ORDER OF BUSINESS

1. Roll Call

2. Announcements by the Chancellor

3. Announcements by the Chair and Others

4. Special Orders –
   Consent Calendar
   Minutes of the April 19, 2018 meeting (Attachment 1)

5. Reports of Special Committees

6. Reports of Standing Committees
   Action Item: Committee on Rules, Jurisdiction, & Election: Proposed modification to Divisional Regulations 300-B-1, 305-C, and 305-C-2-ii – Project Committee (Attachment 2)

   Action Item: Committee on Rules, Jurisdiction, & Elections: Proposed enactment of Bylaw 35.K on Conflict of Interest (Attachment 3)

   Action Item: Committee on Rules, Jurisdiction, & Elections: Proposed modification of Divisional Senate Regulation 205. General Education Requirements for the Degree of Bachelor of Science (Engineering) (Attachment 4)

   Action Item: Undergraduate Council: Proposal to establish a B.A. in Marine Science in the College of Creative Studies (Attachment 5)

7. Petitions of Students None

8. Unfinished Business

9. University and Faculty Welfare

10. New Business
    Information Item: Kristin Antelman, University Librarian: Introduction to Open Access 2020 (Attachment 6)
FACULTY LEGISLATURE MINUTES
April 19, 2018

The Faculty Legislature of the Santa Barbara Division met in Library Conference Room 1575 at 3:30 p.m. on Thursday, April 19, 2018, with Chair Henning Bohn presiding. The meeting was attended by 22 voting members, 3 ex officio members, and other interested parties.

2017-18 Awards Announcements

Faculty Research Lecturer, Presented by Charles Samuel, Committee on Faculty Research Lecturer Chair

Umesh Mishra

On behalf of the Faculty Research Lecturer Committee of the Academic Senate, I am pleased to announce the selection of Professor Umesh Mishra, a Distinguished Professor in the Department of Electrical and Computer Engineering, as this year’s Faculty Research Lecturer. This is the highest honor that the UCSB faculty can bestow on one of its members. Professor Mishra has been selected in recognition of his extraordinary achievements in research and scholarly work, in the area of semiconductor devices. His research has had an international impact in his field in ways that have greatly benefited society, for example through energy efficient communication and energy conversion technologies.

Professor Mishra received his Ph.D. from Cornell and then worked in the private sector, with GE where he worked on the perfection of transistors and the technology necessary for transmission of weak signals over large distances. He then continued his transistor research at Hughes Research Labs, making discoveries key for satellite applications including TV broadcasting and military radars.

Professor Mishra held academic positions at NC State and University of Michigan before joining UCSB about 25 year ago where he became globally recognized for his work on high performance electronic devices with novel materials, notably Gallium Nitride electronics. As noted by his nominator, this includes GaN transistors declared by the IEEE publication Spectrum as “the toughest transistors yet”, touted for “high power and high frequencies on GaN (gallium nitride) can deliver.

The practical applications of Professor Mishra’s discoveries—he is an inventor with >100 patents—led to the founding of 2 companies in Goleta to bring research achievements to practice. The significance of his research also was noted in 2012 by the Assistant Secretary of Defense before the U.S. House of Representatives Committee on Armed Services.
Professor Mishra has more than 800 scholarly publications and an H index >100. Professor Mishra has served as Chair of the ECE Department. Professor Mishra has mentored >60 Ph.D. students now in academia and industry, and 2 were Lancaster award recipients here at UCSB.

Professor Mishra has received numerous awards including the Aarnoff Award from IEEE (the largest international engineering society), the Welker Medal, and the IEEE Distinguished Educator Award. He is a Fellow of IEEE, a Fellow of the National Academy of Inventors, and a Member of the National Academy of Engineering. Prof. Mishra is a truly distinguished member of our faculty.

One component of the FRL award is the honor of presenting a lecture during the upcoming year to the campus community and broader public, so we will have an opportunity to hear about Prof Mishra’s work next year. In addition there is an honorarium that goes with the FRL Award.

Once again, congratulations on receiving this distinct honor in acknowledgement of the exceptional quality of your research.

**Distinguished Teaching Awards, Presented by Heather Stoll, Committee on Distinguished Teaching Awards Chair**

**Donald Aue**

A member of the Department of Chemistry and Biochemistry, Professor Aue has taught an incredible number of students since he joined the UCSB faculty in 1968. To maintain passion and high standards in most any form of endeavor is commendable and difficult. To do so over a fifty year span is remarkable. As teachers we can never be sure just how our lectures, our seminars, even our office hours will influence our students. Yet over such a long and distinguished career it is certain that Professor Aue has influenced thousands of careers. As one former student writes, “because of his mentorship, I have acquired a deep passion for research and shaped my dream to lead a research laboratory as a professor at an academic institute. Like Dr. Aue, I will seek expertise in my field and spread knowledge by investing in the students I meet throughout my academic journey.” In Professor Aue’s nomination packet the awards committee found a professor fully dedicated to teaching, to finding new and creative ways to bring that teaching to his students and a person who has truly united teaching and research - the goal of this award. It is our pleasure to award Dr. Donald Aue the 2018 Distinguished Teaching Award. Congratulations!

**Sathya Guruswamy**

Sathya Guruswamy is a dedicated, generous, and innovative teacher in the Department of Physics and in the Physics Program of the College of Creative Studies—indeed, a vital link between the two. She has contributed to the enrichment of every aspect of Physics study at UCSB: recruiting new students, creating study-abroad programs, developing new courses that pioneer interactive and collaborative learning methods, mentoring graduate students and helping them secure awards and fellowships. Dr. Guruswamy’s commitment to teaching is an inspiration to her students and her TAs. As one physics graduate student wrote, “her drive and dedication to the students is infectious, making me want to put in the same level of dedication and care myself...she is a teacher whom I would have been happy to take a class from and whom I seek to imitate in my own teaching.” And, as one of her undergraduate students succinctly put it: “she has made pedagogy an art.” Dr. Guruswamy devotes a great deal of time to her students outside of the classroom as well, from offering extended office hours and supplemental lectures to discussing career plans and checking in on the well-being of her students. In all of these endeavors, Dr. Guruswamy has nurtured an abiding spirit of inquiry and has had a profound impact on her students. As one former student wrote: “Learning from Dr. Guruswamy has been one of the most profound academic experiences I have ever had...Every day that we had class, I would look forward to learning from her. I wish that she taught every Physics class I had taken.” In recognition of her
Joe McFadden

The Committee on Distinguished Teaching is delighted to give to Professor Joseph McFadden the Distinguished Teaching Award for 2017-2018. Professor McFadden has demonstrated excellence in teaching across the curriculum: teaching large enrollment undergraduate courses, smaller upper-division courses, and graduate courses, performing exceptionally at all levels. One of the many things that distinguishes Professor McFadden’s teaching is his commitment to pedagogical innovation, especially in his lecture course addressing Remote Sensing of the Environment and his upper-division course on The Urban Environment. Whether he is employing “artist Abelardo Morell’s camera obscura photographs,” his son’s Lego blocks, or the empirical data his students gather at visits to field sites, Professor McFadden finds creative ways to teach his students what it means to see differently, to assess evidence rigorously, and to pose and answer critical questions concerning the “ecology and climatology” of the environments in which they and others live. Professor McFadden’s teaching is also distinguished by the care and attention he gives to his students. As you might imagine, students’ insights weigh heavily in the conferring of such awards. And it is clear that Professor McFadden’s students love him. Words that came up with some frequency in student letters written on his behalf were passion, enthusiasm, creativity, and care. As one student writes: “Prof. McFadden is fantastic - he genuinely cares about his students.” Another writes that Professor McFadden’s “teaching capabilities are a prime example of what university professors should strive towards.” And finally: “I cannot think of any other professor who is more deserving of this honor.” The Teaching Award committee thanks Professor McFadden for his distinguished service.

John Mohr

The Academic Senate is pleased to award Professor Mohr with a Distinguished Teaching Award for 2017-18. Students describe Professor Mohr’s courses as “life changing,” “great and inspiring,” and movingly describe how he has profoundly touched their lives in a way that no other professor has --- how he is “kind” and a “gentleman” and the “standard-bearer of the intellectual” that they aspired to be when applying to graduate school --- how they are where they are today, as scholar-practitioners or academics, because of his support and encouragement. Professor Mohr’s students and peers commend his hands-on, innovative, and path-breaking approach to the classroom, where students learn cutting-edge techniques and actually engage in research, pursuing projects related to their interests and through group collaboration. In all of his courses, Professor Mohr finds “ways of linking the substance of the course to students’ current experiences or contemporary events, developing innovative ways of connecting advanced course materials and cutting-edge research methods with students’ lives and experiences.” Professor Mohr successfully integrates research and teaching in a way that few academics manage to do. This teaching style “empowers students to take risks in their learning and thus expands their knowledge of topics that otherwise may seem daunting” and “makes learning more meaningful.” He has also excelled at teaching a range of courses --- undergraduate and graduate, small and large, core theory and methods --- over his career, including some of the most challenging and labor-intensive ones in the major; developed a number of new courses (such as one on “big data” [computational sociology]); and has gone out of his way to involve his graduate students in his advanced research projects, such as his NSF-funded “Big Data” project. In sum, his excellence in all of the areas considered for the Distinguished Teaching Award, from innovativeness in the classroom to student mentorship, makes him a most deserving recipient of the award. Prof. Mohr is truly an inspiration to us all. Thank you, and congratulations!
Sherene Seikely

The Academic Senate is pleased to award Sherene Seikely with a Distinguished Teaching Award for 2017-18. Students commend her unique and innovative teaching style that allows space for open discussion. Instead of simply lecturing, Professor Seikely challenges students to think critically and with nuance about historical evidence and historical narratives through techniques ranging from having students create interactive lessons for the class based on the readings to dividing even large lectures into groups to discuss questions about the readings and “racing up and down the aisles with a microphone so students could voice opinions.” Students commented that her “tireless efforts to include diverse voices empowered students to create a powerful learning experience where students also educate each other.” What is particularly striking is how Professor Seikely manages to create a “safe space for collective learning” in large courses dealing with controversial, politically and emotionally charged subjects, such as courses about Israel/Palestine. Students also commend her “unwavering dedication to her students,” from editing and commenting upon weekly student work without a TA to her extensive and in-demand office hours to learning the names of each and every student, personally greeting them during the first class meeting. She has mentored both undergraduate and graduate students outside of the classroom, providing advice and support through personal crises and guiding their progression through their academic studies. As a testament to her success as a mentor, Professor Seikely serves on an impressive number of Ph.D. and master’s committees for a scholar only two years tenured. Moreover, Professor Seikely has demonstrated excellence in teaching a wide range of classes at both the undergraduate and graduate levels, from the small to the large. She successfully integrates research and teaching in all of these classes, such as through her willingness to share her research ideas with her classes and to listen to her students’ feedback on her own work. In conclusion, to summarize what makes Professor Seikely such an exemplary professor, in her students’ words: she “nurtures both mind and heart.” As such, Professor Seikely excels in all of the areas considered for the Distinguished Teaching Award, despite still being at a relatively early stage of her career. The Academic Senate is thrilled to be able to recognize Sherene Seikely’s inspiring dedication to her students and her excellence in the classroom.

Scott Price

Dr. Price is a dedicated and engaging teacher and mentor both in and outside the classroom. As an instructor who teaches mainly large, introductory-level general chemistry courses, he often encounters students at the beginning of their college careers and it is clear that he has had a lasting impact on many students. His commitment to teaching is readily apparent to his students. As one former student commented, “Dr. Price put meticulous care into his lectures and teaching, and more importantly, did so because he loved it. His engagement with chemistry led to our engagement with chemistry, and I’m still astounded by how diligently I worked in his classes.” In addition to his outstanding teaching, Dr. Price devotes time to advising and mentoring his students even after they are no longer in his classes. One student, who is now in her first year of medical school, describes the profound impact Dr. Price had on her, writing that “he guided me through my educational and career options, and encouraged me when I felt overwhelmed...He is a great role model and I feel so fortunate to have had his support and guidance during my four years at UCSB.” Dr. Price is an exemplary educator, and we are very happy to award him the 2018 Distinguished Teaching Award.
Michael Bowers

Michael Bowers is a Distinguished Professor of Chemistry and Biochemistry, specializing in mass spectroscopy to study the structures of proteins, peptides and other biomolecules. A UCSB faculty member since 1968, Professor Bowers has supervised 40 Ph.D. students, with another 5 currently working under his guidance. Bowers is renowned for emphasizing teamwork in his laboratory and for building close relationships with the graduate and undergraduate students that work with him. One noted that “Mike makes every interaction a learning experience, where he challenges you to think of the big picture and fundamentally understand every result.” Another wrote that "Mike has consistently challenged me, but not in any overbearing way; [rather he does so] by having high expectations while allowing me to produce work in a way that doesn’t hinder my creativity." A former student, Dr. Gert von Helden, Senior research group leader at the Fritz Haber Institute of the Max Planck Society observed that "My firsthand experience in Mike's labs was invaluable for my development as a scientist and I am extremely grateful for having had (and still having) the chance to benefit from Mike’s mentorship."

In recognition of this extended record of excellence, we are happy to present the 2018 Outstanding Graduate Mentor Award to Professor Michael Bowers.

Richard Duran

Professor Richard Duran has been a faculty member in the Department of Education for the past 33 years, specializing in the study of literacy, learning, cognitive psychology, and educational assessment. During his career he has worked with 125 doctoral and 72 masters students—many of them from under-represented populations—who have gone on to careers in research, teaching, administration, and service.

One of his former students wrote that Professor Duran “taught me how to take numbers and make them humane and how to take personal needs and yield systemic change... He showed us what it means to be a good steward... It is unfathomable at times that as an immigrant who grew up in poverty I can be in the position of influence and service that I am today. I can confidently say that I would not be here today if it was not for Dr. Duran’s mentorship.”

The committee was not only impressed by Richard’s mentorship of graduate students but also his work with undergraduates, elementary school populations, and digital learning initiatives. In reviewing his dossier it became clear that Dr. Duran not only mentors his students, he creates networks of mutual support. He not only educates, he organizes and advocates. We are therefore delighted to present him with the 2018 Outstanding Graduate Mentor Award.

Outstanding Teaching Assistant Awards, Presented by Karen Lunsford, Committee on Outstanding Teaching Assistant Awards Chair

Katie Adkison

Described as a "born teacher," Katie Adkison is a doctoral candidate in the English department. Faculty and student recommenders alike applaud Katie's diligence, dedication, and decorum. One writes, "Her dedication to her role as a teacher and her sincere consideration and love for her students is so real and expressive you can feel it." Another student has high hopes of taking additional classes with Katie; they write, "she is amazing at enhancing and enriching her students’ educational experiences, and I feel like she still has so much
knowledge that she would love to share with me." And yet another commends Katie for invigorating her passion for literary study. "Katie," she writes, "is the strong feminine [female] role model I needed at this point in my life." On behalf of the UCSB Community and Academic Senate, we are delighted to present Katie Adkison with an Outstanding TA Award.

Jeremy Edwards

In terms of conviction, enthusiasm, thoughtfulness, modesty, and the simple belief that teaching can be transformative, one would be hard-pressed to find Jeremy’s equal. A doctoral candidate in the Gevirtz Graduate School of Education and a TA for the Department of Black Studies, Jeremy is dedicated to ensuring students’ understanding of the course content and improving the overall quality of the instruction. One student comments that “Jeremy’s discussion sections were always interesting and stimulating. He showed his creativity as a Teaching Assistant by incorporating class discussions, small group discussions, video clips, music clips, and much more that was relevant to the course.” Jeremy has proven to be committed to providing an environment in which students feel encouraged to examine and think deeply about the coursework. As one student writes, “Jeremy’s interest in our academic progress and understanding of our course material made him one of the most effective teaching assistants that I have had the pleasure of taking a class with.” Jeremy is an exemplary educator, and we are pleased to award him the 2018 Outstanding Teaching Assistant award. Congratulations!

Kai Wasson

A member of the Department of East Asian Languages and Cultural Studies, Kai Wasson is repeatedly praised by his nominators for exceeding the typical duties of a TA. One mentor describes how he helped design new materials for a lecture course to better assist students in understanding the materials. She concludes, "Ultimately, the majority of the students performed quite well and wrapped up the quarter with an innovative, self-designed "Zine" project ... for which Kai's support was absolutely critical." Students agree. One comments, "With Kai as my T.A, I felt almost immediately that he genuinely cared and had a huge desire to help everyone who asked for his help." That help extended to extra support during the Thomas Fire. Most of all, students praise his ability to help them think critically about their courses. As one student explains, Kai "empowered the students; he would not just answer questions and get it over with. He would ask the students questions, and by providing hints in the form of facts related to the topic, lead them to the answer." On behalf of the UCSB Community and Academic Senate, we are delighted to present Kai Wasson with an Outstanding TA Award.

Zoe Welch

As doctoral student in the Department of Ecology, Evolution, and Marine Biology, Zoe Welch has demonstrated time and again that she is the epitome of the type of person this award is meant for. Not only have her student evaluations been phenomenal over the years, but both faculty and student letters show that she is held in nothing less than the highest respect as a teacher, and as a person. One faculty member went so far as to say: “I would stand on top of a building and read this letter into a bullhorn.” Zoe has demonstrated not only outstanding teaching prowess, but also the desire and ability to go above and beyond to care for her students. Her students sing nothing but praise: “Zoe is the most caring and memorable teacher I have ever had. Her warm, encouraging attitude is apparent in every conversation we have, and I hope that all students are able to have a teacher like her in their lives.” Zoe’s teaching philosophy particularly stands out, opening with the line: “to believe that teaching is mere information transmission is to miss the point entirely.” Clearly,
she brings that point to life through the classroom. We are pleased to award her the 2018 Outstanding Teaching Assistant award. Congratulations!

**Announcements by the Chancellor (from the slides presented)**

Thank you to Senate Chair Henning Bohn and to all of our faculty colleagues for your dedication to shared governance.

**Academic Senate Awards**

Congratulations again to our award recipients!

- Faculty Research Lecturer
- Distinguished Teaching Awards
- Outstanding Graduate Mentor Awards
- Outstanding Teaching Assistant Awards

We appreciate your extraordinary dedication to research, teaching, and mentorship!

**Campus Updates and Highlights**

**Assemblymember Jacqui Irwin’s Visit**

Assemblymember Jacqui Irwin, sponsor of AB 2664, joined us on March 16 as we launched SEED-SB, UC Santa Barbara’s initiative for innovation, entrepreneurship, and economic development, including our Wilcox New Venture Incubator (the “Garage”), and CNSI Technology Incubator and Innovation Workshop.

**Deltopia Update**

Deltopia 2018 news headlines:

- “No Major Problems Reported in Isla Vista’s ‘Deltopia’ Street Party”
- “Chill Deltopia in Warm Temperatures: Citations, Arrests Drop in Comparison to Past Years”

Students attended a campus-sponsored concert by Vince Staples and Baauer. Though arrests and citations were down for Deltopia 2018, the number of medical transports increased from last year.

**First Annual UCSB Arts Walk**

UCSB Arts Walk: An Open House of Visual & of Visual and Performing Arts took place on Wednesday, April 11, 4:30-8:00 p.m.

Thank you to our faculty sponsors and participants in our Departments of Music, Theater and Dance, and Art; College of Creative Studies; Art, Design, and Architecture Museum; MultiCultural Center; and Library.

Students, faculty staff, and community members were invited to visit galleries and studios, watch preview performances and behind-the-scenes rehearsals, and participate in programming designed to highlight the artistic creativity and talent of our UCSB community.

**Give Day, April 12**

Thank you for participating in UCSB Give Day! We raised $5.7 million from 1,511 donors in 24 hours.

**Spring Insight Open House**

We welcomed thousands of prospective students and their families to campus on April 14.
El Centro Celebration, April 14
The El Centro Arnulfo Casillas Restoration and Open House Celebration was held on Saturday, April 14.

Grad Slam – Final Round on April 20
Thank you to Dean Carol Genetti and all of our faculty participants in this year’s Grad Slam! The final round takes place tomorrow, April 20, 3-4:00 p.m. in Corwin Pavilion.

All Gaucho Reunion
The All Gaucho Reunion will take place April 26-29.

Plous Lecture, May 10, 2018
Professor Terence Keel (History, Black Studies) will deliver his Plous Lecture on May 10. Please join us!

Staff Celebration Week, May 14-18
Please join us in celebrating our staff colleagues, and thanking them for their invaluable contributions to our campus community.

American Academy of Arts and Sciences
Congratulations to our newly elected members of the American Academy of Arts and Sciences:
   - Professor Leon Balents (Physics and KITP)
   - Professor Craig Hawker (Materials, MRL, and Director of CNSI)
   - Professor Ed Telles (Sociology)

Society of Architectural Historians
Congratulations to Professor Swati Chattopadhyay (History of Art and Architecture and Comparative Literature Program), elected Fellow of the Society of Architectural Historians.

Ecological Society of America
Congratulations to Professor Douglas McCauley (Ecology, Evolution, and Marine Biology and Director of the Benioff Ocean Initiative), elected Early Career Fellow of the Ecological Society of America.

APS Rising Stars
Congratulations to Assistant Professors Daniel Conroy-Beam and Zoe Liberman (Psychological and Brain Sciences), named “APS Rising Stars” by the Association for Psychological Science.

Sociology Ranked #1
College Factual 2018 Best Sociology Colleges in the U.S.
   1. University of California – Santa Barbara is the best choice if you are thinking about a college degree in Sociology. University of California – Santa Barbara sociology students make 28.9% more than the standard sociology graduate.

Consent Calendar

Motion: To approve the minutes of the March 1, 2018 meeting.

The motion was seconded and approved by unanimous voice vote.
Announcements by the Chair

Chair Bohn reported on the Academic Council meeting of March 21, 2018 and the Academic Assembly meeting of April 11, 2018.

The Academic Council nominated, and the Academic Assembly elected Kum-Kum Bhavnani as Vice Chair of the 2018-19 Assembly. Dr. Bhavnani, Professor in the Department of Sociology, was the Chair of the Academic Senate at UCSB from 2012-16.

The Academic Assembly ratified the nominees for the 2018 Oliver Johnson Award. Professor Emeritus Duncan Mellichamp of UCSB and Professor Dan Simmons of UC Davis were selected to receive the award. The Oliver Johnson Award recognizes distinguished leadership in the Academic Senate.

