

UCC Program Review Committee Summary of Review

Program: Chemistry and Biochemistry

Date of last review: AY 2015-16

Date of this review: AY 2022-2023

The program offers the following degrees, minors, and certificates:

- Ph.D. in Chemistry
- Ph.D. in MCB-Chemistry
- M.S. in Chemistry (in-person and online)
- Graduate Certificate in Craft Brewing
- B.A. in Chemistry
- B.S. in Chemistry
- B.S. in Chemistry-Biochemistry
- B.S. in Chemistry-Pre-Dentistry
- B.S. in Chemistry-Pre-Medicine
- B.S. in Chemistry-Pre-Pharmacy
- B.S. in Environmental Chemistry
- B.S. in Forensic Chemistry
- Chemistry Minor
- Undergraduate Certificate in Craft Brewing

Recommendation: This program is found to be viable.

See report for commendations, concerns, and recommendations.

The report was forwarded to the program director and college dean. Their responses are attached.

The Graduate Council's comments are included as well.

Ohio University Curriculum Committee
External/Internal Academic Program Review

Chemistry & Biochemistry Department

Ohio University
January 27, 2023

Review committee:

Dr. Janet Asper Professor and Chair, Department of Chemistry,
University of Mary Washington, Fredericksburg, VA

Dr. Cory Cronin, Associate Professor, Department of Social and Public Health,
Ohio University, Athens, OH

Dr. Zaki Kuruppallil, Professor, Department of Engineering Technology and Management,
Ohio University, Athens, OH

Dr. Xiaodong (Michael) Shi, Professor & Associate Chair, Department of Chemistry,
University of South Florida, Tampa, FL

Summary: [Viable](#)

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Introduction & Process Overview

The Chemistry and Biochemistry Department in the College of Arts and Sciences at Ohio University underwent an external/internal academic program review on January 20. The Academic Program Review Committee was comprised of Dr. Janet Asper, (University of Mary Washington, Fredericksburg, VA), Dr. Xiaodong (Michael) Shi (University of South Florida, Tampa, FL), Dr. Zaki Kuruppallil (Engineering Technology and Management), and Dr. Cory E. Cronin (Social and Public Health).

Over the course of two days (January 26 and 27, 2023), the team met privately and independently with graduate and undergraduate students; College of Arts and Sciences Associate Dean Morgan Vis for Research, Faculty & Graduate Studies; Director of Forensic Chemistry Rebecca Barlag; Undergraduate Chair Lauren McMills; Graduate Chair Katherine Cimatú; Department Chair Eric Masson; tenure-track faculty; and instructional faculty.

Ohio University's Department of Chemistry is a viable program as evidenced by a healthy cadre of dedicated affiliated faculty, a clearly collaborative and collegial environment, engaged and strongly motivated undergraduate students, integrated international graduate students, and significant international reputation and experiences abroad.

This report is divided into seven sections, directly organized as requested by the Ohio University Academic Program Review effort.

1. The program as a whole:

1. *Is the current number and distribution of faculty sufficient to carry out the broad overall mission of the unit (Teaching; Research, Scholarship and Creative Activity; Service).*

Our assessment is that the current level and distribution of faculty are insufficient, and impacting the education and research mission of the Department. impending retirements are going to decimate the department. This results in a need to hire steadily. It is imperative that chemistry faculty have one-two years to establish a research agenda (lab, publication/grant-writing, etc.). This means the department cannot wait for further departures, or there will be big gaps. It is also worth noting that faculty that are retiring are winding down groups, resulting in fewer undergraduate research opportunities.

The faculty at the chemistry department at Ohio university deserve an applause for keeping the program running smoothly during the past 7 years with the combination of budget cuts, the pandemic and the move to new laboratory spaces. All courses were taught effectively despite the clear shortage of manpower and resources. This reflects the professional activity, good leadership and collegiality of the current team. They strategically planned new hiring in different areas and highlighted the capability of the current team and promising future growth.

The changing of centralized staff support has had a noticeable impact and is worth more discussion for graduate and undergraduate education. Additional communication between decision-makers is encouraged.

2. *Is the level of the unit's RSCA appropriate for the program given the size of the faculty and the resources available to the unit? Is the unit's level of external funding at an appropriate level?*

The level of external funding is difficult to evaluate due to the short staffing and faculty approaching retirement and therefore winding down research agendas rather than pursuing new projects.

