Agenda
Graduate Council
Thursday, March 19, 2015
9:10 – 11:00 am
Academic Senate Conference Room
Room 220 University Office Building

Action
9:10 – 9:15  1. Approve Minutes of the February 19, 2015 meeting  p. 3-6

Information/Discussion
9:15 – 9:25  2. Announcements
           A. Chair of the Graduate Council
           B. CCGA Representative
           C. Graduate Student Council Representative
           D. Dean of the Graduate Division

Discussion/Action
9:25 – 9:35
9:35 – 9:45
9:45 – 9:55
9:55 – 10:05

Discussion
10:05 – 10:40  4. Systemwide Senate Review - Proposed amendments to Senate Bylaw 182 - University Committee on International Education
5. Draft guidelines for pilot program to accept equity for access to university facilities or services

Action
10:40 – 11:00  6. Graduate Program Reviews
               A. Management response to GC’s F&R  p. 61-65
                  Action: Vote to close review and forward report to program and Administration.
               B. Statistics F&R  p. 66-76
                  Action: Vote to approve or revise F&R and forward to the program for a response.

The following courses were approved by the Courses & Programs Subcommittee and should be approved electronically by the full Graduate Council prior to the GC meeting:

1. CWPA 214 (CHANGE) - Acting for Writers
2. CWPA 269 (CHANGE) - Rewriting the Script
3. EE 232 (CHANGE) - Introduction to Smart Grid
4. PBPL 200 (NEW) - Introduction to Policy Analysis
5. PBPL 210 (NEW) - Quantitative Methods for Public Policy Analysis
6. PBPL 214 (NEW) - Applied Microeconomics for Public Policy
7. PBPL 216 (NEW) - Public Leadership and Management
8. PBPL 220 (NEW) - Environmental and Social Policies: Interactions, Synergies, and Unintended Consequences
10. PLPA 219 (CHANGE) - Molecular Plant Virology
11. SWSC 206 (DELETE) - Principles and Theories Relating to Arid Zone Soils
12. SWSC 250 (DELETE) - Seminar in Soil and Water Sciences
13. SWSC 262 (DELETE) - Wetlands Biogeochemistry Seminar
14. SWSC 290 (DELETE) - Directed Studies
15. SWSC 297 (DELETE) - Directed Research
16. SWSC 298I (DELETE) - Individual Internship
Present:
David Lo, Chair, School of Medicine
Tom Payne, Vice Chair, Computer Science & Engineering
Alicia Arrizon, Gender & Sexuality Studies
Wendy Ashmore, Secretary, Anthropology
Malcolm Baker, Art History
Michael Coffey, Plant Pathology & Microbiology
Ryan Julian, Chemistry
John Kim, CCGA Rep., Comparative Literature & Foreign Languages
Chris Laursen, Political Science
Rene Lysloff, C&P Chair, Music
Rollanda O’Connor, GSOE
Rick Redak, Fellowships Chair, Entomology
Amit Roy Chowdhury, Electrical Engineering
Jorge Silva-Risso, SoBA
Joe Childers, Graduate Dean (ex-officio)
Preston Williams, GSA Student Representative

Absent:
Ted Garland, Jr., Biology
Linda Scott, Graduate Division

Approval of Minutes
The minutes from the January 15, 2015 meeting were unanimously approved as written.

Chair’s Announcements
Chair Lo mentioned that the EVCP will not move forward with the proposal to merge CNAS and CHASS.

Chair Lo gave the committee updates from the Executive Council meeting:

- A Policy on Endowed Chairs was discussed and is being sent back for clarification about who will be involved and at what step in the process. Consultation with the affected faculty and anonymous donors was also discussed.

- A Target of Excellence policy was discussed and is being returned. The Committee on Academic Personnel wants more detail about who will be involved in the process and when.

- A committee initiated by the Vice Provost for Academic Personnel (VPAP) will discuss the salary disparities between UCR and the rest of the UC system.

- There may be plans to create a committee that will help plan a faculty club.
**Other Announcements**

**CCGA Representative, John Kim** – Professor Kim had no announcements.

**GSA Student Representative, Preston Williams** – UC Student Association voted to support SCA1 which gives the government some say in graduate education and takes away the autonomy of the UC system. UCR graduates voted against it.

President Napolitano is very involved in graduate student issues. She has scheduled a meeting with all GSA presidents; Preston is chairing this meeting. At the meeting, NRST and professional degree supplemental tuition will be discussed.

GSA will have their first community outreach event in which the GSA will be funding; Graduate Division has matched these funds. Graduate students can apply for funds to reimburse for supplies and materials. The first event will be next week; GSA will be bringing in K-12 to do art.

**Graduate Dean Joe Childers** – Dean Childers mentioned that the Graduate Council approved Skyping in for dissertation defenses as an exception. However, it is increasingly becoming the norm. Dean Childers suggested that the Council define its intention, and when the option can be used. When the exception was passed, the intention was to make it an option only when there is a real conflict to be physically present.

Dean Childers indicated that the Western Association of Schools and Colleges (WASC) is asking for graduate program learning assessments to be submitted annually. Dean Childers’ conversation with the Chair of the WASC committee that visited UCR five years ago confirmed that graduate education is only about assessment and learning outcomes. Completing coursework, performing research, proposing original research, and becoming an expert in performing that research are required or the student is dismissed. Graduate Division asked programs to write up what they do and what their expectations are. Graduate Division was not informed that these assessments had to be completed annually. Graduate Division does not have the resources to complete annual assessments. The Vice Provost for Undergraduate Education (VPUE) is in charge of WASC for the campus. The VPUE now has an Assessment Unit within their office. The new assessment officer, Jill Kern, is taking an undergraduate template and applying it to graduate education. The required data needs to be defined – what should be collected from the programs that WASC is looking for (attrition, normative time to degree, etc.). Once that data is defined, it can be added to our graduate program reviews.

Dean Childers is interested in slowly moving toward a campus policy on individual development plans for students as they come in. This is becoming standard across graduate education in the U.S. Plans would include professional and curricular development and would be evaluated by the PI or graduate advisor depending on where the student is in the program. These plans could become the basis for the annual assessments. In order to move forward, Graduate Division is going to purchase a program called Qualtrics which is about $30k and is FERPA and HIPAA secure. IDPs are on the Graduate Division web site.

GRMP fellowships are coming up; Graduate Division should be able to get the awards out by the beginning of the Spring quarter.
Graduate Division is in the last phase of hiring the candidate for the Responsible Conduct of Research (RCR) position; the candidate is extraordinary.

Dean Childers ran a report on the attrition of Ph.D. students from Fall 2010-Fall 2014. Students separated from the University during that time at a rate of 30%. About 90% of these students had advanced to candidacy within those four years which is average. Graduate Division runs a first year success mentorship program for Ph.D. students. The four year attrition rate for the students who go through this program is 4%. The program was originally targeted for students who were at risk. First year separation rates were about 15%, domestic being higher than international. In the past two years, the program has been expanded and attrition rates have dropped to 6.6%; domestic attrition was lower than international for the first time. The cost savings for this is around $1 million per year. The mentorship program costs Graduate Division about $100k per year.

CCGA information – one of the CCGA items mentioned at the Council of Graduate Deans meeting was revisiting self-supporting programs (SSPs) and how funds can be allocated based on what SSPs bring in. The current suggestion is to return 60% to campuses.

Graduate Division had a Beyond Academics Day last Friday. PhD’s from industry came to talk to graduate students about the possibility of careers outside of academia. It was a well-attended event.

Grad Slam is coming up on May 4th. There will be a systemwide event this year in which the winners from each campus will compete.

Dean Childers recently met with Vice Chancellor Maria Anguiano, Assoc. Vice Chancellor Matt Hull and EVCP D’Anieri regarding the new funding mechanism for NRT. Dean Childers argued that NRT should be covered if the student is within the normative time to candidacy. Dean Childers thinks our campus is moving in this direction.

**Courses and Programs**

Graduate Council voted to approve/return the following courses as indicated:

1. AHS 286 (NEW) - Curatorial Seminar – approved.
2. AHS 287 (NEW) - Curating as Critical Practice – approved.
3. AHS 299 (CHANGE) - Research for Thesis or Dissertation – approved.
4. ETST 205 (NEW) - Feminism, Race, and the Politics of Knowledge – approved.
5. MUS 297 (CHANGE) - Directed Research – approved.

Graduate Council voted to approve/return the following program changes as indicated:

1. SOBA (MPAc) – Change to Admission Requirements – Graduate Council voted to return this program change requesting specification on admission requirements. It was unclear what students must complete in order to be admitted.
2. English – Proficiency in American Sign Language as an option to fulfill language proficiency requirement – approved.
3. Dance – Changes to MFA requirement – approved.
4. Art History – Change to catalog to incorporate a sixth-quarter review for PhD students – approved.
5. Proposed School of Medicine MD-Anthropology/ Bioengineering/Biomedical Sciences/Psychology PhD Track – procedures & requirements – Graduate Council agreed
with the MOUs for these programs. The Council suggested each program add general information to the catalog under each associated program with a link to additional information. Dean Childers and Chair Lo will ask the programs and the School of Medicine to forward general catalog copy to the Graduate Council for approval.

Online M.S. in engineering admission assessment – revised
The Graduate Council voted to approve the revised proposal with minor editorial revisions to the catalog entry. Sarah will forward the revisions to Prof. Vafai for his approval before forwarding to the catalog office.

Policies to Cover When Graduate Students Fail to Progress
Dean Childers discussed student progression with the Graduate Council. He feels that it is appropriate for the Graduate Council to craft language that says it is a student’s responsibility to find a mentor, but that the program will help the student as it is the program’s obligation to help students obtain a PI. All other UCs have this policy, UCR just needs to adopt one. Dean Childers will bring language for the policy back to the Council for review and approval hopefully in time for the March meeting.
Coversheet for Request for Approval
To Modify Graduate Program Degree Requirements

Program: Geological Sciences Graduate Program

Is this an interdepartmental program?  ☐ Yes  ☒ No

If an interdepartmental program, list other involved programs:

Department/Academic Unit/School: Geological Sciences, University of CA-Riverside

Date: Jan 8th, 2015

Proposed Effective Date: Fall 2015

Faculty Contact: Dr. Gordon Love  Email: gordon.love@ucr.edu  Phone: x23181
Prepared by: John Herring  Email: john.herring@ucr.edu  Phone: x22441

Proposed Modification(s) (please check all that apply)

☐ Admission requirements
☐ Unit requirements
☒ Course requirements – course changes/new courses MUST be submitted in CRAMS simultaneously with program change/new program submission.
☐ Professional Development Plan
☐ Examination requirements
☐ Time-to-degree
☐ Other (please describe): Advancement to candidacy
☐ Does this program change affect any other programs

1. If the program change involves changes to any existing courses (deleting courses, changing existing courses, or adding new courses), the course changes MUST be submitted in CRAMS simultaneously with the program change submission so that Graduate Council can review all affected courses with the proposed program change.

2. Proposal must include a cover letter from the Dean, Associate Dean, Chair, Director or Program Advisor as appropriate, taking care to briefly describe the proposed modifications and justification for the request.

3. Attached proposal must include the proposed modifications as formatted in the example below. The existing requirements must be on the left column, and the proposed revisions on the right. Proposed additions must be underlined and deletions must be strikethrough.

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Faculty Approval Date: Indicate the date of the faculty vote

Department Chair / Program Director: Please type name(s) as appropriate
Signature: Please include signature(s) as appropriate
Date: Date signed

Checklist of Required Attachments/Appendices (please check to verify inclusion):

☐ Dean/Associate Dean/Chair or Program Advisor Cover Letter.
☐ Completed Coversheet for Request for Approval To Modify Graduate Program Degree Requirements.
☐ Revised Catalogue/Website Copy in proper table format including Justification as indicated above. Must be signed and dated.
9th January, 2015

Gordon D. Love, Ph.D
Professor of Biogeochemistry
& Graduate Advisor,
Department of Earth Sciences
University of California, Riverside

To: Graduate Council,

In accordance with a request from Kara Oswood who has been processing candidacy advancements for our graduate students, we would like to amend the text found in the catalog copy that outlines the classes eligible to count for our (4 by 4) course requirements for our M.S. and Ph.D. students.

We find for many of our graduate students that specific 100 level classes may be more important and appropriate than graduate classes for preparing students engaging in multidisciplinary research, to bridge key gaps in their knowledge and training. Usually, only one 100 level class can count for the 4x4 class requirement and discussions between the Graduate Advisor, Projecty Advisor and student will establish if this 100 class is necessary.

Accordingly, we wish to add an extra sentence, highlighted in yellow, to clarify that 100-level classes can count for the course requirements subject to Graduate Advisor prior approval.

“Course Work Students must complete at least four graduate-level instructional courses taught by four different faculty members as approved by the graduate advisor. 100-level classes may be eligible subject to graduate advisor prior approval.”

Please do not hesitate to contact me if you need any clarification regarding our proposal.

Sincerely,

Gordon Love
Present

Graduate Programs

The department of Earth Sciences offers the M.S. and Ph.D. in Geological Sciences. Graduate education in the Geological Sciences emphasizes general geology combined with specialization in fields such as evolutionary paleobiology, invertebrate and vertebrate paleontology, Quaternary geology, neotectonics, applied geophysics, geotectonics, crustal processes, geochemistry, groundwater, mineral deposits, stratigraphy, sedimentology, sedimentary geochemistry, basin analysis, landscape ecology, fire ecology, and natural resource conservation. Integrated field and laboratory studies are encouraged.

