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OFFICE OF THE EXECUTIVE VICE CHANCELLOR ACADEMIC AFFAIRS

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March 26, 2018

#### SENT VIA EMAIL

Farrell Ackerman Chair, Academic Senate

SUBJECT: Proposal to Grant Academic Unit Status to Halicioğlu Data Science Institute (HDSI)

Data Science has the power to realize next-generation scholarship at UC San Diego by enabling new modes of thinking, learning, and collaborating. It is truly pervasive, impacting and connecting the research and education missions of General Campus, Health Sciences, and the Scripps Institution of Oceanography.

The Halicioğlu Data Science Institute (HDSI) has been created to promote a unified campus-wide conversation transcending disciplinary boundaries and spanning both teaching and research. HDSI is tasked with building a number of interdisciplinary Data Science programs and enabling a host of others throughout our campus. It represents a new model for an academic unit that has the potential of becoming a template for further innovation. To that end, we propose the following organization for HDSI that accords with the APM, and applicable Academic Senate regulations, including Bylaw 55 on "Departmental Voting Rights" delegated by Regents Standing Order 105. It also accords with the UC Compendium, which defines an academic unit as any organizational unit into which Senate faculty are appointed, and which grants the Senate concurrent approval authority with the Chancellor for academic units (i.e. the approval of both is required). The UC San Diego Administration-Senate MOU of July 5, 2016 specifies that academic appointments conferring Senate membership must be housed in permanent units and must safeguard the peer review process and voting rights of the faculty.

HDSI is endowed as a permanent structure and its faculty oversight and governance structures are designed to replicate those of an academic unit. HDSI will have ten (10) endowed professors; these professorships will be awarded, via the usual procedures for such appointments, to existing or newly hired faculty who will further the goals of the institute.

To address all of these considerations, we propose the following definitions and functions concerning the organization and operation of HDSI:

#### **Oversight Committee**

An HDSI Oversight Committee will determine the institute's priorities and strategic direction and will
provide guidance to and approve recommendations (including those related to the HDSI budget)
proposed by the institute's leadership. The Oversight Committee will be chaired by the Chancellor

with the Executive Vice Chancellor serving as Vice Chair. Additional members from the Chancellor's Cabinet will be invited to join the HDSI Oversight Committee as needed.

# **Director (or co-Directors)**

- The HDSI Director(s) will be appointed by the Chancellor following UC San Diego procedures for administrative appointments. The HDSI Director(s) reports to the HDSI Oversight Committee.
- The HDSI Director(s) will function as the equivalent of a Department Chair, assuming all of the
  typical responsibilities of a Chair with respect to the operation of the academic unit. These include
  developing and overseeing the budget, supervising staff, fulfilling reporting requirements for the
  institute, handling communications and development activities, and ensuring HDSI's compliance
  with campus and system-wide policies. The HDSI Director(s) will chair the Faculty Council.

#### Faculty Council.

- The HDSI is establishing a Faculty Council, both using FTEs provided to the Institute and drawing on
  existing UC San Diego faculty members who have the expertise and motivation to contribute to the
  Institute's mission.
- The HDSI Faculty Council will constitute the Senate faculty voting body for the HDSI that ensures conformity with Bylaw 55.
- The HDSI Faculty Council will consist of sufficient faculty to ensure a minimum of ten (10) Senate faculty members are eligible to vote on academic files. The HDSI Faculty Council will perform the functions normally performed by departmental faculty in regards to appointments, curriculum, program reviews and other academic processes/matters requiring faculty oversight.
- Appointments to the HDSI Faculty Council may be made at any percentage. A 0% appointment will
  carry with it a service requirement to participate in HDSI activities. In other cases, where the
  appointee will have responsibility for HDSI teaching needs within approved academic programs,
  such as the Data Science major and minor(s), the appointment may be at an integral multiple of
  25%, corresponding to the level of teaching effort within HDSI (25% = 1 course/year). Joint
  appointments will be made and administered consistent with existing APM and PPM policies.
- For each HDSI faculty appointment at a percentage less than 100%, the appointment letter will detail the research, teaching and service expectations for that position and a Memorandum of Understanding (MOU) will be jointly created among all participating units. All 100% appointments will be constrained by relevant regulations already applicable within existing academic units.
- The initial set of HDSI Faculty Council candidates will be proposed by the HDSI Director(s), in consultation with the Executive Vice Chancellor, and presented to the HDSI Oversight Committee. The appointment process will follow the existing processes currently in place for inter-unit appointments and transfers.

The HDSI Faculty Council, functioning in similar capacity to faculty in departments, will establish and
codify bylaws for HDSI. For example, it will establish the voting conventions for HDSI that reflect the
autonomy of academic units to create their own conventions and that follow all applicable
regulations and bylaws of the PPM and APM.

#### General

- Ad hoc review committees consisting of three to five (3-5) members with the appropriate
  interdisciplinary expertise, will be formed to review academic appointments, promotions and
  advancements within HDSI. External faculty members may be appointed to the ad hoc review
  committee to ensure the appropriate expertise. These ad hoc committees will be formed by the
  HDSI Director(s) in consultation with the HDSI Faculty Council. The ad hoc review committee report
  will be included in the review material provided to the HDSI Faculty Council prior to voting.
- Functions typically performed by a Dean, including oversight of personnel review actions for HDSI, will be performed by a designee of the Executive Vice Chancellor, such as the Senior Associate Vice Chancellor for Academic Affairs.
- Course and curriculum proposals will adhere to Senate review and approval processes.
- HDSI will undergo a periodic holistic review of all of its components, including its undergraduate, graduate, and research programs and its campus-wide reach and impact.

In summary, HDSI has been created as a permanent entity and is structured as an academic unit, with faculty appointments consistent with the intent and principles identified in the MOU, with Bylaw 55, with the APM, with the UC Compendium, and with existing practices at other UC campuses. It is also organized as an academic unit with respect to the development of its academic curriculum and its obligations to obtain all relevant permissions from the Academic Senate. Standard processes for the appointment of Senate faculty, for curriculum development and approval, for program reviews and for all other academic processes will be followed in accordance with established practices and regulations. We look forward to receiving the Senate's comments on this proposal. Thank you for your consideration.

With best regards,

Elizabeth H. Simmons Executive Vice Chancellor

Elzabeth Il Simmond

CC: Assistant Vice Chancellor Ann Briggs Addo
HDSI Co-Director Jeffrey Elman
HDSI Co-Director Rajesh Gupta
Academic Senate Director Ray Rodriguez

May 24, 2018

# ELIZABETH H. SIMMONS Executive Vice Chancellor

SUBJECT: HDSI Academic Unit Status Proposal

Dear EVC Simmons:

The proposal to grant academic unit status to the Halicioğlu Data Science Institute (HDSI) was discussed by Senate Council at its meeting on May 21, 2018. Overall, the Council found the proposal to be an appropriate initial plan but some aspects of the proposal are unclear and require further development. The Council's questions and concerns may be best addressed in an addendum to the HDSI proposal. May 29, 2018 at noon would be the deadline to share materials with Representative Assembly members. Including an addendum in the Representative Assembly materials will strengthen the proposal, resolving possible impediments in the approval process. The questions and concerns of the Council members are summarized below.

# Leadership

#### Co-Director Roles:

- The HDSI Co-Directors report directly to the Office of the Executive Vice Chancellor, with the responsibilities appearing to be a hybrid between a Department Chair and a Divisional Dean. Senate Council thought it worth considering the consequences of combining these two roles in more depth as it appears that this role combination creates a gap by eliminating the role of the Dean. Perhaps the Associate Vice Chancellor will act as the "Dean," but this is not made clear.
- What are the expected years of service and evaluation process for the Co-Directors? Do the Co-Directors have an obligation to contribute to the teaching mission of the University or will they be released from teaching?
- Senate Council noted that the Chancellor appointed HDSI's Co-Directors, which seems appropriate at this
  time of initial establishment, but pointed out that just as Department Chairs are appointed by a vote of the
  department and approved by the Divisional Dean, analogous practices for appointing leadership should be
  considered.

#### EVC-Designee to Perform Functions of a Divisional Dean:

- The HDSI proposal states that a designee of the EVC (such as the Senior Associate Vice Chancellor for Academic Affairs) will function in the role typically performed by a Divisional Dean. Senate Council expressed concern that this appears to unbalance the model of shared governance and poses a possible conflict of interest between the designee and the EVC. Council members suggested that a different supervisory mechanism be envisioned and implemented, especially with regard to the review of academic personnel files.
- What is the expected involvement of the EVC-designee in the management and oversight of HDSI?

# Oversight Committee:

• The Oversight Committee is mostly guided by the Administration. The Council opined that it is important for shared governance that faculty are partners in making decisions regarding HDSI's priorities and strategic direction. Will faculty from HDSI serve on the Oversight Committee? What will the procedure be for appointing faculty to the Oversight Committee?

• What is the expected timeframe for the involvement of the Oversight Committee as a supervisory body? Once HDSI reaches a faculty threshold, can the faculty function similarly to a department and make decisions without the Oversight Committee?

#### Faculty Council:

- The HDSI Faculty Council will constitute the Senate faculty voting body at the time of initial establishment to ensure a sufficient faculty body. As new faculty are hired and added to the Institute, will they be eligible to participate in the Faculty Council? If they are eligible, what will the procedure be for appointing newly hired faculty to the Faculty Council? How often will the Faculty Council change leadership?
- A minor clarification was requested by a Senate Council member who noted that the ten endowed professors are assumed to be members of the Faculty Council, but it is not stated in the proposal.