The Assembly also approved the proposed changes to Senate Bylaw 128 regarding Conflict of Interest. The Santa Barbara Division does not have a formal policy on conflict of interest, and the passage of the Systemwide bylaw has provided the impetus to add a similar bylaw to the Divisional Senate Manual. The Systemwide change was motivated by an incident in one of the committees, and we would like to preempt any such issues at the campus level. Proposed Divisional Bylaw 35.K is being circulated broadly at this time, with the hope to being able to bring it before the Faculty Legislature in June.

President Napolitano has called on the Academic Senate to develop a guarantee program for transfer student admissions. Faculty have voiced concern about the minimal consultation that took place before the public announcement of the guarantee and the adoption of UC’s Memorandum of Understanding (MOU) with the California Community College System. It was noted that discussions of the systemwide Transfer Task Force were already leading in this direction. The details on how the guarantee will be implemented have yet to be determined, and will keep BOARS busy for the next few months. The program is expected to be effective as of next fall.

In response to a question from the floor, Chair Bohn stated that recent data indicates that existing transfer students are doing well for the most part. Concerns about grade inflation at the community college level will be addressed by the Board of Admissions, Enrollment, and Relations with Schools (BOARS), which is charged with setting admissions standards.

The faculty salary plan is still under discussion at the Office of the President. The aim of the Academic Senate is to address the 8.4% gap between UC faculty salaries and those at our Comparison 8 institutions. Salary increases over the past three years have been based on a pool of 3%. The current plan is to continue with the 3% pool, while at the same time giving on-scale faculty an extra 3% across the board. Faculty with off-scale salaries would receive less.

Over three years, this would bridge the gap. The Executive Vice Chancellors have proposed alternatives, though the date for bridging the gap is unclear.

The Retiree Health Working Group is meeting to examine the retiree health benefits program and will make recommendations to protect the program’s sustainability. The Office of the President proposed changes in retirement health benefits for faculty and staff to reduce costs and liabilities for retiree health. The proposal was scheduled for discussion by the UC Regent’s last July, but was pulled following strong objections from the Academic Senate. Any changes for 2018 were deferred, and the Working Group was convened in order to make recommendations for 2019.

The second meeting of the Childcare Taskforce was held recently. In the short-term, the Taskforce would like
to find space to expand childcare offerings. The long-term goal is to achieve permanent expansion that is closer to campus. The Taskforce will continue to explore options and formulate a plan for back-up care.

Proposal to Revise Senate Regulation 240: Honors at Graduation

Chair Bohn presented the proposed changes to Regulation 240, which were proposed by Jeff Stopple, Dean of Undergraduate Education, and approved by the Undergraduate Council (UgC). The proposed change will reduce the minimum number of units required for eligibility for Honors at Graduation from 76 to 60. The aim of this modification is to bring the eligibility minimum in line with the total number of upper-division units required for graduation. The proposal alleges that transfer students are disadvantaged by the current minimum. In response to a question from the floor, UgC Chair David Paul, explained that data provided by the Registrar’s Office confirms this effect on transfer students.

Motion: To approve the proposed modification of Senate Regulation 240.

The motion was seconded and approved with 18 in favor, 0 against, and 4 abstentions.
May 11, 2018

To: Henning Bohn, Divisional Chair
   Academic Senate

From: Bernard Kirtman, Chair
   Graduate Council

Re: Proposed Revisions to Divisional Regulations 300-B-1, 305-C, and 305-C-2-ii

Graduate Council seeks to clarify the regulations governing Master’s Plan II: Project committees. Currently, Regulation 300B, which covers general provisions for the master’s degree, clearly states that master’s degrees require three committee members. All master’s degrees (MA, MS, MFA, MED, MES, MTM) fall under Regulation 300 (each state “The provisions of Divisional Regulations 250 through 300 shall apply”).

The project option of the Plan II master’s degree was created later than the exam option. When it was created, Regulation 305-C-2-ii was added to Regulation 305-C-2, and states that:

ii. A project under the supervision of at least one ladder faculty member. Completion requires approval by the master’s committee, which must include at least two members of the department’s ladder faculty. (Am 2 May 02)

When this language was added, “Project” was not added to the title of Regulation 305-C; it presently is just titled “Plan II: Comprehensive Examination”.

The current wording has led some departments to believe that only two faculty are required for the project: one to supervise, one as committee member. There are currently some departments that use a two-person exam committee due to their interpretation of the above regulation. Requiring three members would become a burden for some departments that have large master’s programs and would not have enough faculty to provide three per Plan II: Project committees.

Graduate Council discussed and unanimously approved clarifying the Regulations to allow Plan II: Project Committees to operate with two or more committee members. GC proposes modifying Regulation 300-B-1 to clearly explain the makeup of Plan II: Comprehensive Exam and Plan II: Project committees. GC also proposes language to update Regulation 305-C to include “Project”, and 305-C-2-ii to bring the language in line with the other proposed changes.
300. General Provisions

A. Time Limits

Except as authorized by the Graduate Council, each candidate for a master's degree must satisfy all requirements for the degree within four years after admission to the master's program. (Am 7 Nov 96)

B. Advancement to Candidacy

1. A master’s committee must be established prior to advancement to candidacy. For the comprehensive examination plan, the department appoints a master's committee consisting of at least three faculty members. For the Plan I: Thesis plan, the master's committee is nominated by the department and appointed by, and responsible to, the Dean of the Graduate Division under policies established by the Graduate Council. This committee consists of at least three UC Academic Senate members with a tenure-track faculty member from the student’s major department serving as chair or co-chair. At least two members of every thesis committee must be tenure-track faculty. The majority of the members shall be from the student's UCSB major department. Recommendation of the appointment of additional members to the master’s committee is at the discretion of the department. These nominations must be approved by the Graduate Council Chair, who is authorized to grant exceptions to these policies when requested in writing by the departmental chair. For the Plan II: Comprehensive Examination, the department appoints a master’s committee consisting of at least three faculty members, as described above for Plan I. For the Plan II: Project, the department appoints a committee consisting of at least two UC Academic Senate members, with a tenure-track faculty member from the student’s UCSB major department serving as chair or co-chair. The duties of the master's committee include certifying that the candidate has fulfilled the requirements for the degree. (Am 23 Oct 86; Am 7 Nov 96; Am 4 Mar 99; Am 8 May 14)

2. At the beginning of the term in which a student is expected to complete the course requirements for the master's degree, the department must file with the Dean of the Graduate Division certification of the student's completion of requirements with the request for advancement to candidacy. Candidacy is approved by the Graduate Council. (Am 7 Nov 96)

C. Foreign Language Requirements

Subject to the approval of the Graduate Council each department may determine any foreign language requirement to be satisfied for the award of its master's degree(s). (Am 7 Nov 96)

D. Scholarship Requirements

Only courses in which a grade of A, B, C, or S was earned may be used to satisfy requirements for the master's degree. The minimum grade-point average required for the award of a master's degree is 3.0 in all graduate and upper division courses completed in graduate standing on any campus of the University. (Am 7 Nov 96)

E. Residence Requirements
Except for students subject to 310(C), the minimum residence requirement for a master's degree is three quarters during which the student must be enrolled in a program of courses, research, or study, the unit value of which satisfies the requirements of the Divisional Regulation 275(C). Two six-week summer sessions may be substituted for one of the required quarters. (Am 7 Nov 96)

305. Requirements for the Master of Arts (M.A.) and the Master of Science (M.S.)

A. The provisions of Divisional Regulations 250 through 300 shall apply. Each department shall determine which of the two plans described below is to be required of each candidate for any master's degree it offers. (Am 7 Nov 96)


Under this plan:

1. At least 30 units of upper-division and graduate courses must be completed, including no fewer than 20 units in graduate courses in the major subject or in graduate courses related to that subject as approved by the departmental graduate advisor;

2. A thesis is required, which must be approved by each member of the master's committee.

3. The major department may require any examination deemed necessary to test the student's command of the field. (Am 7 Nov 96)

C. Plan II: Comprehensive Examination or Project.

Under this plan:

1. At least 36 units of upper-division and graduate courses are required, including no fewer than 24 units in graduate courses in the major subject or in graduate courses related to that subject as approved by the departmental graduate advisor;

2. The student must satisfactorily complete one of the following options:
   
   i. A comprehensive final examination set by the major department and administered by the master's committee, (Am 7 Nov 96)

   ii. A project under the supervision of at least one ladder faculty member. Completion requires approval by the master's project committee, which must include at least two members of the department's ladder faculty. (Am 2 May 02)

CC: Debra Blake, Executive Director, Academic Senate
May 30, 2018

To: Henning Bohn, Divisional Chair
   Academic Senate

From: Ronald E. Rice, Chair
      Committee on Rules, Jurisdiction & Elections

Re: Response to the Proposal to Revise Regulations 300-B-1, 305-C, and 305-C-2-ii – Project Committees

The Committee on Rules, Jurisdiction & Elections (RJE) reviewed the proposal to revise Regulations 300-B-1, 305-C, and 305-C-2-ii, regarding Master’s Plan II Project Committees. RJE supports the changes, but suggests additional minor wording changes: removing the word “the” when it precedes “The Plan I: Thesis”, “The Plan II: Comprehensive Examination” and “The Plan II: Project”.

RJE supports the changes and is submitting for approval to the Faculty Legislature the revised Regulations regarding Mater’s Plan II Project Committees.

CC: Debra Blake, Executive Director, Academic Senate
RJE Proposed Approved Changes

300. General Provisions
   A. Time Limits

   Except as authorized by the Graduate Council, each candidate for a master's degree must satisfy all
   requirements for the degree within four years after admission to the master's program. (Am 7 Nov 96)

   B. Advancement to Candidacy

   1. A master's committee must be established prior to advancement to candidacy. For the comprehensive
      examination plan, the department appoints a master's committee consisting of at least three faculty members.
      For the Plan I: Thesis plan, the master's committee is nominated by the department and appointed by, and responsible to, the
      Dean of the Graduate Division under policies established by the Graduate Council. This committee consists of at least three UC Academic Senate members with a tenure-track faculty member from the student's major department serving as chair or co-chair. At least two members of every thesis committee must be tenure-track faculty. The majority of the members shall be from the student's UCSB major department. Recommendation of the appointment of additional members to the master's committee is at the discretion of the department. These nominations must be approved by the Graduate Council Chair, who is authorized to grant exceptions to these policies when requested in writing by the departmental chair. For the Plan II: Comprehensive Examination, the department appoints a master's committee consisting of at least three faculty members, as described above for Plan I. For the Plan II: Project, the department appoints a committee consisting of at least two UC Academic Senate members, with a tenure-track faculty member from the student's UCSB major department serving as chair or co-chair. The duties of the master's committee include certifying that the candidate has fulfilled the requirements for the degree. (Am 23 Oct 86; Am 7 Nov 96; Am 4 Mar 99; Am 8 May 14)

   2. At the beginning of the term in which a student is expected to complete the course
      requirements for the master's degree, the department must file with the Dean of the
      Graduate Division certification of the student's completion of requirements with the
      request for advancement to candidacy. Candidacy is approved by the Graduate Council. (Am 7 Nov 96)

   C. Foreign Language Requirements

   Subject to the approval of the Graduate Council each department may determine any foreign language
   requirement to be satisfied for the award of its master's degree(s). (Am 7 Nov 96)

   D. Scholarship Requirements

   Only courses in which a grade of A, B, C, or S was earned may be used to satisfy requirements for the
   master's degree. The minimum grade-point average required for the award of a master's degree is 3.0 in
   all graduate and upper division courses completed in graduate standing on any campus of the
   University. (Am 7 Nov 96)

   E. Residence Requirements
Except for students subject to 310(C), the minimum residence requirement for a master's degree is three quarters during which the student must be enrolled in a program of courses, research, or study, the unit value of which satisfies the requirements of the Divisional Regulation 275(C). Two six-week summer sessions may be substituted for one of the required quarters. (Am 7 Nov 96)

305. Requirements for the Master of Arts (M.A.) and the Master of Science (M.S.)

A. The provisions of Divisional Regulations 250 through 300 shall apply. Each department shall determine which of the two plans described below is to be required of each candidate for any master's degree it offers. (Am 7 Nov 96)


Under this plan:

1. At least 30 units of upper-division and graduate courses must be completed, including no fewer than 20 units in graduate courses in the major subject or in graduate courses related to that subject as approved by the departmental graduate advisor.

2. A thesis is required, which must be approved by each member of the master's committee.

3. The major department may require any examination deemed necessary to test the student's command of the field. (Am 7 Nov 96)

C. Plan II: Comprehensive Examination or Project.

Under this plan:

1. At least 36 units of upper-division and graduate courses are required, including no fewer than 24 units in graduate courses in the major subject or in graduate courses related to that subject as approved by the departmental graduate advisor.

2. The student must satisfactorily complete one of the following options:
   
   i. A comprehensive final examination set by the major department and administered by the master's committee. (Am 7 Nov 96)

   ii. A project under the supervision of at least one ladder faculty member. Completion requires approval by the master's project committee, which must include at least two members of the department's ladder faculty. (Am 2 May 02)

CC: Debra Blake, Executive Director, Academic Senate
April 11, 2018

From: Henning Bohn, Divisional Chair

To: Divisional Councils and Committees

Re: Proposed divisional Bylaw 35.K: Conflict of Interest

Academic Assembly recently approved a systemwide Bylaw 128.J that governs conflict of interest. The systemwide change lead to a discussion and consensus in Executive Council that the Santa Barbara Division should adopt similar language for inclusion in our local Senate Manual. In the interest of clarity and conformity, the wording should be analogous to the systemwide bylaw.

Attached for comment is proposed language for a new divisional Bylaw 35.K to be included in Chapter III, Section 2, as an addition to Bylaw 35, which covers general provisions for committees. Also attached for reference and comparison is Systemwide Bylaw 128.J.

Following positive council and committee review, the proposal would be submitted to the Faculty Legislature for approval.
Attachment A: Proposed Modification of Divisional Bylaw 35:

35. Committees

K. Conflict of Interest
Members of divisional councils, committees, sub-committees, and work groups must be aware that professional judgments made in committee work may be compromised or appear to be compromised by a conflict of interest. Any member of a council or committee who thinks they have a conflict of interest must inform the Chair (or the Vice-Chair if there is a potential conflict of interest on the part of the Chair) thereof. Any member of a committee who thinks another member has a conflict of interest should inform the Chair (or the Vice-Chair if there is a potential conflict of interest on the part of the Chair) thereof. The member with the potential conflict may choose to limit their participation up to and including full recusal. Any party may consult the Divisional Chair (or Vice-Chair) for advice. In the absence of agreement between the member and the Chair (or Vice-Chair) of the committee on the appropriate actions, the Chair (or Vice-Chair) of the committee shall inform the Divisional Chair (or Vice-Chair), who shall make the final determination as to what actions are appropriate.

Attachment B (for reference only): Systemwide Bylaw 128.J, approved by the Academic Senate Assembly on 4/11/2018:

128.J. Conflict of Interest:
Members of Assembly committees, sub-committees and task forces must be aware that professional judgments made in committee work may be compromised or appear to be compromised by a conflict of interest. Any member of a committee who thinks they have a conflict of interest must inform the Chair (or the Vice-Chair if there is a potential conflict of interest on the part of the Chair) thereof. Any member of a committee who thinks another member has a conflict of interest should inform the Chair (or the Vice-Chair if there is a potential conflict of interest on the part of the Chair) thereof. The member with the potential conflict may choose to limit their participation up to and including full recusal. Any party may consult the Chair of the Academic Council for advice (or the Vice-Chair if there is a potential conflict of interest on the part of the Chair). In the absence of agreement between the member and the Chair (or Vice-Chair) of the committee on the appropriate actions, the Chair (or Vice-Chair) of the committee shall inform the Chair (or Vice-Chair) of the Academic Council, who shall make the final determination as to what actions are appropriate.
June 1, 2018

To: Ronald Rice, Chair
   Committee on Rules, Jurisdiction and Elections

From: Henning Bohn, Chair
   Academic Senate

Re: Proposed Bylaw 35.K – Conflict of Interest

During its meeting on May 29, the Executive Council considered proposed Bylaw 35.K – Conflict of Interest, in light of the responses submitted by the Senate councils and committees that participated in the review. Members of the Executive Council agreed to accept the modifications that were proposed by the Committee on Rules, Jurisdiction, and Elections. The Executive Council recommends unanimously that the following version be presented to the Faculty Legislature for approval.

35. Committees
....
K. Conflict of Interest
Members of divisional councils, committees, sub-committees, and work groups (hereafter all referred to as “committee”) must be aware that professional judgments made in committee work may be compromised or may appear to be compromised by a conflict of interest. Any member of a committee who thinks they have a conflict of interest must inform the Chair (or the Vice-Chair if there is a potential conflict of interest on the part of the Chair) thereof. Any member of a committee who thinks another member has a conflict of interest should inform the Chair (or Vice-Chair) thereof. The Chair (or Vice-Chair) then discusses the issue with the member with the potential conflict. The member with the potential conflict may choose to limit their participation up to and including full recusal. Any party may consult the Divisional Chair (or Vice-Chair) for advice. In the absence of agreement between the member and the Chair (or Vice-Chair) on the appropriate actions, the Chair (or Vice-Chair) shall inform the Divisional Chair (or Vice-Chair), who shall make the final determination as to what actions are appropriate.

cc: Debra Blake, Executive Director, Academic Senate
    Kelly Erland, Analyst, Committee on Rules, Jurisdiction and Elections
May 10, 2018

To: Henning Bohn, Divisional Chair
    Academic Senate

From: Ronald E. Rice, Chair
    Committee on Rules, Jurisdiction & Elections

Re: Response to Proposed Divisional Bylaw 35.K: Conflict of Interest

The Committee on Rules, Jurisdiction & Elections reviewed the divisional proposal to adopt similar language to the recently passed systemwide Bylaw 128.J, governing conflict of interest. RJ&E is supportive of the proposed language, but has some suggested revisions, described below.

- References to “committee”: as this occurs a number of times, the simple solution, if acceptable, is just to note that that’s the term used to reference all forms of groups (councils, committees, sub-committees, and work groups).
- There was a question about the reference to Vice Chair for committees that do not have one. To simplify we recommend the revised wording.

35. Committees

K. Conflict of Interest

Members of divisional councils, committees, sub-committees, and work groups (hereafter all referred to as “committee”) must be aware that professional judgments made in committee work may be compromised or may appear to be compromised by a conflict of interest. Any member of a council or committee who thinks they have a conflict of interest must inform the Chair (or the Vice-Chair if there is a potential conflict of interest on the part of the Chair) thereof. Any member of a committee who thinks another member has a conflict of interest should inform the Chair (or Vice-Chair) thereof. The Chair (or Vice-Chair) then discusses the issue with the member with the potential conflict. The member with the potential conflict may choose to limit their participation up to and including full recusal. Any party may consult the Divisional Chair (or Vice-Chair) for advice. In the absence of agreement between the member and the Chair (or Vice-Chair) of the committee on the appropriate actions, the Chair (or Vice-Chair) of the committee shall inform the Divisional Chair (or Vice-Chair), who shall make the final determination as to what actions are appropriate.

CC: Debra Blake, Executive Director, Academic Senate
May 16, 2018

TO: Henning Bohn, Divisional Chair
    Academic Senate

FROM: Jon R. Snyder, Chair
    Committee on Academic Personnel

RE: Proposed Amendment to Divisional Senate Bylaw 35 - Conflict of Interest

CAP has reviewed the proposed amendment (35K) and is in favor of the addition to Divisional Senate Bylaw 35.

For the Committee,

[Signature]

Jon Snyder, Chair

Cc: Debra Blake, Senate Executive Director
May 14, 2018

To: Henning Bohn, Divisional Chair  
Academic Senate

From: Werner Kuhn, Chair  
Committee on Library, Information, and Instructional Resources

Re: Proposed Divisional Bylaw 35.K on Conflict of Interest

The Committee on Library, Information, and Instructional Resources (CLIIR) discussed the proposed divisional Bylaw 35.K during their May 4 meeting. The committee fully supports the proposed divisional Bylaw 35.K addressing conflict of interest.

Cc: Debra Blake, Executive Director, Academic Senate
May 14, 2018

To:       Henning Bohn, Chair
          Academic Senate

From:     David Morrison, Chair
          Committee on Research Policy and Procedures

Re:       Proposed Divisional Bylaw 35.K on Conflict of Interest

The Committee on Research Policy and Procedures (CRPP) discussed the proposed divisional Bylaw 35.K during their May 4 meeting. CRPP members agreed that it would be helpful to have this Bylaw in place as a guide for handling conflict of interest. CRPP fully supports the proposed divisional Bylaw 35.K addressing conflict of interest.

Cc: Debra Blake, Executive Director, Academic Senate
To: Henning Bohn, Chair
   Academic Senate

Fr: Paige Digeser, Chair
  College of Letters and Science Faculty Executive Committee

Re: Proposed Revision to Divisional Bylaw 35- Committees

At its meeting on May 3, 2018, the Faculty Executive Committee of the College of Letters and Science (FEC) considered the proposed amendment to Divisional Bylaw 35. The proposal would add a clause to address conflict of interest concerns within councils, committees, and other groups of the Academic Senate. The modification intentionally mirrors language recently approved for systemwide Bylaw 128.J.

The FEC found this to be a useful addition to the Systemwide Bylaws and equally supports the proposed amendment to the Divisional Bylaws.

Thank you for the opportunity to comment.

Copy: Pierre Wiltzius, Executive Dean of the College and Dean of Science
      Jeff Stopple, Co-Interim Dean of Undergraduate Education
      John Majewski, Dean of Humanities and Fine Arts
      Charlie Hale, Dean of Social Sciences
To: Henning Bohn, Chair
   Academic Senate

From: Ann Jensen Adams, Chair
      Council on Planning & Budget

Re: Proposed Divisional Bylaw 35.K: Conflicts of Interest

The Council on Planning & Budget has reviewed a proposal to amend the UCSB Divisional Senate Bylaw 35 to add a new section (K) regarding Conflicts of Interest. As we did with the corresponding systemwide change to Bylaw 128.J, CPB agrees with the importance of this addition and supports the proposed revision.

cc: Debra Blake, Academic Senate Executive Director
May 7, 2018

To: Henning Bohn, Chair
Academic Senate

From: David Paul, Chair
Undergraduate Council

Re: Proposed Divisional Bylaw 35.K – Conflict of Interest

The Undergraduate Council discussed the proposed Senate Bylaw 35.K at its meeting of May 3, 2018. The Council had no objections and agreed to endorse the proposal by a unanimous vote.

