, ECE, Cog Sci, Mathematics, and the QUALCOMM Institute) that have significant intellectual overlap will form joint affiliations with SCIDS. Primary oversight of these units will remain the responsibility of their parent Schools.

## **Planning and Budget Overview**

**Funding of existing Core Units:** The SDSC has been operating as an Organized Research Unit with funds primarily coming from extra-mural funding. In the most recent fiscal year, SDSC reported \$35M in contract and grant revenue, and \$14M in service agreement and recharge revenue. SDSC has a net-positive budget for the last ~5 years. The proposal estimates 4% growth per year without SCIDS, and 8% growth with SCIDS.

The HDSI was initiated with a substantial philanthropic gift (\$75M) in 2018, which generates ~\$3M annually that are reinvested to develop the program and connections. Current annual budget is ~\$8.8M,



with \$5.8M in the core budget. HDSI has been supported financially through regular campus funds for standard activities (*faculty recruitment, start-up costs, retentions, building infrastructure and administrative structure*).

**Administrative Costs:** The new school will be headed by a new dean, which will require the establishment of a Dean's office. The projected total expenses are ~\$2M/year and projected to grow to \$1.8 million/year (higher than the pre-proposal), with the inclusion of a Senior Director for Development and a communications specialist.

**Capital Requirements:** HDSI moved to a renovated Data Science Building in Warren College, while SDSC remains in its purpose-built building. The proposal urges campus leadership to fundraise for a dedicated building. A serious issue is that the SDSC is at capacity. A proposal is pending for an additional (at least) 10,000 square feet but SCIDS would require 15-20,000 square feet of expansion.

SCIDS also anticipates the need for an additional 20-30,000 sq. ft. of office, laboratory, and research space by 2030 when SCIDS is expected to achieve a steady state in terms of faculty, staff, and students.

**Start up costs:** There is no explicit discussion of start-up costs, but SDSC does not require additional funds (other than the space expansion) and HDSI already exists, and would simply become a formal academic unit in the new school. The Dean's office is not a start-up cost *per se* but would result in \$2M/year investment.

**Revenue sources:** The financial plan of the new school is built upon three main elements: (a) growth in enrollments and sponsored research programs; (b) new revenue generating programs; (c) new opportunities for industry contributions and philanthropic contributions. The establishment of SCIDS is expected to be nearly simultaneous with the initiation of the next major fundraising campaign at UC San Diego in 2023, and SCIDS will be among the leading campus priorities. The target amount from fundraising is \$25M over the first 2-3 years. **The funding model does not anticipate resources would shift to SCIDS from other programs. Growth is based on a "bigger pie" scenario driven by enrollment.**

- HDSI Master's programs are expected to generate ~\$8M in tuition revenue
- UG majors are projected to increase 70% by AY27, while enrollment increases by 30%
- Grad enrollments are projected to increase (AY27) by almost 400%
- Faculty will double by AY27, with annual research income of ~\$12M
- The Industry Liaison Program (ILP) currently generates about \$500K/year but is expected to increase to \$4-6M.

In summary, both programs are financially stable and growth is tied to increased revenue from student enrollment (academic), increased research activity, and philanthropy. While the projections are optimistic, they are based on reasonable assumptions and trends.

**Personnel costs and FTE requirements:** HDSI has recruited 29 faculty members in the last 5 years, with 16 faculty members holding joint appointments across 11 departments. Future hires include coordinated FTE planning and requests for joint faculty appointments with relevant

academic departments. There are currently 23.16 core faculty, which is expected to grow to 46 core faculty in AY27. With those projections, UG majors/FTE will decrease from 39 to 33.7, while UG/FTE instructional ratio will remain about the same at 56. There is no specific discussion of how FTE growth in SCIDS will impact (if at all) FTE growth in other programs, but it is implied that coordinated hiring along with shared and 0% appointments will result in a net benefit to the campus.

## **Other Issues**

Review of the pre-proposal highlighted other concerns:

- 1) Lack of formal data ethics requirements in the curriculum
- 2) Pro-forma description of DEI activities, goals, and metrics
- 3) Staffing and non-senate faculty requirements

*Ethics:* The graduate programs have well-defined requirements related to ethics in data science. The proposal documents one elective (DSC 167: Fairness and Algorithmic Decision Making), and a modification to the capstone series that includes an ethics component for all majors.

*DEI Activities:* SCIDS will offer courses targeting non-STEM majors, including URM students. The school will participate in the campus “Strategy for Inclusive Excellence”, and there is a full-time diversity and outreach coordinator in HDSI. Endowment funds have been invested in a K-12 outreach program, and there are various faculty-led initiatives. The proposal includes a comprehensive discussion of Justice, Equity, Diversity, and Inclusion (JEDI), including plans to operationalize JEDI activities and apply concrete metrics for assessment.

*Staffing and Non-Senate Faculty:* This is not directly addressed, but there are numerous dotted-line and formal connections to other programs, and the project FTE/student ratios suggest that there is adequate support for the program. While not explicitly listed, the HDSI webpage includes 5 lecturers and 3 Assistant Teaching Professors, with open searches (at the time of review) for a temporary lecturer and an Assistant Teaching Professor.