Admission

An undergraduate degree in geology or geophysics is the normal preparation for graduate work; however, a degree from a related field of science or engineering is often appropriate. Applicants to graduate status must supply GRE General Test (verbal, quantitative, analytical) scores before admission.

Master’s Degree

In addition to the general requirements listed under the Graduate Studies section of this catalog, the requirements for the M.S. degree in Geological Sciences, under the Plan 1 (Thesis), are as follows.

Admission

Students must make up any deficiency in preparation. The background required is course preparation equivalent to the bachelor’s degree in Geology or Geophysics at UCR. Courses taken to remedy background deficiencies are not applicable to the graduate degree. Such courses are designated in the letter of admission to the program sent by the dean of the Graduate Division to the student.

Proposed

(No change)
Biannual Reviews All students must undergo biannual reviews by the departmental Graduate Progress Committee. A student’s progress is assessed in these reviews, and the committee may recommend changes in a student’s plans after these reviews.

Course Work All students must enroll each quarter in the Graduate Seminar in Geosciences (GEO 250). Students must attend the weekly Hewett Club lecture series. Students must complete a minimum of 36 units of course work in the major and related subjects and obtain advance approval of a coherent plan of study from the graduate advisor.

A maximum of 12 upper-division units beyond the requirements for the bachelor’s degree may be applied to the 36-unit requirement.

Students must complete a minimum of 12 units of graduate courses, which must include at least four graduate-level instructional courses taught by four different faculty members as approved by the graduate advisor.

Subject to the approval of the graduate advisor, a limited number of upper-division courses in the major and related sciences, if not required for the bachelor’s degree and not taken previously, may be accepted for graduate credit.

Thesis and Final Oral Examination Before the end of the third quarter of study and before embarking on research, the student must submit a written thesis proposal to the graduate progress committee. After approval of the proposal, the student must submit a thesis based on original work for approval by a thesis committee. A maximum of 12 units of thesis research may be counted toward the 36-unit minimum.
Students present an open research seminar as a final oral examination, which is advertised to all the students and faculty in the Earth Sciences Department.

**Normative Time to Degree** 7 quarters

**Global Climate and Environmental Change (GCEC)** The GCEC MS track is a field and laboratory based multidisciplinary program focused on the evidence for and controls of past and present climate change. Candidates must complete the following:

**Course Work** Students must complete a minimum of 36 quarter units of graduate and upper-division undergraduate courses, and research credit from 1 and 2 (below). Other upper-division undergraduate and graduate classes outside may be substituted with consent of the Graduate Advisor. 24 of 36 credits must be graduate level.

1) **Required Core courses:** GEO 224 upon entry into the program, GEO 260 and BIOL 212/ENTM 212/GEO 212.

2) **At least two additional disciplinary courses:** GEO 221, GEO 226, GEO 239, GEO 249, GEO 251, GEO 255, GEO 264, GEO 265, GEO 268, GEO 301, OR ENSC 200, ENSC 218, ENSC 224, ENSC 225, ENSC 232.

**Thesis Work** Before the end of the third quarter students must nominate a faculty advisor and identify a thesis topic. Before embarking on research the student must submit a thesis proposal based on original work for approval by a thesis committee. A maximum of 8 units of research credit can be counted toward the 36 unit minimum. Students present an open research seminar as a final oral examination.

**Doctoral Degree**

The Department of Earth Sciences offers the
Ph.D. in Geological Sciences. In addition to the general university requirements of the Graduate Division as found in the Graduate Studies section of this catalog, the Ph.D. in Geological Sciences normally requires the following.

**Biannual Reviews** All students meet with the Graduate Progress Committee during their first week at UCR to discuss general interests, goals, and plans. The committee recommends courses designed to prepare a student for research and to correct deficiencies in background. This committee also reviews a student’s progress biannually and may recommend transfer to the master’s program if normal progress is not maintained.

**Course Work** Students must complete at least four graduate-level instructional courses taught by four different faculty members as approved by the graduate advisor. Course work used in satisfaction of the M.S. degree may be accepted with the graduate advisor’s approval. All students must enroll each quarter in the Graduate Seminar in Geosciences (GEO 250). Students are also required to attend the weekly Hewett Club lecture series.

**Written and Oral Qualifying Examinations** Students must write two research proposals. The proposal topics must be approved by an examination committee to ensure breadth. The committee reviews the proposals and, if acceptable, recommends proceeding to the oral qualifying examination. An oral examination committee appointed by the dean of the Graduate Division examines the adequacy of the student’s preparation to conduct the proposed research. Advancement to candidacy in the Ph.D. program follows successful completion of the oral examination. All Ph.D. candidates must satisfy the course requirements and have passed their written and
oral qualifying exams within two years of entering the program, otherwise they will not be eligible to continue in the Ph.D. track. Exceptions can only be granted by the Graduate Advisor or by the Chair.

**Dissertation and Final Oral Examination**
A dissertation normally evolves from one of the research proposals. The dissertation must present original scholarly work and be approved by a dissertation committee before the student may take the final oral examination. Students must have satisfactory performance on the final oral examination given by the dissertation committee. Major emphasis in this examination is on the dissertation and related topics.

**Normative Time to Degree from the B.S.**
17 quarters

**Faculty approval Date:** 9 January 2015

**Justification:**

In accordance with a request from Kara Oswood who has been processing candidacy advancements for our graduate students, we would like to amend the text found in the catalog copy that outlines the classes eligible to count for our (4 by 4) course requirements for our M.S. and Ph.D. students.

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Coversheet for Request for Approval
To Modify Graduate Program Degree Requirements

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<tbody>
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<td>☒ Yes ☐ No</td>
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<td>Proposed Effective Date</td>
<td>03/25/2015</td>
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| Faculty Contact: | Susan Straight | Email: susan.straight@ucr.edu | Phone: 2-5424 |
| Prepared by:     | Bryan Bradford | Email: bryanb@ucr.edu         | Phone: 2-5568 |

Proposed Modification(s) (please check all that apply)

☐ Admission requirements
☐ Unit requirements
☐ Professional Development Plan
☐ Examination requirements
☐ Time-to-degree requirement for Poetry emphasis students
☐ Designated Emphasis

☐ Course requirements — course changes/new courses MUST be submitted in CRAMS simultaneously with program change/new program submission.
☐ Specializations
☒ Other (please describe): Change in thesis page

☐ Does this program change affect any other programs? If yes, check the box.

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2. Proposal must include a cover letter from the Dean, Associate Dean, Chair, Director or Program Advisor as appropriate, taking care to briefly describe the proposed modifications and justification for the request.

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Faculty Approval Date: Indicate the date of the faculty vote

Department Chair / Program Director: Please type name(s) as appropriate
Signature: Please include signature(s) as appropriate
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Checklist of Required Attachments/Appendices (please check to verify inclusion):
☒ Dean/Associate Dean/Chair or Program Advisor Cover Letter.
☒ Completed Coversheet for Request for Approval To Modify Graduate Program Degree Requirements.
MEMO:  David Lo  
   Chair, Graduate Council  

From:  Susan Straight  
   CWPA Program Director  

RE:  Request for Revision of Thesis Page Requirement for Poetry Emphasis  
   Students in MFA Program in Creative Writing and Writing for the  
   Performing Arts  

DATE:  February 25, 2015  

Revision:  

The MFA program in Creative Writing and Writing for Performing Arts is requesting that the thesis page requirement for our poetry emphasis students be changed from the current requirement of 50 – 100 pages to 40 – 65 pages.  

Justification:  

Customarily, a published book of poetry ranges from roughly 60 to 75 pages. Volumes that are lengthier than this are often "Selected" or "Collected" volumes by late-career poets or are manuscripts that haven't winnowed themselves down to the core best work.  

Our current requirements state that the MFA candidate in poetry will write a book that is 50 to 100 pages, and many students have articulated that they feel the higher end of the page count must be "best." This is, in turn, turning their attention from the poem in front of them toward a model of generating as many poems as possible toward their thesis.  

The faculty believes this model of "production" in poetry is counter to how books of poems are most organically and powerfully made, which is one poem at a time, with attention fixed to that individual poem, allowing the book's concerns and themes to arise from the intensity of craft on the level of each poem.  

We would therefore like to lower the thesis page requirement to 40-65 pages in order to improve the quality of student work, which will subsequently increase their ability to create a publishable volume that is in keeping with the page count of the majority of first books published nationally.
Proposed Changes to Creative Writing and Writing for the Performing Arts (Main Campus Traditional Program)

To be adopted:

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Faculty Approval Date: 02/11/2015

Program Director: Susan Straight

Signature: [Signature]

Date: 2/5/15
# Coversheet for Request for Approval
## To Modify Graduate Program Degree Requirements

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<th>Master of Public Policy</th>
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<td>□ Yes  ☒ No</td>
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<tr>
<td>Department/Academic Unit/School</td>
<td>School of Public Policy</td>
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<tr>
<td>Date</td>
<td>11/24/14</td>
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<tr>
<td>Proposed Effective Date</td>
<td>Fall 2015</td>
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**Faculty Contact:** Anil Deolalikar  
Email: anild@ucr.edu  
Phone: 951-827-5564

**Prepared by:** Will Suh  
Email: william.suh@ucr.edu  
Phone: 951-827-2334

## Proposed Modification(s) (please check all that apply)

- Admission requirements
- Unit requirements
- Professional Development Plan
- Examination requirements
- Time-to-degree
- Course requirements – course changes/new courses MUST be submitted in CRAMS simultaneously with program change/new program submission.
- Other (please describe):
- Does this program change affect any other programs

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**Faculty Approval Date:** Indicate the date of the faculty vote

**Department Chair / Program Director:** Please type name(s) as appropriate

**Signature:** Please include signature(s) as appropriate

**Date:** Date signed

## Checklist of Required Attachments/Appendices (please check to verify inclusion):

- Dean/Associate Dean/Chair or Program Advisor Cover Letter.
- Completed Coversheet for Request for Approval To Modify Graduate Program Degree Requirements.
- Revised Catalogue/Website Copy in proper table format including Justification as indicated above. Must be signed and dated.
**Program of Study**

The MPP program consists of 72 units of graduate courses, plus one summer of practical experience in a degree-relevant internship. The curriculum consists of 11 required core courses, a required summer internship, a required capstone research project spanning two quarters (which substitutes for a final examination), required attendance in the public policy seminar series each quarter, and five concentration or elective courses.

### Core Courses:

**The Policy Process (4 courses)**
- Introduction to policy analysis
- Policy institutions and processes
- Regional policy-making across administrative jurisdictions
- State governments as laboratories of change

**Institutional Context (3 courses)**
- Environmental and social policies: interactions, synergies, and unintended consequences
- Ethics, professionalism, and the normative bases of public policies
- Global-local policy connections: Case studies in poverty, water, and sustainable development

**Policy Methods (4 courses)**
- Quantitative methods for public policy analysis
- Qualitative social science methods
- Applied microeconomics for public policy
- Public management and leadership

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**Program of Study**

The MPP program consists of 72 units of graduate courses, plus one quarter of practical experience in a degree-relevant policy internship. The curriculum consists of 11 required core courses, a required policy internship, a required capstone research project spanning two quarters (which substitutes for a final examination), required attendance in the public policy seminar series each quarter, and five concentration or elective courses.

### Core Courses:

**The Policy Process (4 courses)**
- PBPL 200: Introduction to policy analysis
- PBPL 202: Policy institutions and processes
- PBPL 204: Regional policy-making across administrative jurisdictions
- PBPL 206: State governments as laboratories of change

**Institutional Context (3 courses)**
- PBPL 220: Environmental and social policies: interactions, synergies, and unintended consequences
- PBPL 222: Ethics, professionalism, and the normative bases of public policies

**Policy Methods (4 courses)**
- PBPL 210: Quantitative methods for public policy analysis
- PBPL 212: Qualitative social science methods
- PBPL 214: Applied microeconomics for public policy
- PBPL 216: Public management and leadership
Elective Courses

Students can choose to align their elective coursework with their interests and career goals. A minimum of two courses focusing on a related substantive area are required for a concentration. The concentrations available are:

- Environmental policy (including air and water quality)
- Energy, water, and food security
- Transportation
- Sustainable development and poverty
- Public health and nutrition
- Education
- Immigration, race and ethnicity
- Crime and youth violence prevention and justice
- Housing and urban/suburban development
- Food security and agriculture
- Arts, culture and media

Final Examination

Students must complete a capstone research project in the second year of the program, which will substitute for the final examination.

Normative Time to Degree

Two years

- PBPL 224: Global-local policy connections: Case studies in poverty, water, and sustainable development

Elective Courses

Students can choose to align their elective coursework with their interests and career goals. A minimum of two courses focusing on a related substantive area are required for a concentration. The concentrations available are:

- Environmental policy (including air and water quality)
- Energy, water, and food security
- Transportation
- Sustainable development and poverty
- Public health and nutrition
- Education
- Immigration, race and ethnicity
- Crime and youth violence prevention and justice
- Housing and urban/suburban development
- Food security and agriculture
- Arts, culture and media

Final Examination

Students must complete a capstone research project in the second year of the program, which will substitute for the final examination.