#### Reviews

#### Academic Personnel:

- The HDSI proposal focuses on the establishment of this academic unit, but does not address what would happen if HDSI were to disestablish. Specifically, the Committee on Academic Personnel (CAP) is concerned with what will happen to the faculty FTEs should HDSI dissolve. CAP suggested there be a plan in place to address where the faculty FTEs would go (if they have to be housed within another academic unit).
- Senate Council members raised concerns about who will vote on faculty personnel files. Will all members of the HDSI vote on all faculty files or just a subset of the faculty? The Committee on Diversity and Equity (CDE) expressed concern about the vagueness of the guidelines for voting on and handling of faculty (promotion and appointment) files, especially related to the interests of equity and fairness.
- Given that HDSI is operating outside of the departmental framework, it would be helpful if the proposal explained if HDSI will follow the departmental model of academic personnel reviews. Such analogous processes can be detailed in future bylaws set by the HDSI Faculty Council.

#### Holistic Institute Reviews:

- According to the proposal, HDSI will undergo "periodic holistic review" of all of its components. The Graduate Council (GC) recommends that the review processes for each component be clarified as the details of HDSI's organizational structure are worked out. Review of undergraduate and graduate programs should be reviewed following the same procedures used for the review of all other programs.
- How often will this "periodic holistic review" take place? And, will the review be performed in a way that will enable evaluation of the new concept for a donor-driven educational initiative?

#### Teaching and Instructional Mission

- As a proposed academic unit, Senate Council members noted that it is important for HDSI to express their
  academic mission in the proposal. It would be helpful for the proposal to provide a general overview
  addressing plans for undergraduate and graduate programs and how faculty appointed to HDSI will fulfill
  their teaching obligations.
- Senate Council members expressed concern that the HDSI proposal did not address the integration or coordination with the existing Undergraduate Data Science Program. The Council would like clarification on the future relationship between the existing Undergraduate Data Science Program and HDSI. Will the current leadership of the Undergraduate Data Science Program report to the Co-Directors of the Institute? Will HDSI have oversight over the existing data science curriculum, and be able to request and make changes to the curriculum?

- Are other departments and programs able to propose new degree programs in data science that are not linked to HDSI?
- It would be helpful if the proposal explained if HDSI will follow the departmental model for proposing an undergraduate or graduate degree. Will HDSI follow existing academic proposal processes?
- If HDSI teaches classes, then who gets the enrollment numbers for students (will they not go to a department)? Do the faculty members have the enrollments count to their home departments? What division do the enrollments go toward?

#### Precedent

• It is difficult to view this proposal without thinking ahead to the precedent being set by this new model for an academic unit. Is the proposed model unique to HDSI? How will it be applied to future interdisciplinary endeavors? What are the criteria for establishing such an academic unit? Is self-funding a prerequisite?

#### Other

• How will space for HDSI be negotiated and where will it come from? Space is not addressed in the proposal.

Sincerely,

Farrell Ackerman, Chair

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Academic Senate, San Diego Division

#### **Enclosures**

cc: A. Briggs Addo

J. Elman

R. Gupta

R. Horwitz

ACADEMIC SENATE: SAN DIEGO DIVISION, 0002 UCSD, LA JOLLA, CA 92093-0002 COMMITTEE ON RESEARCH

April 16, 2018

FARRELL ACKERMAN, Chair Academic Senate, San Diego Division

SUBJECT: HDSI Academic Unit Proposal Review

Dear Farrell,

The Committee on Research (COR) discussed the Proposal to Grant Academic Unit Status to Halicioglu Data Science Institute (HDSI), dated 03/26/2018. We recognize the significant benefits of such initiative in enabling research and education across disciplines that cannot otherwise be easily accomplished using the existing campus structures (i.e. departments and ORUs). We also understand that successful implementation of this initiative would create a platform for the development of similar units ultimately affecting the strategic vision of our campus.

Below, we list some questions/comments regarding the proposed structure of HDSI:

- a. HDSI is endowed as a permanent structure with ten (10) endowed positions at the level of full professor. Are these ten (10) FTEs going to be created by expansion of the current budget for academic personnel or by reassignment of existing FTEs?
- b. According to the proposal, "functions typically performed by a Dean will be performed by a designee of the EVC". This approach could lead to a conflict of interest between the two parties. Alternative strategies to select such a person should be presented.
- c. What are the expected years of service and evaluation process for the Director(s), the Dean and the Council members?
- d. The proposal describes a "periodic holistic review" of HDSI. How often will this review will take place and will it be performed in a way that will enable evaluation of the new concept for a donor-driven educational initiative?

In conclusion, the COR members support the proposal for the creation of HDSI as a permanent academic unit. There is some skepticism on the precedence that this initiative would set for similar donor-driven approaches to research/education. Addressing the questions/concerns listed above will raise the level of support for this proposal and will also help the development and integration of HDSI as an academic unit in our campus.

Sincerely yours,
Emmanuel Theodorakis, Chair
Committee on Research

cc: R. Horwitz

A. Engler

H. Flocke

T. Mallis

May 7, 2018

# PROFESSOR FARRELL ACKERMAN, Chair Academic Senate, San Diego Division

SUBJECT: HDSI Academic Unit Status Proposal

The Educational Policy Committee (EPC) reviewed the proposal to grant academic unit status to the Halicioğlu Data Science Institute (HDSI) at its April 16, 2018 meeting. The Committee had the following comments and questions:

- 1. <u>Educational Mission:</u> The proposal does not provide any details about the plans for HDSI's contributions to or oversight for undergraduate and graduate degree programs. It is implied that undergraduate and graduate programming will be part of HDSI but no specifics are mentioned. It is hard to determine what impacts designating HDSI as an academic unit might have on undergraduate and graduate programming without any specific information.
  - What will HDSI's relationship be with existing and future degree programs in data science (e.g. the major/minor in data science)?
  - Are other departments and programs able to propose new degree programs in data science that are not linked to HDSI?

# 2. HDSI Leadership and Oversight

- The HDSI director(s) will have a role that combines the responsibilities of a department chair and divisional dean. EPC thought it worth considering the consequences of combining these two roles in more depth.
- The HDSI Faculty Council will constitute the Senate faculty voting body at the beginning to ensure a sufficient faculty body. As HDSI appoints a sufficient number of faculty to vote on academic files and other academic matters, what happens to the composition of the Faculty Council? Does it continue to provide faculty oversight or will there be a point when the voting rights are transferred over to the faculty body hired directly into the Institute?

Sincerely,

Stephanie Mel, Chair Educational Policy Committee

cc: H. Flocke

R. Horwitz

May 9, 2018

# PROFESSOR FARRELL ACKERMAN, Chair Academic Senate, San Diego Division

SUBJECT: Proposal to Grant Academic Unit Status to the Halicioğlu Data Science Institute (HDSI)

Dear Farrell,

At its April 13, 2018 meeting, the Undergraduate Council discussed the proposal to grant academic unit status to the Halicioğlu Data Science Institute (HDSI). The Council is supportive of the proposal to grant academic status to HDSI, but still had the following questions and comments:

#### Oversight Committee

1. Aside from the Chancellor, the Executive Vice Chancellor, and members from the Chancellor's Cabinet, will faculty from HDSI serve on the Oversight Committee? What will the procedure be for appointing faculty to the Oversight Committee?

#### Faculty Council

2. After the initial HDSI Faculty Council is in place, what happens as new faculty are hired and added to the Institute? Will they be eligible to participate in the Faculty Council? If they are eligible, what will the procedure be for appointing newly hired faculty to the Faculty Council? How often will the Faculty Council change leadership?

#### Education

- 3. The Council would like clarification on the relationship between the existing Data Science Program and HDSI. Will the current co-directors of the Data Science Program report to the Director(s) of the Institute? Will HDSI have oversight over the existing Data Science curriculum, and be able to request and make changes to the curriculum?
- 4. Will HDSI establish new majors and minor programs? If yes, will the new majors and minors overlap with, or draw resources away from, the existing Data Science Program?
- 5. Will HDSI establish graduate degree programs?

#### Data Science Program

6. The Council would like to note that the Data Science Program is currently administered by the Department of Computer Science and Engineering. If HDSI will subsume the existing major and minor program, the Department and the Institute will need to initiate procedures to officially transfer the administration of the Data Science Program from CSE to HDSI.

Sincerely,

Sam Rickless, Chair Undergraduate Council

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cc: R. Horwitz

J. Eggers

R. Rodriguez

T. Mallis

May 10, 2018

FARRELL ACKERMAN, CHAIR Academic Senate, San Diego Division

SUBJECT: HDSI Academic Unit Status Proposal

The Committee on Diversity and Equity (CDE) discussed the proposal to grant academic unit status to the HDSI. The proposal seeks to create a new academic unit, which is welcomed by many, given the antiquated models provided by ORUs. However, the CDE has a number of questions that were not answered satisfactorily based on the brief document provided to us, and in the end we were left with many unanswered questions. For example: (1) Who is the institute reporting to since it is not under a divisional dean's authority (the EVC)? (2) Who gets the enrollment numbers for students (will they not go to a department)? (3) What is the role of the faculty council? (4) Will faculty appointments be handled differently in the institute than in a department? If yes, how so? Will all faculty members of the HDSI vote on all file promotions or just a subset of members decided by committee? Are all members eligible to vote on all of the faculty files? We noted particular concern about the vagueness of the guidelines for voting on and handling of faculty (promotion and appointment) files, especially related to the interests of equity and fairness.