The supporting team is highly effective. However, it appears the program could use more staff support to continue an upward trajectory.

3. *Is the level of service, outside of teaching, appropriate for the program given its size and the role that it plays in the University and broader communities it interacts with? Is the unit able to fulfill its service mission?*

Yes, our conversation with the dean indicated that the faculty generally reliably contribute to the college and university via service. She particularly noted having several she calls on. The question this raises is whether there will be burnout as a result.

4. *Does the unit have an appropriate level of financial resources, staff, physical facilities, library resources, and technology to fulfill its mission?*

The new Chemistry building is game-changing for the department. The laboratory setup and associated infrastructure are impressive and have opened a whole new world for learning and research. However, a lack of appropriate staffing could make this whole investment underutilized and the value of this significant investment could remain untapped. This observation was reflected throughout in the interviews with faculty, staff, and graduate and undergraduate students.

Financial resources:

The review group did not review/discuss the Department Budget; however, three financial concerns were discussed:

1. Equipment needs: The Department needs a second high-field NMR spectrometer, and plans to purchase that with their Department Foundation Funds, at an expected cost of \$450,000. This will substantially deplete these accounts.
2. Start-up packages for new faculty: Start-up package sizes have not substantially increased in 20 years, and have certainly not kept pace with inflation.. Attracting R1 faculty to an R1 department will require R1-sized startup packages.
 - a. In the past, the Department has contributed 25% of the start-up fund package, using foundation accounts.
3. Teaching assistant (TA) lines: The department has only 43.8 teaching assistant positions. That limits the size of the graduate program, and impacts the number of courses/support available for undergraduate students.

The issue of TA lines came up in multiple meetings with the review group, and merits further discussion, particularly since OU has earned R1 classification. The department currently has 44 TA positions, and the self-study document reports that between 2015 and 2022, external funding supported an average of 11.6 grad students (page 1-6), for a total of 55.6 students. Assuming a target of 19 tenure-track faculty (the count before the retirements), this is only 2.9 graduate students per research group. This is not a large enough graduate student body for an R1 chemistry program.

This is exacerbated by the number of tenure-track faculty who need to be replaced/will be replaced in the coming years. The self-study document describes new faculty support requirements as: "new faculty need 1 TA the first year, 2 the second, 3 the third." Making this work with only 44 TA lines will be very difficult.

In addition, such tight margins on TA lines make graduate student recruiting very labor intensive. The department must be careful to match student interests with faculty who have TA lines available. Without a dedicated graduate office staff member to coordinate that effort, the work will fall to the Graduate Chair, who is a research active, tenure-track faculty member.

The university gave the department two TA lines for the \$1.4 million online MS program. The TAs support the online MS by grading, conducting recitations and grading student discussions. Two TA lines were given in 2018 to support the online MS, but enrollment in that program has increased from 6 to 104 in that time.

Library resources:

Faculty noted that some of the IT security systems render features of Scifinder Scholar, the most important database for chemistry, unusable at Ohio University.

Technology:

The Department would likely benefit from an institutional site license for ChemOffice. An institutional license would ensure that all undergraduates are learning this industry standard software platform, and may save money over each research group buying subscriptions individually.

Staff Resources: No

The College of Arts and Science model that eliminated administrative associates has a considerable negative impact on the department. This is leading to faculty spending time on administrative duties which impacts student learning and research productivity. For example, a comment from a faculty member that "I'm so busy doing admin stuff that I don't care about my teaching anymore" brings out the seriousness of this issue. Graduate students are unsure how to navigate forms, dates, and policies. Much of that has fallen upon the graduate chair and the department chair who are research active faculty. The loss of a dedicated machine/electronic shop personnel has created slowdown as the department has to rely on Physics for their needs. Also, general chemistry lost an instructional faculty in the lab which has put an additional burden on lab coordinators which takes their focus off of developing and adjusting pedagogy.

As per the American Chemical Society, *A sustainable and robust program requires an adequate number of administrative personnel, stockroom staff, and technical staff, such as instrument technicians, machinists, and chemical hygiene officers. **The number of support staff should be sufficient to allow faculty members to devote their time and effort to academic responsibilities and scholarly activities***

(<https://www.acs.org/content/dam/acsorg/about/governance/committees/training/2015-acg-guide-lines-for-bachelors-degree-programs.pdf>). Therefore this committee urges the college to take immediate steps to replace these positions as it affects student learning and faculty and staff morale.