Normative Time to Degree

Two years

Program of Study Justification: Removal of summer quarter requirement of internship allows flexibility for students and working individuals to complete the internship in another quarter. This also allows a student to maintain normative time to degree if they could not complete the internship over the summer. Currently there are no enrolled students in the MPP program so this will not have an impact on current students. Addition of “Policy Internship” ensures that approved internships will be relevant to public policy.

Core Courses Justification: Addition of proposed course assignment numbers for core
courses. Reorganized sections of the core courses in a logical order: The Policy Process, Policy Methods, and Institutional Context. Currently there are no enrolled students in the MPP program so this will not have an impact on current students.

Faculty Approval Date: September 15, 2014

Dean, School of Public Policy | Anil Deolalikar
---|---
Signature: |  
Date: |  
Justification for Revisions to Bylaw 182: University Committee on International Education

The University Committee on International Education (UCIE), was initially established in 1965 to provide faculty Academic Senate governance over the university-wide study abroad program.\(^1\) At that time and for many years thereafter, the University’s principal systemwide activities in international education took the form of the education abroad program, which is now called the University of California Education Abroad Program (UCEAP).\(^2\) Given this, UCIE’s bylaws have only covered faculty governance of student exchange programs associated with UCEAP. Over time however, and especially in the last decade, the University has expanded both its formal and informal international activities. While UCEAP’s activities in student exchanges remain significant part of UC’s international portfolio of international activities, it is no longer the principal expression of this activity, which now includes the enrollment of significant numbers of international students, formal and informal international research collaborations, international service learning by undergraduates, an increasing number of MOUs and other international agreements between UC campuses and institutional partners, and even Presidential Initiatives. The increase in these activities necessitates an expansion in UCIE’s purview from a committee that simply oversees student exchanges through UCEAP to one that has an advisory role in all of the University’s systemwide international activities. With that in mind, the following justification will briefly describe UC expansion in international activities, the role of shared governance in such activities, and an explanation of the amendments being proposed.

Over the last decade, UC’s international presence and engagement has expanded significantly. One example of this phenomenon is the growth in the enrollment of international students, which have risen from 9,576 in fall 2002 to 19,404 in fall 2012.\(^3\) Although the University does not keep records on the international research collaborations by its faculty, data from the National Science Foundation (NSF) show that such collaborations on a national basis are increasing significantly. From 1997 to 2012, the number of science and engineering (S&E) articles in peer-reviewed journals by co-authors from different countries increased from 14% to 25%. The NSF now reports that 35% of U.S. S&E co-authored articles are international in scope.\(^4\) In addition, more and more students are now taking part in independent research activities abroad (usually with faculty), which have increased by almost 47% between 2010-11 and 2011-12.\(^5\) At UC, a number of internationally-themed Presidential initiatives have recently been launched as well. These include the UC Mexico Initiative and the Global Food Initiative. These initiatives leverage the international activities already taking place on the campuses, such as UCSF’s Global Health Sciences Group and UC Mexus to name only a few.

It is clear that a significant number of universities are internationalizing themselves, which necessitates the creation and maintenance of policy dedicated to international activities. For instance, a recent UC survey found that Harvard, MIT, Stanford, Yale, the University of Illinois, the University of Michigan, the University of New York at SUNY-Buffalo, and the University of Virginia have all instituted policies on international activities. Indeed, many of these universities have set up administrative committees to address such policy.\(^6\) Given that most international activity is driven by faculty interests and research, it is essential that the Academic Senate not only be consulted, but play an instrumental role in formulating such policy. Towards that end, Academic Council endorsed and sent the UCIE-drafted Vision Statement on International Engagement to President Napolitano last summer. UCIE also has a representative on the Academic Planning Council’s International Activities Working Group, which is drafting a Presidential Policy on International

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\(^1\) In its earliest form in the 1960s, UCIE was constituted as the “Committee on Education Abroad Program” under Bylaw 122. Originally the Senate shared responsibility with a separate administrative committee, until it gained complete control over courses taken abroad in 1971. UCIE took its current form in May 2003 under Bylaw 185. \\
\(^2\) UCEAP should not be confused with the acronym for the original University Committee on Education Abroad Program or “UCEAP”. \\
\(^3\) See Statistical Summaries and Data on UC Students, Faculty, and Staff, UC Institutional Research and Academic Planning, [http://legacy-its.ucop.edu/uwnews/stat/](http://legacy-its.ucop.edu/uwnews/stat/). \\
\(^6\) Harvard has set up one such policy committee, the University Committee on International Projects and Sites, which is mainly populated by a mix of faculty and administrators. See [http://provost.harvard.edu/university-committee-international-projects-and-sites](http://provost.harvard.edu/university-committee-international-projects-and-sites).
Activities. Therefore, the proposed amendments to these bylaws formalize faculty governance in this area, as well as laying out reporting relationships between both Senate agencies and Administrative entities. First, the following bylaw amendments expand the UCIE’s purview from simply student exchange associated with UCEAP to international research collaborations, the welfare of international students and scholars, international engagement initiatives, UC educational centers abroad, and any experiential and service learning arrangements. Second, the new bylaws would allow UCIE to initiate policy proposals (the existing bylaws only allow UCIE to consider matters that are referred to it by the President of the University, the Academic Council, the Assembly, or a Divisional or any Senate Committee). Similarly, UCIE would now formally be designated as the liaising Senate agency between UCOP international policy working groups and Academic Senate leadership. Finally, the new bylaws formalize the consulting, reporting, and feedback mechanisms between UCIE and Administrative and Senate agencies.

In proposing changes to its bylaws, UCIE is also trying to make its bylaws conform to those bylaws already in place at a number of Senate Divisional Committees on International Education (or their equivalents), as indicated below:

- UCI’s Subcommittee on International Education has the authority to opine on formal educational activities of UCI students abroad, faculty exchanges between UCI and foreign universities, and other academic issues involving international education.
- UCLA’s Committee on International Education both provides consultation to the International Education Office (IEO) and the Vice Provost, International Institute and serves as liaison between the IEO and Academic Senate leadership, helping to ensure that policies and procedures are appropriately vetted by the Senate.
- UCR’s Committee on International Education advises the Division on various aspects of international education, including the well-being of foreign students and faculty at UCR, the participation of UCR in international exchange agreements, and the participation of UCR faculty and students in international research and educational programs other than the EAP.
- UCSD’s Executive Committee on the Committee on International Education formulates policies and programs that will serve to better integrate international education into the campus academic programs.
- UCSB’s Committee on International Education formulates a bi-annual survey of international students that helps guide UCSB’s policy concerning this growing portion of the student body. The committee consults with the Office of International Students and Scholars as well as the EAP Campus Office, and advises the Associate Vice Chancellor on International Affairs.
**Tracked Changes:**

**182. International Education** (Formerly 165 Education Abroad Program) (Am 28 May 2003)

A. Membership shall be determined in accordance with Bylaw 128, except that the Chair shall normally serve a two-year term. One undergraduate student and one graduate student shall sit with the Committee. [See Bylaw 128.E.] The Vice Chair shall be chosen in accordance with Bylaw 128.D.2. and 3. On a campus that has no equivalent committee, a member shall be an at-large Senate member. (Am 28 May 2003)

B. Duties. Consistent with Bylaw 40, the Committee shall: (Am 28 May 2003)

1. Consider and report on matters of international education and research referred to the Committee by the President of the University, the Academic Council, the Assembly, a Divisional or any Senate Committee (Am 28 May 2003).
2. **Report to the Academic Council and other agencies of the Senate and confer with and advise the President and agencies of the University Administration on matters concerning international engagement, including:**
   i. International research in which UC students and/or faculty participate.
   ii. Participation of UC faculty and/or students in international exchange agreements.
   iii. The status and welfare of international students and scholars on the UC campuses.
   iv. Educational Centers run by UC campuses abroad (other than UCEAP).
3. **Initiate policy recommendations regarding international engagement programs and the status and welfare of international students and scholars at UC, including policies that will better serve to integrate international education and research into UC academic programs.**
4. **Serve as liaison between UCOP international policy working groups and Academic Senate leadership, helping to ensure that proposed policies and procedures are appropriately vetted by the Academic Senate.**
5. **Evaluate and advise on UC’s international service learning or experiential learning programs.**
6. **Provide continuing review of the Education Abroad Program and its policies.** (EC 28 May 2003) Consult with the University Office of Education Abroad Program on future program development, including modification of the programs of existing Study Centers, establishment of new Study Centers, and disestablishment of EAP Programs. (Am 28 May 2003)
   i. Represent the Senate in the selection of Study Center Directors. (Am 28 May 2003)
   ii. Maintain liaison with the Council of Campus Directors. (Am 28 May 2003)
   iii. Advise the University Office of Education Abroad Program Director on all matters of international education. (Am 28 May 2003)
   iv. Have the responsibility for the final academic review of new Study Centers and Programs after the first three years, and for regular reviews of all centers and programs every ten years or as conditions may require. (En 4 May 89; Am 4 Jun 91; Am 28 May 2003)
   v. Authorize and supervise all courses and curricula in the Education Abroad Program. (Am 2 Dec 71; Am 4 May 89; Am 28 May 2003)
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   ii. Participation of UC faculty and/or students in international exchange agreements.
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4. Serve as liaison between UCOP international policy working groups and Academic Senate leadership, helping to ensure that proposed policies and procedures are appropriately vetted by the Academic Senate.
5. Evaluate and advise on UC’s international service learning or experiential learning programs.
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   ii. Maintain liaison with the Council of Campus Directors. (Am 28 May 2003)
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GUIDELINES ON ACCEPTING AND MANAGING EQUITY IN RETURN FOR ACCESS TO UNIVERSITY FACILITIES AND/OR SERVICES

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I. INTRODUCTION

Across the nation, universities are being asked by their external stakeholders to be an active participant in the entrepreneurial and innovation ecosystem. One element of this participation is supporting new businesses created by students, staff and faculty and/or based on university-developed inventions. Campuses are creating incubators and accelerators where new companies can begin to develop business or product development plans.

A common element of non-university incubators or accelerators is the ability to accept equity in the companies as an element of the financial consideration for access to space and business support services. On June 20, 2014, President Napolitano authorized the University to initiate a pilot program whereby the University may accept equity in a company as full or partial consideration for access to University facilities and/or services (“AFS”) in the context of University Incubators or Accelerators. This document provides guidelines to campuses seeking to develop new programs or modify existing programs to take advantage of this pilot. Through this pilot, the University seeks to understand if and how any permanent program could or should be operated and what, if any policy changes will be needed to formally enact it. The guidelines seek to provide a systematic and consistent framework for campuses to implement the pilot so that it can both be effective in its implementation and provide meaningful feedback for determining the basis upon which to formally enact certain or all aspects of the pilot as conceived in one or more modalities as implemented by campuses.

This pilot program has been created so that the university can understand how to best manage this issue, based on the experiences of campus-based programs that participate. These guidelines are designed to ensure that any program does not create unmanageable risk, either directly for the program, or for the University. This pilot program will run for three years, at which time the Office of the President will evaluate the outcomes and determine if and/or how to codify this pilot program into University Policy.

II. REFERENCES

A. Policies, Principles and Guidelines


University Policy on Integrity in Research, June 19, 1990.

University Policy on Disclosure of Financial Interests & Management of Conflicts of Interest, Public Health Service Research Awards
Principles of Delegation of Authority and Protocol
(http://policy.ucop.edu/_files/da/da_definitions.html)

Summary Statement of Principles and Policies on Institutional Conflict of Interest in Research (http://www.ucop.edu/raohome/cgmemos/11-05.pdf)

B. State of California Government Code


III. DEFINITIONS

**Designated Campus Manager (‘DCM’)**

In accordance with the Principles of Delegation of Authority and Protocol ([http://policy.ucop.edu/_files/da/da_definitions.html](http://policy.ucop.edu/_files/da/da_definitions.html)), each campus shall identify and grant delegated authority to the Designated Campus Manager (DCM) to 1) execute AFS agreements wherein approval to accept equity may be required, 2) ensure compliance with system-wide guidelines and policy, and 3) request formal equity acceptance approval from the Executive Director of Innovation Alliance and Services. In accordance with these Guidelines, for the benefit of consistency, and in compliance with state, federal, and institutional requirements, each campus may wish to identify a single position title for its (DCM).

**Equity:**

Shares of common or preferred Stock, Warrants, options, convertible instruments, units of a limited partnership or limited liability company (“Units”), or any other instrument conveying ownership or economic interest in a corporation, limited partnership, limited liability company or other business entity.

**Incubator or Accelerator**

A UC-designated physical location where UC-associated startup companies can start commercial ventures.

**Innovation Alliances and Services (“IAS”)**

The University-wide office within the Office of the President responsible for coordinating, facilitating, and reporting on the University’s technology commercialization program.

**IAS Equity Approval Manager (“EAM”)**

The individual designated by IAS to have responsibility for managing Equity approvals.

**Laboratory:**

The U.S. Department of Energy’s Lawrence Berkeley National Laboratory.

**Stock:**

An equity or ownership interest in a corporation. Its unit of measurement is the share, and the owner is entitled to certain rights in the company pursuant to its status as a Stockholder whether pursuant to law or contractually agreed upon rights, as well as distribution of assets upon liquidation or dissolution of the company. Ownership of Stock may be evidenced by a written instrument known as a stock certificate.
Stockholder’s Agreement  An agreement or agreements (separate from any other agreement) that sets forth the rights and duties of the holder of Equity and the company with regard to the Equity being held, including such issues as registration rights, transfer rights, dilution considerations, future rights, co-sale and rights of first refusal, special voting rights, etc.