CC: Debra Blake, Executive Director
May 2, 2018

To: Henning Bohn, Chair
   Academic Senate

From: William Davies King, Chair
      Committee on Courses and General Education

Re: Proposed Divisional Bylaw 35.K – Conflict of Interest

The Committee on Courses and General Education discussed the proposed Senate Bylaw 35.K at its meeting of May 1, 2018. The Committee had no objections and agreed to endorse the proposal by a unanimous vote.

CC: Debra Blake, Executive Director
April 25, 2018

To: Henning Bohn, Divisional Chair
    Academic Senate

From: Bernard Kirtman, Chair
      Graduate Council

Re: Proposed Divisional Bylaw 35.K on Conflict of Interest

Graduate Council reviewed the proposal to add section K to divisional Bylaw 35, regarding conflicts of interest. This will bring the divisional bylaw in line with the recent systemwide conflict of interest language that was included in Bylaw 128. The Council endorses this amendment.

CC: Debra Blake, Executive Director, Academic Senate
April 18, 2018

TO: Henning Bohn, Chair
   Academic Senate

FROM: Daniel Gianola, Chair
      College of Engineering, Faculty Executive Committee

RE: Proposed Divisional Bylaw 35.K. on Conflict of Interest

The College of Engineering Faculty Executive Committee was asked to review and comment on the Proposed Divisional Bylaw 35.K. on Conflict of Interest.

The committee approved the proposed language in the proposal.

7 yes, 0 no, 0 abstained (out of 10 eligible faculty members)
April 13, 2018

TO: Henning Bohn, Academic Senate Chair

FR: Chair Arturo Keller, Faculty Executive Committee
Bren School of Environmental Science & Management

RE: Proposed revision to divisional Bylaw 35.K: Conflict of Interest

Bren School Faculty Executive Committee (FEC) Chair Arturo Keller reviewed the proposed revision to divisional Bylaw 35.K: Conflict of Interest. On behalf of the FEC, Chair Keller would like to express his support for the proposed revision. Thank you.
May 10, 2018

To: Henning Bohn, Divisional Chair  
   Academic Senate

From: Patricia Fumerton, Chair  
       Council on Faculty Welfare, Academic Freedom, and Awards

Re: Proposed Divisional Bylaw 35.K: Conflict of Interest

The Council on Faculty Welfare met yesterday and discussed at length the institution of Bylaw 35.K. Generally, we liked it very much. There was strong support, however, about the language of the bylaw allowing for more flexibility when a potential conflict exists, especially since conflicts of interests can have a wide range, stating a conflict already influences the case, and were a faculty member to leave a meeting a situation can be created in which there is a paucity of voting members for that case (especially when more than one faculty member expresses a believed conflict).

To add some flexibility to the language we propose changing the sentence:

“The member with the potential conflict may choose to limit their participation up to and including full recusal.”

To

“The member with the potential conflict may choose to limit their participation up to and including full recusal and/or to disclose the conflict to the committee.”

Cc: Debra Blake, Executive Director, Academic Senate
May 16, 2018
To: Henning Bohn, Divisional Chair
UC Santa Barbara Academic Senate

From: John Latto, Chair
College of Creative Studies Faculty Executive Committee

Re: CCS Response to Proposed Divisional Bylaw 35.K. on Conflict of Interest

The CCS FEC discussed Proposed Divisional Bylaw 35.K. on Conflict of Interest at their meeting on May 1st. As with previous discussion on this topic the committee was in favor of setting out clearly the steps necessary to resolve potential conflicts of interest and was also in favor of bringing local regulations in line with systemwide bylaws. The committee also expressed hope that this policy could be used to resolve issues of excessive and often unwarranted recusal. In some senate committees all faculty with a position in the same College as the issue under discussion are assumed to have a conflict of interest and recused from even discussing the issue. Members gave examples where all faculty associated with CoE were recused from discussion of any issues related to CoE and there were other examples where all faculty with any association with CCS were recused from discussion of any issue related to CCS. However this same policy was not applied, for obvious reasons, to faculty with positions in L&S discussing L&S issues unless they were in the same Department as the issue under discussion. Thank you for the opportunity to comment on this issue.
DATE:  5/3/2018

TO:   Henning Bohn  
      Chair, Academic Senate, UCSB

FROM: Jill Sharkey  
      Chair, Faculty Executive Committee, GGSE

SUBJECT: Proposed Divisional Bylaw 35.K: Conflict of Interest

The Faculty Executive Committee of the Gevirtz Graduate School of Education thinks the proposed divisional bylaw 35.K would benefit from a clear definition of conflict of interest and/or examples. It is also proposed that the process for addressing conflicts of interest be explained. The FEC also expresses concern over making the bylaws too cumbersome with repetitive language and suggests that a detailed definition and examples of conflict of interest could be linked to an appendix at each relevant instance.
May 2, 2018

To: Henning Bohn, Chair
    Academic Senate

From: Paul Spickard, Chair
    Committee on Admissions, Enrollment, and Relations with Schools

Re: Proposed Divisional Bylaw 35.K – Conflict of Interest

The Committee on Admissions, Enrollment, and Relations with Schools discussed the proposed Senate Bylaw 35.K at its meeting of April 26, 2018. The Committee had no objections to the proposed bylaw.

CC: Debra Blake, Executive Director
May 8, 2018

HENNING BOHN, CHAIR
ACADEMIC SENATE — SANTA BARBARA DIVISION

Re: Proposed Divisional Bylaw 35.K. on Conflict of Interest

The Committee on Diversity and Equity does not wish to opine on this issue.

Sincerely,

Vickie J. Scott, Chair
Committee on Diversity and Equity

c: Debra Blake, Executive Director
Academic Senate
May 30, 2018

To: Henning Bohn, Divisional Chair
   Academic Senate

From: Ronald E. Rice, Chair
      Committee on Rules, Jurisdiction & Elections

Re: Response to the Proposal to Modify the College of Engineering General Education Requirements

The Committee on Rules, Jurisdiction & Elections (RJE) reviewed the proposal to modify the College of Engineering General Education requirements. RJE felt that the rationale for these changes was well justified and makes the COE requirements clearer and more flexible, as well as consistent with the College of Letters & Science requirements. RJE supports the changes, effective catalog year 2018-19, and is submitting for approval to the Faculty Legislature the revised COE General Education requirements.

CC: Debra Blake, Executive Director, Academic Senate
May 29, 2018

To: Henning Bohn, Chair
   Academic Senate

From: David Paul, Chair
   Undergraduate Council

Re: Proposed Changes to the General Education Requirements for the College of Engineering

The Undergraduate Council has considered the College of Engineering’s revised proposal for changes to the General Education (GE) requirements.

The Council’s discussion was informed by comments from the College of Engineering Executive Committee (COE FEC), the Letters and Science Faculty Executive Committee (L&S FEC) and the Committee on Courses and General Education (CCGE).

The L&S FEC recognized that regularizing GE requirements across the Colleges would be beneficial for students and unanimously endorsed the earlier version of the proposal. CCGE expressed appreciation for the modifications that were made at the request of the Committee and also unanimously voted to support the proposal.

Based on the rationale provided in the proposal and the support of the three reviewing agencies (COE FEC, L&S FEC, CCGE) the Undergraduate Council unanimously voted to approve the proposed changes. The proposal is now ready for final consideration by the Faculty Legislature.

CC: Debra Blake, Executive Director, Academic Senate
May 15, 2018

To: David Paul, Chair
    Undergraduate Council

From: William Davies King, Chair
      Committee on Courses and General Education

Re: Revised Proposal to Modify the General Education Requirements for the College of Engineering

The Committee on Courses and General Education has considered the revised proposal to modify the General Education (GE) requirements for the College of Engineering. The Committee expressed appreciation for the changes that were made and unanimously voted to support the proposal.
16 April 2018

To: David Paul  
Chair, Undergraduate Council

Fr: Paige Digeser  
Chair, College of Letters and Science Faculty Executive Committee

Re: Proposed Modifications to College of Engineering General Education Requirements

The Faculty Executive Committee of the College of Letters and Science unanimously supports the College of Engineering proposed modifications to its General Education requirements. The proposal would regularize GE requirements across the Colleges, which the FEC views as beneficial to students.

Thank you for the opportunity to comment.

Copy: Pierre Wiltzius, Executive Dean of the College and Dean of Social Sciences  
Jeff Stopple, Co-Interim Dean of Undergraduate Education
May 8, 2018

TO: David C. Paul, Chair
Undergraduate Council

FROM: Daniel Gianola, Chair
College of Engineering, Faculty Executive Committee

RE: Proposal to Modify the College of Engineering General Education Requirements

The College of Engineering FEC met on Wednesday, May 2, 2018 and considered the thoughtful feedback provided by the UgC and CCGE on the proposal to modify the College of Engineering General Education Requirements. The committee unanimously supported the idea of taking the harmonization effort a step further by requiring one course in area F (arts) and one course in area G (literature).

With regards to the European Traditions vs. World Cultures special subject requirement, there was no strong opinion on whether it should be one or the other. The committee certainly agreed each area was important, but was reticent to require both. In the end, there was unanimous support for providing the opportunity and flexibility for students to select a course from either list. This would not disadvantage students transferring into CoE majors from either BA or BS programs in the College of Letters and Science. For changes of major from CoE to BS programs in L&S, in some instances, a student would need to take a World Cultures course. Still, the proposed GE requirements represent a significant alignment between colleges relative to what currently exists.

The FEC reviewed and approved the revised proposal attached herewith.

6 yes, 0 no, 0 abstained (out of 10 eligible faculty members)
April 30, 2018

To: Dan Gianola, Chair
College of Engineering, Faculty Executive Committee

From: Glenn Beltz
Associate Dean of Undergraduate Education, College of Engineering

Proposal to Modify the College of Engineering General Education Requirements

We propose a set of changes to the College of Engineering General Education (GE) requirements to bring them into harmonization with those in the College of Letters and Science, including eliminating the Depth Requirement, which has become cumbersome and confusing over the years.

This proposal is a modification of the previously submitted proposal dated February 28, 2018 and addresses the concerns noted in the April 20, 2018 memo from the Undergraduate Council and Committee on Courses and General Education (CCGE). Notably, the pattern of courses is brought even more closely into alignment with the GE curriculum for the B.S. degrees in the College of Letters and Science, to include requiring one course in Area F (arts) and one course in Area G (literature). Additionally, student may select one course from European Traditions or World Cultures.

Appendix I reflects the updated version of Santa Barbara Regulation 205(C)(2) if this proposal is approved.

Request

Effective catalog year 2018-2019, the College of Engineering requests that the following modifications to the General Education Curriculum – changes underlined.

For reference, the current College of Engineering Bachelor of Science GE requirements are provided as Appendix II. The current College of Letters and Science Bachelor of Science GE requirements are provided as Appendix III.

General Subject Area Requirements

Area A: English Reading and Composition [no change]
Areas D, E, F, G & H: Social Sciences, Culture and Thought, the Arts, Literature and Foreign Language
At least 6 courses must be completed in these areas:
Area D: A minimum of 2 courses
Area E: A minimum of 2 courses
Areas F: 1 course minimum
Area G: 1 course minimum

The changes to Areas D, E, F, and G bring the requirements further in line with the College of Letters and Science Bachelor of Science GE requirements. The tradeoff consists of removing Area H (foreign language level 2 or higher) as an option for students, which was introduced in 2009 but has not proven to be a popular option.

Special Subject Area Requirements

Writing Requirement: At least 4 courses required [no change]
Ethnicity Requirement: At least 1 course required [no change]
European Traditions or World Cultures: At least 1 course required [added option of World Cultures]

The College proposes to remove the Special Subject Area “Depth Requirement” from the General Education curriculum.

The College of Letters and Science requires the World Cultures requirement and not the European Traditions requirement. There is no Depth Requirement in the College of Letters and Science.

General Provisions relating to these General Education Requirements:
1. A course listed in more than one area can only be applied to only one area.
2. Some courses taken to satisfy the General Education Requirements may also be applied simultaneously to the American History and Institutions Requirement.

We propose to eliminate one of the General Provisions: No more than two courses from the same department may apply to the General Education Requirements (except if the student completes one of the approved three course sequences or an approved minor or double major).

The elimination of the General Provision prohibiting more than two courses per department also mirrors the College of Letters and Science who does not have that provision.

Background on the Depth Requirement

The Depth Requirement was added to the College of Engineering General Education program in 1986 as a response to a memo from the Accreditation Board for Engineering and Technology
ABET) requiring students select some humanities and social science courses at an advanced level. The requirement was not intended to increase the total number of General Education courses a student completed, but to provide students with depth in one or two fields rather than a set of unrelated courses. ABET removed this requirement from their criteria in the late 1990s as they shifted to an outcomes-based approach. Today, ABET simply requires the curriculum to contain a general education component that complements the technical content of the curriculum and is consistent with the program and institution objectives.

The Depth Requirement has evolved over the years to its present form, in which students can fulfill it in one of three ways: (1) Two classes in each of two departments (four courses total), where at least one course in each department is upper division, (2) completion of a three-course sequence all from one campus department where sequences are available, or (3) completion of an approved minor or double major in a discipline encompassed by areas D, E, F, or G.

The courses students complete to meet the Depth Requirement also fulfill GE General Subject Area (Areas D, E, F, G) and Special Subject Area (Writing, Ethnicity, and European Traditions) Requirements in the GE program.

In spite of several amendments over the years to add flexibility for students, the requirement has remained confusing and unwieldy for many students to comply with.

Rationale

There are three primary reasons the College proposes to make modifications to the General Education program: (1) the change brings the GE program into harmony with the College of Letters and Science Bachelor of Science GE program and allows students more space to explore their interests; (2) inflexibility of student curriculums makes the Depth Requirement infeasible for students; (3) ultimately, this change has no impact on the total number of courses a College of Engineering student is required to complete.

(1) According to College records, 60-70 students change their major from the College of Letters and Science to the College of Engineering each year. A similar number of students change from the College of Engineering to the College of Letters and Science. Students changing from Letters and Science to Engineering are often further behind in fulfilling the College of Engineering GE requirements as they have not been preparing for the complicated course pattern. Students who are dual college double majors must fulfill requirements in both Colleges (approximately 18 students are currently dual college double majors). Updating the College of Engineering GE requirements to be more similar to the College of Letters and Science GE requirements would create a smoother transition for change of major and double major students.

We propose to broaden the European Traditions requirement so that a student may choose one course from either the European Traditions or World Cultures lists. In response to
feedback from CCGE and the UGC we looked back at memos from 2004-05. The campus underwent a significant change to general education in 2004-05 involving the elimination of Areas E1 (Western Civilization) and E2 (World Civilizations and Thought) and the creation of Area E (Culture and Thought). The College of Engineering added the European Traditions special subject area requirement. At the same time, the College of Letters and Science added the World Cultures special subject area requirement for their BS degree requirements and added a World Cultures and European Traditions requirement for the BA degree requirements. In 2004, correspondence between the Chair of the Undergraduate Council and the Engineering FEC (see Appendix IV) suggest there was an oversight in revising the College of Engineering GE regulations to mirror those in the College of Letters and Science (e.g., the Engineering GE referred to courses in Area E1, which no longer existed), and the College of Engineering regulations were expediently updated in 2005 without a sufficient period of debate. Our more recent conversations with the Director of Academic Advising in the College of Letters and Science suggests that World Cultures was retained in the Letters and Science BS requirements as it was anticipated that students would have a hard time not taking European traditions courses while satisfying two Area E requirements. Currently, 65 courses at UCSB are on the European Traditions list, and 186 courses are on the World Cultures list. In the interest of providing maximum flexibility for our students, we feel requiring students to choose one course from either list would make the most sense.

The College of Letters and Science does not have a General Provision prohibiting more than two courses per department being applied to the GE requirements. This provision appears antiquated and uninformed by current GE practice. UCSB’s GE areas (D, E, F, G, etc.) are not based on departments, instead, they are structured around learning outcomes and objectives. The Committee on Courses and General Education (CCGE) are tasked with evaluating courses to ensure they meet the objectives and learning outcomes in the GE area proposed regardless of the course’s home department. It seems irrational to limit students to two courses in a department if that department offers interdisciplinary courses approved for multiple GE areas. Students should be encouraged to explore their interests. Breadth of learning will be ensured by the GE requirement pattern.

(2) When the Depth Requirement was created, seats in courses were more abundant. Students could plan certain course paths and patterns and predictably get a seat in those courses. Today, seats are more limited and students try to plan their GE courses only to find the course is full. Another common problem is that the last course a student needs to complete the Depth Requirement will conflict with a required course for their major, which may require they stay an additional quarter or attend community college for a term.

Transfer students, even those who have completed IGETC at their home institution, are also disadvantaged by the Depth Requirement. In the College of Letters and Science, students who have IGETC, are given credit for all GE requirements. Current policy mandates that, in the College of Engineering, students with IGETC must still complete the Depth Requirement unless they completed an approved sequence at their community college. Eliminating the Depth
Requirement would benefit transfer students with IGETC and bring the College of Engineering policy in-line with the College of Letters and Science policy.

Anecdotally, advisors see most students planning their Depth Requirement courses around what courses they have pre-matriculation credit for versus taking what interests them. For example, a student who has lower-division History course credit from the AP US History exam, will take an upper division History course to fulfill half their Depth Requirement even if they dislike History and would prefer to take a Religious Studies course. By removing the Depth Requirement, students will have more flexibility to explore courses that pique their curiosity in an area they have never explored.

(3) Finally, we wish to reiterate, the Depth Requirement was never intended to increase the number of courses a student completes to satisfy their GE requirements. In both the proposed GE program and the current GE program, students can complete the requirements in the same number of courses.

We feel the objectives of the College of Engineering GE program are protected under these proposed modifications.
Appendix I

Updated Santa Barbara Regulation 205(C)(2)

205. General Education Requirements for the Degree of Bachelor of Science (Engineering)

To be recommended for the degree of Bachelor of Science, a student in the College of Engineering must satisfy the following requirements.

A. Area A: English Reading and Composition

Two courses must be completed in this area and taken for letter grades. Writing 2 or 2E, and Writing 50, 50E, 107T or 109ST are required. (Am 9 Mar 06; Am 26 Jan 12)

B. Areas D, E, F, and G: Social Sciences (Area D), Culture and Thought (Area E), Arts (Area F), and Literature (Area G)

A minimum of six courses must be completed in these General Subject Areas. Students must follow the pattern of distribution shown below.

1. Area D: a minimum of two courses must be completed in this area.
2. Area E: a minimum of two courses must be completed in this area.
3. Area F: a minimum of one course must be completed in this area.
4. Area G: a minimum of one course must be completed in this area.

C. In the process of fulfilling the General Subject Area Requirements, students must fulfill the following Special Subject Area Requirements:

1. Writing Requirement: At least four courses, each of which requires the writing of one or more papers totaling at least 1,800 words. In addition to those indicated courses, Engineering 101 and Engineering 103 may be used toward satisfaction of the writing requirements, although they will not satisfy the General Education Requirement. Once a student has matriculated at UCSB, the writing requirement may be met only with designated UCSB courses.
Computer engineering, electrical engineering, and computer science students for whom Engineering 101 is required **MAY** use it toward fulfillment of the writing requirement.

2. **One course that satisfies the Ethnicity Requirement.** Courses satisfying this requirement may also be used in satisfaction of the University American History and Institutions Requirement if so designated.

3. **One course that satisfies the European Traditions or World Cultures requirement.**

**D. General provisions relating to these General Education Requirements:**

1. A course listed in more than one General Subject Area can be applied to only one area.

2. Some courses taken to satisfy the General Subject Area Requirements may also be applied simultaneously to the American History and Institutions Requirement, the Writing Requirement, the Ethnicity Requirement, the European Traditions Requirement, or the World Cultures Requirement. (Am 19 Nov 09)
Appendix II

College of Engineering
Bachelor of Science Degree
GENERAL EDUCATION REQUIREMENTS, 2017-2018 Catalog Year

General Subject Areas

Area A: English Reading and Composition
Writing 2 or 2E and Writing 50, 50E, 107T or 109ST

Areas D and E: Social Sciences, Culture and Thought (2 courses minimum):
_____________________, _____________________.

Areas F and G: Arts and Literature (2 courses minimum):
_____________________, _____________________.

Two additional courses from D, E, F, G, or H (Foreign Language):
_____________________, _____________________.

Special Subject Areas

a. Writing Requirement At least four courses which require the writing of one or more papers totaling at least 1,800 words.
_____________________, _____________________,_____________________,
_____________________.

b. Depth Requirement – Choose one of the following options:
Option 1: Completion of two classes in each of two departments (four classes total). At least one course in each department must be upper division - the other course may be upper or lower division. Only courses from American History and Institutions, General Subject Areas D, E, F, G, or H, or Special Subject Areas (Writing, Ethnicity, or European Traditions) may be used toward this requirement.
Course 1 (Lower or Upper Division) Course 2 (Upper Division)
Department 1 _____________________, _____________________.
Department 2 _____________________, _____________________.

Option 2: Complete a Three Course Sequence from the approved list on page 11.
_____________________, _____________________, _____________________.

Option 3: Complete an approved minor or double major, see page 11 for more information about this option.
c. Ethnicity Requirement – (1 course): ___________________.

d. European Traditions Requirement – (1 course): ___________________. 
Appendix III

College of Letters and Science
Bachelor of Science
GENERAL EDUCATION REQUIREMENTS, 2017-2018 Catalog Year

General Subject Areas

Area A: English Reading and Composition
Writing 2, 2E, or 2LK ________ and one of the following:
Writing 50, 50E, 50LK, 105AA-ZZ, 107AA-ZZ, 109AA-ZZ, or English 10, 10AC, 10EM, 10CC ________.

Area B: Foreign Language to be fulfilled in one of the following ways:
_____1. Completion of a college language course at level 3.
_____2. Satisfactory score on SAT Subject Test in a foreign language, or score of 3 or higher on Advanced Placement foreign language exam, or a score of 5 or higher on higher level International Baccalaureate Exam in a foreign language.
_____3. C or higher average in third year of high school foreign language.
_____4. Placement above level 3 on UCSB exam.