Additional areas of concern are support for the undergraduate forensics program in the non-chemistry classes, creating a reliance on regional campus faculty (see undergraduate teaching discussion) and no succession plan for the graduate or undergraduate faculty.

2. Undergraduate Program:

1. *Is the unit fulfilling its service role, adequately preparing non-majors for future coursework and/or satisfying the needs for general education?*

Yes, chemistry is truly the central science. At least 21 majors at Ohio University require chemistry courses, and the Chemistry department teaches 12 courses in the general education BRICKS requirements. In spite of this already large service load, the department teaches three courses that do not count in any of the chemistry majors.

2. *Is the program attracting majors likely to succeed in the program? Is the number of majors appropriate for the program? Is the program attracting a diverse group of students?*

Yes. Chemistry has seen an increase in the number of majors in all of the majors since the last reporting period, less obvious due to the anomalous numbers for 2021-2022. Majors that we spoke with are very happy with the program. The diversity of choices of the type of chemistry major (BS, BA, Forensic, Pre-medical etc) is very beneficial to students in helping them to see themselves in the major. Majors aspire to be more involved in the department, as peer team leaders, undergraduate researchers and teaching assistants.

The ethnic diversity of chemistry majors at OU reflects the trends seen in chemistry majors nationwide(<https://nces.nsf.gov/pubs/nsb20223/data#table-block>), including showing gains in the percentage of black students. The increase in female chemistry majors is noteworthy, and makes it even more important to recruit and retain female faculty for these majors.

3. *Does the undergraduate curriculum provide majors with an adequate background to pursue discipline-related careers or graduate work following graduation?*

Yes. Based on data collected by the Department (self-reported), less than 1% of graduates are not employed (either seeking or not seeking employment). The Department has established an alumni board to increase both the number and quality of contact between the alumni and department. The team discussed the usefulness of five-year post-graduation surveys; however, it is unclear how the department could conduct those surveys with the present levels of faculty and support staffing.

4. *Are the resources and the number of and distribution of faculty sufficient to support the undergraduate program?*

No. Chemistry has five traditional disciplines: Analytical, Biochemistry, Inorganic, Organic and Physical. In order to maintain the ACS Certified Bachelors program, there must be enough faculty within each division that division-specific faculty members teach advanced courses. The department currently cannot teach advanced undergraduate courses in inorganic or physical chemistry due to lack of staffing. Physical chemistry faculty are teaching overloads out of necessity, and inorganic cannot teach either its undergraduate courses or advanced courses in the future. Lack of faculty in these divisions also limits the opportunities for undergraduate research in those fields.

Upcoming retirements will further deplete the faculty ranks, particularly in organic chemistry.

The Forensic Chemistry major also faces significant staffing challenges that could jeopardize their accreditation under the Forensic Science Accreditation Commission. The Forensic chemistry major includes several courses that require an expertise outside of chemistry, and therefore are dependent on faculty that cannot be housed in chemistry. For example, LET 3500, 3600 and 4550 are taught by Dr. Sonja Rawn, Associate Professor, Law Enforcement Technology at the Chillicothe Campus, through the Regional Higher Education program and University College. If Dr. Rawn were to leave the LET program in Chillicothe, it is unclear how that expertise would be replaced. A similar situation exists for LET 1050, which is taught by Jim McKean, assistant professor of Law Enforcement at OU Chillicothe. CAS 2000 requires the expertise of 6 faculty, 5 of whom are outside of Chemistry. There is no succession plan in place for any of these courses.

As this is the most popular chemistry major, and is one of only four schools in the US offering a FEPAC accredited Forensic Chemistry bachelor's degree, this lack of a plan is concerning.

In addition, the small number of TA lines, and the growth of the online MS program (and TA demands of that popular program) makes it difficult to staff enough lab sections in the high demand service courses like Organic Chemistry.

5. Are pedagogical practices appropriate? Are program learning outcomes adequately assessed?

As per the self-report, the Bachelor of Science in Chemistry degree is accredited by the American Chemical Society. The program undergoes reaccreditation every 6 years, with the last review occurring in 2021. The Forensic Chemistry degree is accredited by the Forensic Sciences Education Programs Accreditation Commission (FEPAC). The program undergoes reaccreditation every five years, with the most recent review having occurred in Fall 2022. Therefore, these programs have external validation for their program outcomes and assessment methods. The department utilizes American Chemical Society standardized exams as final exams for several courses. For example, the first term General Chemistry exam is used as the final exam for CHEM 1510. The General Chemistry ACS exam, which tests students over the full year of general chemistry (content from both CHEM 1510 and CHEM 1520) is used as the final exam for CHEM 1520. CHEM 3050 uses the first-term Organic ACS exam for the final exam and CHEM 3060 uses a full-year organic chemistry exam (content from both CHEM 3050 and 3060) as the final exam. In most cases, students exceeded the national average which was set as a threshold by the department.