Sincerely,

Rommie E. Amaro, Chair Committee on Diversity & Equity

cc: R. Horwitz

May 10, 2018

FARRELL ACKERMAN, CHAIR Academic Senate, San Diego Division

SUBJECT: HDSI Academic Unit Proposal

The Committee on Planning and Budget (CPB) discussed the proposal to grant academic unit status to the HDSI. The committee has concerns about the reporting structure of the HDSI. The institute is not under the authority of a divisional Dean but reports directly to the Chancellor. There may be a gap between the unit and the Chancellor regarding access and a place to go for consultation and direction. Perhaps the Associate Vice Chancellor will act as the "Dean" but this is not made clear. The matter of co-directors was also discussed and the committee believes this may not work and asks why not appoint a Director and Associate Director or Chair and Vice Chair. How will faculty appointments be handled by the institute? How will space be negotiated and where will it come from? Space is never mentioned in the proposal. It is not stated if the ten endowed chairs will be members of the faculty council. It can be assumed they will be members but it should be stated in the proposal.

Sincerely,

Steven Constable, Chair Committee on Planning & Budget

cc: R. Horwitz

May 10, 2018

# PROFESSOR FARRELL ACKERMAN, Chair Academic Senate, San Diego Division

SUBJECT: HDSI Academic Unit Status Proposal

At its April 9, 2018 meeting, the Graduate Council discussed the proposal to grant academic unit status to the Halicioğlu Data Science Institute (HDSI). Designating HDSI as an academic unit that has assigned FTEs but is not under a single dean is a novel concept for UC San Diego. Overall, the Council found the proposal to be an appropriate initial plan but some aspects of the proposal are unclear and require further development. Below are the questions, comments and recommendations raised during the Council's discussion.

#### Structure

1. The Council recommends that the Oversight Committee include a faculty co-chair appointed through the Academic Senate. Based on the proposal, HDSI appears to be subject to more direct oversight from the administration than most academic units. The Oversight Committee is responsible for determining the institute's priorities and strategic direction. The Council opined that it is important for shared governance that faculty are partners in making these decisions.

#### Reviews

- 2. The appointment of the HDSI Director(s) will follow the standard procedures for administrative appointments and function as the equivalent of a department chair. However, the HDSI Director(s) reports directly to the Office of the Executive Vice Chancellor, with the responsibilities appearing to be a hybrid between a department chair and a divisional dean. Therefore, the Council recommends that the HDSI Director(s) be subject to five-year administrative reviews, following the same procedures as those used for divisional deans. The Council also recommends that the first review be expedited and occur after two years.
- 3. According to the proposal, HDSI will undergo a periodic holistic review of all of its components. The Council recommends that the review processes for each component be clarified as the details of HDSI's organizational structure are worked out. Review of undergraduate and graduate programs should be reviewed following the same procedures used for the review of all other programs.
- 4. Who is responsible for appointing a designee of the Executive Vice Chancellor to perform the functions typically assigned to a dean, such as review of academic personnel files? How involved will the designee be in the management and oversight of HDSI?

## Teaching and Instructional Mission

5. The proposal does not provide any details on the teaching and instructional mission of HDSI. While the Council noted that the Compendium's definition of an academic unit is limited to an organizational unit into which Senate faculty are appointed, the Council opined that HDSI needs to have an educational mission, with its own degree programs to truly be an academic unit. It would be helpful for the proposal to provide at least a general overview addressing plans for undergraduate and graduate programs, including HDSI's relationship to the existing major and minor in data science, and how faculty appointed to HDSI will fulfill their teaching obligations.

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#### Precedent

6. It is difficult to view this proposal without thinking ahead to the precedent being set by this new model for an academic unit. Is the proposed model unique to HDSI? How will it be applied to future interdisciplinary endeavors? What are the criteria for establishing such an academic unit? Is self-funding a prerequisite?

Sincerely,

Sorin Lerner, Chair Graduate Council

cc: H. Flocke

R. Horwitz

R. Rodriguez

S. Yadegari

May 11, 2018

#### IN CONFIDENCE

CHAIR FARRELL ACKERMAN Academic Senate, San Diego Division

SUBJECT: HDSI Academic Unit Status Proposal

The Committee on Academic Personnel appreciates the opportunity to provide comments on the HDSI Academic Unit Status Proposal.

As noted in the proposal, dated March 26, 2018, the Halicioğlu Data Science Institute (HDSI) is a new model for an academic unit. It is described as being "created to promote unified campus-wide conversation transcending disciplinary boundaries and spanning both research and teaching".

While CAP had an overall positive response to the document, several concerns were raised. At this juncture in time, all focus is on the mechanism of establishment. CAP understands that the systemwide disestablishment process outlined in the Compendium would govern if the HDSI is disestablished as an academic unit in the future. CAP's concern relates to the status of individual faculty members (i.e. what happens to their FTE) in such an instance. CAP suggests that this issue be addressed in the MOUs at point of hire.

Members noted that the Chancellor has appointed the Institute's Directors. This seems appropriate at the time of the initial establishment. However, CAP noted that this practice diverges from analogous practices through which Department Chairs are appointed, subject to the vote of a department and the approval of a divisional Dean. CAP suggests that a mechanism for choosing future leadership be considered and that the practice be similar to that of academic units.

CAP recommends clarification of the duties and obligations of the Director, particularly as regards their contribution to the teaching mission of the University. In the present document, this is not clear.

As regards academic review, the document states that a designee of the EVC, such as the Senior AVC-AA will function in the role typically performed by a Dean. This appears to unbalance the faculty-administration model of shared governance. CAP finds this to be problematic and urges that a different review mechanism be envisioned and implemented.

CAP members noted that there was no provision for a regular review of the Institute. The Institute does not fall under the same five-year review mechanism as a Center; it does not seem to fall within guidelines for academic unit review either. CAP assumes that HDSI will undergo periodic reviews, similar to academic departments.

CAP appreciates the opportunity to provide feedback on the proposal.

Susan M. Narucki, Chair Committee on Academic Personnel

Jusan Naruch.

# Addendum to the Proposal to Grant Academic Unit Status to Halıcıoğlu Data Science Institute

May 28, 2018

## <u>Leadership</u>

Q: How will the separate duties that are usually undertaken by a Department Chair and by a Divisional Dean be discharged in the context of HDSI?

A: The Senior AVC for Academic Affairs will be delegated by the EVC the authority to function as the "Dean" for purposes of academic file review and other responsibilities normally discharged by the "Cognizant Dean" for an interdisciplinary unit. Other administrative duties will be undertaken by the Director(s).

Q: What are the expected years of service and evaluation process for the Director(s)?

A: The expected term is 3-5 years, with an initial recommendation of five years to promote continuity. A review of the Director(s) will be carried out in the fifth year, following procedures currently in place for administrative review.

Q: Do the Director(s) have an obligation to contribute to the teaching mission of the university? A: Yes.

Q: How will the Director(s) be appointed?

A: The Director(s) will be appointed consistent with the APM-240 and APM-245.

# **Oversight Committee**

Q: What is the role of the Oversight Committee and will faculty serve on it?

A: Initially, the Oversight Committee will help the Director(s) set the priorities and strategic directions for HDSI. When HDSI has a full faculty complement and the faculty have created bylaws, the Oversight Committee would be transitioned into an Advisory Board. In addition to administrative members, the committee will include faculty members with relevant expertise.

## **Faculty Council**

Q: Please clarify the relationships (if any) between holding an academic appointment in HDSI, being a member of the HDSI Faculty Council, and holding an HDSI Endowed Chair.

A: Every Senate faculty member who holds an academic appointment in the HDSI will be a member of the "HDSI Faculty Council". Each such person will have specified teaching, research, and service responsibilities to HDSI set by the percentage of their appointment in HDSI.

Elevation to an HDSI Endowed Chair will be a recognition of faculty excellence (in areas related to data science) that is governed by Senate oversight and existing review processes. Holding such an Endowed Chair will neither require nor imply holding an academic appointment in HDSI.

# Academic Personnel

Q: What will happen to the faculty FTEs if HDSI were to be dissolved?

A: As an academic unit, the HDSI will be subject to the usual policies and procedures governing the disestablishment of existing academic units (Compendium, and Academic Senate Manual Appendix 4). Disestablishment of any academic unit requires extensive review by the Senate and provision for reassignment of FTEs to another unit.

Q: Who will vote on faculty personnel files?

A: The Senate faculty appointed in HDSI who hold appropriate rank relative to the file under consideration will vote on a faculty personnel file.

Q: Will HDSI follow the departmental model of academic personnel reviews? A: Yes.

# **Holistic Institute Reviews**

Q: How will HDSI programs be reviewed?

A: The HDSI undergraduate and graduate programs will undergo periodic review following the standard procedures for such reviews.

# **Teaching and Instructional Mission**

Q: Where will the undergraduate Data Science major reside?

A: In keeping with its educational mission, HDSI will take complete responsibility for the undergraduate Data Science major.

Q: How will faculty appointed in HDSI contribute to the educational mission of the institute? A: Every faculty member appointed in HDSI will have teaching obligations in Data Science.

Q: Will academic units other than HDSI be able to propose degree programs related to data science?

A: Yes, subject to the usual procedures for creating new degree programs.

Q: Will HDSI follow existing academic proposal processes for proposing new undergraduate or graduate programs?

A: Yes.

Q: How will enrollment credits be apportioned for faculty members appointed in HDSI?
A: HDSI will follow existing campus practice.

# **Precedent**

Q: Since HDSI sets a precedent at UC San Diego, what are the implications for future such endeavors?

A: HDSI is one among many models for creating future interdisciplinary endeavors. Any future proposal will be evaluated on its own merits.

## **Location**

Q: Where will HDSI be located?

A: HDSI is currently located in the San Diego Supercomputer Center and the Qualcomm Institute. In addition, a number of academic units have expressed a desire to host HDSI satellite facilities in order to facilitate cross-disciplinary activities.