Warrant  A contract or agreement that gives the holder the right to subscribe for, purchase or otherwise acquire shares of the underlying Stock or convertible securities for a specified price and within a specified time period.

IV. EQUITY GUIDELINES

A. Scope

The AFS pilot program shall be limited to campus created and authorized Incubator and Accelerators. These guidelines apply to transactions related to early stage businesses/companies with issued Equity in the form of Stock or Units or those that intend to issue Equity in the form of Stock or Units that are: a) founded by the University’s faculty, staff, and/or students or having a defined relationship to the University based on the affiliation of its founders, and b) advancing academic innovations wherein campus management grants such companies (a “Company”) access to their local campus Incubator or Accelerator facilities and services. These guidelines also apply to the Department of Energy’s (DOE) Lawrence Berkeley National Laboratory to the extent that there is no conflict with the obligations of the University under its management and operating contracts with the DOE. These guidelines are intended to support the implementation of the AFS pilot program. Note that each participating campus and the Laboratory is expected to designate a DCM who has the relevant experience with and knowledge of startup equity transactions, complex financial instruments and University policy so as to be able to develop its own procedures by ways of standard templates consistent with these guidelines and to allow for the acceptance of equity in return for access to University resources, in compliance with University policies and applicable law. Appendix F highlights some material items that should be considered by the DCM when preparing internal procedures and forms to implement the pilot.
B. Accepting Equity

The University may accept Equity in Companies to support recently organized or incorporated businesses that arise from or have relationships to the University based in part on the affiliation of their founders. The acceptance of Equity for AFS is subject to the provisions of these guidelines:

1. A portion of the financial consideration may be provided in the form of cash, taking into account the financial condition and structure of the Company and the specific elements of the campus programs under which the Equity is accepted.

2. The University’s preference is to take Equity in the form of Stock, Units or similar securities that are fully paid for rather than Warrants or options which are a right to later purchase securities of a company at a predetermined price. Acceptance of options or Warrants may be approved on a case-specific basis by exception. At a minimum, approval for such exception will require that 1) private funding (e.g., not state funding) is available and reserved to provide cash needed to exercise such options or Warrants and 2) the options or Warrants comprise a minority portion of total financial consideration. In addition, prior arrangements would need to be made by the campus to manage the rights and interests of all involved parties in such options or Warrants.

3. The DCM should be aware that there are strict rules under the tax laws that prohibit certain “private use” of tax-exempt bond-financed space or equipment by private individuals or entities. In order to avoid such private use issues in connection with the AFS pilot program, the Accelerator or Incubator should not be financed, in whole or in part, with the proceeds of tax-exempt debt. In specific circumstances the University may permit limited private use of tax-exempt bond-financed space or equipment by a private party participating in the program provided the DCM can demonstrate in advance to the satisfaction of the University that such use is in compliance with rules allowing for a limited percentage of space to be set aside for private-use and that such private-use will not jeopardize the tax-exempt status of any bonds. The DCM should contact the individual at the campus, Laboratory or University who is responsible for maintaining its tax-exempt bond financing records to determine whether such space or equipment falls within this prohibition.

C. Conflict-of-Interest and “Private-Benefit” Considerations

1. University acceptance of Equity for AFS shall be based upon the educational, research, and public service missions of the University over financial or individual personal gain.

2. The support of new businesses affiliated with the University is in the public interest and furthers the University’s training and educational objectives. Further, University
engagement with new businesses is appropriate and represents a useful contribution because the University’s engagement with industry is consistent with the University’s mission. Any involvement of University employees, however, must be in accordance with the California Political Reform Act of 1974 (“Act”), federal law and regulations, and University policy.

3. Because University employees may have the opportunity to influence University decisions in ways that could lead to personal gain or give advantage to companies in which they have a financial interest, the employees must be aware of and be in compliance with the relevant state and federal laws and regulations and University policies. Generally, University employees are prohibited from “making, participating in making or influencing a University decision,” if they have a disqualifying personal financial interest in the decision, unless certain specific actions are taken. Disclosure of financial interests, institutional review and management of conflicts of interest may also be required.

4. In order to comply with the Act, the Designated Campus Manager (“DCM”) must ensure that any University employee, unless specifically permitted under University Conflict of Interest Policy and the California Political Reform Act, with a current or likely future interest in the Company is excused from, does not to participate in, and does not influence or attempt to influence any decision involving Equity acceptance for AFS. A sample communication to the employee is provided in Appendix A.

5. The University’s status as a Section 501(c)(3) organization could be jeopardized if it provides more than “incidental” benefits to any private party. To help avoid such “private benefit” issues as well as conflicts of interest in the University’s decision making, accusations of favoritism, misuse of University resources and other related legal issues, campuses should establish and have documented a uniform methodology for determining the amount of equity in lieu of cash consideration for University resources in a manner that ensures the University is receiving fair or equivalent value for the resources provided. The amount of equity (i.e., number of shares) in lieu of cash for University resource(s) provided to a company would be determined by dividing (i) the fair market cash value for access to University resource(s) provided by (ii) the price per Unit of the Company (as reasonably determined in good faith by the DCM in accordance with the provisions of these guidelines) at the time the equity transaction was sought. If a uniform methodology for valuing University resource(s) is not established or is not used in a particular case, the DCM must have documents showing how the fair value of any University resource(s) provided was calculated and provide an affirmative written statement of what cash consideration would otherwise be due and that the Equity accepted in lieu of cash is deemed by the DCM’s independent and
good faith assessment to be fair or equivalent in value to the resource(s) provided. For assistance with the foregoing, the DCM is strongly encouraged to discuss in advance their methodology with the EAM to ensure that it meets all policy and legal requirements. See Appendix F for additional information that may be useful to a DCM when addressing the fair market valuation issues described above.

D. Board Representation / Voting Rights

Employees of the University, acting in their capacity as University employees, shall not accept a position on the board of directors in a Company in which the University has an Equity interest pursuant to this program, nor shall they exercise related voting rights, but may accept and exercise observer rights on such boards. Active board participation and/or the exercise of voting rights by an individual in his or her capacity as a University employee might expose the University to unacceptably large management, conflict of interest, and public relations problems. A University employee who is an inventor of intellectual and tangible property licensed by the University to a Company may participate on the scientific advisory board of that Company, but only if such boards do not have delegated voting authority to act independently on behalf of the full board of directors.

E. Future Relationships with Company

The University shall manage all subsequent relationships with a Company in which the University has accepted Equity at arms-length and in a fair manner pursuant to relevant University policies and guidelines.

The University has an affirmative obligation to prevent “pipelining” of inventions (intellectual property) to a Company in which the University holds an Equity interest. For example, University inventions should be made available for licensing to appropriate companies and should not automatically be made exclusively available to Companies in which the University has taken Equity under this pilot. At the same time, holding Equity in a Company should not preclude the Company from licensing any invention when that Company is best able to develop the successor inventions.

F. Company-Sponsored Product Testing

A University investigator may perform clinical trials or other comparable product-testing involving human subjects for Companies in which the University holds Equity as part of an AFS transaction on the campus/Laboratory where that technology arose provided that the campus conflict of interest committee has assessed any real or perceived organizational conflict of interest in the performance of such trials or testing activities and determined
whether a management plan is required, and the relevant IRB has reviewed and approved the protocol.

G. Determining How Much Equity to Accept

The University must ensure that it is receiving fair or equivalent value as consideration for University resources accessed by a company in accordance with the provisions set forth in Section V.C.5 and Appendix F of these guidelines. At the same time, the University shall not accept a level of Equity that places it in a controlling position of a company, since such a situation may expose the University to unacceptable management, conflict of interest, and public relations and other problems. Generally, the University’s Equity holdings in a publicly traded company shall be less than ten percent (10%).

For a privately-held company (startup), the University’s initial equity ownership can sometimes be greater than 10% (especially where such entity is only recently formed) as that the expectation is that that ownership stake will be diluted over time by subsequent rounds of financing, etc. Accordingly, the DCM may request approval to accept more than 10% equity in a privately-held company (startup) but less than twenty percent (20%) (in the aggregate, cumulative from all transactions including but not limited to G-44, this AFS pilot, and as calculated on a fully diluted and as converted basis) provided there is a clear expectation of subsequent dilution to less than a ten percent (10%) share ownership at the time the company goes public.

A DCM considering taking Equity in a Company must review the total percentage preexisting ownership, if any, the University may already hold in the company through other transaction arrangements, including any technology licensing-related arrangements (G-44). IAS will maintain on a restricted-access basis, a listing of Companies in which the University holds such Equity interests, the name of campus from which the service or access-related transaction arose, and other relevant information. The DCM should consult the EAM who will provide the most current information regarding any other University Equity holding in that Company.

V. APPROVAL OF EQUITY ACCEPTANCE.

A Required Approvals

In addition to the Office of the President approvals listed below, campuses are responsible for creating standardized procedures to ensure that relevant campus offices review and approve
the transaction.

1. Acceptance of an Equity interest in a Company shall be in accordance with these guidelines and upon the case-specific approval requests submitted by the DCM, review by the Office of the General Counsel, and approval by the Executive Director of IAS. In the course of supporting the equity acceptance approval review process, the EAM may provide guidance and make recommendations to the DCM concerning legal and policy issues related to the acceptance of Equity. Upon request of the DCM, the EAM may also provide recommendations to the DCM concerning any business issues related to the acceptance of an Equity request.

2. Office of General Counsel (“OGC”) review and approval as to legal form must be obtained for all agreements and documents related to the University’s acceptance of Equity. No preliminary legal reviews of the agreement would obviate the need for formal review and approval as to legal form of Equity acceptance of the entire proposed final agreement.

3. A campus-designated conflict of interest committee shall review agreements and, if appropriate, recommend management plans to the DCM, who shall submit verification of this review and management plan, if any, with the request for approval to accept equity submitted to IAS.

4. Consideration of requests for any required legal and Equity approval will be managed by IAS. IAS will consider such requests using the process described in Sections B through E, below.

B. Submission to IAS

DCM requests for approval to accept equity shall be submitted to:

Innovation Alliances and Services
University of California
Office of the President
1111 Franklin Street, 5th Floor
Oakland, CA  94607-5200

ATTN: Equity Approval Manager
C. Contents of Submission

A completed Equity Approval Request Checklist (Appendix B) should be submitted with the DCM’s request for approval of Equity acceptance along with relevant and required documentation referenced therein.

D. Requests for Exceptions

Any requests for deviations from these guidelines should be submitted in writing by the DCM to the EAM. Upon review, written authority to proceed (if accepted) will be provided by the Senior Vice President - Finance or the appropriate designee.

E. Timing of Submission

The DCM should allow sufficient time after IAS receipt of all the information provided under Section C and D, above, for IAS, legal and policy reviews in support of the Senior Vice President’s or the appropriate designee's consideration of an Equity approval request. Normally, if forms submitted by the DCM are complete and approved by OGC, IAS will have approved the request to accept Equity within 10 business days. Requests for approval should be submitted to IAS when the terms of an agreement are negotiated for such Equity acceptance, even if pursuant to the agreement, the actual delivery of Equity shares may come at some later point in time. However, preliminary informal discussions with the EAM concerning AFS related transaction terms and Equity arrangements are strongly encouraged to expedite subsequent formal review and approval.

F. Where to Send Equity and Corporate Actions

1. University Shares

Regents Bylaw 21.4(c) states, “The Chief Investment Officer shall be the custodian of all bonds, stocks, notes, contracts of sale, mortgages, and deeds of trust for real property held or acquired for investment purposes, and all other securities belonging to the Corporation ... and shall keep them in such places and in such manner as shall be approved by the Committee on Investments.”

Therefore, Equity interests in Companies, including Stock certificates, Unit certification, options, and Warrants, due to The Regents pursuant to the terms of an AFS transaction agreement shall be issued by the Company to The Regents’ nominee
name of “Shellwater & Co.” and delivered to the DCM. The DCM shall forward such Equity, together with the completed University Acceptance of Equity Form (Appendix C) to:

Office of the Chief Investment Officer of 
The Regents of the University of California 
1111 Broadway St., 14th floor 
Oakland, CA 94623-1000 

ATTN: Director, Treasury Operations 

A copy of the University Acceptance of Equity Form, with attachments, shall be sent by the DCM to the IAS as follows:

Innovation Alliances and Services 
University of California 
Office of the President 
1111 Franklin Street, 5th Floor 
Oakland, CA 94607-5200 

ATTN: Equity Approval Manager 

3. Corporate Actions 

All correspondence received by the DCM from the Company concerning Company actions (including, without limitation, shareholder or member voting actions and notices, merger notifications, meeting notices, etc.) resulting from the University’s Equity interest in the Company should be forwarded to the Office of the Chief Investment Officer (“CIO”) at the address listed above.

VI. CHIEF INVESTMENT OFFICER’S MANAGEMENT OF EQUITY 

A. General 

1. All decisions and administrative actions concerning the management of Equity issued to the University by a Company and all subsequent corporate or other entity actions received by the DCM pertaining to the University’s shareholder, membership or other interest in a Company shall be made by and at the sole discretion of the CIO. This
includes decisions on when Equity will be converted to cash and when options, Warrants and similar convertible securities will be exercised. No consideration shall be given to Company information uniquely available to the University through its AFS pilot. The CIO intends to carry out such functions using the Equity Management Model (Appendix D) or other processes as the CIO may approve, based upon sound business practice and publicly available information. Such functions shall be consistent with the guidelines in this Bulletin.