Area C: Science, Mathematics, and Technology
Three courses are required: _____________________, _____________________, _____________________.

Area D: Social Sciences
Two courses are required: _____________________, _____________________.

Area E: Culture and Thought
Three courses are required. _____________________, _____________________, _____________________.

Area F: The Arts
One course is required: _____________________

Area G: Literature
One course is required: _____________________

Subject Area Requirements

1. At least six approved courses which require the writing of one or more papers totaling at least 1,800 words.
________________________, ________________________, _______________________
________________________, ________________________, _______________________
2. At least one approved course in World Cultures (formerly called non-Western)

3. At least one approved course from Area C emphasizing Quantitative Relationships

4. At least one approved course which focuses on Ethnicity
September 22, 2004

TO: Faculty Executive Committee, College of Engineering  
c/o Terri Coleman

FM: Omer Blaes, Chair  
Committee on Undergraduate Academic Programs and Policy (CUAPP)

RE: Changes in General Education Area E

I am writing to inform you of a change in the General Education program general subject area E that was passed by the Faculty Legislature in spring 2004, because this change may affect engineering undergraduates.

Prior to the legislation, area E was called “Civilization and Thought”, and consisted of two sub-areas: E-1 (Western Civilization) and E-2 (World Civilizations and Thought). The legislation combined all the courses in areas E-1 and E-2 into a new area E called “Culture and Thought”. Areas E-1 and E-2 therefore no longer exist as separate entities. However, the legislation also created a new special subject area requirement entitled “European Traditions”, which currently includes all of the courses that used to be in E-1.

Unfortunately, the legislation was passed without actual proposed changes to the regulations of the Academic Senate, and as the new chair of CUAPP, I am now engaged in updating these regulations. There I discovered that engineering undergraduates are required to take four units of area E-1, which no longer exists! Could you advise me on what should be done? The course of action that would result in no practical change for engineers is to require them to take four units of European Traditions. All such courses currently in that special subject area still satisfy area E, so that they would also contribute to the engineering unit requirement in areas D and E. However, I should warn you that in future, there may be courses approved for European Traditions that are not in areas D or E.

For additional information, I attach a copy of the legislation that was actually passed. I would also be happy to meet with you in person to clarify matters, if necessary.

Cc: Randolph Bergstrom, Chair, Undergraduate Council
TO: Henning Bohn, Chair  
Academic Senate

FROM: Henry T. Yang

RE: Proposal to Establish a B.A. in Marine Science in the College of Creative Studies

The College of Creative Studies has proposed the establishment of a B.A. in Marine Science. The proposal has been reviewed and commented on by the Undergraduate Council, the Council on Planning and Budget, the Council on Research and Instructional Resources, the Executive Committees of Letters & Sciences and Engineering, Carol Genetti, Dean of the Graduate Division, and Jeffrey Stopple, Interim Co-Dean of Undergraduate Education, L&S. After broad campus consultation and an iterative sequence of reviews of drafts of the proposal, campus reviewing agencies indicated their support for the proposal. Undergraduate Council at its February 22, 2018, meeting voted unanimously to approve the establishment of the B.A. degree in Marine Science in the College of Creative Studies.

In its approval memo of February 22, 2018, Undergraduate Council stated:

The initiators have developed a well-crafted and academically strong proposal for a B.A. in Marine Science, which brings together UCSB’s outstanding interdisciplinary strength in this area. The reputation of the faculty, coupled with the campus location, opportunities for research, and possibilities for program specialization, result in an attractive major that is expected to draw creative and motivated students. The individualized curriculum, selected in consultation with a faculty mentor, will prepare undergraduates for placement in top graduate programs and a wide variety of nonacademic careers.

I have reviewed the proposal and all of the supporting documentation. I concur with the recommendation of Executive Vice Chancellor Marshall and endorse the proposal. With my endorsement, the proposal can be placed on the Agenda of a future meeting of the Faculty Legislature. The Faculty Legislature has final approval authority.

cc: David Marshall  
Toby Lazarowitz  
Debra Blake
March 8, 2018

To: Henning Bohn, Chair
    Academic Senate

From: David Paul, Chair
    Undergraduate Council

Re: Proposal to Establish a B.A. in Marine Science in the College of Creative Studies

The Undergraduate Council (UgC) has completed its review of the proposal to establish a B.A. in Marine Science in the College of Creative Studies (CCS).

The initial iteration of the proposal was distributed to the Council on Planning and Budget, the Council on Research and Instructional Resources, the Graduate Council, the L&S and Engineering Faculty Executive Committees (FECs), Carol Genetti, Dean of the Graduate Division, and Jeffrey Stopple, co-Interim Dean of Undergraduate Education. Though the concept for the new degree was well received, the reviewing agencies pointed to a number of issues that needed to be addressed before the proposal could proceed. Areas of concern included the resource limitations of impacted departments that house courses identified as preparation for the major, the need for consultation with the Bren School and the Department of Environmental Studies, questions of FTE and workload, and various aspects of the program’s relationship with the Interdepartmental Graduate Program in Marine Science (IGPMS). These concerns were conveyed to CCS with a request for revisions. A revised proposal, including detailed responses to each concern and new letters of support was submitted by CCS on December 5, 2017.

A second round of review took place over the winter quarter. The reviewing agencies were asked to comment on the revised proposal package; their feedback informed UgC’s consideration. CRIR opted not to opine. The remaining reviewing agencies expressed their support for the proposal, noting that their earlier concerns had been satisfactorily addressed. UgC unanimously voted to approve the proposal at its meeting of February 22, 2018.

The initiators have developed a well-crafted and academically strong proposal for a B.A. in Marine Science, which brings together UCSB’s outstanding interdisciplinary strength in this area. The reputation of the faculty, coupled with the campus location, opportunities for research, and possibilities for program specialization, result in an attractive major that is expected to draw creative and motivated students. The individualized curriculum, selected in consultation with a faculty mentor, will prepare undergraduates for placement in top graduate programs and a wide variety of nonacademic careers.

We recommend that the proposal be presented to the Faculty Legislature for final approval, contingent on prior endorsement by the Chancellor.

CC: Debra Blake, Executive Director
December 4, 2017

To: Stephan Miescher, Chair
   Undergraduate Council

From: Kathy Foltz, Interim Dean
       College of Creative Studies

John Latto, Chair
College of Creative Studies, Faculty Executive Committee

David Valentine, Professor
Earth Science and College of Creative Studies

Re: REVISED proposal to establish a B.A. in Marine Science in the College of Creative Studies

The College of Creative Studies has reviewed the comments on our original proposal for a new major in Marine Science. We are appreciative of the various reviewing bodies’ and especially Undergraduate Council’s support and the time spent on evaluating the proposal. As suggested, we are submitting a revised proposal, the original letters, and importantly, several new and additional letters. The CCS Faculty Executive Committee has reviewed and endorsed the revised proposal. Below, we also provide clarifications in response to specific concerns as directed by Undergraduate Council. Please feel free to contact us if you require additional information.

Overview
In preparing the initial proposal we were keenly aware of the resource limitations caused by soaring enrollment, and the proposal was developed with existing campus constraints in mind. Our discussions with the relevant Departments were positive and all indicated that the small numbers of students involved (10 per year) in the proposed program could be accommodated. Further, it is important to realize that admission to CCS is through a supplemental application; at least some of the CCS majors in any given year would otherwise enroll in an L&S major. Given the strongly positive support from the affected Departments, and our explicit recognition of the emerging impaction within MLPS, we were caught somewhat off guard by the negative recommendation of the L&S FEC. As such, we have carefully revisited the issues, consulted again with key Departments and Deans, and secured additional letters of support.

Response to comments requesting additional consultation and letters

We initially selected the departments and programs with which we consulted based upon the potential for impact caused by the courses proposed for the major. We originally requested, but did not receive, a letter from Environmental Studies. We felt comfortable moving forward because our in-person discussions with relevant faculty indicated a high degree of support, and because no Environmental Studies courses were required for the major. In the case of the Bren School, we had
extensive in-person discussions about the program with the Dean, and he suggested the inclusion of Chris Costello as a faculty advisor in the area of Marine Economics (a specialty that is expected to be rather rare in the CCS Marine Science program), but otherwise, he felt that a letter would not be needed due to the lack of curricular overlap. In response to the review of the initial proposal, we now provide a letter from the Dean of the Bren School. Similarly, we consulted at length with the Environmental Studies Department, and have secured a letter of support from the Chair.

**Response to comments about the relationship of the Marine Science Major and the Interdepartmental Graduate Program in Marine Science (IGPMS)**

Multiple reviewing bodies commented on the relationship and impact of the CCS Marine Science Major on IGPMS. In this revised proposal, we have addressed specific points related to the IGPMS component of the major. We have consulted extensively with IGPMS faculty and provide a new letter from IGPMS endorsing our revised proposal.

As suggested by CPB, we are keen to explore options for linking the new CCS LSOEs to teaching roles within IGPMS, directly or indirectly. One of the primary recommendations to come from the IGPMS ERC review is that IGPMS needs some control over their core course offerings (they have no FTE and no teaching budget). We will be pleased to pursue any arrangement involving the new LSOE(s) that aids IGPMS in stabilizing its core course offerings. One possible option is a course buyout wherein either CCS or IGPMS buys out ladder faculty from L&S or Engineering to teach select core courses. CCS would-support a mechanism by which IGPMS was given funds for course buyouts with an agreement that spaces would be made available for CCS majors. A second option, and the preferred one, would involve the new LSOE(s) teaching select core courses within IGPMS. The key to enabling this option is to engage IGPMS during the hiring process for the LSOE, to identify candidates capable of teaching one or more core courses.

Multiple reviewing agencies commented on the content of IGPMS’ original endorsement letter and the role of CCS students in the program. We believe that an explanation of the context helps alleviate these concerns. At issue is the dual use of IGPMS core courses (Chemical Oceanography, Geological Oceanography, Physical Oceanography, Biological Oceanography, and now Marine Ecology) for CCS Marine Science students and graduate students. One important factor that was not clearly presented in the original proposal is that these courses typically have an undergraduate section, and nearly always have some undergraduate enrollment. However, the main issue that arose from the review is whether CCS Marine Science Majors will be able to handle the rigor of graduate curriculum. The reality is actually quite the opposite. We expect that the CCS Marine Science majors, as a collective, will be better prepared for these classes than the IGPMS cohort. The underlying reason for our assertion is that the IGPMS students come from a broad range of backgrounds, and many have an in-depth background in only one core area (e.g., they know Chemistry very well, but they have taken few or no courses in biology, dynamics or geology); many have never taken a course in oceanography. The result of having a cohort with such disparate backgrounds is that the core courses are taught at a relatively basic and integrative level. In contrast, the CCS cohort are expected to have taken significant numbers of oceanography courses (including CCS 100A and 100B). They will also choose their (2) topical oceanography courses based on their disciplinary interest, meaning they are likely to have taken other courses in the relevant core discipline (i.e., Biology, Geology, Chemistry, Physics, Conservation).
While we recognize the formal requirement that the graduate section differ from undergraduate section, logic supports a case for similar difficulty levels based on the backgrounds of the students in these programs. We have previously discussed these thoughts with IGPMS and the wording of the IGPMS letter partially reflected these discussions (note that IGPMS first acknowledged that CCS students have done well in their core courses before stating that they wouldn’t alter the content of their courses). We also note that several of the Instructors for the IGPMS core courses are also proponents of this proposal, providing an added level of assurance as to the integration of the two programs.

It was pointed out that one of the issues raised in the recent Program Review of IGPMS was about the adequacy of campus facilities. However, the External Review Committee’s comments were specifically as they relate to the recruitment and retention of new marine faculty. While some of the physical facilities are in a state of disrepair, numerous facilities are new or recently renovated, and overall the conditions are quite good for the conduct of research by undergraduate students. In fact, the IGPMS review found that the overall research environment was excellent for graduate students, a finding we expect to translate directly to CCS Marine Science majors (or any undergraduates) who engage in marine research.

In his letter, the MLPS Dean points to the creation of this Major as a potential step toward a Marine Science Department. However, the most recent Program Review of IGPMS was not supportive of the formation of a new Department. By creating a Marine Science Major in CCS, we are meeting Marine Science’s obligation to Undergraduate education without the immediate need for a Department. This year’s external review of IGPMS also found the program to be in good health and resulted in several key recommendations, notably including adequate staffing (i.e, presently IGPMS has only 0.5 staff FTE, leading to a situation where IGPMS faculty perform staff functions on a volunteer basis), and control over its core course offerings (presently IGPMS has no course budget and no FTE). We see several potential synergies between the programs that can be leveraged for joint benefit. These include the ability to staff core courses (per the discussion above); bolstering of the IGPMS seminar series with support from CCS; expansion of marine science course offerings; and potential to feed CCS Marine Science graduates into the IGPMS MS program.

Response to concerns about administrative and instructional coverage

The L&S FEC raised the issue of administrative and instructional coverage. The administrative coverage for the major will reside entirely within CCS, not within IGPMS or MSI. We agree a split would be impractical and never intended to imply that such a split would exist. The space needs of the major will also be met within CCS. The issue of instructional coverage is somewhat more complex, as is true of all majors. In this case, of the 11 ‘new’ courses, 5 are truly new (Marine CS 100A, 100B, 106, 109 and 199), and 6 exist already by other course codes (Marine CS 101, 102, 103, 104, 105 and 160). The 5 truly-new classes will be administered exclusively by CCS. The 6 existing courses will be administered jointly with IGPMS and its Cognate Departments (EEMB, Earth Science, and Geography); because these courses are provided in a ‘take 2 of 6’ menu fashion, we are not overly-concerned about strict, on-sequence availability.

Undergraduate Council “raised concerns about the leadership for the program as the LSOE has yet to be hired and it is not uncommon for searches to be delayed.” Ladder faculty on campus are enthusiastic about the new major and have indicated a desire to serve on the program committee in advising and admissions roles. Professor Dave Valentine will be the principle leader of the program
at the outset and we have requested course release time for this. Since the new courses to be
developed are upper division courses, this provides buffer time between launching the major and
the hiring of the LSOE.

The workloads for the 50% LSOE(s) match(es) well to the proposed structure. The first LSOE will
teach 100A, 100B, and 109, leaving room for programmatic development, advising, and course
development. Eventually we would expect the load to increase to four courses, depending on the
advising and other programmatic responsibilities. The second (50%) LSOE would be expected to
teach 106, and to work with the first LSOE toward splitting 100A, 100B and 109, and toward
developing new courses. The teaching load of the second LSOE could also be used toward the
topical courses (Marine CS 101, 102, 103, 104, 105) if needed or desired by IGPMS. By this vision,
we anticipate development of 1-3 new courses by the LSOEs beginning circa 2021. In his original
letter, the MLPS Dean suggests the two LSOEs be allocated up-front, with the second authorized
contingent upon adequate program development. We fully support this approach, which allows for
cohesive long-range planning, and are including these positions in our annual FTE plan (contingent
on approval of the major). We also note that the new courses developed in CCS will be available to
L&S students as appropriate.

Response to specific concerns raised by other reviewing bodies

Our responses above cover the key issues distilled by Undergraduate Council, and here we consider
a handful of issues specific to other reviewing agencies.

Graduate Council suggested we solicit feedback from IGPMS graduate students who might be
affected by the new major. Although not formally included in the proposal, consultation with
IGPMS graduate students (and existing CCS undergraduates) helped to shape the initial proposal.
IGPMS is a tight-knit community, perhaps because students and faculty work and live with each
other at-sea for weeks at a time, which enabled these discussions (note that nearly all the
proponents are also IGPMS faculty). Furthermore, the IGPMS ERC discussed this with students
during their visit. The take-away from these discussions was that the undergraduate major would
provide a number of enrichment opportunities and synergies for the IGPMS students (particularly
in the area of research mentorship), and that negative impacts were perceived to be minimal.

The Committee on Planning and Budget suggested that we carefully examine the workload
demands of the new CCS Marine Science FTE, particularly the demands in the cognate department.
This is an issue for which CCS is acutely aware as all CCS FTE are 50% CCS and 50% in a cognate
department. Our plan for these positions is to work with our likely cognate departments to match
expertise and workload needs, in parallel with the formation of the search committee (see above).
We fully recognize the importance of this issue and thus embed it into the process. Our model for
the search process will draw on CCS’ search process, and borrow successful aspects of IGPMS’
interdisciplinary search procedure as well. A related aspect of the workload distribution is to
determine how best to manage the (possible) teaching of an IGPMS core course within the
framework of the joint appointment.
Revised Proposal for a program of undergraduate studies in Marine Science for the B.A. degree.

1. Introduction

A. Rationale for the Marine Science Degree Program

We live in a world dominated by Oceans. Seventy-one percent of the Earth’s surface is covered in salty water; seaside population density is growing and is currently nearly six times greater than inland habitation. Within the United States over half the population lives within 50 miles of the coast. Worldwide, societies increasingly depend on Oceans. Oceans regulate climate, enhance recreation, allow transportation of people and goods, and hold immense biomedical potential and species diversity. Ships carry more than 90 percent of transnational trade and underwater cables account for roughly 50 percent of transnational communication. The ocean is mined for minerals like copper, gold, diamond and salt, drilled for resources like petroleum and gas, and is being viewed as home for wind- and wave-generated power. Fish remain one of the world’s dominant protein sources. It is unsurprising that the world’s population is slowly migrating to the sea.

While the Oceans provide a bounty of opportunity they also face global-scale changes including acidification, warming, pollution, ecological upheaval and sea level rise. Locally, the California coast faces its own set of challenges including harmful algal blooms, overfishing, invasive species, oil spills, plastic pollution, coastal erosion and runoff, and disease. Addressing these issues requires knowledgeable people to help inform the populace and to guide strategic economic, political, and scientific decisions.

This proposal seeks to establish a B.A. degree in Marine Science in the College of Creative Studies (CCS), with a broader goal of training students to understand and steward the Oceans while capitalizing on their bounty. The program of study will be flexible and research oriented, the hallmarks of CCS, in order to capitalize on the quality, quantity and breadth of marine science research at UCSB. From this academic setting, the mission of the program can be achieved: to educate and prepare students for graduate study at top programs, and to provide employable skills that will benefit the student for a career in marine science including its interface with society.

By offering a research-based major in Marine Science, UCSB will fill a niche that plays to campus strengths, being uniquely enabled by location, faculty and structure. The proposed Marine Science major will leverage campus expertise in marine science which includes the Marine Science Institute, the Interdepartmental Graduate Program in Marine Science, and the presence of approximately 50 marine science laboratories spread across a wide range of departments (e.g., Geography, Earth Science, Chemistry and Biochemistry, Ecology Evolution and Marine Biology, Mechanical Engineering, Molecular, Developmental and Cellular Biology), programs (e.g., Environmental Studies), schools (Bren) and organized research units (Marine Science Institute, Earth Research Institute). Holistically, offering a Marine Science major at UCSB will reinforce and strengthen our existing reputation in Marine Science, built from our graduate program and the research strength embodied in the Marine Science Institute and its
cognate departments. This proposed program of study fits squarely within the Campus’ strategic academic plan as it builds on an area of existing excellence, leverages existing campus resources, builds upon the interdisciplinary theme of environment, and is a program for which we have a strong comparative advantage over other Universities.

B. Aims, Objectives, and Distinctive Features

The vision of the faculty for this program is to produce alumni of exceptional quality for whom education and knowledge are deeply rooted in research. We envision becoming a feeder for the top marine science graduate programs in the nation and the world, eventually becoming the preeminent institution for undergraduate preparation in marine science research. We also envision this program eventually developing a partnership with the Interdepartmental Graduate Program in Marine Science, to matriculate our high-quality students into a 5th year M.S. program. This vision fits squarely within that of CCS, and is within our reach because of UCSB’s reputation as a center of excellence in marine science research and graduate education.

To prepare our students as future leaders in Marine Science they will engage in coursework spanning disciplines of chemistry, math, physics, Earth science, oceanography, biology, geography, statistics and computer programming. In addition, six distinctive features embody the goals of excellence, independence and creativity within the CCS Marine Science major:

1. **Flexibility.** The design of the curriculum allows flexibility for students to develop expertise and pursue their intellectual curiosity. Aside from core requirements, courses are chosen in consultation with their faculty mentor. This flexibility will allow students who so wish to incorporate courses in the social sciences and humanities that allow them to more effectively apply their expertise in Marine Science to societal problems.

2. **Faculty mentorship.** Following from the success of the CCS Biology major, all students majoring in Marine Science will be mentored by a faculty member with whom they share research interests. Contact will be assured using the quarterly advising model, which requires that student and mentor meet regularly. By matching students with faculty according to shared research interest, we seek to develop a true mentoring relationship that goes beyond that of advisor, and that best guides students through the multiple disciplines encompassed by their research interests. Additionally, students will benefit from the advice and guidance of the CCS Staff advisors.

3. **Peer mentorship.** In order to develop and sustain a unique culture to CCS Marine Science and to best serve the students, each first-year student will be paired with an upperclassman with similar interests. This will provide an additional resource for each student, and a further contact for questions regarding school or research. Until there are third or fourth year students, students may be paired with existing graduate students in IGPMS for mentorship. This aspect of the program will be gradually incorporated, hopefully reaching fruition after ~3 years.

4. **Synergy with IGPMS.** The IGPMS is a stand-alone graduate program offering M.S. and Ph.D. degrees in Marine Science. The two programs have potential for synergy with common faculty, research laboratories, cross-listed courses and research seminars. In these ways, the CCS Marine Science major will leverage the IGPMS. Ultimately, the CCS Marine Science program will look to develop a 5-year M.S. degree with IGPMS.

5. **Research emphasis.** At the core of the CCS Marine Science degree is the passion for creative activity, in the form of research. Borrowing again from other CCS majors, the
program will be developed toward a culture of research and creative activity that actively places students into research laboratories and groups across campus. From admissions to formal courses to mentorship, students will be encouraged to seek research opportunities, and introduced to such opportunities.

6. **Student progress.** The CCS Marine Science program will monitor student progress not only through staff advising and faculty-mentorship, but also through a formal mid-career (fourth quarter) review in which the student meets with a faculty committee to review the student's record and to assess their progress and fit to the program. The timing of this review is such that students for whom CCS is not the right fit may transfer to STEM disciplines in the College of Letters and Sciences, without causing delay in their progress.