UNIVERSITY COMMITTEE ON EDUCATIONAL POLICY (UCEP)  
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March 7, 2024

**JAMES STEINTRAGER, CHAIR**  
**ACADEMIC COUNCIL**

**RE: FULL PROPOSAL FOR UCSD'S SCHOOL OF COMPUTING, INFORMATION, AND DATA SCIENCES**

Dear Jim,

The systemwide Committee on Educational Policy discussed the full proposal for a new School of Computing, Information, and Data Sciences (SCIDS), at the University of California, San Diego, during our meeting on March 4<sup>th</sup>. Members of UCEP voted to approve the proposal. UCEP commends the Task Force for drafting a very detailed proposal that addressed many of the concerns raised at the preliminary proposal stage.

SCIDS will bring together and expand the efforts in data science and computation already underway at UCSD. It will have two founding units: the Halicioğlu Data Science Institute (HDSI) and the San Diego Supercomputer Center (SDSC). It will be supported by a plethora of affiliations with other schools and academic departments, including Computer Science and Engineering (CSE), Electrical and Computer Engineering, Cognitive Science, and Mathematics. SCIDS will manage the undergraduate and graduate program currently housed HDSI and employ SDSC as its operational and translational science core. (9-11). These plans are grounded on data that shows extraordinary growth in applications to data science programs at UCSD; since its launch in 2018, the Data Science major administered at HDSI has become one of the 15 most sought-after majors at UCSD. SCIDS's financial resources will be supplemented by continued endowment income and revenue from its masters program, though the proposal acknowledges that additional endowments will be necessary, especially to ensure adequate infrastructure. (63-64, 68).

The proposal has many strengths, and UCEP commends the task force for addressing many of the concerns that the university-wide committees have raised. However, UCEP members identified several issues that remain unaddressed. For ease of review, the discussion that follows is organized according to criteria A-D in "UCEP Guidelines for Reviewing Proposed Schools June 2023," found at the following link:

[https://senate.universityofcalifornia.edu/\\_files/committees/ucep/ucep-review-guidelines-for-new-school-proposals.pdf](https://senate.universityofcalifornia.edu/_files/committees/ucep/ucep-review-guidelines-for-new-school-proposals.pdf)

**Access and Rigor (A1)**

- **Enrollment:** The proposal states in detail how the creation of SCIDS will benefit other units at UCSD, but it does not indicate specific arrangements that will allow for students outside of SCIDS to benefit from the new school's curriculum. Given the real and projected popularity of the data science major, will SCIDS be able to guarantee that students in other units can enroll in data science classes? How will SCIDS students' demand

for GE courses, minors, and double majors affect other units? Will SCIDS have any common goods courses—large courses for which a significant portion of students belong to a major outside of the department offering the courses? Will projected growth in majors and minors impact enrollment in other departments' common good courses?

- **Transfer Pathways:** The proposal outlines why it is difficult to create transfer pathways into data science at UCSD (27-28), but the proposed plans to resolve these issues are not completely clear. Will a single course (DSC 80) really be enough to resolve the structural pedagogical issues that the proposal highlights? The partnership with MiraCosta College seems to be particularly effective, but is it financially viable for community colleges to staff their own data science programs in partnership with HDSI? In this regard, it would be particularly helpful to see how SCIDS's plans compare to how other R1 institutions (both within and outside UC) handle transfer pathways.

#### **Staffing (A3, A6)**

- **Advising:** The proposal does not discuss the advising needs and expectations of SCIDS. How many staff advisors are needed to manage the projected enrollment? Will it be necessary to recruit advisors from other units, or are central funds guaranteed to create new positions?
- **TAs:** Are there sufficient TAs with the required expertise to sustain the projected growth of the major once SCIDS is created? At what point, if any, will their hiring require additional fund-raising and revenue streams?
- **Student support:** What plans are there to offer out-of-the classroom support to students? Will existing tutoring and student support centers be able to handle the projected growth in data science majors, or will SCIDS create its own support system for them?
- **Fund raising:** As noted earlier, the proposal indicates that continued fund-raising will be necessary to sustain the plans as outlined. The concerns in this section of the letter raise additional financial issues. What are the back-up plans in case this expected fund-raising is unsuccessful?
- **Joint faculty appointments:** These are not ideal for the faculty but not uncommon in other schools. SCIDS should seek to allow faculty to move to one unit, eliminating their joint appointment as much as possible.

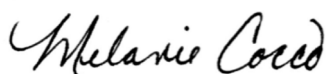
#### **Fit (D1)**

- **Fit within UCSD curricula and structure:** The proposal does not address the relationships that SCIDS expects to have with the residential colleges at UCSD, or with the broader landscape of university requirements. Since the major and minor both have very high student counts, it would be helpful to 1) discuss possible synergies with college curricula, and 2) provide sample academic plans that allow students to graduate on time (one for a first year UC student, one for a transfer student who does not come from MiraCosta).

**UCEP requests that the UCSD faculty senate review the issues of student transfer, TA support, and advising within three years of program approval.** The UC is charged with admitting 1/3 of our students through transfer programs. There is some concern that this large undergraduate program will not contribute to the UC obligation in the area of transfer.

UCEP appreciates the opportunity to comment on this matter. Please contact me if you have any questions.

Sincerely,



Melanie Cocco, Chair  
UCEP