



The University of Vermont
FACULTY SENATE

**Curricular Affairs Committee of the Faculty Senate
Minutes**

Thursday, April 6, 2023, 4:15 – 6:15 pm on Teams

Present: Professors Kervick (CESS), Everse (LCOM), Barnaby (CAS), Borchert (Faculty Senate President), Brooks (RSENr), Doherty (LIB), Emery (CAS), Harrington (CAS), Hazelrigg (CALS), Hibbeler (CEMS), Hunt (LCOM), Jones (GSB), Lau (LCOM), Mayo (CESS), Noordewier (GSB), Rosebush (CEMS), Sargent (CNHS), Seidl (RSENr), Swogger (LIB),
Absent: Professor Dale (CNHS), SGA Rep Lista, Blom (CAS), Vacant (CALS), Vacant (LCOM)
Guests: Jennifer Dickinson, Evan Eyster, Cynthia Forehand

Chair Everse called the meeting to order at 4:15 PM

I. Approval of the March 2023 Minutes.

Motion: Joan Rosebush moved to accept the minutes as written. The motion was seconded.

Vote: 12 approve, 0 oppose, 0 abstain. **The motion carried.**

II. Co-Chair's Remarks – Stephen Everse made the following comments:

- Stephen Everse reported that he and Colby Kervick are reviewing the CAC operating procedures and will suggest updates for discussion at the May meeting.
- The May CAC meeting will be held in-person in Waterman 427A.
- Colby Kervick reported that the co-major work group is making progress. Co-major is the credential and could be ready for the 24/25 catalogue. The Registrar's office provided guidance including suggestions for advising students. A meeting with Student Financial Services is planned before finalizing the curricular proposal template.
- Laurie Eddy announced a call for nominations for CAC Co-Chair for the AY 23-24. Nominations will be accepted for one week followed by a formal ballot.

III. APR Reports

- A. **Mathematics and Statistics** – Ann Hazelrigg and Meghan Emery served as the review subcommittee and attested that the APR process had been followed. The subcommittee report is attached to these minutes and summarizes the strengths and weakness of the department's programs identified through the review process, provides a synopsis of the external reviewers' recommendations and responses from the programs, and offers the APR internal review subcommittees' conclusions. Discussion included the complexity of this APR; the different perspectives on the purpose of the APR with the external reviewer focused on R1 status and the departments desire for expert guidance on quality improvement to ensure the viability of

academic programs; and the anticipation that the APR summary meeting will be robust as they go through the recommendations and issues highlighted in the APR.

Motion: Stephen Everse called a vote to accept the subcommittee's report on the APR of the Mathematics and Statistics Department.

Vote: 18 Approve, 0 Oppose, 0 Abstain. **The motion carried.**

IV. Reports

A. **New Undergraduate Certificate in Gerontology (CESS)** – Ann Hazelrigg served as the review subcommittee and recommends approval of the proposal for a new Undergraduate Certificate in Gerontology in the College of Education and Social Services. The new Certificate has strong support and provides students with knowledge and skills for promoting healthy aging among diverse aging populations and communities, and for addressing the challenges and seizing the opportunities of an aging society. Students will be well positioned to apply their knowledge of gerontology to address aging related challenges in their disciplinary field and in their personal lives to work in entry level positions in senior focused organizations, and to pursue advanced level education and training in the field of Gerontology. The Certificate also provides an additional offering for students in the College of Arts & Sciences (CAS) since the Faculty Senate voted to approve the deactivation of the Gerontology Minor offered through the Department of Sociology in November 2022.

Motion: Stephen Everse called the vote approve the new undergraduate Certificate in Gerontology in the College of Education and Social Services.

Vote: 18 approve, 0 oppose, 0 abstain. **The motion carried.**

B. **New Minor in Global Public Health (CNHS)** – Jason Hibbeler and Susan Swogger served as the review subcommittee and recommend approval of the proposal for a new Minor in Global Public Health in the College of Nursing and Health Sciences. The new minor will be administered by the Department of Biomedical and Health Sciences (BHSC) in CNHS and be offered starting in Fall 2023. This proposed minor will provide students the opportunity to examine public health and health care processes and systems at the global level. It is designed to emphasize interdisciplinary, integrative approaches to understanding population health. This minor would also increase global engagement opportunities and support student leaders through participation in applied global learning. Upon completion of this minor, students will have explored contemporary issues in global health, understand key global health problems and their complexities, and applied their learning in an intercultural setting.

