Table of Contents

I  ABBREVIATIONS ............................................................................................................... 5

II  INTRODUCTION .................................................................................................................. 5

III  MISSION AND VISION STATEMENT ........................................................................ 6

IV  ACADEMIC RIGHTS AND RESPONSIBILITIES ..................................................... 6

V  FACULTY ............................................................................................................................. 6

VI  OVERVIEW OF DEPARTMENT ADMINISTRATION AND DECISION MAKING ................................................................................................................................. 7

VII  DEPARTMENT ADMINISTRATION ........................................................................... 7

VII.A  Department Chair ........................................................................................................... 8

VII.A.1  Appointment ................................................................................................................ 8

VII.A.2  Duties .......................................................................................................................... 8

VII.B  Vice Chair for Administration ..................................................................................... 10

VII.B.1  Appointment .............................................................................................................. 10

VII.B.2  Duties ........................................................................................................................ 11

VII.C  Vice Chair for Undergraduate Studies ....................................................................... 11

VII.C.1  Appointment .............................................................................................................. 11

VII.C.2  Duties ........................................................................................................................ 11

VII.D  Vice Chair for Graduate Studies .................................................................................. 14

VII.D.1  Appointment .............................................................................................................. 14

VII.D.2  Duties ........................................................................................................................ 14

VII.E  Chief Administrative Officer ....................................................................................... 15

VII.E.1  Appointment .............................................................................................................. 15

VII.E.2  Duties ........................................................................................................................ 15

VII.F  Chief Research Resource Officer .................................................................................. 15

VII.F.1  Appointment .............................................................................................................. 15

VII.F.2  Duties ........................................................................................................................ 15

VII.G  Staff ................................................................................................................................... 16

VII.G.1  Program Administrator for Undergraduate Studies .............................................. 16

VII.G.2  Other Staff .................................................................................................................. 16

VIII  ORGANIZATION OF THE DEPARTMENT ................................................................ 16

VIII.A  Teaching Divisions ..................................................................................................... 16

VIII.B  Research Focus Groups (RFGs) ................................................................................. 16

IX  Committees ...................................................................................................................... 17

IX.A  Standing Committees .................................................................................................... 17

IX.A.1  Faculty Advisory Committee (FAC) ........................................................................... 17

IX.A.2  Committee of Eligible Faculty (CEF), Columbus Campus .................................... 17

IX.A.3  Graduate Admissions Committee (GAC) ................................................................. 18
IX.A.4 Graduate Studies Committee (GSC) ................................................................. 18
IX.A.5 Undergraduate Studies Committee ................................................................. 19
IX.A.6 Assistant Professor Advisory Committees .................................................. 19
IX.A.7 Safety Committee (Chemical Hygiene and Safety) ....................................... 19
IX.A.8 Nominations Committee ............................................................................... 20
IX.B Faculty Search Committee(s) .......................................................................... 20
IX.C Other Committees ............................................................................................. 20

X FACULTY MEETINGS ................................................................................................. 20

XI POLICY ON FACULTY DUTIES AND RESPONSIBILITIES ..................................... 21
XI.A Faculty Duties and Responsibilities, Columbus Campus ..................................... 21
XI.B Scholarly Activity ................................................................................................ 22
XI.D Service ................................................................................................................ 22
XI.E Regional Campus Faculty .................................................................................... 22

XII DEPARTMENT FACULTY TEACHING LOAD POLICY ............................................ 23
XII.A Base Teaching Load ......................................................................................... 24
XII.B Mitigating factors ............................................................................................. 24
XII.C Teaching Release Time Policy .......................................................................... 24
XII.D Special Assignments (SA) ............................................................................... 24

XIII COURSE OFFERINGS AND TEACHING SCHEDULES ............................................. 24
XIII.A Policy on Cross-Listing Graduate Courses ..................................................... 25

XIV ALLOCATION OF DEPARTMENT RESOURCES ...................................................... 25
XIV.A ASSIGNMENT OF RESEARCH SPACE TO INDIVIDUAL FACULTY MEMBERS 25
XIV.A.1 Guidelines for Assigning Space ..................................................................... 26
XIV.B Limits on Assignment of GTAs to Individual Faculty ....................................... 26
XIV.C Support for Research Activities in Non-Departmentally Managed Centers .... 27
XIV.D Policy on Allocation of Travel Funds ............................................................... 27

XV LEAVES AND ABSENCES ....................................................................................... 27
XV.A Discretionary Absence ..................................................................................... 27
XV.B Absence for Medical Reasons .......................................................................... 28
XV.C Unpaid Leaves of Absence ................................................................................ 28

XVI SUPPLEMENTAL COMPENSATION AND PAID EXTERNAL CONSULTING ACTIVITY ................................................................. 28

XVII FINANCIAL CONFLICTS OF INTEREST ................................................................ 29

XVIII GRIEVANCE PROCEDURES ............................................................................... 29
XVIII.A Salary Grievances ......................................................................................... 29
XVIII.B Faculty Misconduct ....................................................................................... 30
XVIII.C Faculty Promotion and Tenure Appeals ........................................................ 30
XVIII.D Sexual Harassment ....................................................................................... 30
XVIII.E Student complaints ....................................................................................... 30