2. At least monthly, the CIO shall notify the EAM and the EAM in turn shall notify the DCM of all significant actions taken by the CIO, including those involving purchase, distribution, or transfer of Equity, and those involving Company mergers, acquisitions, and similar change of control transactions or name changes.

3. Any decision made by the CIO to purchase additional shares of Equity in a Company in which the University has accepted Equity as part of an AFS transaction should be evaluated in terms of the financial return to the University. Such subsequent investments should be considered and maintained separately from the original AFS-related arrangement and the resulting proceeds from such subsequent investments shall not be considered for distribution under the University Equity Policy.

B. Valuation

1. The CIO shall record the value of Equity issued to the University by a Company.

2. Upon transmittal of such Equity to the CIO, the DCM shall provide the CIO with its good faith and reasonable estimate of the valuation of such Equity using Appendix C, University Acceptance of Equity Form unless stock has been obtained at par value in which case par value will be communicated to the CIO by the DCM.

C. Distribution of Equity Interests to the Campus or Laboratory

1. The University’s Equity interests received directly pursuant to the AFS program will be converted to cash and distributed to the Campus or Laboratory in accordance with Section 2, below.

2. Upon conversion to cash of the University’s Equity interests received directly pursuant to the AFS program, the CIO shall instruct Corporate Accounting to transfer such cash proceeds to the appropriate Campus or Laboratory account and provide the Campus or Laboratory with appropriate identifying information. For clarification purposes, any additional Equity subsequently purchased by the University or University affiliates or assignees of participation rights related to such Equity (with such purchase occurring
pursuant to the exercise of any assigned participation or other rights, or otherwise) that is liquidated by the CIO will remain the property of such subsequent purchaser and will not be distributed to the campus or Laboratory that acquired the initial Equity pursuant to the AFS program. Each Campus or Laboratory obtaining Equity interests in a third party should use reasonable efforts to obtain participation rights for the University or University affiliates or assignees in future rounds of financing undertaken by such third party.

3. The Campus or Laboratory’s subsequent use and distribution of its portion of any cash proceeds shall be handled in accordance with the schedules, formulas, and practices established by the Campus or Laboratory, and other applicable policies.
APPENDIX A

Sample Notice to employees: Prior to the University accepting equity in a company pursuant to this pilot, the DCM shall give this notice to any and all campus or Laboratory employees with a current or likely future interest in a Company considered to be a party to an AFS transaction, to ensure any such University employee is excused from, does not to participate in, and does not influence or attempt to influence any decision involving the Equity acceptance for AFS under consideration. This notice may be excerpted or adapted by campuses or Laboratories for their own use as they may choose.

What University Employees Need to Know about Conflicts of Interest with respect to the University accepting Equity in companies in which they may have a substantial financial or controlling interest in return for Access by the company to University Facilities and/or Services (March __, 2015)

The University of California’s policy on conflicts of interest provides that none of the University’s “faculty, staff, managers, or officials shall engage in any activities which place them in a conflict of interest between their official activities and any other interest or obligation.” In addition under UC policy, University faculty and staff must comply with state statutes and regulations governing conflicts of interest, specifically the Political Reform Act of 1974-2015 (the Act).

The Act requires public officials to “perform their duties in an impartial manner, free from bias caused by their own financial interests or the financial interests of persons who have supported them.” (Gov. Code, § 81001, subd. (b)). Accordingly, University employees must not allow their personal financial interests to influence their or other’s University decisions regarding the provision of access to University facilities and/or services to a Company.

Any University employee with a current or likely future interest in the Company must excuse him or herself from and not to participate in any University decision making process as to whether to accept Equity from that Company. The DCM must also confirm to the University that no University employee with a current or potential financial interest in the Company in any way participated in or influenced the transaction decision-making process. University employees who are the sole owners or who have sole control of the Company may communicate with the University decision makers so long their communications are in the same manner as is afforded to any member of the public.
APPENDIX B

EQUITY APPROVAL REQUEST CHECKLIST

Please complete, attach supporting documentation, and submit this Appendix-B (Equity Approval Request Checklist) to IAS to formalize your request for approval to accept equity as consideration for an AFS transaction. Any deviations from the guidance provided in the University of California Guidelines: Accepting and Managing Equity in Return for Access to University Facilities and/or Services document should be separately noted and justified as an exception for consideration by the Executive Director, IAS.

Please note that in carrying out space/facility access, equipment use, and/or service transactions, the Designated Campus Manager (“DCM”) is called upon to make decisions by applying his or her professional judgment and experience when considering of a multiplicity of facts and circumstances surrounding each transaction. The DCM’s transaction records should include appropriate documentation supporting assessments and representations made on the Equity Approval Request Checklist.

Please submit the completed checklist with appropriate documentation to:

Innovation Alliances and Services (IAS)
University of California
Office of the President
1111 Franklin St., 5th Floor
Oakland, CA 94607-6090
ATTN: Equity Approval Manager
Basic UC Identification Information

Campus:__________________________  DCM Contact:______________________________

DCM:______________________________  Phone Number:____________________________

Company Information

Company:__________________________________________

Address:__________________________________________

City:__________________________  State:____  Zip:____________

Status of Company:  [ ] Privately Held  [ ] Inventor Start-Up
(Check all that apply)  [ ] Pre-Start-Up  [ ] Start-Up  [ ] Other

If “Other,” please describe:
Agreement Terms/Documents

Submittal of the following documents is **REQUIRED** prior to the initiation of the formal review process for approval. Please indicate those documents included with this request for approval by checking the appropriate boxes below:

- [ ] Stockholder’s Agreement, Stock Purchase/Transfer Agreement, or other comparable documents
- [ ] Additional Transaction Agreement (Check type of agreement submitted)
  - [ ] Space/Facility Use Agreement
  - [ ] Equipment Use Agreement
  - [ ] Service Agreement
  - [ ] Other (please describe): ________
- [ ] Other legal agreements/documents pertaining to the transaction (e.g. right of first refusal and co-sale agreements, voting agreements, pre-existing or draft licensing agreements by and between the campus and Company, promissory notes, any internal campus/Laboratory committee recommendations or decisions to manage possible conflict of interest, etc.)

Please list:

[ ] Status of All Agreement(s) Checked Above:

- [ ] Draft
- [ ] Executed; Effective date: __________
In those cases where all agreements are not available (usually due to the early stage of the Company formation), indicate the location of specific language in the agreements related to the draft or executed transaction agreement that allows the University to terminate the agreement or renegotiate the terms to eliminate the equity consideration or replace it with other consideration.

Please list:

- DCM used the following method to determine the fair market value for Equity received by the University pursuant to the AFS program:

  For Common Stock:
  - Recent 409A valuation or other third party valuation
  - Most recent option issuance price
  - Recent sales or issuance price
  - For early-stage startups where the above is not available, stock par value for recently issued founders’ shares
  - Other based on DCM reasonable determination as made in good faith (Please describe or, if there are any specific questions, call IAS to discuss):

For Equity other than Common Stock (eg, Preferred Stock, Units, etc):

- Recent third party valuation
- Recent sales price
- Other based on DCM reasonable determination as made in good faith (Please describe or, if there are any specific questions, call IAS to discuss): ___________
Policy Issues

a. Accepting Equity
   i. Indicate the form of equity and up-front cash considerations for AFS transaction (Check all that apply):
      - [ ] Up-Front Cash (if any)
      - [ ] Stock
      Amount: $ [ ] # Shares/Type (including class and series):
      [ ] Other (please describe):
   
   ii. Please identify the University Department and funding source that will forgo all or partial cash payment by accepting instead the proposed equity considerations and indicate how such University Department intends to cover or recoup the cost of such services, facilities or equipment.

b. Use of Facilities or Services Involving Tax-free bond
   Will the Company be granted access to facilities constructed or maintained, equipment purchased or maintained, or services made possible due to funding from the sale of tax-free bonds (i.e. Lease Revenue Bonds)?
   - [ ] No
   - [ ] Yes
c. Conflict of Interest Considerations

i. Has the DCM given notice (Appendix-A) to any and all campus or Laboratory employees with a current or likely future interest in the subject Company, to ensure any such University employee is excused from, does not to participate in, and does not influence or attempt to influence any decision involving the Equity acceptance for AFS under consideration?

☐ Yes
☐ No

If “No” please provide an explanation why this action has not occurred:

ii. Did any University employee who may have had or was to likely to have any financial interest from decisions relating to taking equity in Company pursuant to the transaction described participate in or attempt to influence the University this transaction

☐ No
☐ Yes

iii. If the above response was “Yes”, did the campus-designated conflict of interest committee review the reported financial interest(s) and determine whether a management plan should be implemented?

☐ No
iv. By submitting, the DCM certifies that he or she understands and accepts that the Office of the Chief Investment Officer shall manage equity received under this Policy using a “rule-based” equity disposition management model in liquidating stocks.

d. Other University Relationships with Company

Does the University already hold equity in the proposed Company?

(Refer to https://patron.ucop.edu/equity/equity.html and/or other records)

☐ No

☐ Yes

If “Yes” please

i) indicate the following:

- The cumulative total # of shares currently held by the University: __________;

- The number of shares to be provided by Company under the proposed transaction: __________; and

  The type of shares to be accepted: ☐Preferred ☐Common

  Series: __________

- The total number of shares outstanding by the Company: __________;

- The cumulative percentage of ownership in Company to be held by the University (includes currently held shares and shares to be accepted under the proposed transaction): __________%; and

ii) discuss whether this was a factor in DCM’s decision to consider accepting equity in the Company under the present transaction agreement.

e. Transaction Terms

Are the transaction agreement terms, other than those relating to equity, consistent with standard
terms in non-equity agreements for University like transactions for space/facility access, equipment use and/or services?

☐ Yes
☐ No

If “No” please identify and justify any non-standard terms:

f. Percentage of Ownership

i. Total number of Company’s outstanding shares of capital stock (include information on each class and series of outstanding Equity securities as well): _______________

ii. The percentage of ownership in Company to be held by the University (on the basis of total outstanding Equity securities and on a class and series basis where applicable):_________%

iii. For start-up Companies, will the University’s holdings be greater than 19.5%

☐ No
☐ Not applicable
☐ Yes

If “Yes” please discuss the timing and extent of anticipated dilution of the University’s interest to below the 19.5% cap established by the University Equity Policy:

Additional information

Please provide any additional information or comments that IAS should consider in evaluating this request for approval to accept equity:
APPENDIX C

UNIVERSITY ACCEPTANCE OF EQUITY FORM
(Revised 08/01/2014)

To: Director, Treasury Operations
Office of the Chief Investment Officer
Address: 1111 Broadway, 14th Floor
Oakland CA, 94607
Phone: (510)987-9668

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<th>From:</th>
<th>Originating Office</th>
<th>Company Name:</th>
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<td>LBNL</td>
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</table>

Transaction Contact: ___________________________ Phone: ___________________________

Subject: Acceptance of Equity as full or partial consideration for

Space use ___ Equipment Use ___ Service provided ___

Please accept the enclosed stock certificate, as described below, for the above referenced transaction. These equity interests should be managed pursuant to the University Equity Guidelines for Facility Access and Services.

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<tr>
<th>Legal Address:</th>
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<table>
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<tr>
<th>Company Contact:</th>
<th>Phone:</th>
</tr>
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</table>
Total number of shares transmitted: ________________________________

DCM has determined in good faith that a reasonable valuation per share for the Treasurer to book these shares is:

Value of $ ________________________________

Please attach rationale for this valuation

_______ Default valuation (e.g. $.10 per share)

Are there restrictions on the future transfer or sale of this stock?

_________________________________________ No

_________________________________________ Yes, SEC Rule 144

_________________________________________ Yes, Other _____

Does the transaction include provisions for additional equity to be issued to the University?

___ Yes ___ No.

If yes, attach explanation.
Attachments:

___ Stock certificate

___ Approval Letter

___ Agreement under which equity is accepted

___ Other equity-related documents

Designated Campus Manager Signature

____________________________________

Date

____________________________________
### DCM Election of a Longer Term Position in Company

The equity disposition management model will allow the campus/Laboratory DCM to make a one-time, irrevocable election to take a longer-term position on the final 25% of the University’s equity holdings in a particular Company, on a case-by-case basis. Such a longer-term position would be for a fixed period of time ranging from 2-5 years (to be determined at the time of such election) from initiation of disposition under the “rule-based” model employed by the Treasurer’s Office, including any inventor shares being held by the Office of the Chief Investment Officer of The Regents.

Please indicate your election below (the default selection is indicated below should the DCM fail to indicate a choice):

± **(Default)** The DCM does NOT elect to take a longer-term position on the final 25% of the University’s equity holdings herein submitted to the Treasurer’s Office.

± The DCM does elect to take a longer-term position on the final 25% of the University’s equity holdings herein submitted to the Treasurer’s Office for a term of

```
± 2 years
± 3 years
± 4 years
± 5 years
```

from initiation of disposition under the “rule-based” model employed by the Office of the Chief Investment Officer of The Regents.
Summary

Securities accepted per request from Designated Campus Manager (“DCM”) are submitted to the Office of the Chief Investment Officer of The Regents (“OCIO”) for management in accordance with the provisions of the University’s Guidelines on Accepting Equity for Facility Access or Services. Such securities usually carry some restriction or a “lock up” period restricting when the OCIO is free to sell the shares. The OCIO will handle all corporate actions, restriction removals, and registration activities until the securities qualify for transfer to the Depository Trust Company (“DTC”) whereby the securities would have an established market value and are re-registered free and clear (without the restrictions). The OCIO, at its discretion, may solicit feedback from the Office of the General Counsel and the DCM regarding such actions.