June 5, 2018

#### REPORT OF THE EDUCATIONAL POLICY COMMITTEE

The Educational Policy Committee (EPC) proposes amendments to **San Diego Senate Regulation 600.** *Campuswide Graduation Requirements* (SD 600), Sections A(3) and C, to replace the current maximum unit limitation policy with a policy based on a quarter limit effective Fall Quarter 2019. The goal of this proposal is help move students towards timely, well-planned degree completion while allowing them to explore their interests and accomplish their goals in a meaningful way. EPC's proposal is based on an initial recommendation from the college provosts and was further developed after receiving input from many different campus sources including administrators, college and departmental advising staff, Institutional Research, Senate Faculty colleagues and students.

The proposal establishes quarter limits of 12 quarters for all undergraduate students entering as freshmen and 6 quarters for students entering as transfer students, *while providing flexible provisions to extend enrollment for students who need additional time*. It should be clearly noted that extensions of enrollment beyond the quarter limit will be granted by the colleges for all students with valid reasons who submit a plan to complete their degree requirements.

EPC views a *policy based on a quarter limit* as a more effective way to harmonize policy with <u>two</u> *primary objectives*:

- 1. Better support students and keep them on track towards timely graduation.
  - A quarter limit policy shifts the outlook for measuring progress from units to time. Time is a simpler and more useful frame of reference that can be uniformly articulated by the campus community and has significant advantages for students.
    - Academic planning and advising resources on campus are already based on quarters. A
      quarter limit policy will align with the four-year plans available for every college and major
      (see <u>plans.ucsd.edu</u>) and facilitate uniform messaging between departments and colleges
      when working with students to develop academic plans.
    - The current maximum unit limits are complex and not meaningful or transparent to students.
    - A four-year plan will help establish a sense of community, (i.e. I am a member of the "class of 2023") which students say is lacking at UCSD.
  - A quarter limit policy would provide a mechanism for advisors to have more productive conversations sooner.
    - Students will receive periodic notifications regarding the quarter limit well in advance to assist students in proactively planning their time at UCSD. The messaging will encourage consultation with a department advisor and college counselor.
    - O Ambitious students who take more than 17 units a quarter will not be penalized for reaching a unit limit they will be allowed to stay a full 4 years (or 2 years for transfer students) and complete an unlimited number of units for academic exploration, double majors, extra minors, etc. without having to petition for an exception. Under current policy, whenever students reach their maximum unit limit, they must submit a petition to continue enrollment.
    - o The maximum unit limits allow students to go for multiple quarters without making forward progress, i.e. they accumulate units that will not help them graduate. The University lacks an

- effective policy mechanism to assist department and college advisors in redirecting students to an academic plan more suited to a student's circumstances and goals.
- Students who need additional time to complete their graduation requirements (double majors, students in majors with limited course offerings or with heavy requirements, for example) will be allowed to enroll beyond the quarter limit.

# 2. <u>Improve student graduation rates</u> to benefit graduating students and the enrollment of new students.

- Remaining at UC San Diego beyond four years (two for transfers) leads to additional expenses and debt.
- Staying longer prevents students from pursuing graduate/professional studies in a timely manner and delays the start of employment to earn income.
- Timely graduation of current students based on their circumstances and goals supports the enrollment of new students to achieve UC's goal of keeping a UC education accessible to Californians.

#### Included with EPC's report are:

- Table 1 providing a side-by-side comparison of the current requirements and proposed changes to SD 600
- Appendix A with additional details about the quarter limit policy
- SD 600 with the revisions marked as track changes

The Committee on Rules and Jurisdiction has reviewed the proposed changes and finds them consonant with the Code of the Academic Senate. Senate Council unanimously endorsed the proposal. EPC recommends that the Representative Assembly approve the proposal.

Stephanie Mel, Chair Educational Policy Committee

Table 1. Side-by-side comparison of current maximum unit requirements and proposed quarter limit policy

#### Current Maximum Unit Policy in SD 600(C)

# Proposed Change to SD 600(C) to establish a Quarter Limit

#### C) Maximum Unit Limitation

- An undergraduate student may register for no more than 200 course units. An exception is permitted for candidates for B.S. degrees in engineering, for whom the limit is 240 units in Revelle and Eleanor Roosevelt Colleges and 230 units in all other colleges. Other exceptions will be granted only for compelling academic reasons and only with the approval of the college provost and the concurrence of the Educational Policy Committee.
- Transfer units applicable toward general education requirements or major requirements are to be included in the maximum unit calculation; all other transfer units are to be excluded. Advanced Placement and International Baccalaureate units are to be excluded.

- C) Quarter Limit and Enrollment Beyond the Quarter Limit
- An undergraduate student who enrolls at UC San Diego as a freshman in Fall 2019 or thereafter will be allowed to enroll for 12 quarters to complete all requirements for a degree; if a student reaches this quarter limit and needs additional time to complete those requirements, they will be required to submit a completion plan and have it approved by their college prior to enrolling for additional quarters to continue work towards the degree.
- 2) An undergraduate student who enrolls at UC San Diego as a transfer student in Fall 2019 or thereafter will be allowed to enroll for six quarters to complete all requirements for a degree; if a student reaches this quarter limit and needs additional time to complete those requirements, they will be required to submit a completion plan and have it approved by their college prior to enrolling for additional quarters to continue work towards the degree.
- Summer sessions as well as quarters during which students are approved for part-time status or have withdrawn from all courses will not count toward the allowable number of quarters.

# Current Language in SD 600(A)(3) about DOUBLE MAJORS

#### A(3) Double Majors

With the approval of both departments or programs and of the college provost, a student in good standing may declare a double major.

- a) A student with a double major must fulfill the separate requirements of each major, and the equivalent of at least ten upper-division courses (40 units) must be unique to each major. Courses taken in fulfillment of lower-division requirements may overlap to any degree.
- The two majors may not be within the School of Engineering, nor, except with the approval of the Undergraduate Council, within a single department.
- A student who has declared a double major is not subject to the maximum-unit limitations of Regulation 600(C) and may accrue up to 240 units.
- A student with a double major may graduate only upon completion of all requirements for both majors. Both majors will be noted on the student's transcript and diploma. If the two majors lead to different degrees (B.A. and B.S.), that fact will be noted on the transcript, and the two degree designations will appear on one diploma.
- A student who has declared a double major may graduate in one major upon completion of all requirements for that major, but may not continue in the University for completion of the second major.

# Proposed Language in SD 600(A)(3) about DOUBLE MAJORS

A(3) Double Majors

With the approval of both departments or programs and of the college provost, a student in good standing may declare a double major.

- A student with a double major must fulfill the separate requirements of each major, and the equivalent of at least ten upper-division courses (40 units) must be unique to each major. Courses taken in fulfillment of lower-division requirements may overlap to any degree.
- The two majors may not be within the School of Engineering, nor, except with the approval of the Undergraduate Council, within a single department.
- A student with a double major may graduate only upon completion of all requirements for both majors. Both majors will be noted on the student's transcript and diploma. If the two majors lead to different degrees (B.A. and B.S.), that fact will be noted on the transcript, and the two degree designations will appear on one diploma.
- d) A student who has declared a double major may graduate in one major upon the completion of all requirements for that major.
- A student with a double major who has reached the quarter limits of paragraph C and needs additional time to complete all requirements for both majors will be required to submit a completion plan and have it approved by their college prior to enrolling for additional quarters to continue work towards the degree.

#### Appendix A. Additional Details about the Proposed Quarter Limit Policy

The Educational Policy Committee (EPC) discussed the proposed amendments to San Diego Senate Regulation 600. *Campuswide Graduation Requirements*, Sections A(3) and C in depth over the last two years. Through its deliberations and consultations, EPC concluded that the current maximum units policy is suboptimal for advising students on degree progress and encouraging timely degree completion.

The Committee on Rules and Jurisdiction (CRJ) is charged with reviewing legislation proposed for adoption by the Division to determine whether the proposal conflicts with the Bylaws and Regulations of the Academic Senate. CRJ found the changes consonant with the code of the Academic Senate and also used their review as an opportunity to express their opinions about the proposal as faculty.

EPC appreciates the valuable feedback that CRJ provided as concerned faculty members, because we suppose that the concerns they expressed are shared by other faculty members. Below, EPC has provided additional information to offer more details about the proposal and to respond directly to the concerns raised by CRJ.

## **Overview**

As stated in EPC's report, EPC supports a policy based on a quarter limit as a more effective way to harmonize policy with two primary objectives:

- 1. Better support students and keep them on track towards timely graduation;
- 2. Improve student graduation rates to benefit graduating students and the enrollment of new students.

Implementation of a quarter limit policy will contribute toward achieving these objectives by establishing a culture at UC San Diego where the expectation is set that students entering as freshmen graduate in four years and students entering as transfer students graduate in two years. This culture does not currently exist at UC San Diego and there is no policy stating that students are expected to graduate in four or two years. Advisors are already guiding students based on time because it is a simpler and more transparent way to monitor progress and define expectations. <sup>1</sup> The current maximum unit policy is not consistent with this messaging. With a quarter limit policy, students' degree audits and academic history could note the expected quarter of graduation to prompt student planning and indicate when students would need to submit a completion plan if they need to extend their enrollment.

EPC recognizes that four-year completion rates are not likely to change dramatically after a quarter limit policy is established. There are many students who will enroll beyond the quarter limits because they need additional time. EPC supports extending time for students who need it to complete their degree. As the culture shifts, however, EPC anticipates that four-year and two-year completion rates will improve because students will start focusing their planning on quarters rather than units.