Beyond these six distinctive features, the students in CCS Marine Science would also enjoy CCS privileges including the lack of unit cap, priority registration, late drop deadlines and employment of variable unit / no record grading within CCS courses. Furthermore, in light of UCSB’s standing as a Hispanic-Serving Institution, and in keeping with CCS’s initiative to seek NSF support for underrepresented minorities and first-generation college students in STEM disciplines, if this program of study is approved, it will work with other CCS STEM majors to attract and support underrepresented minority students and first generation college students.

C. **Timetable for the Development of the Program**

The CCS Marine Science program is targeted to begin Fall of 2019. Approval of the program in Winter 2018 will provide a full academic year for finalizing requirements, hiring an LSOE, and course approvals. This timetable would also allow us to announce the major in Spring or Summer, 2018. For each year, we expect to matriculate approximately ten to twelve students in the major, including transfer students, which corresponds to roughly 40-50 students in the CCS Marine Science program by Fall 2022.

D. **Relationship of the Program to Existing Programs and the Campus Academic Plan**

UCSB is considered a top institution for research and graduate training in marine science, as evidenced by the most recent NRC rankings of graduate programs. The prominence of the campus in this area is driven largely by our IGMPS, which offers graduate degrees in Marine Science, and the Marine Science Institute, an organized research unit that manages the research endeavors of affiliated faculty and other marine science scholars. The faculty contributing to MSI and IGPMS are themselves distributed across departments and schools, including MLPS (EEMB, MCDB, Earth Science, Geography, Chemistry and Biochemistry), CoE (Mechanical Engineering), and the Bren School. While there is no department of marine science, the need to sustain excellence in marine science is being addressed by the marine initiative, which annually provides a consensus marine FTE plan to the EVC. This initiative has met with success, leading to 5 hires in as many years. However, one important component is missing from the campus’ marine science profile – an undergraduate major, particularly given our strength in undergraduate education.

The CCS Marine Science degree will appropriately fill the gap in our present marine science profile, by providing a Bachelor's degree in Marine Science. This proposal fits perfectly within the Campus’ strategic academic plan as it builds on an area of existing excellence, leverages
existing campus resources, builds upon the interdisciplinary theme of environment, and is a program for which we have a strong comparative advantage over other Universities.

By the vision of this major, high caliber students will be recruited from outside the University, both as Freshmen and as transfer students, and with a relatively-low level of internal transfers from other majors in L&S, CCS or CoE. The operation of the CCS Marine Science major is expected to intersect with several existing programs: CCS Biology, EEMB, MCDB, CCS Chemistry and Biochemistry, Chemistry and Biochemistry, IGPMS, Earth Science, Environmental Studies, Geography, Math, Mechanical Engineering and Physics. In these cases, the CCS Marine Science majors may seek to enroll in courses offered by these entities, for either lower division preparation or upper division specialization. The impacts at the lower division are expected to be miniscule because only 10-12 students are expected in each cohort. Further, we anticipate that the major initially will attract students who would otherwise enroll in one of the other STEM fields at UCSB, and would thus be in these courses anyway. Note that students in CCS are admitted through a secondary, supplemental application after application and acceptance to UCSB through the normal process. We do note, however, that roughly 50% of first year CCS students indicate that they would not have chosen UCSB if they had not been accepted to CCS. Thus it is hard to predict the exact impact of 10 students on any given course. The impacts are expected to be even less at the upper division level because each student will have an individualized curriculum, effectively spreading extra student enrollment broadly across relevant programs. Other relationships will be more defined, including: select courses presently offered for IGPMS students by EEMB, Earth Science and Geography; occasional buyout of courses from the cognate departments to enable ladder faculty to teach a course in CCS Marine Science as desired; and the opportunity for some L&S students to take select courses in CCS Marine Science. These same Departments and programs will serve as the likely ‘relief valve’ for students that change their interests during the course of the program, and to whom L&S education is the more fitting academic model (e.g., those who are not research oriented or seek a more structured program). Lastly, the program will relate in multiple ways to the IGPMS, through the sharing of course lectures, research seminars, common overlapping faculty, and potentially through the development of a 5-year B.S./M.S. degree.

E. Interrelationship of the Program to Other University of California Programs

Graduate programs in California and elsewhere in the United States already exist in this domain, but the proposed CCS Marine Science major is distinctive from other programs at the undergraduate level. By its foundation in research, the CCS Marine Science major is unique to the University of California system. Furthermore, the program is distinctive in being housed on the main campus, as opposed to the off-campus UC marine labs - Bodega, Long and Scripps. Lastly, the proposed major stands out because of its multidisciplinary perspective and the freedom by which students and their faculty mentors can develop the course of study. The following discussion focuses on related programs at other University of California campuses (UC San Diego, UC Santa Cruz, UC Berkeley, UC Davis, and UC Los Angeles), highlighting the special niche that a program at UCSB will fill.

UC San Diego is home to the Scripps Institution of Oceanography. While UCSD offers a newer undergraduate option in Marine Biology and a minor in Marine Science, interdisciplinary oceanic education is found only at the graduate level. At UC Santa Cruz, the situation is similar. Despite a strong doctoral program in Ocean Sciences, the parallel undergraduate major is Marine Biology
and only a concentration in ocean sciences is offered. UC Berkeley offers an interdisciplinary marine science undergraduate program, but with heavy emphasis on geochemistry and biology and without the flexibility or research focus of the proposed CCS program.

UC Davis offers the most interdisciplinary option in their new Marine and Coastal Science undergraduate degree, which was started only in the past two years. While their degree spans the options of coastal environmental processes, marine ecology, marine chemistry, and ocean systems, it is not a comprehensive program that allows students to explore realms beyond biology and chemistry. Interestingly, a prime architect of the UC Davis program is an alumnus of IGPMS and applied UCSB’s interdisciplinary model to form this new program. UC Los Angeles offers a BS degree in Atmospheric, Oceanic, and Environmental Sciences, which is the most similar to the proposed CCS degree. The UCLA program offers four concentrations, in oceanography, climate sciences, meteorology, and air pollution. Despite the interdisciplinary potential, the degree is mostly confined to atmospheric sciences. Although students may take a few requirements outside of the department, each exception must be petitioned. The structure is looser than that of other campuses, but still does not offer the flexibility of the proposed CCS Marine Sciences degree. There is also an absence of biological preparation, as even the introductory sequence is not required.

The most relevant relationship expected between the CCS Marine Science major and other UC campuses is serving as a feeder to several graduate programs at our sister campuses. Many CCS Marine Science alumni would be ideal candidates for top doctoral programs at Scripps Institution of Oceanography, UC Santa Cruz, UC Davis, UC Irvine and UC Santa Barbara, for example.

F. Department Support of the Program

The concept of this major was initiated by ladder faculty, most of them affiliated with IGPMS and many of them familiar with the CCS model. Development and subsequent revision of this proposal involved broad consultation, including in-person meetings with the Executive Vice Chancellor, The Dean of COE, The Dean of CCS, the Dean of MLPS, the Dean of the Bren School, and the Chairs of IGPMS, EEMB, Environmental Studies, and Earth Science. A draft of the proposal was circulated broadly and written input was requested and received from the Chairs of the following Departments/Programs: Earth Science, IGPMS, Chemistry and Biochemistry, Geography, EEMB, MCDB, Math, Physics, Writing Program, and PSTAT, and specifically for this revision, Environmental Studies. These Departments/Programs were selected because students in the major are expected to regularly seek enrollment in their courses. No letters were requested from COE Departments because course impaction will prevent regular enrollment of majors in COE courses. However, we consulted with the Associate Dean of Undergraduate Studies in COE regarding course options and impacts and were encouraged to include Engineering 3 as an option, as expansion of enrollment in this course is anticipated. Further, individual faculty within COE have expressed a willingness to allow select majors into their advanced courses, on an individual basis.

All the Departments queried were supportive of the new major. Several Departments engaged in extensive dialog regarding the impact of the new major on their existing programs, faculty and students, which led to constructive discussions about the functioning of the major. This engagement also identified a possible cognate Department, EEMB, with which to share the first
of two proposed LSOE. CCS is engaged with multiple Departments and divisional Deans to coordinate FTE planning.

Further, faculty who teach the IGPMS graduate courses are supportive of having CCS Marine Science undergraduate students in their classes. These courses would retain the graduate level of instruction with the expectation that the CCS students will be well prepared for the content (for the reasons explained in the revised letter from IGPMS). Given the small size of the major and that only 1-2 of the 5 shared courses are required, enrollment impacts should be minimal. However, if enrollment numbers increase, it may be necessary to provide Reader support for impacted classes. Further, the new courses developed in CCS will be open to L&S and CoE students.

Consideration of the original proposal, and now this revised proposal, within CCS was iterative and included a subcommittee assessment, as well as votes by the FEC and the faculty as a whole. All votes were unanimous in support.

G. Evaluation Plan for the Program

The program will undergo both formal and informal evaluation. The formal evaluation will be conducted as a component of the CCS external review process, which encompasses all the majors in the College. However, other forms of evaluation will be used to guide and modify the program. First, student feedback about the program will be solicited during the second-year review, a formal meeting at which the student and mentors discuss the student’s experience and path forward. Informal feedback will also be used in guiding the program and is readily received because of the close mentoring of students by faculty, who meet at-minimum once per quarter, and often more frequently through research engagement. Finally, the annual major meetings in CCS will allow student feedback at a larger scale. A formal assessment plan of the proposed Program Learning Outcomes (see below) will also be implemented.

Meetings of the program faculty will be scheduled regularly for the first three years of the program and then adjusted as needed once the major is running smoothly. The purpose of these meetings will be to discuss curriculum, recruitment, student success, class development, advising strategies and general operations of the major, with an emphasis on program assessment. Program faculty are listed in Section IV, below.

II. Program

A. Specific Fields of Emphasis

The CCS Marine Science program will offer a B.A. in Marine Science. The B.A. is less restrictive than the B.S., allowing students to pursue a wide range of academic and research objectives, especially in the selection of upper division courses. This B.A. model has worked well for the CCS Biological Sciences degree, resulting in ~75% of the students pursuing graduate or professional programs. No formal emphases will be offered. However, each pairing of student and mentor is expected to develop an individualized curriculum, allowing each student to pursue
a specialization. This approach is enabled by the richness of existing course offerings. Examples of such specializations include but are not limited to:

- Paleoceanography
- Oceanic climate modeling
- Marine acoustics
- Ocean-atmosphere interactions
- Coral reef dynamics
- Deep sea exploration
- Oceanographic sensor development
- Marine virology
- Marine materials
- Ocean economics
- Fisheries
- Marine protected areas
- Marine resource policy
- Oceanic pollution
- Ocean biogeochemistry
- Marine geochemistry
- Ocean acidification
- Oceans in human history
- Marine politics

B. Required Courses and Electives

General education requirements will follow the model of other CCS majors with eight courses unrelated to the major and two related to the major required. Normally no more than two courses within the same department will count towards GE breadth. To qualify as a GE course, the class must be outside the scope of the major. Additionally, Students must fulfill the University Ethnicity requirement, American History and Institutions requirement and the Writing requirement.

Normal preparation for the major will entail foundation courses across the relevant disciplines of Chemistry, Biology, Earth Science, Engineering, Physics, Probability and Statistics, Math and Writing listed below. Individuals may work with their faculty advisor to replace particular courses with relevant research experience or other appropriate coursework. Individuals will work with their faculty advisor to tailor their courses to meet prerequisites specific to their intended specialization (e.g., Physics 1-5 in place of Physics 6A/AL, 6B/BL, 6C).

Biology CS 10/12
Biology CS 20
Biology CS 30
Chemistry 1A/1AL
Chemistry 1B/1BL
Chemistry 1C

Computer Science 8 Computing CS 20, or equivalent course approved by mentor
Engineering 3, or equivalent course approved by mentor
Earth 2 or 3
Earth 4 or GEOG 3A
Math 3A
Math 3B
Math 4A
Math 4B
MCDB 1A
Physics 6A/AL
Physics 6B/BL
Physics 6C
PSTAT 5LS
Writing 109ST or 105SW

Upper division coursework within the major must total at least 48 units and is divided into three categories: i) courses required of all majors; ii) core courses selected from an approved list; and iii) courses reflecting an upper division emphasis selected in consultation with the faculty mentor.

As overview, each student will be expected to take an introductory series of two upper division courses in their second year, Marine CS 100A and 100B, a capstone course in their final year, Marine CS 109, and two quarters of the Marine Science Research Seminar, Marine CS 160. These courses may be applied to their 48-unit requirement. Each student must also select at least two courses from the following options: Marine CS 101, Marine CS 102, Marine CS 103, Marine CS 104, and Marine CS 105, Marine CS 106. Six of these courses will share lectures or seminars with the IGPMS, creating close ties between the programs and the students.

Courses Required of All Majors
Marine CS 100A, Contemporary perspectives on the history of marine science (NEW)
Marine CS 100B, Modern practices in marine science (NEW)
Marine CS 109, The Sea off Southern California (NEW)
Marine CS 160, Research seminar in marine science (existing IGPMS research seminar)

Two (2) Core Courses Selected From this List*
Marine CS 101 Chemical Oceanography (= EARTH 266/GEOG 267)
Marine CS 102 Biological Oceanography (= EEMB 243)
Marine CS 103 Introduction to Physical Oceanography (= GEOG 263)
Marine CS 104 Geological Oceanography (= EARTH 276)
Marine CS 105 Marine Conservation and Ecology (= EEMB 242)
Marine CS 106 Marine Data (NEW)

*Note that Marine CS 101-105 are existing courses, offered as part of the IGPMS curricula, renumbered for cross-listing for this new major. These course instructors have been consulted and are supportive of having CCS Marine Students enrolled in their courses.

Upper Division Emphasis
The remainder of the upper division coursework is to be selected by the student in consultation with the faculty mentor, and will constitute the student's emphasis within the major. These will be selected from existing courses across campus (see below).
The design of the CCS Marine Science major incorporates specific learning outcomes, linked to courses and other activities as described in the following table.

### Table 1. Learning outcomes by course

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Course Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic proficiency in biology</td>
<td>Biology CS 10/12, 20, 30, MCDB 1A</td>
</tr>
<tr>
<td>Basic proficiency in chemistry</td>
<td>Chemistry 1A/1AL, 1B/1BL, 1C</td>
</tr>
<tr>
<td>Basic proficiency in physics</td>
<td>Physics 6A, 6B, 6C</td>
</tr>
<tr>
<td>Basic proficiency in mathematics</td>
<td>Math 3A, 3B, 4A, 4B</td>
</tr>
<tr>
<td>Basic proficiency in scientific writing</td>
<td>Writing 109ST or 105SW, Marine CS 100B</td>
</tr>
<tr>
<td>Basic proficiency in computer programming</td>
<td>Engineering 3, Computing CS 20, or other</td>
</tr>
<tr>
<td>Basic proficiency in Earth science</td>
<td>Earth 2 or 3</td>
</tr>
<tr>
<td>Basic proficiency in statistical methods</td>
<td>PSTAT 5LS</td>
</tr>
<tr>
<td>Familiarity with on-campus research activities</td>
<td>Marine CS 100B</td>
</tr>
<tr>
<td>Familiarity with and evaluation of cutting-edge research</td>
<td>Marine CS 160</td>
</tr>
<tr>
<td>Research experience</td>
<td>Selected from the point of admission and facilitated through courses (Marine CS 100A and 160), mentoring, and CCS culture</td>
</tr>
<tr>
<td>Proficiency in verbal communication of marine science through formal presentation</td>
<td>Marine CS 100A/B</td>
</tr>
<tr>
<td>Proficiency in disciplinary oceanography</td>
<td>Marine CS 102, 103, 104, 105, 106</td>
</tr>
<tr>
<td>Topical expertise in a sub discipline of marine science</td>
<td>Courses chosen in consultation with faculty mentor</td>
</tr>
<tr>
<td>Ability to synthesize principles from multiple disciplines in a regional framework</td>
<td>Marine CS 109</td>
</tr>
</tbody>
</table>

**C. Sample Program of Study Including Emphases**

The CCS Marine Sciences B.A. program will work within the existing framework of the university, allowing students to take full advantage of the diversity of courses offered. Table 2 is a sample schedule with the coursework divided into four categories: i) GE courses, ii) Required courses; iii) courses counting toward the UD emphasis, and iv) elective courses including research. Table 3 displays the associated unit breakdown and Table 4 provides a listing of UD courses that may be appropriate to count toward the UD emphasis.
Table 2. Exemplary program of study

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>Math 3A (4)</td>
<td>Math 3B (4)</td>
<td>Math 4A (4)</td>
</tr>
<tr>
<td></td>
<td>MCDB 1A (4)</td>
<td>Physics 6A/AL (4)</td>
<td>Physics 6B/BL (4)</td>
</tr>
<tr>
<td></td>
<td>Chemistry 1A/1AL (5)</td>
<td>Chemistry 1B/1BL (5)</td>
<td>Chemistry 1C (3)</td>
</tr>
<tr>
<td></td>
<td>Biology CS 10/12 (3)</td>
<td>Biology CS 20 (5)</td>
<td>Biology CS 30 (5)</td>
</tr>
<tr>
<td></td>
<td>16 Units</td>
<td>18 Units</td>
<td>16 Units</td>
</tr>
<tr>
<td>Two</td>
<td>Math 4B (4)</td>
<td>GE Course (4)</td>
<td>GE Course (4)</td>
</tr>
<tr>
<td></td>
<td>Physics 6C (3)</td>
<td>Geography 3A (4)</td>
<td>Earth 2 (4)</td>
</tr>
<tr>
<td></td>
<td>PSTAT 5LS (5)</td>
<td>Engineering 3 (4)</td>
<td>Marine CS 100B (4)</td>
</tr>
<tr>
<td></td>
<td>Marine CS 100A (4)</td>
<td>UD Emphasis (4)</td>
<td>UD Emphasis (4)</td>
</tr>
<tr>
<td></td>
<td>16 Units</td>
<td>16 Units</td>
<td>16 Units</td>
</tr>
<tr>
<td>Three</td>
<td>GE Course, Ethnicity (4)</td>
<td>GE Course (4)</td>
<td>GE Course (4)</td>
</tr>
<tr>
<td></td>
<td>UD Emphasis (4)</td>
<td>Marine CS 101 (4)</td>
<td>Marine CS 160 (1)</td>
</tr>
<tr>
<td></td>
<td>UD Emphasis (4)</td>
<td>UD Emphasis (4)</td>
<td>UD Emphasis (4)</td>
</tr>
<tr>
<td></td>
<td>Elective/Research (4)</td>
<td>Elective/Research (4)</td>
<td>Elective/Research (4)</td>
</tr>
<tr>
<td></td>
<td>16 Units</td>
<td>16 Units</td>
<td>13 Units</td>
</tr>
<tr>
<td>Four</td>
<td>GE Course (4)</td>
<td>GE Course (4)</td>
<td>GE Course (4)</td>
</tr>
<tr>
<td></td>
<td>Marine CS 102 (3)</td>
<td>Writing 109ST (4)</td>
<td>Marine CS 160 (1)</td>
</tr>
<tr>
<td></td>
<td>Elective/Research (4)</td>
<td>Marine CS 109 (4)</td>
<td>Elective/Research (4)</td>
</tr>
<tr>
<td></td>
<td>Elective/Research (4)</td>
<td>15 Units</td>
<td>Elective/Research (4)</td>
</tr>
<tr>
<td></td>
<td>15 Units</td>
<td>12 Units</td>
<td>13 Units</td>
</tr>
</tbody>
</table>

Table 3. Unit breakdown (for Table 2)

<table>
<thead>
<tr>
<th>Total</th>
<th>183</th>
</tr>
</thead>
<tbody>
<tr>
<td>GE Requirements</td>
<td>32</td>
</tr>
<tr>
<td>Required Courses</td>
<td>99</td>
</tr>
<tr>
<td>UD Emphasis</td>
<td>28</td>
</tr>
<tr>
<td>Elective</td>
<td>24</td>
</tr>
</tbody>
</table>

Table 4. List of courses that may be appropriate for the emphasis requirement (not exhaustive)