Once the securities are DTC-qualified, the OCIO will use the following “rule-based” equity disposition management model in liquidating stocks resulting from approved University Access to Facility or Services transactions:

1) 50% of the security will initially be sold at the first available opportunity;

2) 25% of the shares will be sold approximately six months later; and

3) the remaining 25% will be sold approximately six months after that unless the DCM has previously elected to take a longer term as provided for in Appendix C.

This disciplined strategy reflects the Treasurer’s preferred approach to capturing, on balance, reasonable value from the class of securities typically received under a licensing-related transaction.

Should the DCM wish to capture a portion of the longer-term potential value of equity received under a University Access to Facility and Service transaction, the OCIO’s equity disposition management model will allow the DCM the option of making a one-time, irrevocable election to take a longer-term position on the final 25% of the University’s equity holdings in a particular transaction, on a case-by case basis.
Such a longer-term position would be for a fixed period of time ranging from 2-5 years (to be determined at the time of such election) from initiation of disposition under the “rule-based” model and would apply to the final 25% remaining shares of equity held by the OCIO. This one-time election can be exercised by the DCM by indicating its preference on the University Acceptance of Equity Form Access to Facility and Service when the equity is initially transferred to the OCIO.

Responsibilities

Designated Campus Manager (“DCM”)

- Negotiate, have approved, and have executed Transaction agreement
- Secure local and UCOP/IAS approvals to accept equity
- Transmit stock certificates to the Office of the Chief Investment Officer of The Regents
- in good faith, determine reasonable value of equity received by the University and to be held by OCIO

UCOP/Innovation Alliances and Services (“IAS”)

- Provide policy guidance to the DCM
- Provide equity approval consideration
- Coordinate administrative processes between IAS and OCIO

Office of the General Counsel (“OGC”)

- Review and, if acceptable, approve all signature documents (legal form)

Office of the Chief Investment Officer (“OCIO”)

- Manage equity portfolio
- For unregistered stock in equity portfolio:
  - Remove restrictions from stock certificates
  - Re-register stock certificates
  - Manage corporate actions for unregistered stock certificates
    - secure legal review of documents
    - solicit feedback from DCM at OCIO’s discretion
- For DTC-qualified stock in equity portfolio:
  - Implement the “rule-based” equity disposition management model
APPENDIX E

PROCEDURES

Equity Acceptance Review Process

1. Designated Campus Manager (“DCM”) negotiates the terms of access agreements after consultation with and sign-off from any campus officials with requisite delegated authority.

2. DCM requests from IAS approval to accept Equity as consideration for access to space, equipment use and/or services. Requests for approval to accept Equity should be forwarded to the Equity Approval Manager (“EAM”). Such requests must:
   a) Be submitted directly by DCM (or, alternatively, by an individual designated in writing by the DCM).
   b) State that any potential conflict of interest issues have been addressed by the campus.
   c) State that the deal adheres to the Guidelines on Accepting Equity for Facility Access and/or Services.
   d) Include a fully completed Equity Approval Request Checklist for Facility Access and/or Services.
   e) Include all relevant documents (e.g., copy of transaction agreements, Stockholder’s Agreement, Stock Purchase/Issuance Agreements, any existing agreements the company may have with the University, or other relevant legal agreements/documents. All agreements requiring signature from UC managers (legal forms) must be reviewed and approved in writing by the Office of the General Counsel (“OGC”).

3. EAM responds to indicate that request has been received, and reviews documentation to ensure that it is complete.
   a) If after initial review there is information missing, whether the requested acceptance should cause The Regents to hold more than 19.5% of the Company’s total capitalization of the company at the time of approval or more than 10% of a company upon its initial public offering (as determined on an as converted and fully-diluted basis), or there is a need for clarification, EAM writes back to DCM indicating so.
   b) If no information missing and no clarification required, EAM sends all documentation for written approval from Executive Director, IAS.
4. If approved, Executive Director sends a letter to DCM indicating that the request for Equity approval has either been accepted, or that the acceptance is conditional (in which case any changes required are outlined in the letter). Message from Executive Director IAS will further include a copy of the University Acceptance of Equity Form, and a request that the form be used when accepting Equity. Any Equity issued to The Regents must be in the nominee name “Shellwater & Co.”, and the actual Stock certificates issued, as well as any stockholder information received, should be forwarded directly to the Office of the Chief Investment Officer of The Regents (with a copy of the transmittal to Executive Director’s attention). Copy of any amendments to any related agreement(s) should be sent to the attention of the Executive Director, IAS.

5. Normally, if forms submitted by the DCM are complete, accurate and with all legal forms approved, IAS will approve the request to accept Equity within 10 business days.

Notes:
1. Contacts at Innovation Alliances and Services (IAS):
   - William Tucker, Executive Director, 1111 Franklin St., Suite 5100
     william.tucker@ucop.edu; 510-587-6037
   - John Shih, Equity Approval Manager, 1111 Franklin St., Suite 5110
     john.shih@ucop.edu; 510-587-6034
2. Contacts at the Office of the Chief Investment Officer:
   - Trevor Woods, Investment Accountant: 1111 Broadway St., Suite 1400
     trevor.woods@ucop.edu ; 510-987-0859
   - Robert Yastishak, Director, Treasury Operations: 1111 Broadway St., 14th Floor
     robert.yastishak@ucop.edu; 510-987-9668
APPENDIX F

SUMMARY OF SOME MATERIAL ISSUES FOR CAMPUS AND LABORATORY
CONSIDERATION WHEN PARTICIPATING IN THE PROGRAM TO ACCEPT EQUITY AS
CONSIDERATION FOR ALLOWING ACCESS TO UNIVERSITY FACILITIES AND/OR
SERVICES

Pursuant to the Guidelines on Accepting and Managing Equity in Return for Access to University Facilities and/or Services (the “Guidelines”), the University is rolling out a pilot program pursuant to which participants in the program may accept equity in recently organized or incorporated Companies affiliated with the University as full or partial consideration for access to authorized Incubators or Accelerators and the University resources offered by such Incubators or Accelerators. As per the Guidelines, each program participant is expected to develop its own procedures and forms to allow for the acceptance of equity in return for access to University resources. To help ensure the success of the program, as well as protection of the University’s interests, the following is a non-exhaustive list of some identified issues that program participants should address at the outset. Program participants should still carefully review the entire set of Guidelines before accepting equity in exchange for providing access to University facilities, equipment or services.

1. Bond Financed Space and Equipment

There are strict rules under the tax law restricting certain “private use” of tax-exempt bond-financed space or equipment by a private party (e.g., a for-profit corporation or private individual). In order to avoid such private use issues in connection with the AFS pilot program, the strong preference of the University is to not permit a private party to use any of its space or equipment that has been financed, in whole or in part, with the proceeds of tax-exempt debt. In limited circumstances the University may permit limited private use of tax-exempt bond-financed space or equipment provided the DCM can demonstrate in advance to the satisfaction of the University that such use is in compliance with rules allowing for a limited percentage of space to be set aside for private-use and that such private-use will not jeopardize the tax-exempt status of any bonds. A program participant should contact the individual at the campus, Laboratory or University who is responsible for maintaining its tax-exempt bond financing records if it is not sure whether University space or equipment falls within this prohibition.

2. Private Benefit

The University’s status as a Section 501(c)(3) organization could be jeopardized if it provides more than “incidental” benefits to any private party. To address this “private benefit” concern, the Guidelines require a University program participant either to ensure: (1) that it receives at least fair market value for the goods or services it provides to any private party or, (2) where the fair market value for generalized or incidental services provided by a University program participant to a private party cannot be reasonably ascribed, that a formulaic and fair process
applied on a reasonable and consistent basis among all third-party startup companies be used. This may be a difficult undertaking given that the valuation of the equity in a recently organized or incorporated typically would be negligible. With regard to valuation of shares of a startup corporation that is issuing common stock, the fair market value per share of common stock most likely would either be (i) the price any company options are being issued at, since those need to be issued at fair market value under Internal Revenue Code ("IRC") and many existing companies will either have a board determination or third party IRC Section 409A valuation noting the current fair market value for the common stock which would be valid until the earlier of one year from the date of the valuation or occurrence of a material event such as a third party financing, etc. or (ii) the latest price at which stock was issued to the founders or that any friends and family investor just paid for such stock (which is most likely the par value or some fraction of a penny for a startup corporation that has recently been formed)(such amount being the "Current FMV"). The University understands that determination of valuation is more complicated with regard to companies that are not corporations or in which a University program participant is taking preferred stock where a third party is not setting the pricing for such stock, but expects a University program participant to use good faith efforts to make a reasonable valuation determination.

Program participants may find it useful to work together with each other, the Innovation Alliances and Services ("IAS") group and Office of General Counsel ("OGC") to establish alternatives or a formal process to adequately address this issue. Additionally, a program participant may find the following non-exhaustive list of potential financing options helpful when establishing its own procedures to ensure the University is receiving fair value in return for resources it provides to third party participants in the AFS program:

- Charge cash for the space and services provided. A flat amount of equity in the company could also be part of this transaction. It would be prudent to have a slight corresponding reduction in the cash amount charged for the space equal to the Current FMV per share if that can be determined, or at least the par value, to show a payment of at least par value for that Equity.
- Rather than accepting only cash for the space and services, subject to compliance with applicable finance lender laws, take a note or convertible note with a principal amount equivalent to the value of the space and services provided. The note would need to have a reasonable rate of interest which can be determined based on the then current applicable federal rate or AFR (http://apps.irs.gov/app/picklist/list/federalRates.html). Similar to above, additional common stock in the company could be taken at the time the note is issued pursuant to a warrant or direct issuance of stock (with a minor adjustment to the note amount to reflect the value of any common stock that is issued outright to ensure that par value at least has been paid in).
• Accept equity in the form of a convertible security (such as the “YC SAFE”, “KISS forms” championed by 500 Startups: http://500.co/kiss) with a reasonable rate of interest at the AFR where applicable. Such a convertible security would convert at a later time upon a triggering event such as a change of control or third party financing that values the company. Similar to a convertible debt security, additional common stock in the company could be taken at the time the note is issued pursuant to a warrant or direct issuance of the same (with a minor adjustment to the convertible security amount to reflect the value of any common stock that is issued outright to ensure that par value at least has been paid in).

• With regard to startups where the fair market value for generalized or incidental services cannot be readily determined, a University program participant may consider accepting a flat percentage of equity in such startups based on what is market consideration for other incubators operating in a similar region or space or providing similar services and resources; provided, the University program participant has made a determination that any such flat percentage arrangement is arrived at pursuant to a formulaic and fair process and such process is applied on a reasonable and consistent basis to all similarly-situated startups. This is important to ensure that the University receives reasonable compensation for the space, resources and/or services it provides. A University program participant may wish to consult with OGC in making such determination.

• The following fictitious example is included solely to demonstrate what may constitute a formulaic and fair process that would be applied on a fair and consistent basis to all similarly-situated startups where the value of University services offered cannot be readily determined. Assume that a campus incubator offers all newly-formed startups accepted into its program with the same service and resource package and 250 square feet of campus incubator space. In this example, the campus may choose to take a flat amount of equity in each newly-formed startup (such as 2% of the startup, with such amount to be tied to relevant market research of what other similarly situated incubators typically charge for similar resources and services, and such amount to be updated on a regular basis). For a newly formed startup using 500 square feet of campus space and other standard incubator services, a campus might take twice as much equity calculated on a flat percentage basis (or 4% of the startup as per the example). The square footage and percentage equity amounts in the prior example are fictional and solely for purposes of example only.

3. Unrelated Business Income

It is possible that income distributions associated with the University’s equity interest in certain entities could generate unrelated business taxable income (“UBTI”). Any UBTI that is generated needs to be tracked and reported in accordance with University policies and procedures. Investments in entities taxed as “c” corporations that produce dividends generally should not generate UBTI. Investments in Companies that are formed as LLCs, partnerships or
“s” corporations that distribute income may generate UBTI to the extent any such entity generates operating income from the active conduct of a trade or business (i.e., income is not subject to an exception from UBTI under the tax law, e.g., is not merely a “passive” investment). Whether an investment may generate UBTI requires additional review of the facts and circumstances and may delay the ability of IAS to internally approve an investment. As such, use of the corporate form for newly established start-up entities (especially those intending to seek venture financing or exit pursuant to a change of control, merger or public offering) is encouraged.

4. IAS and OGC Review
Each program participant is encouraged to establish a uniform set of agreements which would allow, among other benefits, for the ability of the IAS and OGC to more efficiently review any requests from a program participant to accept equity in accordance with the Guidelines.

Incubators in the private arena have established various customary sets of form that are generally accepted in the accelerator/incubator market space. Such forms (especially those such as a convertible equity or convertible debt security that defer the valuation of a startup until the occurrence of a significant trigger event such as a third party financing or change of control) may be an ideal starting point for the drafting of University forms. If appropriately used, these forms may also be useful in addressing the fair market valuation issue described above.