Establishment of a quarter limit policy is consistent with the mission of the University of California. As noted in the UC 2017 Accountability Report, "The University of California seeks to enable all freshmen and transfer entrants to complete their undergraduate degrees in a timely fashion and to ensure that

<sup>&</sup>lt;sup>1</sup> For examples of advising resources based on time, see <u>plans.ucsd.edu</u>; Division of Biological Sciences' <u>Finish in 4</u>; and Department of Economics' <u>Plan 4 Success</u>

their education prepares them to be the next generation of leaders for California, the nation and the world." The quarter limit policy and the flexible provisions to extend enrollment beyond the quarter limit are consistent with the goal of enabling students to earn their degrees in a timely fashion. Four years for freshmen admits and two years for transfer students is the normative time for completing the degree, but students will not be kicked out or forced to withdraw if they cannot complete their degree within these stated limits.

For those concerned that the colleges would not grant extensions based on the submission of a completion plan, EPC has received repeated and broad reassurances from the college provosts of their willingness to do so. The colleges have a vested interest in supporting students and promoting degree completion, based on each student's circumstances and goals. It would not be in the University's interest to deny students the opportunity to graduate, and failure to support timely completion of the degree would obviously have a negative impact on UC's overall attrition and graduation rates.

#### **EPC Responses to CRJ's Concerns**

#### CRJ Concern 1:

The proposal does not treat students equally. Because summer session and part-time enrollments do not count against the 12-quarter limit, the new policy will not constrain students who can afford to pay extra tuition (by taking reduced loads or enrolling in summer session). Ironically, this might lead to increases in the time to completion for these students. Less privileged students may be forced to withdraw without completing their degree. There is evidence of the possible inequity from a campus website (<a href="http://ir.ucsd.edu/undergrad/stats-data/retention-grad/6-year-rates.html">http://ir.ucsd.edu/undergrad/stats-data/retention-grad/6-year-rates.html</a>). For the 2010 entering class, 35.7% of non-Pell grant recipients take more than 4 years to graduate and 47.3% of Pell-grant recipients more than 4 years. The proposal is likely to reduce graduate rates of the less affluent Pell grant recipients relative to others. Students who must work part-time would also be adversely affected by the proposal.

#### **EPC Response to Concern 1:**

- Summer provides an opportunity for all students to continue to make progress toward
  completing their degree. However, departmental four-year academic plans do not require or
  assume a student will take any summer school courses, or be enrolled as a part-time student.
  Hence, all students, regardless of their economic status, begin college with a plan that is
  designed to keep them on track for completing their degree in four years.
- Many summer school courses are lower-division courses and as such, these courses articulate
  easily from other institutions. Some students may opt to complete summer coursework at UC
  San Diego; alternatively, they can do so at another UC campus, community college, or other
  higher education institution. These alternatives are less expensive options that are already
  pursued by many students. For equity, EPC does not believe that coursework completed at any
  institution during the summer should count towards the quarter limit.
- Part-time status is a special status that requires college approval for students enrolled in 10 units or fewer per quarter due to reasons such as occupation, family responsibilities, or health. Under the current policy, a wealthy student may not pursue part-time status simply because they can afford it. EPC does not support applying quarters in which students are on part-time status to the quarter limit because these students are not required to meet minimum progress requirements.
- There is no evidence that summer/part-time enrollment will force students to withdraw without completing their degree. Under the proposed quarter limit policy, no student will be forced to

- withdraw students will be allowed to extend their enrollment beyond the quarter limit regardless of the number of summer/part-time quarters.
- Completion plans are intended to be personalized based on a student's circumstances. If a student remains a full-time student but could not enroll in the number of units required to graduate in four years due to employment obligations or other personal circumstances, department and college advisors will work with the student to develop a completion plan. The completion plan justifies in a straightforward and beneficial manner the need to enroll beyond four years. Approval of such a plan can occur before the quarter limits are reached so the student has reassurance that they will not be forced to withdraw.

#### **CRJ Concern 2:**

Many students will petition for exceptions to the rules. There is no evidence that EPC, colleges, and departments have estimated the resources needed to handle these petitions. Implementing the proposed change requires a substantial investment in academic advisors and structured input from departments.

#### **EPC Response to Concern 2:**

- Students are not required to petition for exceptions to the rules. The proposed Regulation language establishes a pathway to enroll beyond the quarter limit by submitting a completion plan and having it approved by their college.
- Students will be required to submit completion plans to extend enrollment beyond the quarter limit. EPC views the completion plans as an advantage to assist students in defining a clear path towards graduation. Colleges and departments have already implemented voluntary four-year plans and this would be an extension of a review process already in place. Additionally, EPC believes that under the new quarter limit policy, advising will become *easier* for departments given that all academic plans are based on the assumption of a four-year graduation rate.
- The Colleges are already engaged in high-volume advising with students and have demonstrated that they have the staff infrastructure in place to support the review of the completion plans. For example, currently, over the course of a couple of weeks, they work with all incoming first-year students to develop a course plan for the first quarter prior to enrollment. The College advisors, in part because of their extensive experience with advising and strong support of the proposed quarter limit structure, have expressed uniform and unwavering reassurance that they already have the resources to handle completion plans for students needing to exceed 12 quarters.
- The proposed quarter limit policy is not a significant deviation from the current structure of maximum units in terms of exceptions; college advisors already handle many "Maximum unit limitation appeals" that must be approved by the major department and College. The Colleges currently monitor the progress of over 3,500 students close to reaching the maximum unit limit, notifying these students of the policy requirements and reviewing approximately 400 appeals annually. While it is anticipated that the number of completion plans required will be higher, the quarter limit policy would substitute these petitions with more straightforward and beneficial completion plans.
- Currently, college advisors spend a significant amount of time verifying complex unit
  calculations for students and responding to student questions about the maximum units policy
  because it is not straightforward or transparent. Under the quarter limit policy, the time spent
  on tracking and enforcement of maximum units would be redirected to monitoring student
  progress based on quarters and working with students on completion plans.

#### **CRJ Concern 3:**

The proposed change does not describe the process that students must follow to request exceptions. It does not indicate the criteria the campus will use to evaluate the petitions. We anticipate a great deal of unfairness in administration.

#### **EPC Response to Concern 3:**

- In general, Senate Regulations define degree and scholarship requirements, but they do not provide details about the process for requesting exceptions (or in this case, approving completion plans so students may enroll beyond the quarter limit). Details about implementation are managed by the agency designated to grant the exception. The colleges will be responsible for tracking student progress and defining the process for extending enrollment under the proposed quarter limits policy, just as the colleges are currently responsible for administering the maximum units limitation policy. EPC notes that the current language in SD 600(C) on maximum units already does not define the process for requesting exceptions.
- EPC has had extensive discussions with the undergraduate colleges about the administration of the proposed quarter limit policy.
  - The colleges already have an infrastructure in place to communicate with students about degree requirements that will be used to communicate with students about the quarter limits policy.
  - A schedule is already prepared to notify students about the quarter limit policy and to monitor progress. The schedule includes quarters that students will receive messaging about the quarter limit policy and the deadlines for requesting extensions are timed appropriately to ensure that the review of completion plans does not delay student registration.
  - The colleges have developed a list of common reasons (see below) that students might need to enroll for additional quarters beyond the quarter limit. This list is not exhaustive because the colleges are prepared to grant extensions when additional time is needed based on a student's circumstances and goals.
    - 1. A student withdrew from all classes or was officially approved for part-time status (these courses would not be included in their allowable quarters);
    - 2. Courses required for a student's major are not offered within the time frame needed for the student to graduate;
    - 3. Students are required to take courses that run in sequence, and for reasons largely out of their control, they are no longer on-sequence. These students may be in the unfortunate situation of having to wait until the following year to complete the sequence. Reasons for this delay might include:
      - a. Scheduling conflicts (student cannot take 1 quarter of a 3-quarter sequence as planned, so they must wait a year to complete the rest of the sequence)
      - b. Illness, etc. limits the number of courses students can take, so they get off sequence.
      - c. Students do not pass the first course in a sequence, and must wait a year to retake the course and finish the rest of the courses in the sequence.
      - d. Proven difficulty with course availability (and the subsequent problem of being out of sequence).
    - 4. Documented illness or other emergency issue;

- 5. Change of major within a reasonable time-period and particularly when precipitated by not meeting major requirements;
- 6. Delayed academic progress because of Basic Writing or Analytical Writing requirements.
- Current practice is that the College Provosts do not disqualify students based on exceeding the
  current maximum units policy—instead, granting an exception to the maximum unit limits is
  used as an opportunity to require students to present a plan for completion of their
  requirements. Similarly, the Provosts will approve extensions under the proposed quarter limits
  policy and as written into the policy, students will need to demonstrate how they plan to
  complete their degree.

#### **CRJ Concern 4:**

We do not understand how this process guarantees the right of departments and programs to determine requirements for majors. We also suspect there will be a need for additional resources to ensure that sufficient classes are available to ensure a timely graduation for the majority of students.

#### **EPC Response to Concern 4:**

- EPC does not view this proposal as impacting the right of departments and programs to
  determine requirements for majors. Senate Regulations regarding the minimum number of units
  required for an undergraduate degree, a major, and a minor are not impacted by this proposal.
  All of these minimum unit requirements are in place based on the premise that the
  undergraduate degree should be completed in four years.
- In addition, all major requirements are subject to approval by the Senate's Undergraduate
  Council (UGC). UGC is responsible for monitoring whether major requirements are consistent
  with Senate requirements. In recent years, the colleges and many departments have reduced
  the unit requirements for general education and major requirements to make graduation in four
  years more achievable.
- As noted above, if a student gets off-track because they were unable to complete a necessary course "on-schedule", that is anticipated to be a common reason that a student would need to enroll beyond the quarter limit.