CHEM: Chemistry and Biochemistry

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 103</td>
<td>CCS Chemistry Seminar</td>
<td>110L</td>
<td>Introductory Biochemistry Lab</td>
</tr>
<tr>
<td>109B</td>
<td>Organic Chemistry II</td>
<td>109BH</td>
<td>Honors Organic Chemistry II</td>
</tr>
<tr>
<td>109C</td>
<td>Organic Chemistry III</td>
<td>109CH</td>
<td>Honors Organic Chemistry III</td>
</tr>
<tr>
<td>111</td>
<td>Chemical Kinetics</td>
<td>112A</td>
<td>Biophysical Chemistry I</td>
</tr>
<tr>
<td>115A</td>
<td>Quantum Chemistry I</td>
<td>113A</td>
<td>Physical Chemistry I</td>
</tr>
<tr>
<td>126</td>
<td>Computation Chemistry and Modeling</td>
<td>127</td>
<td>Structure/Reactivity in Organic</td>
</tr>
<tr>
<td>129</td>
<td>Synthetic Organic Reactions</td>
<td>142A</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>143</td>
<td>The RNA World</td>
<td>150</td>
<td>Analytical Chemistry</td>
</tr>
<tr>
<td>173A</td>
<td>Advanced Inorganic Chemistry I</td>
<td>112B</td>
<td>Biophysical Chemistry II</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Course Code</td>
<td>Course Title</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------------------------------</td>
<td>-------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>113B</td>
<td>Physical Chemistry II</td>
<td>115B</td>
<td>Quantum Chemistry II</td>
</tr>
<tr>
<td>118</td>
<td>Photochemistry and Radiation</td>
<td>125L</td>
<td>Biochemistry Lab</td>
</tr>
<tr>
<td>161</td>
<td>Enzyme Mechanisms</td>
<td>162</td>
<td>Drug Design</td>
</tr>
<tr>
<td>171</td>
<td>Bionorganic Chemistry</td>
<td>173B</td>
<td>Advanced Inorganic Chemistry II</td>
</tr>
<tr>
<td>184</td>
<td>Chemistry Literature</td>
<td>112C</td>
<td>Biophysical Chemistry III</td>
</tr>
<tr>
<td>112L</td>
<td>Biophysical Chemistry Lab</td>
<td>113C</td>
<td>Physical Chemistry III</td>
</tr>
<tr>
<td>115C</td>
<td>Quantum Chemistry III</td>
<td>123</td>
<td>Environmental Chemistry</td>
</tr>
<tr>
<td>133</td>
<td>Advanced Synthetic Chemistry</td>
<td>142C</td>
<td>Biochemistry III</td>
</tr>
<tr>
<td>145</td>
<td>Computational Biochemistry</td>
<td>147</td>
<td>Biochemical Origins</td>
</tr>
<tr>
<td>175</td>
<td>Physical Inorganic Chemistry</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**EARTH: Earth Science**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Introduction to Geophysics</td>
<td>104A</td>
<td>Field Geology Methods</td>
</tr>
<tr>
<td>105</td>
<td>Earth’s Climate</td>
<td>114</td>
<td>Geomaterials</td>
</tr>
<tr>
<td>103</td>
<td>Structural Geology</td>
<td>106</td>
<td>Introduction to Climate Models</td>
</tr>
<tr>
<td>111</td>
<td>Introduction to Paleontology</td>
<td>111L</td>
<td>Paleontology Lab</td>
</tr>
<tr>
<td>115</td>
<td>Analytical Methods</td>
<td>121</td>
<td>Principles of Evolution</td>
</tr>
<tr>
<td>123</td>
<td>The Solar System</td>
<td>124IG</td>
<td>Introduction to Geochemistry</td>
</tr>
<tr>
<td>130</td>
<td>Global Warming</td>
<td>134</td>
<td>Geological Data Analysis</td>
</tr>
<tr>
<td>150</td>
<td>Petroleum Geology</td>
<td>155</td>
<td>Petrotechtonics</td>
</tr>
<tr>
<td>173</td>
<td>Groundwater</td>
<td>182A</td>
<td>Marine Biogeochemistry</td>
</tr>
<tr>
<td>190</td>
<td>Advanced Paleobiology</td>
<td>102A</td>
<td>Igneous Petrology</td>
</tr>
<tr>
<td>122</td>
<td>Sediments and Stratification</td>
<td>135</td>
<td>Geophysics</td>
</tr>
<tr>
<td>157</td>
<td>Plate Tectonics</td>
<td>149</td>
<td>Mammal History</td>
</tr>
<tr>
<td>164B</td>
<td>Earth Systems Ocean-Atmosphere</td>
<td>168</td>
<td>Aqueous Transport</td>
</tr>
</tbody>
</table>

**EEMB: Ecology Evolution Marine Biology**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>Molecular Evolution</td>
<td>113</td>
<td>Evolution and Ecology Vertebrates</td>
</tr>
<tr>
<td>106</td>
<td>Biology of Fishes</td>
<td>113L</td>
<td>Lab/Field Vertebrate Biology</td>
</tr>
<tr>
<td>108</td>
<td>Vertebrate Evolution</td>
<td>117</td>
<td>Flow and Ecosystems</td>
</tr>
<tr>
<td>112</td>
<td>Invertebrate Zoology</td>
<td>120</td>
<td>Introduction to Ecology</td>
</tr>
<tr>
<td>142A</td>
<td>Aquatic Communities</td>
<td>142AL</td>
<td>Methods in Aquatic Communities</td>
</tr>
<tr>
<td>153</td>
<td>Lakes and Wetlands</td>
<td>157</td>
<td>Cell Physiology</td>
</tr>
<tr>
<td>168</td>
<td>Conservation Ecology</td>
<td>171</td>
<td>Ecosystem Processes</td>
</tr>
<tr>
<td>182</td>
<td>Communicating Ocean Science</td>
<td>111</td>
<td>Parasitology</td>
</tr>
<tr>
<td>129</td>
<td>Introduction to Genetics</td>
<td>131</td>
<td>Principles of Evolution</td>
</tr>
<tr>
<td>136</td>
<td>Principles of Paleontology</td>
<td>136</td>
<td>Paleontology Lab</td>
</tr>
<tr>
<td>138</td>
<td>Behavioral Ecology</td>
<td>142B</td>
<td>Processes in Oceans I</td>
</tr>
<tr>
<td>142BL</td>
<td>Methods Aquatic Environments I</td>
<td>146</td>
<td>Biometry</td>
</tr>
<tr>
<td>152</td>
<td>Applied Marine Ecology</td>
<td>163</td>
<td>Deep Sea Biology</td>
</tr>
<tr>
<td>179</td>
<td>Ecological Models</td>
<td>102</td>
<td>Macroevolution</td>
</tr>
<tr>
<td>170</td>
<td>Marine Land Interface</td>
<td>142C</td>
<td>Processes in Oceans II</td>
</tr>
<tr>
<td>142CL</td>
<td>Methods Aquatic Environments II</td>
<td>148</td>
<td>Stream Ecology</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Name</td>
<td>Credits</td>
<td>Course Name</td>
</tr>
<tr>
<td>------------</td>
<td>---------------------------------------------</td>
<td>---------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>176</td>
<td>Advanced Biostatistics</td>
<td>176L</td>
<td>Advanced Biostatistics Lab</td>
</tr>
<tr>
<td>155CC</td>
<td>Global Change Biology</td>
<td>149</td>
<td>Mariculture for the 21st century</td>
</tr>
</tbody>
</table>

**ECON: Economics**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>115</td>
<td>Environmental Economics</td>
<td>116A</td>
<td>Industrial Organization Principles</td>
</tr>
<tr>
<td>100B</td>
<td>Microeconomic Theory</td>
<td>101</td>
<td>Macroeconomic Theory</td>
</tr>
<tr>
<td>117A</td>
<td>Laws and Economics I</td>
<td>120</td>
<td>Urban and Regional Economics</td>
</tr>
<tr>
<td>189</td>
<td>Law and Ethics</td>
<td>127</td>
<td>Climate Change</td>
</tr>
<tr>
<td>122</td>
<td>Natural Resource Economics</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ENV S: Environmental Studies**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Environmental Ecology</td>
<td>106</td>
<td>Critical Thinking and Environment</td>
</tr>
<tr>
<td>116</td>
<td>Building Sustainable Communities</td>
<td>119</td>
<td>Ecology of California Wildlands</td>
</tr>
<tr>
<td>131</td>
<td>International Environmental Policy</td>
<td>134EC</td>
<td>Earth in Crisis</td>
</tr>
<tr>
<td>147</td>
<td>Air Quality</td>
<td>171</td>
<td>Ecosystem Processes</td>
</tr>
<tr>
<td>172</td>
<td>Waste Management</td>
<td>175</td>
<td>Environmental Economics</td>
</tr>
<tr>
<td>108O</td>
<td>History of Oceans</td>
<td>111</td>
<td>Channel Islands</td>
</tr>
<tr>
<td>115</td>
<td>Energy and the Environment</td>
<td>120</td>
<td>Toxics in the Environment</td>
</tr>
<tr>
<td>125A</td>
<td>Environmental Law</td>
<td>143</td>
<td>Endangered Species</td>
</tr>
<tr>
<td>144</td>
<td>Rivers</td>
<td>152</td>
<td>Applied Marine Ecology</td>
</tr>
<tr>
<td>174</td>
<td>Environmental Policy and Economics</td>
<td>165B</td>
<td>Environmental Impact Analysis</td>
</tr>
<tr>
<td>188</td>
<td>Environmental Ethics</td>
<td>105</td>
<td>Solar and Renewable Energy</td>
</tr>
<tr>
<td>117</td>
<td>Science and Policy of Climate Change</td>
<td>128</td>
<td>Ecological Restoration</td>
</tr>
<tr>
<td>134</td>
<td>Coastal Processes and Management</td>
<td>136</td>
<td>Green Works</td>
</tr>
<tr>
<td>139</td>
<td>Business and Environment</td>
<td>162</td>
<td>Water Quality</td>
</tr>
<tr>
<td>168</td>
<td>Aqueous Transport</td>
<td>179</td>
<td>Natural Resource Economics</td>
</tr>
<tr>
<td>132</td>
<td>Global Environment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**GEOG: Geography**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>104</td>
<td>Physical Oceanography</td>
<td>110</td>
<td>Introduction to Meteorology</td>
</tr>
<tr>
<td>112</td>
<td>Hydrology</td>
<td>115A</td>
<td>Earth from Above</td>
</tr>
<tr>
<td>137</td>
<td>Quantitative Geomorphology</td>
<td>142</td>
<td>Global Biogeochemical Cycles</td>
</tr>
<tr>
<td>172</td>
<td>Intermediate Geographical Data</td>
<td>176A</td>
<td>Introduction to GIS</td>
</tr>
<tr>
<td>102</td>
<td>Env. Optics in Physical Oceanography</td>
<td>115B</td>
<td>Introduction to Remote Sensing</td>
</tr>
<tr>
<td>116</td>
<td>Groundwater</td>
<td>126</td>
<td>Maps in Science and Technology</td>
</tr>
<tr>
<td>134</td>
<td>Earth System Science</td>
<td>149</td>
<td>Channel Islands</td>
</tr>
<tr>
<td>176B</td>
<td>Technical GIS</td>
<td>115C</td>
<td>Intermediate Remote Sensing</td>
</tr>
<tr>
<td>119</td>
<td>Climatic Change</td>
<td>135S</td>
<td>Mock Environmental Summit</td>
</tr>
<tr>
<td>144</td>
<td>Rivers</td>
<td>162</td>
<td>Water Quality</td>
</tr>
<tr>
<td>163</td>
<td>Ocean Circulation</td>
<td>176C</td>
<td>GIS Applications</td>
</tr>
</tbody>
</table>
### MATH: Mathematics

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 101</td>
<td>Problem Solving</td>
<td>104A</td>
<td>Introduction to Numerical Analysis</td>
</tr>
<tr>
<td>108A</td>
<td>Introduction to Linear Algebra</td>
<td>108B</td>
<td>Advanced Linear Algebra</td>
</tr>
<tr>
<td>117</td>
<td>Methods of Analysis</td>
<td>104B</td>
<td>Numerical Analysis</td>
</tr>
<tr>
<td>122B</td>
<td>Introduction to Complex Variables II</td>
<td>124A</td>
<td>Partial Differential Equations</td>
</tr>
<tr>
<td>104C</td>
<td>Advanced Numerical Analysis</td>
<td>124B</td>
<td>Fourier Series</td>
</tr>
<tr>
<td>119A</td>
<td>Ordinary Differential Equations</td>
<td>122A</td>
<td>Introduction to Complex Variables I</td>
</tr>
</tbody>
</table>

### MCDB: Molecular Cell Developmental Biology

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>101A</td>
<td>Molecular Genetics I</td>
<td>103</td>
<td>Cell Biology</td>
</tr>
<tr>
<td>101AL</td>
<td>Molecular Genetics Lab</td>
<td>103L</td>
<td>Cell Biology Lab</td>
</tr>
<tr>
<td>108A</td>
<td>General Biochemistry I</td>
<td>108B</td>
<td>General Biochemistry II</td>
</tr>
<tr>
<td>112</td>
<td>Developmental Biology</td>
<td>112L</td>
<td>Developmental Biology Lab</td>
</tr>
<tr>
<td>126A</td>
<td>Basic Pharmacology</td>
<td>110</td>
<td>Principles of Biochemistry</td>
</tr>
<tr>
<td>126AL</td>
<td>Pharmacology Lab</td>
<td>123</td>
<td>Physical Biochemistry</td>
</tr>
<tr>
<td>131</td>
<td>General Microbiology</td>
<td>132</td>
<td>Bacterial Pathogenesis</td>
</tr>
<tr>
<td>131L</td>
<td>Microbiology Lab</td>
<td>132</td>
<td>Bacterial Pathogenesis Lab</td>
</tr>
<tr>
<td>101B</td>
<td>Molecular Genetics II</td>
<td>108C</td>
<td>General Biochemistry III</td>
</tr>
<tr>
<td>109L</td>
<td>Lab in Biochemistry</td>
<td>118</td>
<td>Plant Development</td>
</tr>
<tr>
<td>134</td>
<td>General Animal Virology</td>
<td>135</td>
<td>Cell Growth/Oncogenesis</td>
</tr>
<tr>
<td>140L</td>
<td>Recombinant DNA</td>
<td>145</td>
<td>Protein Processing</td>
</tr>
</tbody>
</table>

### PHYS: Physics

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>102</td>
<td>Linear Algebra and Applications</td>
<td>103</td>
<td>Intermediate Mechanics</td>
</tr>
<tr>
<td>110A</td>
<td>Electromagnetism I</td>
<td>115A</td>
<td>Quantum Mechanics I</td>
</tr>
<tr>
<td>119A</td>
<td>Thermal and Statistical Physics I</td>
<td>120</td>
<td>California Physics</td>
</tr>
<tr>
<td>123A</td>
<td>Condensed Matter Physics I</td>
<td>127AL</td>
<td>Analogue Electronics</td>
</tr>
<tr>
<td>132</td>
<td>Stellar Structure and Evolution</td>
<td>142L</td>
<td>Condensed Matter Lab</td>
</tr>
<tr>
<td>144L</td>
<td>Biophysics Lab</td>
<td>101</td>
<td>Complex Variables</td>
</tr>
<tr>
<td>145L</td>
<td>Experimental Research in Astrophysics</td>
<td>104</td>
<td>Advanced Mechanics</td>
</tr>
<tr>
<td>110B</td>
<td>Electromagnetism II</td>
<td>115B</td>
<td>Quantum Mechanics II</td>
</tr>
<tr>
<td>119B</td>
<td>Thermal and Statistical Physics II</td>
<td>123B</td>
<td>Condensed Matter Physics II</td>
</tr>
<tr>
<td>127BL</td>
<td>Digital Electronics</td>
<td>133</td>
<td>Galaxies and Cosmology</td>
</tr>
<tr>
<td>135</td>
<td>Biophysics and Biomolecular Materials</td>
<td>106</td>
<td>Nonlinear Phenomena</td>
</tr>
<tr>
<td>115C</td>
<td>Quantum Mechanics III</td>
<td>131</td>
<td>Gravitation and Relativity</td>
</tr>
<tr>
<td>134L</td>
<td>Observational Astrophysics</td>
<td>141</td>
<td>Optics</td>
</tr>
</tbody>
</table>

### POL S: Political Science

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>121</td>
<td>International Politics</td>
<td>127</td>
<td>American Foreign Policy</td>
</tr>
<tr>
<td>145</td>
<td>European Union</td>
<td>150A</td>
<td>Middle East Politics</td>
</tr>
<tr>
<td>186</td>
<td>International Political Economy</td>
<td>175</td>
<td>Politics of the Environment</td>
</tr>
</tbody>
</table>
D. Any Other Requirements Toward the Degree

The College of Creative Studies has an expectation that students immerse themselves beyond the classroom. The CCS Marine Science program will hold this expectation at its core, creating a culture of research engagement. Beyond selectivity in the admissions process, several aspects of the major proposal are geared toward this end including: the mode of faculty mentoring which guides students to research opportunities tailored to fit their interests, goals, and personality; the integration of on-campus research opportunities into the curriculum (i.e., Marine CS 100B); the requirement that students participate twice in the IGPMS-sponsored marine science research seminar series (Marine CS 160); the inclusion of research interest/activity in the mid-career review; and the comingling of CCS marine science students with the graduate students in IGPMS through shared courses. Many CCS students accelerate into graduate level courses in their 3rd and 4th years, and we anticipate this will be the case for Marine Science majors as well.

III. Projected Need

A. Student Demand for the Program

Student demand for the program is expected to be high given UCSB’s coastal location and reputation as a center of excellence in Marine Science. What is more difficult to assess is the interest by the right type of students, being those with high levels of creativity and a genuine interest in research. As with other majors in CCS, Marine Science will manage its own admissions, working to bring in only those students that meet the spirit of CCS. Our ultimate target is ~10-12 students per year for a steady state population of 40-50 students.

B. Possible Career Opportunities for Graduates

The philosophy of engagement that powers this program will benefit its students as they seek employment. This philosophy will provide students a rigorous and specialized knowledge base through individualized curricula, a specialized skill set through extensive research experience, opportunity from a flexible curriculum that allows for study at the interface of science and society, a network through individualized faculty mentorship, and a sense of independent creativity through the culture of the college and program. Students who embody these qualities will be sought-after employees throughout their careers and we expect that many will become leaders in their respective fields.

The primary goal of the program is to place students into top graduate programs, both Masters and Doctoral. Borrowing from the experience of other programs in CCS, we expect that half or
more of the students will go on to a graduate program. Students graduating from the program will also be well situated to seek immediate employment. Government organizations like NOAA, NASA, BOEM, BSEE, Fish and Wildlife, and the DOD readily hire at the bachelor’s level, for those with ocean science backgrounds. Furthermore, positions like education specialist, aquaculture technician, marine science educator, laboratory technician, aquarist, science writer, and non-profit manager are appropriate possibilities at a variety of entities across the globe. The marine technology sector is also an option, for specialties like petroleum, civil engineering, data analysis, monitoring, alternative energy and modeling. For students that pursue higher degrees, other career paths may include energy companies, leadership positions at government agencies, professorships at research universities, or teaching.

C. Relationship of the Program to Research and Professional Interests of the Faculty

UCSB is renowned for its faculty research and interest in marine science. As evidence, the Marine Science Institute is the largest ORU on campus in terms of grant activity (over 90 million dollars administered in Fiscal Year 2014), and the IGPMS lists 53 affiliated faculty. This situation will provide a high level of synergy with the proposed major. A fundamental goal of the CCS Marine Science major is to place students into research groups, and the program will draw from the full breadth of marine research on campus to place students into research positions. Borrowing again from the lessons of other CCS programs, students spend ~3 years conducting research under the mentorship of a faculty member, who may or may not also be their CCS mentor. Accordingly, the students acquire tremendous experience and receive mentorship from both the CCS advisor and in their area of research interest. The primary consideration for student placement is that of common research interests between student and faculty, and this way the program finds mutual benefit for student and faculty.

D. Ways in Which the Program Will Meet the Needs of the Discipline

Marine Science, as a field, has seen rapid expansion at the graduate level. However, the backgrounds of doctoral students are commonly mono-disciplinary, from biology, chemistry, physics, mathematics or earth science. All of these options are available at UCSB, and would be satisfactory pathways for marine-inclined students. However, the vision of this program is to produce creative scholars, experienced in research, and each with an individualized and interdisciplinary knowledge base that best suits them to continued scholarship and research. By this vision, CCS Marine Science alumni will have superior preparation compared to their peers, which will enable them to excel in graduate programs and when seeking employment.

IV. Faculty

Faculty participants in the CCS Marine Science major will be drawn from multiple units (Table 5), all of whom are also affiliated with the Interdepartmental Graduate Program in Marine Science. In holding with CCS convention, no FTE will be transferred. Because the major will draw heavily from existing courses, and because new courses in the immediate term are expected to be staffed by the LSOE, the primary roles for the faculty are advising, mentorship and admissions. The initial slate of faculty is listed below and represents the anticipated diversity of student interests. Borrowing from the experience of other CCS majors, we anticipate that the LSOE will also take on a significant
role in advising, which includes both their own specialty and manifold advising that leads to a hand-over to the other program faculty with the most common research interests. Professor David Valentine will serve initially as the coordinator of the program, with the expectation that this role will ultimately be handled by the LSOE. Select faculty will also play an important role in admissions to the program, by participation on a three-person admissions committee. Initially this committee will comprise the LSOE, Professor Valentine, one additional faculty member TBD, and an ex-officio member with prior experience in CCS admissions.

Table 5. Roster of Participating Faculty Mentors

<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Home Unit</th>
<th>Mentoring Specialty</th>
<th>Rank</th>
<th>Highest Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>David Valentine</td>
<td>Earth Science</td>
<td>Microbes, Geochemistry, Pollution</td>
<td>Professor</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>Alison Butler</td>
<td>Chemistry and Biochemistry</td>
<td>Biochemistry, Geochemistry, Metals</td>
<td>Professor</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>Craig Carlson</td>
<td>EEMB</td>
<td>Biogeochemistry, Microbial Ecology</td>
<td>Professor</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>Chris Costello</td>
<td>Bren School/Economics</td>
<td>Economics</td>
<td>Professor</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>Tony De Tomaso</td>
<td>MCDB</td>
<td>Cellular and Developmental Biology</td>
<td>Associate Professor</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>Timothy DeVries</td>
<td>Geography</td>
<td>Ocean models, computation</td>
<td>Assistant Professor</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>Lorraine Lisiecki</td>
<td>Earth Science</td>
<td>Paleoclimate</td>
<td>Associate Professor</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>Igor Mezic</td>
<td>Mechanical Engineering</td>
<td>Fluid dynamics</td>
<td>Professor</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>Nick Nidzieko</td>
<td>Geography</td>
<td>Robotics, coastal physical oceanography</td>
<td>Assistant Professor</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>Alex Simms</td>
<td>Earth Science</td>
<td>Coastal processes, sediments</td>
<td>Associate Professor</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>LSOE TBD</td>
<td>50% CCS, 50%TBD</td>
<td>TBD (also initial advisor for incoming students)</td>
<td>L(P)SOE</td>
<td>Ph.D.</td>
</tr>
</tbody>
</table>

V. Courses

A total of eleven new courses are proposed for the major. Note however that six of these courses will be shared lectures with existing courses required of IGPMS students and offered by faculty in its cognate departments. In addition to the courses proposed here we anticipate that faculty members from cognate departments may occasionally offer new courses within CCS. We anticipate this would occur no more than three times per year. These new CCS courses would be available to L&S students, as appropriate. The five truly new courses are MARINE CS 100A, 100B, 106, 109 and 199. The catalog descriptions for all new upper division required courses are:
Course: MARINE CS 100A, Contemporary perspectives on the history of marine science. **NEW**
Units: 4
Prerequisite: CCS Marine Science Major or Consent of Instructor Required
Description: This course will provide a historical view of marine science by tracking the path and observations of the first oceanographic expedition, the *Challenger* Expedition. Students will use modern tools of mapping to track the progress of the expedition, will compare scientific tools and methods to those used in modern practice, and relate observations to today’s knowledge. Students will also provide daily ‘tweets’ to encapsulate important observations and will give an oral presentation on important or enigmatic findings of the expedition.