Pedagogy is appropriate, but without time to reflect it can get out of date quickly. From faculty interviews and self-report reflection, the committee reached the conclusion that a formal procedure to periodically assess pedagogical practices would help to keep it current and relevant as well as close the loop. For example, an assessment of specific content knowledge within the different areas of chemistry accomplished through analysis of questions/topics on the ACS exams in a faculty retreat. Other than ACS exam results, the committee found less evidence on how the program outcome relates to individual course outcomes and competencies and their relevance. For the future, the committee recommends keeping track of such data (for example, course vs program competency map) to create a baseline for assessment. In addition, surveying outgoing graduates, 2–5-year graduates, employers, etc. would be good practices to measure and validate the fact that

the program outcomes are in alignment with what is taught and what the real world requires and expects from the program graduates.

6. Are students able to move into discipline-related careers and/or pursue further academic work?

Yes. The data collected by the Department (self-reported) less than 1% of graduates are not employed (either seeking or not seeking employment). The Department has established an alumni board to increase both the number and quality of contact between the alumni and department. The team discussed the usefulness of five-year post-graduation surveys. However, it is unclear how the department could conduct those surveys with the present levels of faculty and support staffing.

3. Graduate Program:

1. *Is the program attracting students likely to succeed in the program? Is the number of students appropriate for the program? Is the program attracting a diverse group of students?*

The graduate program at the Chemistry Department of Ohio University has a typical enrollment of 45-55 students in a given year (excluding the online master program). The overall size is slightly lower than the average tier schools. This is likely due to the reduced faculty member over the review-period and relatively low (42-44) Teaching Assistant supports available. However, it is very impressive that the graduate program kept a very high “completion/success” rate, with close to 90% of the starting graduate students successfully finishing the PhD Degree. This is a good indicator for the effective training environment in helping students to reach a competitive level for future career preparation. More importantly, according to the faculty, many of the graduate students successfully secure good jobs immediately after graduation at government labs, continue postdoc training, or accept industrial positions. This impressive outcome further highlights the effective education environment and infrastructures within the Ohio University chemistry department. The current composition of graduate students is around 1:1 female/male ratio, which is indicative of the efforts the department puts into attracting a diverse group of students. As stated in the departmental self-review documents, the ratios of people with color and from under-represented populations are low, likely due to geographic reasons. Continuous efforts will be made to address this in the future.

2. *Does the graduate curriculum provide an adequate background to pursue discipline-related careers following graduation?*

The department appears to provide adequate curriculum in preparing graduate students for the background knowledge, but with clear sacrifices especially from tenured/tenure-track faculty, considering the low number of them in general (and extremely low in certain areas). It is no exaggeration that continuing to hire tenure-track faculty in the coming years is critical for keeping up research activity and maintaining an adequate graduate curriculum.

3. *Does the program provide adequate mentoring and advising to students to prepare them for discipline-related careers?*

One straightforward measurement of the mentoring quality for any graduate programs is the outcome of students, aka the immediate-next steps of the students while graduation. The faculty at the Chemistry Department deserve an applause for exceptional work in advising graduate students. While maintaining a very high 90% PhD completion rate, many of the graduate students secured very decent jobs at reputable institutes and industrial entities right after graduation. This is unambiguous evidence for the superior efforts from tenure-track faculty in providing excellent training environments while suffering significant faculty shortage during the

past seven years. A clear summary of where graduate students are going could be not only useful for future program evaluation, but also help future recruiting purposes.

4. Are the resources and the number of and distribution of faculty sufficient to support the graduate program?

The tenure-track faculty at OH chemistry is significantly under-staffed. In a healthy department, an average of three faculty in each of the ACS disciplines (Analytical, Biochemistry, Inorganic, Organic, and Physical) are almost considered as bare-minimum to fulfill the needed education mission for a R1-level graduate program. Current achievements from the past seven years have to be realized by exceptional efforts from faculty and the department as a whole. It is good to see that this faculty shortage has been recognized by both the department and Dean's office and a reasonable plan for hiring over the next several years has been committed to, which will help promote continuous success of the program.