#### **CRJ Concern 5:**

The proposal discriminates against students wishing to complete double majors or majors in programs that have demanding requirements or limited course offerings. A student wishing to complete an engineering major in twelve quarters would have little room for error or flexibility in choice and timing of classes.

# **EPC Response to Concern 5:**

- The quarter limit policy was discussed by an EPC member at a meeting of the Jacobs School of Engineering's (JSOE) Committee of Chairs where the dean was present. The EPC member reported that there was support among the chairs and dean for a policy aimed at promoting graduation in four and two years. It was acknowledged that Engineering would need flexibility to improve time to degree for engineering majors and EPC supports giving JSOE such flexibility.
- Double majors will continue to follow the current requirements for declaring a double major, which includes having a student submit a quarter-by-quarter plan for graduation for department

and college review. In the event that a student gets off-track from their plan, departments and colleges will work with the student to update the plan and if needed, a completion plan will allow the student for extended enrollment beyond the quarter limits.

#### CRJ Concern 6:

Although the UC campuses emphasize the desirability of completing a degree in four years, the proposed policy would be the most restrictive policy in the UC system. No other campus restricts undergraduates to 12 quarters (for freshman admits) or six quarters (for transfer admits).

## **EPC Response to Concern 6:**

- EPC finds that the proposed policy provides more flexibility than other time-to-degree policies in the UC system. The stated quarter limits in the proposed policy are consistent with the normative time limits articulated by the University of California 12 quarters for freshmen and 6 quarters for transfer admits. However, the policy includes a flexible provision to grant additional time if a student needs it to complete their requirements. The number of quarters that students may take beyond the quarter limit is intentionally unspecified in the Regulation because it should be determined based on the individualized completion plans submitted by the students rather than an arbitrary unit or quarter cap.
- Many of the UC campuses (Berkeley, Davis, Irvine, Los Angeles, Santa Barbara, and Santa Cruz) already utilize a system that assumes a four-year degree period during which students may accrue an unlimited number of units. If the time for graduation exceeds four years, students must conform to a unit limit; if this unit limit is reached, the student may only enroll under limited circumstances by exception with approval from a designated administrator. EPC discussed this possibility of incorporating a unit limit after the 12-quarter limit is reached but did not support establishing a similar model for the following reasons:
  - Any policy that includes a rigid restriction of number of units will be detrimental because of the inherent lack of flexibility; we believe such a strict consequence will negatively impact our students.
  - o A policy combining quarters and units will be more complicated and confusing for students.
  - o It undermines the goal of bringing students into advising earlier because students may opt to plan in terms of a longer unit goal rather than based on a four-year plan.
  - There is no guarantee that students who exceed four years will complete their degree requirements within the unit limits; alternatively, a student who exceeds four years may have already reached the unit limits. In either case, an exception would be required.
  - O Advisors will be required to track students based on time and units, which would complicate the advising process, rather than focus advising time on student progress and goals.

#### **CRJ Concern 7:**

Many transfer students have unfulfilled lower division requirements, which make it impossible for them to graduate within 2 years after transferring to UCSD.

#### **EPC Response to Concern 7:**

Transfer Major Preparation, which was approved in 2015 and took effect in 2017, requires
transfer students to complete 4-12 designated lower-division major preparation courses to be
considered for admission into certain majors, including our largest majors such as Biology,
Engineering, and Economics. We do not yet have statistics on the success of this program, but

- expect that a large fraction of transfer students will be better prepared for the major, and can make progress at a faster rate than previous cohorts.
- EPC notes that the current two-year graduation rate for transfer students is 40.5% (8<sup>th</sup> out of 9 UC undergraduate campuses). The proposed policy will help transfer students connect to advising resources in the departments and colleges earlier with the goal of developing an achievable plan for graduation.
- Students who cannot graduate in two years based on the coursework completed prior to enrollment at UC San Diego will be allowed to extend their enrollment beyond the quarter limit.

#### **CRJ Concern 8:**

It seems inconsistent to allow students to not declare a major until completion of 90 units (600.A.4) while imposing these strict time limits on graduation. For many majors it is almost impossible to complete graduation requirements in 4 years unless the student has decided on this major long before he/she has completed 90 units.

# **EPC Response to Concern 8:**

- The four-year plans available at <u>plans.ucsd.edu</u> are developed for each college and major and are based on the assumption that the student has 0 units to start (i.e. no transfer, AP or IB credit). These plans demonstrate that completion of the degree in four years is achievable, even if a student does not declare until 90 units.
  - Typically, the first two years at UC San Diego are spent completing lower-division coursework and general education (GE) requirements. The purpose of the GE requirements is to expose students to many disciplines so that they can choose a major in which they will be successful if they have not already declared a major when they enter the University.
  - The four-year plans indicate where there is overlap between major and GE requirements. In these cases, a student is not likely to start from scratch if they change their major.
- The minimum number of upper-division units required for a major is 48 units. Most majors that require substantially more than 48 units are designated as capped (a major that limits enrollment). Capped status requires that students complete the lower division requirements before entering the major, which they must do by the end of their second year. As a result, these students are likely to be on track to complete their upper division requirements starting in their third year.

# MANUAL OF THE SAN DIEGO DIVISION OF THE ACADEMIC SENATE

#### REGULATION

- 600. Campuswide Graduation Requirements [En 6/13/78; Am 5/26/15; Am 4/12/16]
  - (A) Every candidate for a Bachelor's degree must have completed a major. [En 11/27/90]
    - (1) A major shall require the equivalent of 12 or more upper division courses (48 or more units).
    - (2) Requirements for majors shall be determined by departments and programs, subject to the approval of the Undergraduate Council. [Am 3/1/11]
    - (3) Double Majors
      - With the approval of both departments or programs and of the college provost, a student in good standing may declare a double major. [Am 2/27/96]
      - (a) A student with a double major must fulfill the separate requirements of each major, and the equivalent of at least ten upper-division courses (40 units) must be unique to each major. Courses taken in fulfillment of lower-division requirements may overlap to any degree. [Am 2/27/96]
      - (b) The two majors may not be within the School of Engineering, nor, except with the approval of the Undergraduate Council, within a single department. [En 2/27/96; Am 3/1/11, Am 5/24/05, En 10/1/17]
      - (c) A student who has declared a double major is not subject to the maximum unit limitations of Regulation 600(C) and may accrue up to 240 units. [En 2/27/96]
      - A student with a double major may graduate only upon completion of all requirements for both majors. Both majors will be noted on the student's transcript and diploma. If the two majors lead to different degrees (B.A. and B.S.), that fact will be noted on the transcript, and the two degree designations will appear on one diploma. [Am 2/26/91; Am 2/27/96]
      - A student who has declared a double major may graduate in one major upon the completion of all requirements for that major, but may not continue in the University for completion of the second major. [Am 4/25/95; Am 2/27/96]
      - (e) A student with a double major who has reached the quarter limits of paragraph C and needs additional time to complete all requirements for both majors will be required to submit a completion plan and have it approved by their college prior to enrolling for additional quarters to continue works towards the degree.
    - (4) An undergraduate student must have declared a major or pre-major upon completion of 90 units.
  - (B) Other requirements for graduation shall be determined by the colleges in conformity with Universitywide regulations and subject to approval by the San Diego Division of the Academic Senate.
    - (2) Each college must set a minimum requirement for a bachelor's degree equivalent to at least 180 units, including not less than 60 at the upper division level. The minimum number of units required by a college must be the same for the degrees of Bachelor of Arts and Bachelor of Science. Except as may be otherwise provided in the Regulations of the Academic Senate or of the San Diego Division, no college may set a standard higher than passing for the satisfaction of any requirement for graduation. [Am 5/23/95]
    - (3) The value of a course in units ("quarter units" or "quarter credits") shall be reckoned at the rate of one unit for three hours' work per week per quarter on the part of the student, or the equivalent [SR 760]. [Am 5/22/90; Am 11/27/90]
  - (C) Maximum Unit Limitation Quarter Limit and Enrollment Beyond the Quarter Limit [En 11/27/90]
    - (1) An undergraduate student who enrolls at UC San Diego as a freshman in Fall 2019 or thereafter will be allowed to enroll for 12 quarters to complete all requirements for a degree; if a student reaches this quarter limit and needs additional time to complete those requirements, they will be required to submit a completion plan and have it approved by their college prior to enrolling for additional quarters to continue work towards the degree. may register for no more than 200 course units. An exception is permitted for candidates for B.S. degrees in engineering, for whom the limit is 240

- units in Revelle and Eleanor Roosevelt Colleges and 230 units in all other colleges. Other exceptions will be granted only for compelling academic reasons and only with the approval of the college provost and the concurrence of the Educational Policy Committee.
- (2) An undergraduate student who enrolls at UC San Diego as a transfer student in Fall 2019 or thereafter will be allowed to enroll for six quarters to complete all requirements for a degree; if a student reaches this quarter limit and needs additional time to complete those requirements, they will be required to submit a completion plan and have it approved by their college prior to enrolling for additional quarters to continue work towards the degree.
- (2) Transfer units applicable toward general education requirements or major requirements are to be included in the maximum unit calculation; all other transfer units are to be excluded. Advanced Placement and International Baccalaureate units are to be excluded.
- (3) <u>Summer sessions as well as quarters during which students are approved for part-time status or have withdrawn from all courses will not count toward the allowable number of quarters.</u>
- (D) Special kinds of study -- e.g., laboratories, reading programs, studio work -- may be required in addition to the basic course work in given curricula.
- (E) Minors [En 5/28/91; Am 5/28/96 (changes effective for students entering after January 1, 1998); Am 4/12/16]