Course: MARINE CS 100B Modern practices in marine science **NEW**
Units: 4
Prerequisite: Marine CS 100A
Description: This modularized course will introduce students to important topics in modern marine science including treatment of data, scientific ethics, scientific writing, scientific presentations, the practice of interdisciplinary research, and the campus’ marine science research portfolio.

Course: MARINE CS 101 Chemical Oceanography
Units: 4
Prerequisite: Chemistry 1C and Marine CS 100A or consent of instructor
Description: An introduction to the chemistry of the oceans. Topics include composition and chemical equilibria of seawater, biogeochemical cycling, sediment chemistry, atmospheric exchange, circulation and rates of mixing based on chemical tracers, and the impact of ocean chemistry on climate change.
**Note:** This course will be cross listed with EARTH 266 and GEOG 267

Course: MARINE CS 102 Biological Oceanography
Units: 4
Prerequisite: Marine CS 100A or consent of instructor
Description: Current concepts in biological oceanography focusing on the coupling of biotic processes to ocean physics, chemistry and sedimentation. Emphasis on areas of active research with critical evaluation of current and seminal literature.
**Note:** This course will be cross listed with EEMB 243

Course: MARINE CS 103 Introduction to Physical Oceanography
Units: 4
Prerequisite: Marine CS 100A or consent of instructor
Description: A quantitative introduction to physical oceanography. Topics discussed include: properties of sea water, derivation and application of the equations of motion for a rotating planet, and the dynamics of wind- and buoyancy-driven general circulation.
**Note:** This course will be cross listed with GEOG 263

Course: MARINE CS 104 Geological Oceanography
Units: 4
Prerequisite: Marine CS 100A or consent of instructor
Description: Morphology, formation, and evolution of ocean basins; crustal structure and composition of ocean margins; source and composition of marine sediments; marine sediment as repository of paleoclimate and paleo-ocean circulation records. Paleoceanographic changes in
relation to tectonics and changes in orbital parameters, links between changes in ocean circulation and climate changes.

Note: This course will be cross listed with EARTH 276

Course: MARINE CS 105 Marine Ecology & Conservation Biology
Units: 4
Prerequisite: Marine CS 100A or consent of instructor
Description: In-depth understanding of the biotic and abiotic interactions that determine ecological processes in marine environments, how these processes shape the structure of marine ecosystems, and how these principles are used to direct marine conservation and management.

Note: This course will be cross listed with EEMB 242

Course: MARINE CS 106 Marine Data: What is it, Where is it, and How do I use it? NEW
Units: 4
Prerequisite: Marine CS 100A and 100B
Description: This course will provide an overview of common marine data types, acquisition methods, repositories, and usage. Topics will span physical, chemical, biological and geological data types and will introduce students to the various types and forms of data, the repositories where these data are stored, and modern tools to analyze these data. Individual projects will allow students to explore data types of specific interest.

Note: This course will not be offered until the second LSOE is hired.

Course: MARINE CS 109 The Sea off Southern California. NEW
Units: 4
Prerequisite: Marine CS 100A and 100B
Description: This capstone course will integrate geological, chemical, biological, physical, social and resource aspects of marine science focused on the southern California Borderland region. This course will employ a place-based approach in order to provide a model for the integration of knowledge across disciplines and coursework. Topics may include tectonic evolution, current dynamics, wind-driven productivity, oxygen minimum zones, nutrient dynamics as limitation on productivity, cross-shelf processes, hydrocarbon systems, fisheries, ecosystem services and paleoceanography.

Course: MARINE CS 160 Research Seminar in Marine Science
Units: 1 (may be taken multiple times for credit)
Prerequisite: None
Grading: P/NP only
Description: This seminar course will introduce students to cutting-edge marine science research through weekly research seminars given by invited speakers.
Note: This course shares a lecture with MARSC 595, the IGPMS Research Seminar

Course: MARINE CS 199. Independent Studies
Units: 1-6
Prerequisite: Consent of instructor.
Description: Serious independent study in marine science with consenting faculty member.
Enrollment Comments: May be repeated for credit. Creative Studies students may enroll in a maximum of 24 units of Independent Studies courses per year, with a maximum of 45 units counted toward graduation.
**VI. Resource Requirements**

Permanent resources needed to create and sustain the CCS Marine Science Major include LSOE support, staff support, Unit 18 lecturer support, eventual support for course Readers in the shared (IGPMS) courses if enrollments grow, and a small budget for administrative activities and operating costs. Existing ladder faculty will offer leadership and oversee the start-up of the major and continue to be involved. Borrowing again from the successful models of other CCS majors, we initially seek an LSOE that will serve a key role in the functioning of the major. The LSOE would be shared 50% between CCS and a cognate department TBD (possibly EEMB). We further anticipate the need for a second 50% LSOE, included here for the 2021-2022 school year. This second LSOE position reflects predicted needs associated with the maturation of the major including: curricular evolution involving the development of laboratory and field courses; program popularity; capturing breadth among the sub-disciplines of marine science; and ensuring consistency and stability of the program. We further seek additional support for 25% staff FTE within CCS or support for a reclassification of existing staff, at a level to be negotiated. This relatively small augmentation is possible because of the shared staffing structure among CCS programs, and relies on the flexibility of shifting workload among existing staff. Additional funding is sought for Unit 18 lecturer support, equivalent to three courses per year; these funds will not be used to hire lecturers within CCS Marine Science but rather to pay cognate departments for faculty course buyout in those instances when a member of their faculty teaches a course within CCS. No costs are anticipated for library, computing, equipment, or facilities. Finally, our assessment indicates that all of the new courses created can be scheduled within the existing space of CCS for at least the first five years.

Temporary resources needed to facilitate the creation and implementation of the major include teaching relief for the founding program coordinator, proposed at 1 quarter per year for three years, costs in 2018-19 associated with hiring of the LSOE, advertising of the program, and website creation. Although there will be extensive synergy with the IGPMS, there are no administrative resource demands placed on that program. Eventually, if a 5-year BA/MS program is developed, this would require coordination between CCS and IGPMS at the level of the staff advisors and faculty.

**Summary of Permanent Resource Requirements**

| 1 LPSOE (50% CCS, 50% cognate department TBD) |
| Direct support for administrative activities ($5000 in 2019-20, + $100 annually thereafter) |
| 1 LPSOE to start in 2020-21 (50% CCS, 50% affiliated department TBD) |
| Unit 18 Lecturer support, for course buyouts in cognate departments (1 course in 2018-19; 2 courses in 2019-20; 3 courses thereafter) |

**Summary of Temporary Resource Requirements**

Temporary teaching relief for program founding coordinator (1 quarter per year for three years – merged with the lecturer support in Table 6)
Kick-off support in year 1, for hiring of the LSOE, advertising, and website creation ($6000)
Table 6. Five year cost estimate by category (in FTE or $)

<table>
<thead>
<tr>
<th>Year</th>
<th>2018-19</th>
<th>2019-20</th>
<th>2020-21</th>
<th>2021-22</th>
<th>2022-23</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty FTE*</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Course Readers</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td>Library</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Computing</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Equipment</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Facilities</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Operating Costs</td>
<td>6000</td>
<td>5000</td>
<td>5100</td>
<td>5200</td>
<td>5300</td>
</tr>
<tr>
<td>Staff FTE</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>Lecturer**</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

* Note that half of each LSOE FTE per year will be assigned to another unit
** Temporary sub-zero funds to buy out courses from cognate departments, also including teaching relief for the founding coordinator. Presently 1 course ~ $5000.

Latent Resource Requirements
The proposed new program of study relies on other Departments for teaching at the general education, lower division preparation, and upper division levels. As reflected in letters from the relevant Departments, this impact is minimized by the small numbers of students planned for the program: ~10-12 per year and likely derived from an existing pool of entering STEM majors. Nonetheless, the initiators of the proposal are sensitive to the impaction within MLPS, and are working to encourage administrative attention to this much broader issue. We would also like to expand on a related point brought forward in the initial review. That is, given the same total student census within the sciences, this program could actually reduce impaction relative to status quo because the requirements are fewer than for e.g., B.S. degrees in other sciences. Whether the impact of the program leads to net increase or reduction for enrollment in impacted courses remains to be determined, but either way the net effect is expected to be minimal.

VII. Responses to Systemwide Questions

TBD.

VIII. Changes in Senate Regulations

No changes are anticipated to senate regulations.

IX. Abstract of the Proposal

This proposal describes a B.A. degree in Marine Science to be offered by the College of Creative Studies and to begin in Fall 2019. The vision behind the program is to provide a unique opportunity for research-oriented students to study interdisciplinary marine science, to allow these students flexibility in developing an individualized course of study, and to prepare these students for graduate programs and careers in marine research. The creation of this major capitalizes on UCSB's commitment to and reputation for undergraduate education, the inherent advantage of UCSB's coastal location and on the strength of UCSB's marine science research. As such it promises to serve as a feeder program for the nation’s top marine science graduate programs.
The Marine Science B.A. program and its culture will be developed in the mold of other highly successful CCS science majors, notably Biology, and will initially include faculty mentors representing seven different departments or schools. Five new courses are proposed to anchor the major, which will require the hire of one L(P)SOE. These will also be open to L&S students as appropriate. Other courses will be drawn from current offerings. Student progress through the program will be assessed through quarterly meetings with the faculty mentor, a formal review of each student by a faculty committee in the second year, and a review of technical requirements at the beginning of the final year. The total predicted enrollment for the major is ~50 students, once steady-state is achieved.
Dear Dean Tiffney and Professor Valentine,

I will be pleased to participate in the Marine Science degree program proposed by the College of Creative Studies. This is a great fit with our campus, and I'm happy to mentor students and be involved in any way possible.

Sincerely,
Tony

Anthony W. De Tomaso
Department of MCD Biology
University of California, Santa Barbara
Santa Barbara, CA 93106-9610
Phone: (805) 893-7276
Fax: (805) 893-4724
detomaso@lifesci.ucsb.edu
Dear Dean Tiffney and Professor Valentine,

I am writing to express my willingness to participate in the Marine Science degree program proposed by the College of Creative Studies. I am excited that the program may encourage more CCS students to take the courses I teach related to climate and oceanography and get some of them involved with my research in paleoceanography.

Sincerely,
Lorraine Lisiecki

Lorraine Lisiecki
Associate Professor
Department of Earth Science
University of California
Santa Barbara, CA 93106
Office: Webb 2113
Phone: 805-893-4437
http://lorraine-lisiecki.com
Dear Dean Tiffney and Professor Valentine,

I am writing to express my willingness to participate in the Marine Science degree program proposed by the College of Creative Studies. I am excited by the potential of this program to attract outstanding undergraduates interested in Marine Science to our campus. I believe this program will help build a new generation of marine scientists ready for research at the graduate level and beyond.

Sincerely,

Tim DeVries

--
Tim DeVries
Assistant Professor
Department of Geography / Interdepartmental Program in Marine Science
UC Santa Barbara
tel: (805) 893-5308
webpage: http://www.geog.ucsb.edu/~devries/
Dear Dean Tifney and Professor Valentine,

I am writing to express my willingness to participate in the new Marine Science degree program proposed by the College of Creative Studies. I believe many of the CCS students will resonate with the focus of this program. I would welcome CCS undergraduates in my lab who are interested in marine chemistry and marine biochemistry.

Sincerely,

Alison Butler
Professor of Chemistry & Biochemistry
Member Interdepartmental Graduate Program in Marine Science
Dear Dean Tiffney and Professor Valentine,

I am writing to express my willingness to participate in the Marine Science degree program proposed by the College of Creative Studies. The natural setting of our campus and the excellent reputation of our IGPMs program would nicely compliment an undergraduate program in Marine Science. I look forward to seeing the program blossom.

Sincerely,

Alex Simms
Associate Professor
Department of Earth Science
University of California, Santa Barbara
1006 Webb Hall
Santa Barbara, CA 93106
Phone: +1 805-893-7292
Email: asimms@geol.ucsb.edu
Webpage: http://www.geol.ucsb.edu/people/alex-simms
Dear Dean Tiffney and Professor Valentine,

I am writing to express my willingness to participate in the Marine Science degree program proposed by the College of Creative Studies. I am excited to have this opportunity to be part of a new era in Marine Science at UCSB.

Sincerely,
Nick Nidzieko
Department of Geography
Dear Dean Tiffney and Professor Valentine,

I am writing to express my willingness to participate in the Marine Science degree program proposed by the College of Creative Studies. The curriculum plan proposed for this program as well as the faculty participation will be an excellent opportunity for undergraduates interested in a cross disciplinary education in marine science. I am excited by this program and look forward to participating in CCS Marine Science.

Best Regards,

Craig Carlson

--

Craig A. Carlson
Department of Ecology, Evolution and Marine Biology
University of California
Santa Barbara, CA 93106

Tel: 805-893-2541
Dear Dean Tiffney and Professor Valentine,

I am writing to express my willingness to participate in the Marine Science degree program proposed by the College of Creative Studies.

Thanks for your leadership in proposing it - I think it will be a great service to the campus.

Chris Costello

--

Christopher Costello
Professor of Natural Resource Economics, Bren School UCSB and Research Associate, National Bureau of Economic Research

http://christopherjcostello.com/
Dear Dean Tiffney,

I am writing to express my willingness to participate in the Marine Science degree program proposed by the College of Creative Studies. I hope to play an active leadership role in this program.

Sincerely,

Dave Valentine
Dear Dean Tiffney and Professor Valentine,

I am writing to express my willingness to participate in the Marine Science degree program proposed by the College of Creative Studies. I believe the program will serve both the function of extending the quality of undergraduate offering to top students on campus and contribute to the broader campus efforts in sciences related to environment and sustainability.

I am quite excited about it and am looking forward to working with students participating in it!

Sincerely,

Igor Mezic

-----------------------------------------
Igor Mezic, Professor and Director,
Center for Energy Efficient Design,
Department of Mechanical Engineering,
Head, Buildings and Design Solutions Group,
Institute for Energy Efficiency
University of California, Santa Barbara,
CA 93106
Phone: 805 893 7603
Fax: 805 893 8651
e-mail:mezic@engineering.ucsb.edu
www.engr.ucsb.edu/~mgroup
NEW letters secured for this revised proposal are from:

- Interdepartmental Program in Marine Science
- Environmental Studies
- Bren School
- MLPS Dean

The ORIGINAL letters submitted with the earlier version of the proposal are also included (following).
The Interdepartmental Graduate Program in Marine Science (IGPMS) endorses the proposal for a BA degree in Marine Science in the College of Creative Studies (CCS). The proposal has been discussed by the IGPMS Executive Committee (with Alex Simms replacing you and recusing Kathy Foltz) and their sentiments are included in this response. No formal vote was taken of the CCS Marine Science degree proposal by the IGPMS faculty, although IGPMS faculty members who teach the graduate core courses have been consulted and are receptive to having CCS Marine Science majors in their classes.

We agree that a marine science undergraduate major represents a unique growth opportunity for UCSB, and will further showcase our strength in this discipline. It will build upon UCSB's long-standing reputation in marine science research and graduate education and leverages recent campus investments in rebuilding faculty numbers in marine science. We believe that the CCS Marine Science BA degree program, although small, will become a selling point for recruiting excellent undergraduates to UCSB. The CCS Marine Science BA program will be a great training program for students to enter graduate studies either here (such as part of a future 5-year MS program in IGPMS) or for other graduate institutions. This program will bolster UCSB's already excellent reputation as a feeder institution for marine science graduate programs.

The CCS Marine Science BA program will be beneficial to IGPMS. IGPMS has no faculty officially nor is there any support for faculty workload to allocate to its teaching and mentoring. Hence, participating Departments support the IGPMS core courses by their faculty. Until recently IGPMS has had difficulty offering all four of its core courses each year due to the reduced cohort size created by the large retirement losses of participating faculty, which will surely be resolved by the recent hiring of many new faculty members. The CCS students will be required to take two of the five IGPMS core courses (cross-listed in the proposal as Marine CS 101, 102, 103, 104 and 105). We expect that the CCS cohort of ~10 undergraduates will keep class sizes robust and will help participating Departments support the IGPMS core courses so they are offered every year. If in the future, enrollment levels become challenging for instructor workloads, Reader support may be necessary and this issue has been discussed with CCS faculty members.

It should be noted that the content of the IGPMS core courses will not be altered to accommodate the CCS Marine Science BA majors. Rather, CCS students will be expected to perform at the same level as the IGPMS graduate students. Two lines of evidence suggest this will not be problematic. First, experience with the few CCS students who have enrolled in IGPMS graduate classes suggests that future marine science CCS majors will be
successful in taking these classes. Second, the aim of the IGPMS core classes is to provide broad marine science knowledge as the IGPMS students themselves come from a range of disciplines. Hence, we expect that courses at this level will be completely appropriate to an upper division CCS Marine Science Major.

One of the important features of the IGPMS program is our development of cohorts of IGPMS graduate students through shared activities during their first year. With recent hires, we expect the future IGPMS first-year cohort size to be 6 to 10 students. If there are 10 CCS majors taking two IGPMS courses in any given year, there will be on average 3 CCS students attending each IGPMS core course offering once the major is fully populated. Even considering there are often students from other programs attending these courses (as many as about 5 per course), we do not anticipate that the inclusion of the CCS BA students in any given class would have a large impact on the development of IGPMS cohorts.

IGPMS had its first program review in the winter of 2017, having never been reviewed in its now 20-year history. There were many issues for the external review committee to discuss in considering the future of IGPMS, including eventual departmental status, faculty appointments within IGPMS, budget, administrative and research space, and the possibility of creation of an undergraduate major in marine science. Although the review committee did not recommend the implementation of Departmental status at this time, we believe that the CCS Marine Science BA degree program will be a good first test of whether or not a broader undergraduate major in marine science is appropriate for UCSB.

In sum, we believe this new CCS BA in Marine Science is well justified, with minimal resource impact, and will provide a net benefit to IGPMS and to the campus as a whole. Thus, we endorse the proposal for a BA degree in Marine Science in the College of Creative Studies.
5 October, 2017

To: Acting Dean CCS, Dr. Kathy Foltz

Dear Kathy,

The Environmental Studies Program has reviewed the proposal for a new undergraduate major in Marine Science, offered through the College of Creative Studies and is in full support of the proposal.

Many students ask why UCSB does not have a marine science major and although EEMB offers an Aquatic Biology degree, it is not explicitly marine nor is it fundamentally interdisciplinary. Thus, the proposal to create a Marine Sciences major that spans the expertise in marine sciences across UCSB is a logical one. While the new major will serve only a small cohort of undergraduates each year, it is sure to attract top students to our campus and to create a very high quality experience for research-oriented students interested in the oceans.

How will the proposed major affect ES courses? The number of declared Environmental Studies (ES) majors at UCSB has almost doubled since 2005 and now sits around 950 students. This increase, coupled with the fact that most ES courses are offered just once a year, has forced the ES Program to implement a policy restricting all upper-division courses to declared ES or HYDRO majors during the first Pass of Registration each quarter. However, at the start of Pass #2, all courses are open to any majors as long as space is available and the student meets the course prerequisites.

We have reviewed the ES courses listed as electives within CCS's proposed Marine Science major. Four are required courses that all ES majors must take and as such they are in high demand: ENVS 100, 106, 115, 188. The rest are upper-division electives ES students choose based on individual goals and interests. All courses on the list have reached maximum enrollment capacity the last time they were offered with the exception of ENVS 108-O, 132, 168, 171, and 174. Because the CCS students will be selecting from a menu of elective courses, we do not anticipate a major impact on any given course.

We did note that a few courses on the original Marine Science electives list have not been offered for at least three years due to retirement or separation. These include ENVS 175 (Environmental Economics), 179 (Natural Resource Economics), and 176B (Advanced Water Quality). We have apprised CCS of this situation and the proposal now reflects this.

Overall, given that the anticipated number of CCS students majoring in Marine Science is estimated to be around 10 per year and that their selection of electives is likely to vary, their numbers should have little impact on enrollment in our courses. On behalf of our program, I therefore am writing to
support the CCS proposal to include the listed ES courses as long as it is made clear some ES classes will be difficult for CCS students to enroll in as they may be required for ES majors, have a small maximum capacity, and/or are popular with our majors. CCS students will also need to be made aware that all course prerequisites must be met and they will not be permitted to add any upper-division ES courses until the start of Registration Pass #2. In my conversations with CCS, I am satisfied that these concerns are understood and trust that students in the new program will be advised accordingly. Thus, I am pleased to be in support of the proposed Marine Science major.

Sincerely,

Carla M. D’Antonio
Chair, Environmental Studies
dantonio@es.ucsb.edu
Kathy Foltz
Interim Dean
College of Creative Studies
UCSB

Dear Kathy,

I want to express my strong enthusiasm for the proposed CCS major in Marine Science. I do not believe that there will be any direct impacts on the Bren School program per se, aside from the potential for future graduates to be great candidates for the Bren School's various ocean oriented graduate programs. My enthusiasm for the program comes from the fact that I think it is an excellent idea that taps some of the unique strengths of UCSB. Marine science is not a common undergraduate major across the country. This is in large part due to the fact that many of the strongest marine science programs are isolated from their own main campus in marine labs or oceanographic institutes. With UCSB's unique location on the ocean, we have an unprecedented breadth of marine science faculty in disciplines spread across the campus. This proposed CCS major allows the campus to tap this unique strength and combine it with the innovative educational approach for which CCS is so well known. I think this can be a very impactful new major that is a significant draw for talent to come to UCSB. Indeed, I think the biggest challenge is going to be keeping the major small.

Congratulations on an excellent proposal.

Sincerely,

Steven D. Gaines
Dean
Bren School of Environmental Science and Management
University of California, Santa Barbara
11 November 2017

To: Kathy Foltz
   Interim Dean of CCS

From: Pierre Wiltzius
       Dean, Mathematical, Life and Physical Sciences

Re: Proposed Marine Science Major

Thank you for the opportunity to comment on the revised proposal to establish a Major in Marine Science in CCS.

Originally, my main concerns had to do with the possible impact this new degree would have on some of our programs, like Mathematics, Chemistry, etc.

In discussions with you I learned that these wouldn't be additional new students since they will be taken from the pool of admitted students at UCSB and then selected for the CCS programs. Thus, the additional impact on STEM courses should be minimal.