5. Does the program offer appropriate financial support to graduate students?

The graduate stipend (\$24,000), although on par with peer institutions, does not include student insurance. This is a substantial cost deducted from stipends, and as a result, the actual income is lower than the average level of peer institutions. This could be a potential concern for losing competitiveness of recruiting students and hurting the program productivity.

6. Are program learning outcomes adequately assessed?

As per the self-report, some of the program learning outcomes are measured through passing grades in graduate-level courses. For example, one of the program outcomes is to demonstrate a broad understanding of chemical concepts and an in-depth understanding of a selected topic in chemistry. This competency is demonstrated by passing at a level of B or better in one 5000-level course in three of the five areas of chemistry: analytical, inorganic, organic, physical, and biochemistry. One of the three courses must be in the student's major area, and the other two must be in other areas. In addition, to demonstrate the breadth of knowledge competency, each student will be required to take 8 credit hours within their major area of research for depth of knowledge. For students pursuing an M.S. degree, the courses in the major area can be at the 5000 level. For students pursuing a Ph.D., the courses in the major area must be at the 7000 level. A grade of B or better must be obtained in each course attempted; courses with lower grades will not count toward the major course requirement. Similarly, other outcomes are assessed through student success in the thesis and dissertation, seminar presentations, and poster competitions, external presentations, and research publications. The committee found the above methods as acceptable means of measurement of program outcomes, but noticed the gap in closing the loop in some cases. For example, the committee found less evidence on how the program outcome relates to individual course outcomes and competencies and their relevance. For the future, the committee recommends

keeping track of such data (for example, course vs program competency map) to create a baseline for assessment. The self-report also indicates a lack of a formal procedure to collect significant employment or career information from alumni. Surveying outgoing graduates, 2–5-year graduates, employers, etc. would be good practices to measure and validate the fact that the program outcomes are in alignment with what is taught and what the real world requires and expects from the program graduates.

7. Are students able to move into to discipline-related careers?

The graduate program outcomes over the past seven years have been extremely impressive. Students are able to secure postdocs at top-tier national labs, acquire top jobs in the pharmaceutical industry (e.g., Intel Inc.), and receive multiple offers by the time of graduation, all direct evidence of the high quality training received from the chemistry department at OU.

4. Areas of concern

A key area of concern is the online master's degree. While everyone acknowledges the strategic importance of creating revenue-generating programs, planning and implementing an entire program by overload course contracts does not seem sustainable. The rate of growth of the program (5 to 110 students in two years) appears to have far outpaced the resources available for it. Some anecdotes of student incivility also indicate that greater support is needed for both students and faculty involved within the program.

Additionally, concerns were expressed regarding different standards for compensation for teaching online master's courses, depending on whether a class is taught during the academic year or the summer. As resources are being evaluated and more appropriately directed toward this growing program, it would be advisable to reconsider this policy.

5. Recommendations

Faculty, Stipends, Support

The committee recommendations fall into three categories; faculty, stipends and departmental support.

Faculty:

- The number of active, tenure-track faculty must be restored to at least its 2019 staffing level of 19 faculty, then further increased to accommodate the online Master's program. Alternatively, enrollment in the online Master's program should be capped at the 2019 enrollment of 70 students.
- Succession/contingency planning to staff courses taught by instructional faculty and adjuncts, particularly in the popular Forensic Chemistry major, must be carried out. As this major relies on faculty who cannot be hired in the Chemistry Department, the College needs to support the department with mechanisms to attract, hire and retain personnel critical to this distinctive program

Stipends:

- The number of teaching assistant stipends must be increased to a number that can support the undergraduate teaching demand plus the demand of the online Master's program.
 - This increase will simultaneously provide the number of graduate students necessary to support/staff active research groups from the cohort of new junior faculty.
- The College should evaluate the competitiveness of the TA stipend, after deducting the cost of the medical insurance plan.

Support:

- Faculty at Research 1 institutions need a level of support that allows them to focus on their research and teaching. The cuts in support staff have adversely impacted the Department and may impact their ability to recruit and retain faculty, majors, and staff. We recommend that the impacts on departments be assessed, and carefully weighed against the cost savings in staffing. Examples of these impacts include:
 - The pooled administrative support system is not adequately supporting the Chemistry faculty. As an example, the administrative work of recruiting and retaining graduate students requires knowledge of the subject and department policies, as well as relationships with the graduate students. This work cannot be done well with pooled administrative support resources.
 - The loss of other laboratory specific supports (machine shop, etc.) have resulted in delays in research.