A minor is not required for graduation. A student in good standing may declare an optional minor. [Am 5/28/96]

- (1) A minor shall consist of at least 28 units, of which at least 20 units must be upper division. For sound academic reasons and with the approval of the Undergraduate Council a minor may be established with fewer than 20 upper-division units. [Am 5/28/96; Am 3/1/11]
- (2) Requirements for minors shall be determined by departments and programs, subject to the approval of the Undergraduate Council. [Am 3/1/11]
- (3) A student may apply the equivalent of two upper-division courses (a maximum of eight units) to fulfill the requirements for a minor that have also been used to satisfy the requirements of a major. [Am 5/26/92; Am 4/12/16]
- (4) Double Minors
  - (a) With the approval of both departments or programs and of the college provost, a student in good standing may declare a double minor.
  - (b) A student with a double minor must fulfill the separate requirements of each minor, with no overlap of upper-division courses. Courses taken in fulfillment of lower-division requirements may overlap to any degree.
- (F) [SR 638] American History & Institutions Requirement [Am 1/26/71; Am 1/21/86, Rt by Assembly 5/6/86] Knowledge of American history and of the principles of American institutions under the federal and state constitutions is required of all candidates for the degree of A.B., B.Arch., or B.S. This requirement may be met in any one of the following ways:
  - (1) One high school unit in American history, or one-half high school unit in American history and one-half high school unit in civics or American government, with a grade of C or better. [Am 10/23/90]
  - (2) By completing, with a grade of C- or better or a grade of P, any one-quarter UCSD course of instruction accepted as satisfactory by the Undergraduate Council. Courses suitable for fulfilling the requirement will be designated by the Undergraduate Council. The list of suitable courses will be indicated in the UCSD Catalog, or other official academic publications of the colleges. [EC 5/29/73; Am 10/23/90; Am 3/1/11]
  - (3) By presenting proof of having received a grade of 3 or higher on the Advanced Placement Test in American History administered by the Educational Testing Service of Princeton, New Jersey.
  - (4) By presenting proof of having satisfied the present requirement as administered at another collegiate institution within the state.
  - (5) By presenting proof of successful completion of a one-quarter or one-semester course, with a grade of C or better, in either American history or American government at a junior college within the state.
  - (6) By presenting proof of successful completion of a one-quarter or one-semester course, with a grade of C or better, in either American history or American government at a recognized institution of higher education, junior college included, in another state. [Am 2/25/69]

- (7) An alien attending the University on an F-1 or J-1 student visa may, by showing proof of his or her temporary residence in the United States, petition for exemption from this requirement through the office of the student's college provost.
- (G) Requirement in Diversity, Equity, and Inclusion [En 3/1/11; Am 4/12/16]

A knowledge of diversity, equity, and inclusion is required of all candidates for a Bachelor's degree who begin their studies at UC San Diego in lower-division standing in Fall 2011 or thereafter, or in upper-division standing in Fall 2013 or thereafter.

- (1) This requirement shall be satisfied by passing, with a grade not lower than C- or P, a one-quarter, four-unit course expressly approved by the Undergraduate Council for that purpose. A list of approved courses will be provided in the UC San Diego General Catalog. [Am 4/12/16]
- (2) This requirement may be satisfied by presenting proof of having passed a one-quarter, four-unit transfer course, or its equivalent, at a recognized institution of higher education, community colleges included, that has been articulated to one of the courses approved by the Undergraduate Council for the purpose of meeting the Diversity, Equity, and Inclusion requirement. [Am 4/12/16]

#### (H) Residence

Except as provided in SR 614, the minimum residence at the University of California required for a degree is three terms. Each summer session in which a student completes a course of at least two units may be used in satisfaction of half a term's residence. [Am 12/2/08]

Except as otherwise provided in this section and SR 614, 35 of the final 45 units completed by each candidate for the Bachelor's degree must be earned in residence in the college or school of the University of California in which the degree is to be taken. A student who completes the graduation requirements while in the Education Abroad Program, the UC Washington, D.C. program, the UC Center in Sacramento Program, or the UC Natural Reserve System (NRS) California Ecology and Conservation Course may satisfy the requirement with the final 45 units preceding the student's entrance into any of these programs. [Am 5/23/01; Am 12/12/17]

Faculties may permit a student who is enrolled in the Education Abroad Program, the UC Washington, D.C. program, the UC Center in Sacramento Program, or the UC NRS California Ecology and Conservation Course to satisfy the residence requirement by earning at least 35 of the final 90 units, including the final 12 units, in residence in the college or school of the University in which the degree is to be taken. [En 4/1/75; Am 12/2/08; 12/12/17]

- (I) Part-Time Study [En 11/24/92]
  - (1) Degree programs in the University may be open to part-time students whenever there are good educational reasons for so doing. No majors or other degree programs will be offered only for part-time students, except as specifically authorized by the Academic Senate.
  - (2) A part-time undergraduate student is one who is approved to enroll for ten units or fewer, or an equivalent number of courses per quarter.
  - (3) The same admissions standards that apply to full-time students will apply to part-time students. Approval for individual students to enroll on a part-time basis will be given for reasons of occupation, family responsibilities, health, or *for one quarter only* graduating senior status. Approval to enroll as a part-time undergraduate student shall be given by the appropriate provost.
  - (4) Residence in any regular term is validated for a part-time student on the San Diego campus by a program of one or more courses. Part-time undergraduate students shall not be required to meet minimum progress requirements.
- {(I) Subject A Requirement [Variance En 5/27/75, Rt by Academic Council 7/14/76; Rp 11/27/84 because variance rescinded by amendment of SR 636] [See SR 636]}
- (J) Standards for Award of Honors at Graduation [En 5/23/78, Rt by Assembly 3/28/79]
  - (1) There shall be a campuswide requirement for the award of college honors at graduation. No more than fourteen percent of the graduating seniors on campus shall be eligible for college honors. Normally, no more than the top two percent shall be eligible for *summa cum laude* and no more than the next four percent for *magna cum laude*, although minor variations from year to year shall be permitted. The remaining eight percent are eligible for *cum laude*. The ranking of students for eligibility for college honors shall be based upon the grade point average. In addition, to be eligible

for honors, a student must receive letter grades for at least 80 quarter units of course work at the University of California. Each college may award honors at graduation only to those who are eligible to receive college honors.

- (2) Each department or program may award honors to a student at graduation in accordance with the following criteria:
  - (a) The student must have completed a *special* course of study within the department or program. The requirements for this *special* course of study shall be approved by the divisional Undergraduate Council and published in the Catalog. The requirements must include 8-12 units of supervised research or other creative activity leading to the preparation of a paper or other appropriate project. Public presentation of the project, through performance, participation in the undergraduate research conference, or other appropriate means, shall explicitly be encouraged. [Am 4/23/96; Am 3/1/11]
  - (b) The department or program shall establish formal procedures and criteria for application and admission to the program, which shall normally include a GPA of 3.5 in the major as a prerequisite. Students with a GPA lower than 3.5 may be admitted by exception if they show promise of success in research or creative activity. [En 4/23/96]
  - (c) Each student whose project earns the equivalent of a grade of B or better and who has maintained a GPA of at least 3.25 in the major shall be entitled to the designation "with distinction" on the diploma after the departmental or program name. Subject to the approval of the Undergraduate Council, each department or program shall establish criteria for the award of the designations "with high distinction" and "with highest distinction". [Am 4/23/96; Am 3/1/11]
- (K) University of California Entry Level Writing Requirement (formerly called the Subject A Requirement) [Variance En 5/27/75; Rp 11/27/84; SR 636 governed campus practice from 1984 to 1996; En 6/10/97 (also see 600H above); Am 5/26/15]
  - (1) University of California Entry Level Writing Requirement is a reading and writing proficiency requirement. Each student must be able to understand and to respond adequately to written material typical of reading assignments in freshman courses. This ability must be demonstrated in student writing that communicates effectively to University faculty. [SR 636(A) Am 5/23/96; [Am 5/26/15]]
  - (2) Satisfaction of the University of California Entry Level Writing Requirement is a prerequisite for every university level undergraduate course in English composition, including all courses approved as meeting the writing requirements of the undergraduate colleges at UCSD. [Am 5/26/15]
  - (3) Prior to his or her first quarter of study at UCSD, each student may satisfy the University of California Entry Level Writing Requirement by any of the means approved by the Universitywide Committee on Preparatory Education and authorized under Universitywide Senate Regulation 636. [Am 5/26/15]
  - (4) A student who has not satisfied the University of California Entry Level Writing Requirement prior to his or her first quarter of study at UCSD must satisfy the requirement by completing with a grade of "C" or better a course approved for this purpose by the divisional Committee on Preparatory Education. No baccalaureate credit will be awarded for completion of the course specified in this paragraph. Workload credit towards satisfaction of the Minimum Progress Requirement (SDR 516) will, however, be awarded. [Am 5/26/15]
  - (5) A student who has not satisfied the University of California Entry Level Writing Requirement must register for the course in Paragraph 4 during each quarter of residence at UCSD until the University of California Entry Level Writing Requirement is satisfied. [Am 5/26/15]
  - In accordance with Universitywide Senate Regulation 636, a student who has not satisfied the University of California Entry Level Writing Requirement after three quarters of enrollment at any campus of the University of California will not be eligible to enroll for a fourth quarter. Exceptions to this regulation may be considered in accordance with Divisional Bylaw 200, but only within policies established by the Divisional Educational Policy Committee and the Divisional Committee on Preparatory Education. [Am 3/1/11, Am 5/26/15]

May 8, 2018

# FARRELL ACKERMAN, Chair Academic Senate, San Diego Division

SUBJECT: Review of the Proposed Amendments to San Diego Divisional Senate Regulation 600.