At this point, I gladly support this proposed Major and look forward to seeing it flourish.
March 23, 2016

To: David L. Valentine, Professor
    Department of Earth Science

Fm: Daniel R. Montello, Chair
    Department of Geography

Re: Geography’s Endorsement of Proposal for a BA degree in Marine Science in the College of Creative Studies

The Department of Geography at UCSB endorses the proposal for a BA degree in Marine Science in the College of Creative Studies. The faculty discussed it at their meetings on February 2 and March 15, 2016. The results of a vote taken over email during the final week of March, 2016, was 13 yes, 0 no, 3 abstention, and 5 absent and not voting of 21 eligible to vote. The department is satisfied that the new degree will have little or no detrimental effect on enrollment in Geography’s BS degree in Physical Geography (which is very strong in marine science); in fact, it is plausible that it could attract some additional students. We also do not anticipate problems of over-enrollment for the Geography courses that would help make up the new BA degree, although we do look forward to ironing out a few details on the curriculum, such as the status of these courses as graduate or undergraduate level. We will also consider carefully the influence this program will have on the instructional workload of Geography faculty. Finally, we anticipate the new degree supporting work in social/behavioral/economic sciences, in addition to earth sciences, as the motivation for the degree rests largely on effects on and of humans.

In sum, we believe this new BA in Marine Science is strongly justified and will contribute positively to the campus and to society at large. Geography at UCSB is very strong in marine science, including about five faculty members, most of whom will be involved. We thus endorse the proposal for a BA degree in Marine Science in the College of Creative Studies.

Sincerely,

Daniel R. Montello
Chair, Department of Geography
Date: April 1, 2016

To: David Valentine, Earth Science

From: David Siegel, Chair IGPMS, and the IGPMS Executive Committee (Mark Brzezinski, Kathy Foltz, Ben Halpern, Eckart Meiburg, Alex Simms & Libe Washburn)

Re: IGPMS response to CCS BA Degree Marine Science memo

The Interdepartmental Graduate Program in Marine Science (IGPMS) endorses the proposal for a BA degree in Marine Science in the College of Creative Studies. The proposal has been discussed by the IGPMS Executive Committee (with Alex Simms replacing you) and their comments are included in this draft response. No formal vote was taken of the CCS Marine Science degree proposal by the IGPMS faculty.

We agree that a marine science undergraduate major represents a unique growth opportunity for UCSB. It will build off UCSB’s long-term strengths in marine science research and graduate education and will leverage recent campus investments in rebuilding the IGPMS faculty. We believe that the CCS Marine Science BA degree program, although small, will become a very popular major for recruiting excellent undergraduates to CCS. The CCS Marine Science BA program will be a great training program for students to enter graduate studies either here (such as part of a future 5-year MS program in IGPMS) or for other graduate institutions. This program will bolster UCSB’s already excellent reputation as a feeder institution for marine science graduate programs.

The CCS Marine Science BA program will be beneficial to IGPMS. IGPMS has no faculty officially nor is there any support for faculty workload to allocate to its teaching. In recent years, IGPMS has had difficulty offering all four of its core courses each year due to the reduced cohort size created by the large retirement losses of participating faculty. The CCS students will be required to take at least two of the IGPMS core courses (cross-listed in the proposal as Marine CS 101, 102, 103 & 104). We expect that the CCS cohort of ~10 undergraduates will keep class sizes robust and will help participating Departments support the IGPMS core courses so they are offered every year. It should be noted that the content of the IGPMS courses will not be altered to accommodate CCS majors such that CCS students will be expected to perform at the same level as IGPMS graduate students. Some experience with CCS students enrolling in IGPMS graduate classes suggests that future marine science CCS majors will be successful in taking these classes.

One of the important features of the IGPMS program is our development of cohorts of IGPMS graduate students through shared activities during their first year. With recent hires, we expect the future IGPMS first-year cohort size to be ~10 students. If there are 10 CCS BA majors taking two courses, there will be on average 5 CCS students attending each IGPMS core course offering. Considering there are often students from other programs attending these courses (as many as about 5 per course), we do not anticipate that the inclusion of the 5 or so CCS BA students per class would have a large impact on the development of IGPMS cohorts.
IGPMS is now preparing for its first program review with external visitors coming in the winter of 2017. IGPMS has never been reviewed in its nearly 20-year history at UCSB. There are many issues for the external review committee to discuss in projecting IGPMS future including eventual departmental status, faculty appointments within IGPMS, budget, administrative and research space and the possibility of creation of an undergraduate major in marine science. We believe that the CCS Marine Science BA degree program will be a good first test of whether or not a broader undergraduate major in marine science is appropriate for UCSB.

In sum, we believe this new CCS BA in Marine Science is well justified and will contribute positively to the campus. IGPMS is central to its plans and we believe that this new program will have a net benefit to IGPMS. Thus we endorse the proposal for a BA degree in Marine Science in the College of Creative Studies.
To: Bruce Tiffney, Dean, College of Creative Studies

From: Andy Wyss, Chair
Department of Earth Science

Date: February 12, 2016

Re: Professor David Valentine’s Proposal for a BA degree in CCS Marine Science

This is to indicate my enthusiastic endorsement of Professor David Valentine’s proposal to establish a BA degree in Marine Science through the College of Creative Studies. I have read the proposal with interest, and have consulted with key departmental faculty regarding its merits and potential impacts on Earth Science’s courses, majors, and faculty. Our analysis indicates that any impacts to our department can be mitigated, and that the benefits to campus will greatly outweigh any potential complications. I am thus highly supportive of this initiative, as it promises an impactful new undergraduate program for UCSB. We will work with CCS to recast two of our existing courses (EARTH 266 and EARTH 276) to enable concurrent offering of an undergraduate section through CCS. A summary of our analysis follows below.

Relevance to Earth Science. The proposed major overlaps with Earth Science, specifically with components of the Department pertaining to marine systems. The Department has a strong presence in Marine Geosciences, as evidenced by three of our faculty members being participants on this proposal. We expect that some fraction of students in this new program would complete courses in Earth Science, and that many would join the labs of our faculty to conduct research projects.

Courses. Based on the size of the proposed program (10-12 students a year), and the breadth of student interests across cognate departments, we anticipate additional and intermittent enrollment of maximum of 1-2 additional students for marine-relevant elective course in Earth Science (those listed in their Table 4). We anticipate higher and consistent enrollment pressure for several specific courses that fulfill requirements within the new major. For EARTH 2, 3, and 4 we anticipate an additional enrollment of ~6 students annually per course, assuming that enrollment is split evenly between EARTH 2/3 and EARTH 4/GEOGRAPHY 3A; these courses host large enrollments and are offered multiple times per year, and thus the additional enrollment pressure is easily met. We anticipate a similar growth (~6 students per year) in the number of students in EARTH 266 and EARTH 276, albeit with the additional enrollment through MARINE CS 101 and 104, respectively. These courses are relatively small and can handle this additional enrollment pressure.

Earth Science BS Program. We anticipate that the CCS Marine Science program will have minimal impact on the Earth Science major. Some bidirectional movement could occur between CCS Marine Science and the Climate and Environment emphasis within Earth Science’s BS program, but the numbers are expected to be very small based on the program size (10-12 students per year with interests spread across cognate departments) and also because transfer to CCS to requires a formal application. Under this scenario Earth Science might receive a net increase in Major enrollment, serving as a potential home for CCS students interested in Marine Geoscience but who decide that a structured program in L&S is a better fit than CCS’s research intensive program.
Faculty. Three Earth Science faculty members are participating in the CCS Marine Science proposal. Based on our experience with other faculty members appointed to CCS Biology, which shares a similar model for faculty participation, we have no concern about their additional commitment. The primary role of the faculty in this program will be the advising of roughly 3-4 students with shared research interests; we anticipate that these students will be engaged in research activities with both CCS-affiliated and unaffiliated Earth Science faculty.

I strongly encourage you to give his meritorious proposal your full consideration.
February 25, 2016

To: Bruce Tiffney, Dean
   College of Creative Studies

Via: David Valentine, Professor
   Department of Earth Science

From: Steve Buratto, Chair
   Department of Chemistry and Biochemistry

Re: Proposed establishment of a B.A. degree in Marine Science CCS

The Department of Chemistry and Biochemistry (DCB) has reviewed the proposal to establish a B.A. degree in Marine Science through the College of Creative Studies. DCB endorses this proposal without reservation. We believe that any potential impact on our courses or programs is strongly outweighed by the benefits to CSS, UCSB Science and the UCSB campus community as a whole that this new major will foster. We look forward to working with CCS and Prof. Valentine to bring this new degree program online and to contribute to its success.

**Impact to DCB Courses:** Marine Science students will take our general chemistry sequence (Chemistry 1A, 1B and 1C). We currently teach this course to approximately 2400 students per year. The 10 – 20 Marine Science students constitute a very small perturbation to this number and we should be able to accommodate these students with little impact to our current enrollment. Marine Science students will also take upper division courses in chemistry as electives, but it is anticipated that the number of additional students for any given course will be 5 or fewer and we will be able to accommodate this small increase as well. The only possible negative impact to our courses is in the additional students to our undergraduate labs Chem 1AL and Chem 1BL. While the number of new students from Marine Science is small, these lab courses are currently impacted, especially during the on-sequence quarters (fall quarter for 1AL and winter quarter for 1BL). It might be necessary for Marine Science students to take these courses off-sequence or during the summer session in order to optimize chances for enrollment.

**Impact to DCB Faculty:** One of our faculty, Prof. Alison Butler, is part of the Marine Science CCS proposal. We will work with Prof. Butler to allow her to participate in the program. We will also encourage her to adapt her course in Bioinorganic Chemistry (Chem. 171) in such a way that it will be of interest to both DCB and Marine Science students. Additional DCB faculty might also participate in the program as undergraduate research mentors for students in Marine Science. We also strongly support this involvement.
1 March 2016

To: David Valentine

From: Craig Carlson, Chair  
Department of Ecology, Evolution, and Marine Biology

Re: College of Creative Study’s Marine Science B.A. Degree

The College of Creative Study’s proposal to establish a program in Marine Science has been reviewed by the faculty, undergraduate advisors and leadership of the department of Ecology, Evolution and Marine Biology (EEMB). EEMB views this proposal as an exciting opportunity for undergraduates that want richer interdisciplinary experience and education in Marine Science. We understand that EEMB may expect to host 3-4 undergraduate CCS-Marine Science students per year in its EEMB 142B course (Processes in the Ocean) as one of the core class options for CCS- Marine Science students. CCS-Marine Science student will also have the option to enroll in our upper division EEMB courses after meeting the prerequisite requirement. This number of students is minimal and we don’t anticipate any problems with CCS students entering the upper division classes. However, we reserve the right to restrict first pass registration to EEMB majors should there come a time where EEMB majors are impacted by high enrollments and unable to register for classes. We understand that in this proposal that a 50% LPSOE position is being requested in CCS with the other 50% likely landing in EEMB. Assuming appointment proceeds as planned and the LPSOE is appointed 50% in EEMB then this would increase EEMB’s ability to offer courses that would only help to ensure the availability of upper division courses to CCS- Marine Science students.

EEMB endorses the CCS Marine Science plan and looks forward to working with you as this program comes on line.
March 15, 2016

TO:         David Valentine
            Dept. of Earth Science and CCD Biology

FROM:       Stephen Poole, Chair
            Dept. of Molecular, Cellular, and Developmental Biology

RE:         Proposed Marine Science major in CCS

The Dept. of Molecular, Cellular, and Developmental Biology fully supports the creation of a new interdisciplinary College of Creative Studies major in Marine Science. We expect the impact on MCDB to be minimal, with approximately 10-12 additional students in the new major taking MCDB 1A (Introductory Biology) each year. As with CCS Biology majors, some of these new majors may opt to take upper-division MCDB classes, but we expect this will not significantly impact MCDB in the upper-division either.
Dear David,

We've looked over the proposal for a Marine Science major in CCS from the point of view of the impact on the Physics Department curriculum. We think that the proposal is exciting and quite appropriate for CCS. Since the student numbers that are expected are quite small as compared to the current enrollment in the Physics 6 series, we don't see any problem for us.

Good luck with the proposal for the new CCS major in Marine Science.

best regards

fyl

--
Fyl Pincus
Physics and Materials Departments
UCSB
Dear David, please forgive the delay in getting back to you.

One thing that you need to be aware of is that the courses you’re discussing in Mathematics are very highly impacted; the extra students you propose will almost certainly have difficulty getting into the courses you suggest. At the very least they might find themselves impatiently waiting....

One statistic: For the period Winter 2015 - Fall 2016, 767 students were stranded on our waitlists. This includes some courses other than the ones that you’re referring to, but it illustrates the current level of our problem. And one shouldn't forget that the university plans on increasing enrollments so this is only going to exacerbate matters. You aren't talking about that many students, but the fact is that there is not (and hasn't been for some while) any slack left in mathematics to cope with more students.

-- Darren
Dear Dave,

I am so sorry for the late response. Thanks for sending us your proposal. We should not have any problems to accommodate those students, since PSTAT 5LS is a large class and we offer that class at least twice a year. Regarding the courses that may be appropriate for the emphasis, such as PSTAT 120ABC, 122, 123, and 126, we should not have any problems to accommodate your students either, since they are all large classes.

Best wishes, --------- John

John Hsu
Professor & Chair
Department of Statistics & Applied Probability
UCSB
Dear David,

Thanks for getting in touch about the proposed new CCS major in Marine Science. I think your proposal looks great and that it's an exciting opportunity for CCS and future students.

From the perspective of the Writing Program, I believe that we could accommodate 10-12 students per year in our Writing 109ST courses. We typically offer 4-6 sections of this course per year, and at least one per quarter. Like our other upper-division writing courses, it's capped at 25 students and it fills up quite quickly since it satisfies Area A2 of the GE program. One other writing course that you might consider as a recommendation for your proposed major is Writing 105SW, Science Writing for the Public. This is a new upper-division course that addresses, as you can guess, the communication of scientific information to a general audience. Having two recommended courses might give your students more flexibility in scheduling.

I would be happy to send you syllabi for Writing 109ST and for Writing 105SW, if you're interested. Please let me know if I can provide any additional information that would help with your proposal.

best,
Madeleine

------------------------
Director, Writing Program
University of California
Santa Barbara, CA  93106
sorapure@writing.ucsb.edu
http://sorapure.net

**Note from David Valentine: The suggestion to include Writing 105SW as an alternative to Writing 109ST was incorporated into the final draft of the proposal.**
14 February 2018

To: David Paul  
Chair, Undergraduate Council

Fr: Paige Digeser  
Chair, College of Letters and Science Faculty Executive Committee

Re: Revised Proposal for a B.A. in Marine Sciences through the College of Creative Studies

At its meeting on 1 February 2018 the Letters and Science Faculty Executive Committee (FEC) considered the responses to the first round review of a proposed B.A. in Marine Sciences through the College of Creative Studies (CCS).

In its review of the initial proposal the L&S FEC expressed several concerns. We appreciate that in its response, CCS satisfactorily addresses three of these: the relationship between IGPMS and CCS including the former’s commitment to the undergraduate program; the acceptability of lab facilities for undergraduate research; and clarity on the provision of administrative and institutional support for the new undergraduate cohort. The committee was not as sanguine about the response to the problem of how required courses for this major will affect impacted L&S courses.

In addition, because students must first be admitted to UCSB before being accepted in a CCS program, students that are denied or leave CCS are still L&S students. While the numbers are not large, it is important to note that the costs of instituting a new major in CCS are not entirely borne by CCS. Over time those costs do have consequences for the educational experiences of L&S students.

To be clear, we believe that an undergraduate program in Marine Sciences at UC Santa Barbara will be attractive. Given where and what we are as a University it makes eminent sense. Our concerns are resource driven. The FEC, however, can offer no solution to these larger problems and does not wish to hold up development of a potentially high quality major at UCSB. The L&S FEC has voted to endorse the CCS proposal. We wish our sister college well in this endeavor.

Copy: Pierre Wiltzius, Executive Dean of the College and Dean of Science  
Jeff Stopple, Co-Interim Dean of Undergraduate Education
February 12, 2018

HENNING BOHN, CHAIR
ACADEMIC SENATE — SANTA BARBARA DIVISION

Re: Revised Proposal to Establish a BA Degree in Marine Science

The Council on Research and Instructional Resources does not wish to opine on this issue.

Sincerely,

David R. Morrison, Chair
Council on Research and Instructional Resources

c: Debra Blake, Executive Director
   Academic Senate
January 26, 2018

To:    Henning Bohn, Divisional Chair  
       Academic Senate

From:  Bernard Kirtman, Chair  
       Graduate Council

Re:    Revised Proposal to Establish a B.A. Degree in Marine Science

At its meeting of January 22, 2018, Graduate Council discussed the revised proposal for the College of Creative Studies (CCS) to establish a B.A. degree in Marine Science. The Council was convinced by the response of CCS to our initial review that there has been adequate consultation with IGPMS graduate students and that the latter believe the CCS undergraduate major would have positive impacts on the graduate program. Thus, GC enthusiastically supports the College of Creative Studies proposal to establish a B.A. Degree in Marine Science.

CC:    Debra Blake, Executive Director, Academic Senate
January 25, 2018

TO: David C. Paul, Chair
    Undergraduate Council

FROM: Irene Beyerlein, Vice-Chair
       College of Engineering, Faculty Executive Committee

RE: Revised Proposal to Establish a BA Degree in Marine Science

The College of Engineering FEC met on Tuesday, January 23, 2018 and reviewed the proposal. The committee approved the revised proposal.

7 yes, 0 no, 0 abstained (out of 10 eligible faculty members).
To: Henning Bohn, Chair  
Academic Senate

From: Ann Jensen Adams, Chair  
Council on Planning & Budget

Re: Proposal for a BA degree in Marine Science

The Council on Planning & Budget has reviewed a revised proposal from the College of Creative Studies (CCS) to establish a BA degree in Marine Science. Council reviewed the original proposal last year and gave feedback that was generally supportive but noted concerns about: the absence of letters of support from Bren and Environmental Studies; the workload of a proposed 50% Lecturer with Security of Employment (LSOE); and the issue of impacted courses.

CPB is satisfied that our original concerns have been addressed. The letters included in this revised proposal provide more detail on the workload of the LSOE - and note that the two LSOEs will be included in the forthcoming CCS FTE plan. The proposal also indicates agreement with our concern about the challenge of handling 50% CCS and 50% cognate appointments. With regard to impacted courses, the proposal emphasizes the relatively small numbers and that these students would likely take STEM courses in whatever major they chose. While CPB raised this issue from a campus-wide planning perspective, we believe that the small numbers should avert any major issues for the proposed major, and a strong letter of support from IGPMS suggests that course availability will not pose a serious concern.

For these reasons, CPB endorses the revised proposal.

cc: Debra Blake, Academic Senate Executive Director
I have had the opportunity to review the Proposal for a Program of Undergraduate Studies in Marine Science for a B.A. Degree, submitted by the College of Creative Studies. I note that the students would have significant interaction with the doctoral students in the Interdepartmental Graduate Program in Marine Science and take many of the same courses. It will be important to limit the enrollments to the numbers designated in the proposal, so that undergraduates do not become predominant. In such a case, instructors might feel it necessary to alter the course in order meet differential student needs, which could jeopardize the academic level of the material or the discussion. It will be important that this be monitored. On the flip side, the presence of undergraduates can provide the IGPMS graduate students with opportunities for mentorship and research leadership, which can contribute to their overall professional development.

Thank you for the opportunity to comment.
December 13, 2016

To: Stephan Miescher  
   Chair, Undergraduate Council

From: Jeffrey Stopple  
   co-Interim Dean of Undergraduate Education  
   College of Letters & Science

Re: Proposal for CCS BA in Marine Science

Disclaimer: It is a little peculiar for me to be providing comments to Undergraduate Council on this proposal, since UgC received the proposal (while I was chair of UgC) from (then) Dean Tiffney in May 26, 2016. The Council did not have time to discuss before year’s end, but I had already had an informal exchange of emails regarding the proposal with Professor David Valentine.

I had some preliminary concerns about leadership in the program given the lack of a cognate department, but these have since been allayed. The approximately 50 marine science faculty on campus are fairly cohesive, sharing the Interdepartmental Graduate Program in Marine Science, running the largest ORU on campus, the Marine Science Institute, and submitting their own FTE plan.

I strongly support the proposal. Viewing the proposal now as I represent Letters & Science Division of Undergraduate Education, I see clear benefits to the campus beyond the College of Creative Studies. Given our location and reputation, Marine Science will be of interest to a significant number of undergraduates, beyond what CCS can support. The L&S Honors Program continues to look for opportunities to collaborate with CCS, and interdisciplinary Honors seminars in Marine Science, already under discussion, will be attractive to both CCS and L&S Honors students.
May 10, 2018

To: Henning Bohn, Chair, UCSB Academic Senate
Cc: Werner Kuhn, Chair, CLIIR
Fr: Kristin Antelman, University Librarian

Re: OA2020

In response to the need for reduced barriers to accessing and reusing knowledge, as well as the untenability of subscription journal costs, the Max Planck Library is coordinating an alliance of universities and research institutes called OA2020. OA2020 is an international initiative with the goal to accelerate the transition of traditional subscription publications to open access.

As of May 2018, six UC campuses¹ have signed the OA2020 Expression of Interest. They join 100+ institutions worldwide that have signed the EoI to date. The expression of interest affirms an institution’s commitment to work toward transforming subscription journals to open access with sustainable business models. Within UC, we are also guided by the Pathways to OA vision, which states UC’s commitment to developing shared strategies to advance open access publishing across all disciplines, through the piloting and adoption of a variety of approaches and campus-specific strategies.

The Committee on Library, Information and Instructional Resources (CLIIR) discussed OA2020 at its May 4 meeting and gave their support for UCSB signing the OA2020 Expression of Interest. By means of this memo, I am requesting that you advance this proposal to the other relevant Senate Councils and Committees to review and discuss. The goal would be to determine whether the Senate is willing to lend its support to UCSB signing the Expression of Interest. What “signing” looks like has taken a variety of forms across UC campuses but typically includes a statement from individuals in one or more of the following roles: the EVC/provost, University Librarian, and Academic Senate representative.

I would be happy to provide any additional documentation or attend Council or Committee meetings where the topic is discussed.

¹ UCB, UCD, UCSF, UCM, UCR, UCLA