Motion: Stephen Everse called the vote approve the new Minor in Global Public Health in the College of Nursing and Health Sciences.

Vote: 18 approve, 0 oppose, 0 abstain. **The motion carried.**

C. **New Minor in Public Health, Equity and Advocacy (CNHS)**– Jason Hibbeler and Susan Swogger served as the review subcommittee and recommend approval for the proposal for a new minor in Public Health, Equity and Advocacy in the College of Nursing and Health Sciences. The new minor will be administered by the Department of Biomedical and Health Sciences (BHSC) in CNHS and be offered starting in Fall 2023. This minor will prepare

students for a future workforce that will be equipped to address the root causes of health inequities. Health equity means that everyone has the opportunity to attain their highest level of health. However, social, economic, and environmental inequities, such as racism and gender-based discrimination, are embedded in societal institutions and result in poor health. These inequities influence health more than individual choices or access to healthcare and affect communities differently with historically marginalized communities bearing a greater burden of poorer health. Students from across disciplines (e.g., public health sciences, economics, social and behavioral sciences, engineering, etc.) will be educated and trained in the area of health equity. Discussion included clarification of the different focus of the CAS minor entitled Health and Society and the importance of advising to avoid student confusion.

Motion: Stephen Everse called the vote approve the new Minor in Public Health, Equity and Advocacy in the College of Nursing and Health Sciences.

Vote: 18 approve, 0 oppose, 0 abstain. **The motion carried.**

- D. **Substantial Revision to Early Childhood Special Education Major (CESS)** – Liz Hunt and Prudence Doherty served as the review subcommittee and recommend approval of the proposal for substantial revision to the Early Childhood Special Education Major in the College of Education and Social Services. If approved by the CAC the program will be implemented starting with the AY 24-25 catalog. The Special Education program faculty (i.e., faculty who teach and advise in both the Early Childhood Special Education and Special Education programs) examined the undergraduate special education curricular offerings at UVM and decided to revise the Early Childhood Special Education major in a way that could boost enrollment and positively impact the Special Education field at large. Namely, by increasing the number of UVM undergraduate students highly prepared to teach special education at all age levels. Revisions of the major will preclude the need for the undergraduate minor in special education that leads to endorsement, as this option will now be available through the revised undergraduate major or the current Accelerated Master's Program in Special Education. The program submitted a companion proposal to terminate the Special Education Minor with Endorsement.

Motion: Stephen Everse called the vote approve the revision to the Early Childhood Special Education Major in the College of Education and Social Services.

Vote: 17 approve, 0 oppose, 1 abstain. **The motion carried.**

- E. **No-contest Termination of the Special Education Minor with Endorsement (CESS)** – Prudence Doherty and Elizabeth Hunt served as the review subcommittee and recommend approval of the proposal for a no-contest termination of the Special Education Minor with Endorsement in the College of Education and Social Services. This proposal was submitted as a companion proposal to the Substantial Revision to the Early Childhood Special Education Major. Revisions of the major will preclude the need for the undergraduate minor in special education that leads to endorsement, as this option will now be available through the revised undergraduate major or the current Accelerated Master's Program in Special Education.

Motion: Stephen Everse called the vote approve the no-contest Termination of the Special Education Minor with Endorsement in the College of Education and Social Services.

Vote: 17 approve, 0 oppose, 1 abstain. **The motion carried.**

F. **Vote to Reactivate Early Childhood Special Education Major**

This major was deactivated last year and now with the approval of the substantial revision to the Early Childhood Special Education Major, the major needs to be reactivated.

Motion: Stephen Everse moved to reactivate the Early Childhood Special Education Major in the College of Education and Social Services with approved curricular revisions.