5. Operational Considerations
Each campus should consider issues of a general operational nature that may arise as a result of participating in the program. The following are a few high level concerns that have been expressed and will require a program participant to consult its advisors with assistance with addressing these and other relevant concerns:

- Facilities – Need to (i) confirm leased space is actively being used for its intended purpose; (ii) address the University’s ability to remove a tenant and any resulting impacts an early removal would have on equity delivered in advance of the completion of the rental term; (ii) address concepts such as security deposit, utilities and insurance for matters that occur on the leased premises; and (iv) determine the form of agreement that will be used to address the above (i.e., simple lease, professional services agreement, or some similar form of agreement).
- Equipment – Where applicable, need to (i) ensure that Company service providers using University equipment are properly trained on such equipment; (ii) set clear usage guidelines to ensure that there is not an expectation of unlimited use or use that interferes with existing University obligations; and (iii) establish procedures to monitor equipment use, among others.
UNIVERSITY OF CALIFORNIA, RIVERSIDE

February 12, 2015

TO:          Tom Payne, Vice Chair
             Graduate Council

FROM:        Rami Zwick, Assoc. Dean and Graduate Advisor, Management Graduate Program
             Amnon Rapoport, Program Director, Management Graduate Program

RE:          FINDINGS AND RECOMMENDATIONS OF THE INTERAL REVIEW OF
             THE MANAGEMENT PhD GRADUATE PROGRAM

We would like to thank the Graduate Council for the findings and recommendations of the internal review of our management PhD graduate program. We accept all recommendations (9 of them) and plan to implement these recommendations in due course.

The following are the review committee’s recommended:

1) To foster a sense of collegiality, institute a policy of annual SoBA retreats.
2) Incorporate the planned restructuring into a formal proposal.
3) Appoint an external advisory committee to assist in the restructuring of the program.
4) Make SoBA’s support packages for incoming PhD students competitive with those of other UC campuses.
5) Tie SoBA’s faculty recruitment efforts to the staffing needs of this restructured PhD program and make that clear to the candidates.
6) Faculty should be incentivized to participate in the PhD program with financial and teaching load incentives for active research mentoring of doctoral students. Incentives should include traditional awarding of summer support.
7) Explore opportunities for synergistic interaction (including cooperating-faculty appointments) with School of Public Policy as well as the departments of Economics, Psychology, Sociology, and Statistics.
8) Reconsider the appropriateness of the term “Interdepartmental” in the name of the program, given that SoBA no longer has departments and there is very little participation from departments outside of SoBA.
9) Finally, the cultural rift within SoBA must be addressed. All faculty should be actively engaged in research and graduate training.

Recommendations (1) and (9) are long term goals of the schools and would take time to achieve. However, we do believe that we are on the path to achieve these goals in 2-3 years.
We have started working on implementing all other recommendations. In particular, a formal proposal to restructure the program (recommendations 2 and 8) and nominating external advisory committee (recommendation 3) will be done by the first day of the summer quarter (June 22, 2015). Recommendation #4 (Make SoBA’s support packages for incoming PhD students competitive with those of other UC campuses) and #5 (Tie SoBA’s faculty recruitment efforts to the staffing needs of this restructured PhD program and make that clear to the candidates) are currently implemented with the recruiting of the 3rd cohort and faculty recruitment. In particular, two new management faculty and one marketing faculty have already been recruited and will be on board in the Fall of 2015. In addition, two other searchers for marketing faculty (one chair position and one open rank) are still in process with the goal of having these faculty join the school in the fall of 2015.

We are now working on developing a new workload policy that will incentivize participation in the PhD program (recommendation #6).

We have found the committee’s recommendation very useful and are very happy to implement all of them.
PhD Program in Management Internal Review
Findings and Recommendations

On December 11, 2014, a subcommittee of the Graduate Council consisting of Ryan Julian, Rollanda O'Connor, Thomas Payne (chair), and Rick Redak conducted an internal review of UCR's Interdepartmental Graduate Program in Management (IGPM), which is administered by its Program Director, Amnon Rapoport, and the Associate Dean of SOBA and Graduate Advisor, Rami Zwick. In addition to Professors Rapoport and Zwick, the review committee also met with Yunzeng Wang, the Dean of UCR's School of Business Administration (SoBA) and with Joseph Childers, the Dean of UCR's Graduate Division.

The Ph.D. program in the IGPM was approved in late 2009. Being interdepartmental among faculty from two colleges (SoBA and CHASS), it did not report directly to either of the respective college Deans. Faculty membership in the program is "by invitation"; thus not all faculty in SoBA participate. However, currently, most faculty members within SoBA have agreed to participate in the program, but participation from faculty in CHASS has dwindled since program initiation. The program has two major field areas, one in marketing and the other in strategic management and organizations (SMO). The remaining traditional areas of study within US business schools (accounting and information systems, finance, and operations/supply chain management) currently do not support Ph.D. training at UCR.

The Program admitted its first cohort of students (five in management and one in marketing) in September 2011. Two of these students have left the program and the rest are in their fourth year; so far, none have graduated. Due to the departure of several key faculty members, no students were admitted during the following two years (2012, 2013). In 2014, following some rebuilding of the faculty, a second cohort of five students was admitted, all of them in SMO. Of the currently enrolled nine students, five responded to the survey. The results of the survey indicate that all of these students are pleased with the program.

By contrast, we received responses from 12 faculty; although the survey was distributed to all 25 SoBA faculty. On average they rate the program quite low with a score of 2.9 out of 5.0. In the written responses there were a few complaints about lack of transparency and/or consultation, lack of facilities, lack of faculty size, and lack of programs in the other three areas of business. Also, some concerns were expressed about the capacity and/or willingness of some faculty to participate in the PhD program and to grant appropriate teaching credit to others for their participation. These concerns raise issues of perceived fairness for faculty loads between those who do and do not participate in the Ph.D. program, and whether research expectations are consistent between these groups. These issues appear to be a result of a clash of cultures within SoBA: those that support a Ph.D. program, and those that do not.
The program is now undergoing extensive restructuring:

- Administration and support of the program in now under the authority of the Dean of SoBA.
- Both the directors of the program and the SoBA Dean would like to ultimately see the Ph.D. program expand to include all five of the areas of business research; however, the responsibility chain (bottom up, as with the current Ph.D. program or top down) for establishing new Ph.D. emphases is unclear.
- The current program is being expanded to include all 25 of SoBA’s tenure-track faculty. Additionally, the Dean would like to increase the size of participating faculty to 50 within the next few years.
- The goal of the program is to have a Ph.D. student to faculty ratio of 1:1.

The Program’s Director noted that the student funding packages provide by UCR are not competitive with those offered by other business schools. Since SoBA has very few PhD students and sufficient funding from TAships and self-supporting programs, that problem should get resolved. Caution should be taken here as overreliance on TAships can interfere with the research emphasis of Ph.D. programs.

Strengths:

- Quality of Ph.D. program participating faculty and the strong research and publication focus of newly hired faculty.
- Strong academic record (GRE scores) of students in the program.
- Self-supporting programs within SoBA, which have the potential for generating funds for additional faculty and student support packages.

Weaknesses:

- The reputation of the program is not yet established, because it has no graduates.
- Funding packages for Ph.D. students are smaller than those of competing business programs.
- Too few faculty are actively engaged in mentoring and training doctoral students.
- Imbalance of foreign to domestic students.

Recommendations:

1. To foster a sense of collegiality, institute a policy of annual SoBA retreats.
2. Incorporate the planned restructuring into a formal proposal.
3. Appoint an external advisory committee to assist in the restructuring of the program.
4. Make SoBA’s support packages for incoming PhD students competitive with those of other UC campuses.
5. Tie SoBA’s faculty recruitment efforts to the staffing needs of this restructured PhD program and make that clear to the candidates.
6. Faculty should be incentivized to participate in the PhD program with financial and teaching load incentives for active research mentoring of doctoral students. Incentives should include traditional awarding of summer support.

7. Explore opportunities for synergistic interaction (including cooperating-faculty appointments) with School of Public Policy as well as the departments of Economics, Psychology, Sociology, and Statistics.

8. Reconsider the appropriateness of the term “Interdepartmental” in the name of the program, given that SoBA no longer has departments and there is very little participation from departments outside of SoBA.

9. Finally, the cultural rift within SoBA must be addressed. All faculty should be actively engaged in research and graduate training.
1. Introduction

The Statistics graduate program administered by the Department of Statistics, which is in the College of Natural and Agricultural Sciences, was reviewed on January 22-23, 2015 by an extramural team composed of:

- David Banks, Department of Statistical Science, Duke University
- Glen Meeden, Department of Statistics, University of Minnesota
- Ronghui (Lily) Xu, Department of Family Medicine and Public Health and Department of Mathematics, UC San Diego.

On February 10, 2015, the Graduate Council received a preliminary response from the program in response to the extramural reviewers report. The subcommittee of the Graduate Council involved in the review and drafting the F&R were Michael Coffey (Plant Pathology & Microbiology), Theodore Garland (Biology), Thomas Payne (Computer Science and Engineering), and Amit Roy Chowdhury (Electrical and Computer Engineering).

The Statistics graduate program includes both an M.S. in Statistics and a Ph.D. in Applied Statistics. The department currently has 8 faculty members (4 full professors, 2 associate professors, and 2 assistant professors), and 41 graduate students (15 M.S. students and 26 Ph.D. students).

2. Key points from the external Review Report

Per the external review team, UCR’s Department of Statistics is successful but severely understaffed and therefore fragile:

But their success is not sustainable. The department is one retirement, one illness, or one sabbatical away from having to drop one or more of its core responsibilities. And the strain of juggling all these duties with too few hands takes a slow toll on the energy and morale of everyone.

... we think the faculty size needs to be at least 14 to provide the sustainable quality that your university deserves.

For perspective, the external review committee provided the following table:

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<th>Joint/affiliated</th>
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<td>UC Riverside</td>
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Per external review committee, the statistics departments of Temple and Kansas State rank just above and below that of UCR, respectively. (In their preliminary response, the department noted that UCR’s “students” entry should be 26/15 rather than 25/50.)

Regarding the question of how to grow the department, the external panel notes that:

... in essentially all conversations with faculty from the Department of Statistics and those from other departments and the administration, there was a consensus view that a cluster hire of three new faculty in biostatistics, with one of those at an associate or full professor level, would be smart growth that could leverage opportunities in the new medical school. The external panel agrees with that consensus. But, as advocates for the department, we believe that strategic hires in other areas might do more to resuscitate statistics at Riverside.

The external review team also notes that:

A statistics department is like any other department in that its members research and publish in their own domain’s journals, seek external funding from the NSF and the NIH, are active in their professional societies, earn accolades, and administer undergraduate majors while running rigorous Ph.D. and M.S. programs. But a statistics department is different in that [...] there is an expectation that statistics faculty will provide assistance, often out of uncompensated collegiality, to any other member of the university.

They note that these other members of the university often turn to econometricians or psychometricians for statistical advice and that:

A more effective approach to promote collaborative research is perhaps through joint hires, preferably at mid-career or higher level (so that the faculty member is tenured at the university). ... Without a joint appointment, a biostatistics faculty member in the Statistics Department would presumably spend 9 months and teach 4 courses a year like everyone else, with only 2 summer months supported by the medical school. This faculty member most likely will NOT satisfy the collaborative needs of the medical school. A typical biostatistics faculty member in this country spends about 20-30% of the effort on teaching, with the rest of the effort spent on statistical and collaborative research.

The external review team expressed some concern regarding matters of morale:

The external panel had feared we would find a demoralized department. And we are delighted to report that this is not the case. Almost everyone feels (correctly) that they are doing important, meaningful work, and that they are doing it pretty damn well, given the severe level of understanding. But there is concern that the administration does not understand the role of a statistics department in a modern university.

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Although a bit nervous, the statistics department at UC Riverside is still optimistic, and actively seeks constructive ways to ensure respect and cooperation. You have really, really nice people in the department. A little bit of diplomacy, and a little donativity, will do much to repair the strained esprit de corps and re-establish trust in the constancy, competence and compass of academic administration.

The other key point of the report is that:

The GradQuant and the Department of Statistics need to work out a model so that statistical needs around the campus are properly triaged and distributed to competent consultants. This model should identify what kinds of support should be provided for free and what kind of statistical support should be fee-based. There are a number of examples at other universities; the LISA program at Virginia Tech is one that seems to work well.

3. Recommendations of the Graduate Council

Based on the external review team’s report, the Graduate Council makes the following recommendations.

1) The size of the Department of Statistics should be increased by 50% to 100%.

2) Particular attention should be paid to opportunities for excellent joint hires.

3) The Department and the Graduate Division should review the relationship of the GradQuant program to graduate program in statistics.

4) In matters of merit, promotion, and staffing, the entire campus should be mindful of the assumed additional duties of statistics faculty in the areas of collaboration and consultation.
February 10, 2015

TO:    Tom Payne  
       Vice Chair, Graduate Council

FROM:  Daniel Jeske, Chair  
       Department of Statistics

RE:    Preliminary Response on External Graduate Program Review

Dear Dr. Payne,

I am writing in response to your January 26, 2015 prompt for us to submit a preliminary response on our external graduate program review. We find the report essentially accurate, though we do want to clear up three points that were identified in the report. Two are factual errors, and the other is a perception that is arguably debatable.

Point #1: The report indicates our program has about 50 MS students.

Response: The figure cited is not accurate. We have 15 MS students. Counting 26 PhD students, the total size of our graduate program is 41 students.

Point #2: There is no regular course in Bayesian inference

Response: This is not accurate. Since AY08-09 we have been offering 203A (the first of two quarters in Bayesian inference) every other year. We offer 203B in those same years, but often the class size is too small to keep the course on the schedule.