- ***Commendations***

By all accounts, the department is doing an excellent job in ensuring the success of its students. Student outcomes, in terms of completion rates and future prospects, are indicative of a successful program. The faculty and those who support them should be proud of these achievements, and the university should identify ways to better support the continued success.

Additionally, the updated building and physical structures and equipment are highly valued by all involved in the department. Being able to provide students and faculty state-of-the-art equipment and up-to-date research spaces is a clear strength.

6. Overall judgment: Is the program viable as a whole? (or not viable, or in jeopardy)

The last report found the program to be conditionally viable but noted that the Department faces mission critical difficulties.

- The problems with the building, laboratory and classroom facilities
- Graduate stipends
- Tenure-track faculty lines

The improvement of the building, laboratory and classroom facilities is visible/tangible/undeniable. The facilities will do much to support faculty morale and recruit and retain students to the department's programs, but can only go so far. Graduate stipends must take costs like student insurance into account if they intend to competitively recruit top students. Even more significantly, a shortage of faculty will continue to stretch those currently in the department thin. Intercollegiality of the program should not be exploited. Current faculty have absorbed the pain of lack of resources, and the new building has made this easier. However, there will be limits to what they can do before educational quality starts declining.

Therefore, this committee finds the program viable, but with need for interventions to ensure continued viability over time. The university has invested substantial capital in the physical environment of the building and now needs to invest in faculty and staff to support the teaching and research efforts taking place within that environment.



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Department of Chemistry and Biochemistry Chair response to the 2022 7-year review committee report

April 11, 2023

Dear Program Review Committee:

I would like to thank the Review Committee for their report, for their enthusiasm, their dedication and the seriousness of their assessment. Faculty in the department are grateful for the extremely positive feedback of the Review Committee about faculty dedication, teaching and research efforts. The committee also identified areas of concern; faculty in the department concur.

I think that a few points in the review are not perfectly accurate, should be nuanced, or have been addressed since this report was written. I discuss these issues below:

- I am grateful to Dean Poggione and others for allowing us to hire 2 tenure-track positions this year (inorganic and physical), as well as 2 group 2 positions (one replacement for a departing faculty, and one INVITE position). I also appreciate that should the physical chemistry search fail this year (as it was granted late), the position will be reopened immediately next Fall. These positions will significantly alleviate the problems described in the report. It will now be critical to grant another tenure-track position search in organic chemistry next academic year (ad should be posted November 2023 ideally), and to grant 1 tenure-track search every single year for the foreseeable future, as multiple retirements are expected in the next 6 years.
- Library resources: the chemistry database SciFinder Scholar is accessible on campus (a replacement solution, Reaxys, is being evaluated at the moment). However, the incredibly cumbersome safety features in terms of IP address access to journals – solely imposed by Ohio University IT, and not by publishers, and now triple authentication through password, face recognition and a new 2-digit passcode, prevent simple features such as the automatic download of publications from bibliography software. I note that

this is strictly an Ohio University problem. These features work flawlessly at Ohio State University and at all other campuses I have visited nationwide. Somehow, Ohio University IT refuses to engage with Ohio University libraries staff on this matter.

- Technology: the department has now purchased a site license for ChemOffice Professional.
- Staff resources: I concur with the reviewers that moving administrative staff to the college was very detrimental to our departmental operations. A large department like ours at an R1 institution cannot function properly without a department administrator who is the face of the department to prospecting students and parents, visiting faculty and our current undergraduate and graduate students. I have not seen such an arrangement at any other R1/peer universities I have visited nationwide in the past 5 years, nor have any weekly colloquium speakers from R1/peer universities seen such an arrangement. In the latter case, it raises genuine incomprehension. We have likely lost countless prospecting students to other universities because of this. This centralization is particularly unfortunate, since most of the administrative staff at the College are highly dedicated, and would do a fantastic job as department administrator. I would, however, nuance the likely off-the-cuff comment made by a faculty about lacking interest in teaching because of the additional administrative burden.
- While chemistry and physics workshops have been merged, we can still rely on the dedicated work of our chemistry machine shop technician.
- The department does not rely on regional campus faculty in chemistry for teaching in the forensics program; a faculty from Ohio University Chillicothe from the Law Enforcement Technology program does actively participate in the program, however.
- TA support of the online MS program: I have discussed this issue with Dean Poggione, and I am confident we can fine-tune the magnitude of TA support as the program grows. Compensation to faculty has also been addressed, and I now consider this problem fixed. I deeply appreciate Dean Poggione's consideration and willingness to address these issues.
- Contrary to the panel recommendation, I would **not** recommend the online MS be capped to 70 students. With proper TA and faculty support, this program can actually grow and be very successful.