Vote: 17 approve, 0 oppose, 0 abstain. **The motion carried.**

V. **New Business**

A. New Subcommittee assignments – volunteers needed for:

- New Minor in Equine Studies (CALs) – Elizabeth Sargent volunteered. Additional volunteers should contact Colby.Kervick@uvm.edu

B. The May meeting will include votes on:

- Substantial Revision to Master's in Public Health
- Substantial Revision to Wildlife and Fisheries Biology Major
- Substantial Revision to BS in Mathematical Sciences
- New Minor in Equine Studies

C. The May CAC meeting will be in person in Waterman 427A

The meeting adjourned at 5:33 PM.

Faculty Senate Curricular Affairs Committee
Academic Program Review Subcommittee Report
Department of Mathematics and Statistics
February 2, 2023

Academic Program Review Subcommittee: Meaghan Emery and Ann Hazelrigg

External Reviewers: Robert Erhardt, Ph.D., Wake Forest University-Statistics and Biostatistics Reviewer
Gino Biondini, Ph.D., University of Buffalo, SUNY-Mathematics Reviewer

The external review team visited the University of Vermont's Department of Mathematics and Statistics for a virtual two-day review on April 27 and 28, 2022 as part of the Department of Mathematics and Statistics Academic Program Review (APR). This report summarizes the strengths and weakness of the department's programs identified through the review process, provides a synopsis of the external reviewers' recommendations and responses from the programs, and offers the APR internal review subcommittee's conclusions.

Overview of Department of Mathematics and Statistics

The Department of Mathematics and Statistics (M&S) is housed within the College of Engineering and Mathematical Sciences (CEMS) and offers degrees in both CEMS and the College of Arts and Sciences (CAS). The Department is chaired by Jianke Yang (2021-present) and previously chaired by Jeffrey Buzas from 2014-2021.

The Department of M&S offers a Bachelor of Science (BS) degree in Mathematical Sciences, with a major in Mathematics or Statistics, or BS in Data Science (through CEMS), a Bachelor of Arts (BA) degree in Mathematics (through CAS), including a possible Concentration in Statistics, and Mathematics or Statistics minors are open to students in all Colleges/Schools. At the graduate level, it offers both a Master of Science (MS) and a Doctor of Philosophy (Ph.D.) in Mathematical Sciences, with a concentration in pure mathematics, applied mathematics, statistical sciences, or biostatistical sciences. An Accelerated Master's Program (AMP) allows students to complete a MS in Mathematics, Statistics, or Biostatistics with only one additional year of study following completion of a BS. The Department offers opportunities to undergraduates to do research with the faculty through the College's REU (Research Experience for Undergraduates) program both during the academic year and summer.

The Mathematics faculty includes 12 tenure-track and 12 non-tenure-track faculty (11 Lecturers and Senior Lecturers and 1 Research faculty member). Since 2011, the number of mathematics majors (BS and BA combined) has remained relatively steady with an average of 151 students. From 2011 to 2021, the BS in Mathematical Sciences and BA in Mathematics graduated 278 and 126 students respectively, and 1103 students graduated with a minor in Mathematics. The 2015 entering class had a 4-year graduation rate of 78.7% for the BSMS and 87.5% for the BA, and a 5-year graduation rate of 92.9% for the BSMS and 87.5% for the BA. From 2011 to 2021, the Ph.D. and MS Programs in Mathematical Sciences graduated 15 and approximately 90 students, respectively. In the period of 2016-2021, Mathematics research faculty were involved in 30 external awards that total over \$36.8M; they were PIs on the awards totaling over \$9.7M. (These are the total amounts of the awards, not just the shares of the M&S Department faculty in them.)