Point #3: The report states that: "New faculty must undertake many fresh course preparations and serve on many committees (in other UC Riverside departments, these committee positions are usually staffed by tenured faculty, putting their publication pipeline in peril.)"

Response: The comment in the report strikes us as somewhat of an overstatement. The department makes a concerted effort, given its faculty size, to help our new assistant professors as best as possible in their transition from being a graduate student to being a professor at a research university by providing them course relief as well as assigning the minimal departmental committee work. Details about these efforts are available upon request.

As a young faculty member grows into their UCR Statistics career, the small-sized aspect of the department does mean we that have to look for willingness in our young faculty to increasingly make more commitments to the department such as becoming our graduate or undergraduate advisors, accepting more dissertation advising, and even becoming department chair. While these roles provide valuable opportunity, a larger sized faculty would eliminate the need for our younger faculty to step up to these roles sooner than they might prefer and would also provide more choice for the department when filling these important roles.
1 Executive Summary

The Department of Statistics at UC Riverside needs to grow. A minimum of three new hires is urgently needed to ensure viability and to maintain the quality of the program.

2 Review

The external review panel met on January 22-23, 2015 with representatives from across the university, as well as all active faculty members and many graduate students in the Department of Statistics. In every meeting, there was clear agreement that the department was understaffed and needed to grow. This report lays out the basis for that consensus, and points up two additional issues (morale and interdisciplinary collaboration) that also merit attention. But the two additional issues are minor in comparison with the need to right-size the department. There are some additional comments and speculations that may be helpful in forward planning.

2.1 The Need to Grow

The Department of Statistics at UC Riverside has eight faculty members, making it one of the smallest in the country. But the university expects the faculty to:

- be research active,
- teach about 50 undergraduate majors, about 50 M.S. students, and about 25 Ph.D. students (down from 50 Ph.D. students about five years ago),
- provide service teaching to very large numbers of undergraduate students and graduate students in other departments,
- collaborate in joint research with members of other academic departments,
- provide consulting to students, faculty, and groups outside the university, and
- maintain high professional profiles.

Amazingly, the department is (sort of) managing to do this.
But their success is not sustainable. The department is one retirement, one illness, or one sabbatical away from having to drop one or more of its core responsibilities. And the strain of juggling all these duties with too few hands takes a slow toll on the energy and morale of everyone.

Already, the faculty shortfall limits and inhibits departmental success:

- New faculty must undertake many fresh course preparations and serve on many committees (in other UC Riverside departments, these committee positions are usually staffed by tenured faculty), putting their publication pipeline in peril.

- There is insufficient diversity in course offerings on key concepts; e.g., there is no regular course in Bayesian inference, time series analysis, or spatial processes, and insufficient treatment of categorical data, statistical computing, and modern machine learning with Big Data.

- The Department of Statistics should be playing a leadership role in the GradQuant program, but they are too few to do so.

- And they have no slack with which to open up a new research front, write a new proposal, publish an extra paper, start a fresh collaboration, or undertake significant acts of professional scholarship, such as editing a journal or directing a research program at an NSF institute.

2.2 How To Grow

How many more statisticians should be gained? And what kind of statisticians should those be? There are no crisp answers to those questions, but the external panel intends to speak to both, more in terms of how the questions should be framed than what the specific answers should be.

The external panel does not urge unrealistic reliance on the national rankings of statistics graduate programs. Different departments have different circumstances. Nonetheless, these comparisons can provide benchmarks for right-sizing the UC Riverside Department of Statistics. In 2014, UC Riverside’s Department of Statistics ranked just above the one at Kansas State University, and just behind the one at Temple University. Both competitors offer doctoral, master’s, and bachelor’s degree programs, run consulting centers, and generally serve as reasonable comparators. As additional data points, the external panel also researched the faculty size and professional responsibilities of the statistics departments at the University of Virginia and the University of South Carolina, both of which are ranked similarly to the UC Riverside department. Table 1 provides some figures on these comparable departments.

The external panel recommends that this kind of benchmarking exercise be used to plan future growth for the Department of Statistics at UC Riverside. But, on the face of it, we think the faculty size needs to be at least 14 to provide the sustainable quality that your university deserves.

Regarding the flavors of statisticians that should be hired, that is more difficult, but we believe that UC Riverside should conserve the strengths of the department, build on its comparative advantages, and be opportunistic about snatching up the best available candidates, even at the partial expense of fit.
Table 1: Comparison of Statistics Departments in 2014

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From that perspective, the external panel notes that the Department of Statistics at UC Riverside has built an almost unique brand. To our knowledge, it is the only statistics department that offers a doctoral degree in Applied Statistics (aside from a handful housed in business schools). With increasing effectiveness over the last 25 years, it has built a conveyer belt that supplies high-quality Ph.D. and M.S. statisticians to industry and business, with special success in companies that specialize in pharmaceuticals, consumer products, and U.S. manufacturing. This emphasis is a direct reflection of the department’s current expertise in research and teaching related to experimental design, quality and process control, and statistical consultancy. This long history has enabled a positive feedback loop, as former students have risen within their companies and now seek to hire UC Riverside alumni. This niche should be protected, nurtured, and strategically expanded.

The external panel notes that in essentially all conversations with faculty from the Department of Statistics and those from other departments and the administration, there was a consensus view that a cluster hire of three new faculty in biostatistics, with one of those at an associate or full professor level, would be smart growth that could leverage opportunities in the new medical school. The external panel agrees with that consensus. But, as advocates for the department, we believe that strategic hires in other areas might do more to resuscitate statistics at Riverside. We hope that, if the impact of our report rolls forward to shape hiring in future years, that those searches will be less constrained, and seek top-quality people who are good fits with the department’s current research profile. Nonetheless, the need is urgent, and a cluster hire in biostatistics would alleviate some of the current pressure while aligning with other initiatives to which the university is committed. In addition, since many graduates with advanced degrees in statistics enter the pharmaceutical field, the cluster hire in biostatistics could provide substantial new support for this stream. In particular, we recommend that one of the hires within this cluster should have expertise in the design and analysis of clinical trials.

During our visit there was considerable discussion about the value of hiring someone with expertise in data mining (or machine learning, or data science, or Big Data). We agree—this is an important growth area for the statistics profession and UC Riverside should grab any reasonable opportunity to participate in this movement. At the same time, we caution that almost every statistics program in the country is trying to make such hires, and the best people are likely to go elsewhere. From a market perspective, this might be a good time to buy low, in areas such as clinical trials or experimental design or survey methodology, rather than compete in sectors where the price is high. Nonetheless, if a well-qualified statistical data miner presents, perhaps as a statistical genomics analyst in the cluster hire, then that
person should be sincerely sought.

3 Consulting and Collaboration

It is not clear to us that everyone at the University appreciates the ways in which a statistics department is like other departments and the ways in which it is different.

A statistics department is like any other department in that its members research and publish in their own domain’s journals, seek external funding from the NSF and the NIH, are active in their professional societies, earn accolades, and administer undergraduate majors while running rigorous Ph.D. and M.S. programs. But a statistics department is different in that:

- its members can consult with practically every other department,
- its M.S. programs tend to be large and generate substantial revenue,
- there are more alternative strategies for outside funding than are found in other fields,
- there is an expectation that statistics faculty will provide assistance, often out of uncompensated collegiality, to any other member of the university.

Most statisticians like to do all the extra, different things, and willingly consult and collaborate to the greatest degree possible.

However, the demand for data analysis is much larger today than ever before. Increasingly, the sciences and the humanities require quantitative methods to advance their own research. Technology has enabled the collection of large amounts of data, as well as the appetite for sophisticated analyses. And the data structure themselves are becoming ever more complex. Yet when the department is exiguous, statisticians are forced to deny help, or forgo collaborations, or scrimp on teaching, and this makes everyone unhappy.

This leads good researchers in other departments to develop other contacts for statistical support, so they wind up going to econometricians or psychometricians for statistical advice. Much of the advice such people give is excellent, and in their domains it is better than most statisticians could provide. But these econometricians and psychometricians wind up being asked about cluster sampling or experimental design, and in those cases they mostly don’t know the full toolkit that a good answer requires.

A more effective approach to promote collaborative research is perhaps through joint hires, preferably at mid-career or higher level (so that the faculty member is tenured at the university). The external panel recognizes that there are administrative hurdles imposed by the university as well as the UC system; for example, the defunct joint biostatistics search referred to the department’s 2014 report. However, the benefits of such joint hires can outweigh the effort that they require; and as a demonstration of feasibility within the UC system, one panel member (Xu) has held a joint appointment since 2004 at UC San Diego between the School of Medicine (home department: Family Medicine and Public Health) and the Department of Mathematics (there is no separate statistics department at UCSD). Without a joint appointment, a biostatistics faculty member in the Statistics Department would presumably spend 9 months and teach 4 courses a year like everyone else, with only 2 summer months supported by the medical school. This faculty member most likely will
NOT satisfy the collaborative needs of the medical school. A typical biostatistics faculty member in this country spends about 20-30% of the effort on teaching, with the rest of the effort spent on statistical and collaborative research.

In many universities the Department of Statistics teaches introductory service courses for graduate students from other departments. This develops connections to other departments through membership on M.S. and Ph.D. committees and collaborative relationships with faculty. Because of its small size the department has conceded the teaching of such courses to others and as a result has become somewhat isolated within the University. Although the Collaboratory and Professor Jeske’s consulting class are attempts to meet the needs of researchers on campus, the fee-for-service nature of the Collaboratory and the focus on the training of graduate students in the consulting class means that the department is not playing the important role in the research mission of the University that it should. We see GradQuant as an attempt to fill this vacuum. Statistics graduate students who worked on GradQuant projects reported very positive experiences, and we think this is a program with great promise. The Department of Statistics should play a larger role, but the understaffing prevents this.

Another way for the department to have a bigger footprint on campus would be to develop one or two new service courses for graduate students from other departments that assume a basic knowledge of statistics. The department could contact other departments around the University to determine the most pressing topics to include. Based on our conversations with chairs of other UC Riverside departments, we believe that if such a course was taught, using R, there should be plenty of interest. Such activity, of course, is predicated on an increase in the number of faculty.

4 Minor Issues

The external panel had extensive discussions with the faculty and the graduate students. Based on those interactions a number of minor points arose, and we list these for completeness. None of these seems urgent to us, but many are points that deserve reflection and perhaps response.

- Both the ECE and CS Departments have expressed desire to collaborate with Statistics.
- The GradQuant and the Department of Statistics need to work out a model so that statistical needs around the campus are properly triaged and distributed to competent consultants. This model should identify what kinds of support should be provided for free and what kind of statistical support should be fee-based. There are a number of examples at other universities—the LISA program at Virginia Tech is one that seems to work well.
- The department is making an effort to integrate international students (majority) and domestic student (minority), but more networking appears to be needed to really bridge the gap.
- Find ways to support student travel to conferences.
• Take advantage of the many successful alumni from the graduate program. With the support of the college and the university, do fund-raising as well as networking with former students.

• A couple of students expressed the desire to teach statistics after graduation. The department should enhance their training in this regard.

• The Garber Lab (for graduate students) has elderly computers.

5 Morale

The external panel had feared we would find a demoralized department. And we are delighted to report that this is not the case. Almost everyone feels (correctly) that they are doing important, meaningful work, and that they are doing it pretty darn well, given the severe level of understaffing. But there is concern that the administration does not understand the role of a statistics department in a modern university.

That concern has many roots, and the external panel is not confident that we have fully identified the strange chemistry of counter interests that produced this unease. One source, of course, is the recent turnover and turbulence in the upper management at UC Riverside. Many departments experienced that uncertainty, of course, but it fell particularly hard upon Statistics: there was a plan to fold them into Genomics (a revolutionary proposal, and a gross mismatch with the department’s strengths in design and quality control), there was a failed plan for a joint hire with the medical school, and there was the persistent failure to find resources that would enable them to do more than grimly fight contraction while awaiting some inevitable combination of illness, retirement, and departure that would destroy the institution to which they had devoted their professional lives.

There is more, and some of it is petty. In medicine, nearly every NIH grant requires a designated statistician. The PI writes them in for 5% support, which is insufficient, and if a faculty member agrees to be listed in this way, it does nothing to advance their professional career or support their students. MDs often see themselves as the Thanksgiving turkey, while the statisticians (and everyone else) are humble side dishes, doing work that is necessary but minor compared to their own.

Mathematicians can be even more dismissive. The recent suggestion that the NSF Division of Mathematical Sciences rename itself by adding “and Statistics” drew almost universal umbrage from the traditional mathematics community, which sometimes considers statistics to be the proper subset of mathematics in which the less able researchers reside. For this reason, in the U.S. there has been a steady movement towards separate departments for mathematics and statistics.

Our point is that statisticians have hit interdepartmental headwinds in the past. If they have the clear-eyed support and understanding of their administration, it need not be a big problem. But if there is uncertainty about the wisdom of the managers, this can lead to free-floating anxiety, a sense of embattlement, and Hobbes’ war of all against all.

Although a bit nervous, the statistics department at UC Riverside is still optimistic, and actively seeks constructive ways to ensure respect and cooperation. You have really, really nice people in the department. A little bit of diplomacy, and a little donativity,
will do much to repair the strained *esprit de corps* and re-establish trust in the constancy, competence and compass of academic administration.