Regards,



Eric Masson, Ph.D.
Professor and Department Chair



College of Arts and Sciences
Office of the Dean
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May 1, 2023

Dear Members of the UCC Program Review Committee,

This is my response to the 2023 report submitted by the Program Review Committee for the programs associated with the Chemistry and Biochemistry Department. The review notes the dedication of the faculty, the success of undergraduate and graduate students, and the success of the department's programs. They also commend the exceptional new facilities that showcase the department, college and university commitment to teaching and research.

The review committee's report also notes a few key areas of concern and some associated recommendations related to faculty staffing, administrative staff support, technical and lab staff support, teaching assistant lines, as well as the specific needs of the forensic chemistry program.

Faculty Staffing

As the department chair, Dr. Eric Masson, noted in his response to the review, I worked with him to develop a chemistry hiring plan for this year as well as a data-informed replacement schedule for anticipated retirements of tenure-track faculty to ensure continuing graduate student success as well as the continuation of the significant research being carried out by the department's faculty and students. As the report notes, we understand the need to anticipate and hire in advance of expected retirements. We also secured approval for a teaching focused instructional faculty position in the department to support the foundational teaching in chemistry needed by a number of undergraduate programs both inside and outside the college. We are in the process of preparing department tenure-track staffing requests across the college for the next academic year, and expect to make requests on behalf of the Chemistry department.

Administrative Staffing Concerns

We recognize the concerns raised in the report regarding administrative staff support. We are working this year with our elected CAS Faculty Advisory Committee and with our Arts & Sciences chairs and directors to develop and implement changes to support important college priorities including increased staff support in the college.

Technical and Lab Staffing

The report also notes the need for technical staff, lab support staff, and a storeroom manager. In response to the planned departure of their instructional faculty colleague who supported a variety of instructional labs, we worked with the department to develop and put in place an immediate short-term plan to meet the needs this vacancy created. As Dr. Masson explain in his response, we also approved the department refilling the position to make sure this critical area is supported. The department also continues to have access to their own machine shop technician as only the physical space but not the positions for the Chemistry and Physics departments were merged. In addition, we have a specify staff member that manages the chemistry storeroom and its procurement process.

Teaching Assistant Lines and the Online Master Program

We have worked with the department over the year to develop a compensation and TA support model for the online Master's program as well as face to face teaching assistant support. With Dr. Masson's assistance, we have plan for managing growth and the needed program support for the successful online program. Also, the university's investments in OHIO Online recruiting, admissions, advising, and onboarding should streamline the process for students and limit some of the administrative work of both faculty and TAs in the program.

Forensic Chemistry Program

We appreciate the success of the forensic chemistry program and its status as of one of only 4 programs with FEPAC accreditation. The recent FEPAC accreditation site visit was extremely positive and noted the excellent work of the department faculty and the program director. As with other programs in the college that across that utilize interdisciplinary expertise, including expertise from our regional campus colleagues, we engage in frequent collaboration with these units to bolster instructional support and cooperation. These arrangements are now part of our collaborative hiring, scheduling and curricular processes.

I want to thank the review committee for their thoughtful report and to the department faculty and leadership and its leadership for its thorough conscientiousness self-study and commitment to the program review process.



Sarah Poggione
Interim Dean
College of Arts & Sciences
Ohio University



The Graduate Council Program Review committee reviewed of a UCC review of the Chemistry area.

The Chemistry offerings are deemed viable from the report provided.

- The area looks to be in strong shape and growing in a strategic way with online programs.
- There is a clear need for proper support staff, and it looks like proper temporary measures have been taken - we hope that longer term solutions can be found soon.
- Faculty resources need to be carefully monitored to ensure accreditation expectations are met.

Please do not hesitate to contact me if you have any questions about this review.

Sincerely,

A handwritten signature in black ink, appearing to read 'G. Giordano'.

Dr. Gabe Giordano
Chair,
Program Review Committee - University Graduate Council