The Statistics Program is directed by Jeff Buzas. There are 14 faculty total in the program, consisting of six lecturers, five tenure track faculty and three research faculty. There are twelve faculty members with teaching commitments, comprised of five tenure track faculty in statistics, one research faculty in

statistics, and six lecturers in statistics. Since 2011, the number of statistics majors (BS) has grown roughly three-fold and currently has over 40 students majoring in statistics and ~100 minoring in Statistics. (Number of majors is undercounted, because the department has a BA in Mathematics with a Statistics Concentration). The 2015 entering class had a 4-year graduation rate of 100% for the BS in Statistics, and a 5-year and 6-year graduation rate of 100%. There are currently three Ph.D. students pursuing the statistics track. The graduation numbers for 2021 include: 13 Stats BS majors, 47 Stats minors, 6 Stats MS and 4 MS Biostats. The Statistics Program is also integral to the BS degree in Data Science, which in AY 2021-2022 had 61 majors. Statistics Program faculty are involved in a large volume of collaborative research but involved to a lesser extent in independent research that led to federal grants over the time period examined. There are, however, faculty that have been awarded federal grants, including one UVM PI awarded a very large grant from the Justice Department, a Co-investigator on an NIH grant, and an additional faculty member who is UVM PI on a federal R01 grant. Faculty pursue grant funding that provides GRAs for graduate students. In the following section we summarize the strengths and weaknesses identified through the self-study process and the external reviewer's specific feedback.

Strengths Mathematics

- The main strength of the M&S department is the high quality and dedication of its personnel at all levels, from departmental administration, to the faculty, the lecturers, the staff and the students.
- The Department has a number of highly productive and highly visible researchers in several areas of mathematics and statistics. This provides the M&S department and UVM's upper administration with a strong foundation on which it can build to attain R1 status.

Strengths Statistics

- The faculty are exceptional, productive in their research, successful at obtaining grants, and dedicated to the students and to the UVM community.
- Biostatistics faculty have a particularly strong breadth of expertise.
- Enrollments are strong and have been growing over the last decade as more programs add statistics to their degree requirements. The number of majors and minors has tripled since the last APR was performed in 2008.
- The evaluation of educational effectiveness indicators and overall process of assessment for the program are excellent and a model for peers to follow.

Weaknesses Mathematics

- UVM and CEMS must realize a strong mathematics and statistics department is an essential component of an R1 institution, and that achieving R1 status comes with considerable and unavoidable costs.
- The UVM M&S department is in the College of Engineering and Mathematical Sciences (CEMS) unlike most M&S Departments which are typically in the College of Arts and Sciences. This may present issues if the UVM upper administration uses metrics and promotion or tenure parameters comparing the M&S Department to the Engineering Department or a Computer Science Department. This could be a competitive disadvantage compared to other Mathematics Departments. CEMS should realize the unique nature of the M&S department within the College, and it should support it at a level comparable to the support received by other math departments in the country. Examples include the financial support provided for postdocs typical of Mathematics Departments at R1 institutions. Postdocs are recognized as essential to research mission of departments, provide additional teaching capacity and can increase faculty productivity.
- The need to regularly resort to overload pay for lecturers in order to staff all courses points to a chronic, structural personnel shortage in the M&S department. Regularly relying on overload pay is not an advisable practice, as it leads the department and the college open to the danger of being unable to cover

any unexpected absences. CEMS should therefore work to rectify the situation. Moreover, CEMS should realize that, while lecturers provide quality instruction, they do not contribute to the research mission of the department.

Weaknesses Statistics

- The program lacks status and visibility due to its combination with Mathematics in a single department.
- Some faculty have 100% teaching responsibilities, others have 100% research responsibilities, and the remainder a combination. The different appointments within the program create a lack of cohesiveness between the educational and research missions.
- The program lacks an introductory-level course dedicated to computing, which if offered as a prerequisite would establish an expectation within course sequencing and allow faculty to assume a level of basic programming knowledge among students in their courses.
- There are uneven results in departmental assessment of student proficiency in theory courses.
- The reviewer observed some miscommunication between program faculty and the Dean regarding the future direction of the graduate programs and specifically whether there is the need for a discipline-specific Ph.D.
- The reviewer shared faculty feedback that Accelerated Master's Degree Program students do not integrate well within the graduate program.
- There is not adequate funding, specifically to support the number of needed GTAs or courses to sustain the M.S. and Ph.D. programs.