Campuswide Graduation Requirements, Sections (A)(3) and (C)

Dear Chair Ackerman:

The Committee on Rules and Jurisdiction (CRJ) reviewed the newly revised proposed amendments to San Diego Divisional Senate Regulation (SDSR) 600. Campuswide Graduation Requirements, Section (A)(3). Double Majors and Section 600(C) Maximum Unit Limitation, and found the proposed amendments consonant with the code of the Academic Senate.

Please note, consistent with our response to the proposal submitted in March 2018, one member of the committee dissented from the finding, and maintains the position that the proposal is not consonant with the code of the Academic Senate. The member points out SDSR 600(A) as justification for his dissent. It reads "Every candidate for a Bachelor's degree must have completed a major", and SDSR 600(A)(2) reads "Requirements for majors shall be determined by departments and programs, subject to the approval of the Undergraduate Council." Under current regulations and practice: (i) departments and programs set major requirements; (ii) departments and programs do not offer upper division courses required for majors every quarter; and (iii) departments can, and routinely do, set enrollment limits that deny some students the possibility to enroll in a given required course in a given quarter. The revised policy would create a situation in which students would be prevented from meeting the time limits for graduation because they could not take required courses when they needed to take them for either reason (ii) or (iii) given above, through no fault of the student. The dissenting member maintains his previous conclusion that the code of the Academic Senate cannot put these quarter limits in place and place the authority to enforce or waive these limits in the hands of the colleges, and at the same time preserve the authority it gives to departments and programs to (i) set major requirements; (ii) decide on their course offerings, and in particular not offer every required course every quarter; and (iii) set enrollment limits on some required courses, because these authorities of departments and programs will, in practice, create a conflict with the proposed time limits.

The committee appreciated the opportunity to meet with the EPC Chair, and is happy that Chair Mel and EPC broadened their consultation after our meeting, but our conclusion has not changed. Although the committee ultimately found the proposed amendments consonant with the code of the Academic Senate, the members still have significant concerns with the proposal. The statement summarizing our concerns as faculty is enclosed with this response.

Sincerely,

Professor Joel Sobel, Chair Committee on Rules and Jurisdiction

#### Enclosure A

cc: R. Horwitz – Vice Chair, San Diego Divisional Academic Senate

L. Hullings – Analyst, Educational Policy Committee

S. Mel – Chair, Educational Policy Committee

R. Rodriguez - Director, Academic Senate Office

T. Mallis – Analyst, Committee on Rules and Jurisdiction

# ADDITIONAL COMMENTS ON THE PROPOSED AMENDMENTS TO SAN DIEGO SENATE REGULATION 600

We are the members of the Committee on Rules and Jurisdiction (CRJ). We recently reviewed the Educational Policy Committee's (EPC) proposal to revise San Diego Senate Regulation 600. Campuswide Graduation Requirements, Section 600(A)(3) Double Majors and Section 600(C) Maximum Unit Limitation. As members of CRJ, we voted (by a two to one margin) that the proposal was consistent with the code of the Academic Senate, narrowly construed.

We write now as members of the Academic Senate. In this capacity, we view the proposal as ill conceived, incompletely thought-out, and likely to have serious negative consequences. We request that the Senate Council and the Representative Assembly review the proposal critically. We believe that it is premature for the Senate Council to ask the Representative Assembly to vote on the proposal and, if asked, the Representative Assembly should vote against it.

A large fraction of students who enter as freshman take more than 12 quarters to graduate. EPC's implicit position is that the new rules will lead to dramatic changes in behavior. Students will make adjustments and graduate in four years. Achieving this goal is extremely unlikely and the change will lead to negative consequences that will be costly to students, EPC, colleges, and departments. The proposal is inconsistent with the mission of the institution.

## Here are some particular concerns:

- 1. The proposal does not treat students equally. Because summer session and part-time enrollments do not count against the 12-quarter limit, the new policy will not constrain students who can afford to pay extra tuition (by taking reduced loads or enrolling in summer session). Ironically, this might lead to increases in the time to completion for these students. Less privileged students may be forced to withdraw without completing their degree. There is evidence for the possible inequity from a campus website (<a href="http://ir.ucsd.edu/undergrad/stats-data/retention-grad/6-year-rates.html">http://ir.ucsd.edu/undergrad/stats-data/retention-grad/6-year-rates.html</a>). For the 2010 entering class, 35.7% of non-Pell grant recipients take more than 4 years to graduate and 47.3% of Pell-grant recipients take more than 4 years. The proposal is likely to reduce graduate rates of the less affluent Pell grant recipients relative to others. Students who must work part time would also be adversely affected by the proposal.
- 2. Many students will petition for exceptions to the rules. There is no evidence that EPC, colleges, and departments have estimated the resources needed to handle these petitions. Implementing the proposed change requires a substantial investment in academic advisors and structured input from departments.
- 3. The proposed change does not describe the process that students must follow to request exceptions. It does not indicate the criteria the campus will use to evaluate the petitions. We anticipate a great deal of unfairness in administration.
- 4. We do not understand how this process guarantees the right of departments and programs to determine requirements for majors. We also suspect there will be a need for additional resources to ensure that sufficient classes are available to ensure a timely graduation for the majority of students.
- 5. The proposal discriminates against students wishing to complete double majors or majors in programs that have demanding requirements or limited course offerings. A student wishing to complete an engineering major in twelve quarters would have little room for error or flexibility in choice and timing of classes.

- 6. Although the UC campuses emphasize the desirability of completing a degree in four years, the proposed policy would be the most restrictive policy in the UC system. No other campus restricts undergraduates to 12 quarters (for freshman admits) or six quarters (for transfer admits).
- 7. Many transfer students have unfulfilled lower division requirements, which make it impossible for them to graduate within 2 years after transferring to UCSD.
- 8. It seems inconsistent to allow students to not declare a major until completion of 90 units (600.A.4) while imposing these strict time limits on graduation. For many majors it is almost impossible to complete graduation requirements in 4 years unless the student has decided on this major long before he/she has completed 90 units.

We support EPC's stated desire to "better support students and improve four-year completion rates." The committee's proposal, however, institutes a punitive rule with no evidence of any attention paid to student support. Before approving EPC's rule change, the Academic Senate should demand that EPC describe, in detail, procedures for handling the inevitable consequences of changing graduation requirements.

Sincerely,

Professor Joel Sobel Chair, Committee on Rules and Jurisdiction

Professor Andrew Dickson Member, Committee on Rules and Jurisdiction

Professor Jorge Hirsch Member, Committee on Rules and Jurisdiction May 24, 2018

# STEPHANIE MEL CHAIR – EDUCATIONAL POLICY COMMITTEE

**SUBJECT:** Revised Proposal to Amend San Diego Divisional Senate Regulation 600,

Campuswide Graduation Requirements - (A)(3) Double Majors & 600(C)

Maximum Limitation

# Dear Stephanie:

The materials for the revised proposal to amend the San Diego Divisional Senate 600, Campuswide Graduation Requirements - (A)(3) Double Majors & 600(C) Maximum Limitation were shared with Senate Council members for review. Senate Council discussed and voted on the proposal at our meeting on May 21, 2018. The proposal was endorsed unanimously. The next step in this process is to present the proposal to the Representative Assembly at the meeting on June 5, 2018.

Sincerely,

Farrell Ackerman, Chair

fam A

Academic Senate, San Diego Division

cc: R. Horwitz

L. Hullings

June 5, 2018

#### REPORT OF THE GRADUATE COUNCIL

At its April 9, 2018 meeting, the Graduate Council approved a proposal from the Department of Electrical and Computer Engineering for the establishment of a new major field of study leading to a M.S. or Ph.D. degree in Electrical Engineering (Machine Learning and Data Science). Students pursuing the Machine Learning and Data Science major field must satisfy all degree requirements for an M.S. or Ph.D. in Electrical Engineering and complete required coursework in machine learning and data science.

The Council is supportive of this academic endeavor and recommends that the Representative Assembly approve the proposal.

Sorin Lerner, Chair Graduate Council

The complete proposal is available for review: <a href="http://senate.ucsd.edu/media/312445/proposal-ece-ms-and-phd-program-area-in-machine-learning-and-data-science.pdf">http://senate.ucsd.edu/media/312445/proposal-ece-ms-and-phd-program-area-in-machine-learning-and-data-science.pdf</a>

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#### **Executive Summary**

The Department of Electrical and Computer Engineering in the Jacobs School of Engineering proposes to establish a graduate program of study in Machine Learning and Data Science within the M.S. and Ph.D. degree offerings, with an effective date of Fall 2018. Students who complete the program will receive the M.S. or Ph.D. degree in Electrical and Computer Engineering (Machine Learning and Data Science).

Designed for graduate students with diverse undergraduate degrees, the program will span the spectrum from fundamental theory to practical applications. It will quickly bring students up to speed with the field's mathematical and computational foundations, continue with state of the art machine-learning and algorithmic tools that undergird today's big-data analytics, and offer specialized courses that bridge the field with important branches of science and engineering.

Several courses in the proposed program are already being taught in the department. A number of new courses have been proposed and are currently in the eCourse review process, while others are currently being offered as one-time special topic courses that will be proposed as new courses in the near future.

The proposed program will increase the strength and visibility of our department's existing efforts in data analytics and computation. It will attract new students interested in the rapidly growing datascience field, and will add to our research and fund raising capabilities in this important field.