External Reviewers' Recommendations

Mathematics:

- It is strongly recommended the chronic personnel shortage in the M&S department be ameliorated by hiring additional TT faculty. In addition to reversing the recent negative decrease in the number of TT faculty in the department, this would have several other additional benefits as mentioned below.
- To align with UVM's goal to increase its research profile, the University should redress the imbalance between tenure-track faculty and lecturers. For example, this can be done by replacing 2 lecturers who have recently retired with 1 new lecturer and 2 new tenure-track (TT) faculty.
- While maintaining small class sizes is preferable in abstract, UVM's goal of attaining R1 status requires a priority shift away from teaching towards increasing support for research. It is recommended to increase the class sizes to 75 and use the savings to hire further TT faculty. (~10 years ago, the reviewer's department increased the capacity in undergraduate courses from 60 to 90 students in exchange for decreasing the teaching load for research-active faculty from 2 courses/semester to 3 courses/year.)
- In addition to ameliorating the chronic personnel shortage, hiring additional TT faculty would also result in an increase in the number of faculty with a terminal degree, reducing the need for instructional faculty to teach grad courses and would help ensure that nobody teaches "above their level".
- To align with the R1 goal, CEMS should provide institutional support for postdoc positions. In addition to rectifying a current deficiency (UVM is currently below the R1 benchmark in this respect), this would benefit both the teaching and research missions of the department. A concrete but modest recommendation is to support 2 departmental postdocs, with a two-year appointment (expiring on staggered years, so that each year the department will search for a new postdoc) and a teaching load of one course/year.
- Instead of employing overload pay for lecturers, it would be much more beneficial (even if less cost-effective) if the College uses the funds to hire additional TT faculty and support extra TA lines, since both TT faculty and Ph.D. students also contribute significantly to the research of the department.
- The department and the college should provide incentives for more lecturers and faculty to familiarize themselves w/ active learning techniques. E.g., this can be done by providing partial teaching releases and/or extra pay.

- The role of graduate director is very time-consuming. It is unreasonable to expect that these time demands will not negatively affect a faculty's research productivity. In order not to negatively impact this person's career (and UVM's research profile), CEMS should offer a teaching reduction to the graduate director of at least 1 course per year.
- By the nature of their visa status, international students are not permitted to take advantage of many employment opportunities in the summer. To support international students, the department should give teaching assignments in the summer session to graduate TAs instead of lecturers. By supporting PhD students, this would indirectly help to increase the research support for the department.
- In order to increase the diversity of the graduate course offerings and alleviate the deficiency in the number of pure graduate courses (another measure required to attain R1 status), CEMS should relax the thresholds on the number of students needed to run a graduate course (i.e., to 4 students), so that more courses can viably run.

Statistics:

- In order to provide more status and visibility to the Statistics program, which is a department-sized program and distinct academic discipline, Mathematics and Statistics should each have its own department. This could, among other possible benefits, clarify hiring needs.
- Statistics needs more faculty, and hires could be better coordinated with the overall hiring needs of CEMS.
- Full departmental meetings should be scaled back or eliminated altogether in favor of program-level meetings. This would ensure that faculty are engaged because the meetings would pertain to their work and other matters that concern them. Even policy formation could be done at the program level and communicated via program directors back to the chair.
- At the undergraduate level, there are a variety of introductory courses that potentially create unnecessary redundancy and scheduling complexities. The reviewer recommends limiting the types of introductory courses offered to two, one type for training students to read statistical analyses and another for training students to produce statistical content, which could include a programming unit, as he additionally recommends.
- The reviewer recommends that probability and inference classes, which are more theoretical in nature, be rethought in order to ensure more even performance across student cohorts.
- More needs to be done to integrate Biostatistics into undergraduate courses and reflect the faculty's level of expertise even within the M.S. in Biostatistics.
- The reviewer questioned the value of the B.A. in Mathematics (Statistics concentration), which may confuse students or steer them away from better programs. He also affirmed the concern expressed by Statistics faculty in the self-study that it could interfere with the careful reporting of majors within the College.
- The reviewer recommends that the exit survey for the undergraduate programs be administered at the department level and include questions generating qualitative responses.
- In order to create more opportunities for M.S. students to work with research faculty, the reviewer suggests that research faculty engage graduate students in funded scientific projects on campus. It would give students more practical experience and might result in more funding for the benefit of students and faculty alike.
- The reviewer suggested that it might be worthwhile to eliminate the Statistics track in the PHD program and have graduate students from interdisciplinary centers, e.g., Complex Systems, fill programmatic needs.
- More communication is needed between the CEMS Dean's Office, the Graduate College, and the program heads of Mathematics and Statistics in order to determine the goals of the Ph.D. program, how the program will be funded, and what incentives will be in place to reach these goals with success.
- The reviewer recommends a hybrid postdoctoral position in Statistics, with primary support from CEMS to ensure longevity. If grants or other funding sources are available, teaching responsibilities could be

covered by CEMS and research funded through a center or a grant. The postdoc could be assigned departmental duties, such as a journal reading series or colloquium, to encourage cohesiveness.

- Programmatic vs. university needs and goals require clarification. The Provost needs to weigh whether Statistics courses, and especially graduate courses, should be available to students outside of the Statistics degree program. Also, it remains to be decided whether statistics/quantitative methods courses should be taught in different colleges and schools or whether Statistics program faculty should teach those courses. There are pros and cons to both structures. The former structure creates inefficiencies and duplication, as well as a situation where faculty do not keep abreast of the latest developments in the field. The latter structure would require an injection of additional resources into the Statistics program, which could coincide with enlarging a small, but separate Department of Statistics.

Summary and Conclusions

The reviewers were very impressed with the high quality and dedication of the M&S Department personnel at all levels, from departmental administration to the faculty including highly productive researchers, the lecturers, the staff and the students. The primary goal of the Mathematics review was to suggest concrete measures that will help UVM attain R1 status, and all the reviewer's recommendations were written with this goal in mind. UVM and CEMS must realize a strong mathematics and statistics department is an essential component of an R1 institution, and that achieving R1 status comes with considerable and unavoidable costs such as increasing GTA lines, hiring additional tenure track faculty, rectifying the imbalance between lecturers and tenure track faculty, providing additional support for postdocs and increasing class sizes. The reviewer of the Mathematics program recommended decreasing the course load for the graduate director in Mathematics, providing incentives for more lecturers and faculty to familiarize themselves w/ active learning techniques and to support international students by giving teaching assignments in the summer session to graduate TAs instead of lecturers. To increase the diversity of the graduate course offerings and alleviate the deficiency in the number of pure graduate courses (another measure required to attain R1 status), CEMS should relax the thresholds on the number of students needed to run a graduate course so more courses can viably run. The reviewer of the Statistics program recommends splitting the Department into two given the ways in which Statistics has diverged from Mathematics since it first became an academic discipline. The reviewer also recommends increasing GTA lines, hiring additional tenure track faculty, and creating more cohesion between the teaching and research mission of the program. Furthermore, in terms of faculty hires and grant writing, Statistics has more overlap with CEMS than does Mathematics. The programmatic needs of Statistics additionally align with interdisciplinary centers, which might inform the future direction of the Ph.D. The reviewer noted some disconnect between administrators' and faculty's perceptions of the requirements of a Ph.D. program. He noted that more STEM Ph.D. programs are not necessary to achieve R1 status, and that some administrators believe that interdisciplinary Ph.D. programs would be preferable over more traditional discipline-specific Ph.D. programs. Like the reviewer for Mathematics, the reviewer for Statistics recommends funding a postdoctoral position. One obstacle to this, however, is lack of office space.

Department faculty were given the opportunity to respond, and the Programs made several corrections/clarifications to the External Reviewer's reports. Their feedback has been incorporated into this subcommittee report and copied below. The APR Subcommittee attests that, to date, the APR process has been followed.

Mathematics program response to the Math APR external report:

1. The Math faculty appreciates and fully supports this reviewer's observations and recommendations that

- UVM and CEMS must realize that (i) a strong mathematics and statistics department is an essential component of any R1 institution, and that (ii) achieving R1 status comes with considerable and unavoidable costs. UVM's upper administration should therefore commit to a substantial increase of funds in support of the research mission of the M&S department.
- Math departments at R1 institutions typically receive substantial decanal support for postdocs.
- It is strongly recommended that the chronic personnel shortage in the M&S department be ameliorated by hiring additional TT faculty.

Indeed, in the past ten years, the number of math tenure-track faculty shrank from 18 to 12. This has significantly reduced the math research output and made math graduate education difficult. The faculty hope that Math can receive stronger financial support from the administration, such as postdocs and additional TT lines, so that they can strengthen their research profile and graduate education in order to get closer to R1, which is the University's stated goal.

2. The faculty do note that, the reviewer's report was heavily focused on UVM's goal of achieving R1 status and did not offer substantive appraisal of the undergraduate programs or provide recommendations for improvement. The reviewer's recommendation to "increase the class sizes to 75" could be harmful to the quality of undergraduate education.
3. Many members of the Mathematics faculty were distressed by this reviewer's lack of appreciation for the important role lecturers and senior lecturers play in supporting the Department's mission. This reviewer wrote that "*lecturers ... do not contribute to the research mission of the department*". But they shoulder a vast majority of undergraduate mathematics instruction (particularly introductory, intermediate, and service courses), which faculty value greatly. Many of the lecturers and senior lecturers are among the most experienced and respected teachers within the Department, and several of them have won prestigious teaching awards. Delivering quality undergraduate education is a fundamental mission of the University, and the important role of lecturers and senior lecturers should be acknowledged. In addition, some of the lecturers do write research papers and contribute to the department's research mission.

Statistics program response to the Statistics APR external report:

Corrections:

1. The Statistics program disagrees with the statement, "The primary goal of this document was to suggest concrete measures that will help UVM attain R1 status, and all the reviewers' recommendations were written with this goal in mind." In the document "A guide to academic program review", the purpose of the review is stated as follows:

The purposes of academic program review are to:

- Ensure that academic programs are maintained at the highest possible level of quality.
- Provide a basis for continuous quality improvement of academic programs.
- Help ensure the viability of academic programs.
- Guide strategic planning and decision-making regarding academic programs.
- Ensure that academic programs serve the mission and vision of the university.

The reviewers were made aware of this purpose.

They further note that the summary and conclusions were slanted strongly towards the recommendations made by the reviewer for the mathematics program which was very focused on R1 status.

2. The statistics faculty disagree with the statement that lecturers “do not contribute to the research mission of the department”. They argue that having lecturers contributes to the research mission even though lecturers themselves are not directly generating research.
Having enough lecturers to teach the introductory, undergraduate courses enables tenure track faculty to offer advanced and graduate level courses that are more aligned with their research areas.
Discussion in these courses generates research ideas for the faculty and their students. These courses also enhance the graduate program which results in more research productivity.

Comments:

1. The statistics faculty does not comment on the recommendations of the math reviewer and considers them only to apply to the math program. There is concern that, because they are in the same department, these recommendations might be applied to the statistics program also. The statistics faculty would not want to see some of these recommendations implemented in the statistics program (for example increasing class sizes to 75).
2. The Statistics faculty acknowledge that the reviewer for the statistics program suggested that it might be worthwhile to eliminate the Statistics track within the Ph.D. program and have graduate students from interdisciplinary centers, e.g., Complex Systems, fill programmatic needs. The faculty of the statistics program feel that this warrants careful consideration, and that some of the challenges related to offering courses that are appropriate for Ph.D. students may be alleviated by the coming university-wide separation between undergraduate and graduate level courses.
3. The statistics faculty strongly agree that full departmental meetings should be scaled back or eliminated altogether in favor of program-level meetings. They also agree that it would be better if most policy formation were done at the program level and communicated via program directors back to the chair.
4. The statistics faculty are, in principle, largely supportive of forming a separate department of statistics. There are concerns about identifying an appropriate chair for such a department given the small number of tenured faculty. They would like to consider this possibility further.
5. The report mentions concern that the students in the Accelerated Master’s Degree Program do not integrate well into the master’s program. The statistics faculty feel that this is less a problem with that degree program and more of a concern across all their graduate programs. In general, there is a feeling that the “cohort” has been compromised by having fewer master’s students supported by GTAs and fewer opportunities for student-lead discussions/journal club meetings.