XIX LIST OF APPENDICES ............................................................................................ 31
I ABBREVIATIONS

ASC: Arts and Sciences
CAO: Chief Administrative Officer
CEF: Committee of Eligible Faculty
CRO: Chief Research Resource Officer
VCA: Vice Chair for Administration
VCG: Vice Chair for Graduate Studies
VCU: Vice Chair for Undergraduate Studies
FAC: Chair’s Faculty Advisory Committee
GAC: Graduate Admissions Committee
GRA: Graduate Research Associate/ship
GSC: Graduate Studies Committee
GTA: Graduate Teaching Assistant/ship
P&T: Promotion and Tenure
POA: Pattern of Administration
POD: Procedures and Oversight Designee
PTS: Promotion and Tenure Subcommittee
RFG: Research Focus Group
SFO: Senior Fiscal Officer
TIU: Tenure Initiating Unit

II INTRODUCTION

This document provides a brief description of the Department of Chemistry and Biochemistry as well as a description of its policies and procedures. It supplements the Rules of the University Faculty and other policies and procedures of the University to which the department and its faculty are subject. The latter rules, policies and procedures, and changes in them, take precedence over statements in this document.

This Pattern of Administration is subject to continuing revision. It must be reviewed and either revised or reaffirmed on appointment or reappointment of the department Chair. However, revisions may be made at any time. Changes, which will be made in consultation with the department faculty, will be disseminated to department faculty in memos until sufficient changes have accumulated to warrant printing and distributing a complete new document.

The faculty is responsible for all academic programs conducted by the Department of Chemistry and Biochemistry of The Ohio State University. In order to facilitate the training of students in Chemistry and Biochemistry, to support the pursuit of new chemical knowledge, and to contribute to the development of the profession of Chemistry and Biochemistry, the faculty has
adopted the following Pattern of Administration for the Department of Chemistry and Biochemistry. The purpose of such administration shall be to organize, support, and promote policies established by the faculty in support of the mission of the department. Additional rules of the faculty, staff, and students and important policy statements of the department are contained in the Appendices.

III MISSION AND VISION STATEMENT

The Mission of the Department of Chemistry and Biochemistry is to provide an inclusive environment of innovative teaching, world-class research and dedicated service with an agile, responsive faculty and staff.

To this end, the Vision of the Chemistry and Biochemistry Department will:

- Be the pre-eminent location for providing the best undergraduate opportunities to learn the language and concepts of Chemistry and Biochemistry and to participate in the research of the department.

- Be a top-tier location for graduate research by providing challenging, novel and relevant cutting-edge research opportunities via faculty, staff and students dedicated to exploration, support and excellence and to opening new frontiers to benefit the citizens of Ohio, the nation and the world.

- Provide leadership to chart the direction of The Ohio State University as a premier center of teaching, research and service to the state of Ohio and the world.

IV ACADEMIC RIGHTS AND RESPONSIBILITIES

In April 2006, the university issued a reaffirmation of academic rights, responsibilities, and processes for addressing concerns. This statement can be found on the Office of Academic Affairs website, www.oaa.osu.edu/acad_rts_respons.php.

V FACULTY

Faculty Rule 3335-5-19, www.trustees.osu.edu/ChapIndex/index.php defines the types of faculty appointments possible at The Ohio State University and the rights and restrictions associated with each type of appointment. For purposes of governance, the faculty of this department include regular faculty for whom the department is their tenure initiating unit (TIU). Auxiliary faculty, emeritus faculty, and regular faculty as joint appointees with TIUs in another department may be invited to participate in discussions on non-personnel matters, but may not participate in personnel matters, including promotion and tenure reviews, and are not eligible to vote.

Only the faculty, as so defined, has the right to serve as advisor and preceptor to graduate students in the Department of Chemistry and Biochemistry. Any exception to this rule must involve a written Memorandum of Understanding.

Approved by the Office of Academic Affairs
07/18/12
VI OVERVIEW OF DEPARTMENT ADMINISTRATION AND DECISION MAKING

Policy and program decisions are made in a number of ways: by the department faculty as a whole, by standing or special committees of the department, or by the Chair. The nature and importance of any individual matter determines how it is addressed. Department governance proceeds on the general principle that the more important the matter to be decided, the more widespread the agreement on a decision needs to be. Open discussions, both formal and informal, constitute the primary means of reaching consensus on decisions of central importance.

VII DEPARTMENT ADMINISTRATION

Principal administrative officers of the department are the Chair, Vice Chair for Administration, Vice Chair for Undergraduate Studies, Vice Chair for Graduate Studies, Chief Administrative Officer (CAO) and Chief Research Resource Officer (CRO). This group will comprise the Cabinet.

Figure 1. The administrative structure of the department.
VII.A  Department Chair

VII.A.1  Appointment

The Chair is a member of the faculty and is appointed by the Dean in consultation with the faculty. Many of the responsibilities of the Chair are set forth in the Faculty Rule 3335-3-35 (C). The Chair normally has a reduced teaching load in recognition of significant administrative responsibilities.

The Chair is a member of the faculty and acts on behalf of the department in its official relations with the College and University. The normal term of a Chair will be four years.

The Chair shall be responsible for appointing faculty, staff, and students to all department committees except those for which specific methods of selection are described, appointing the Vice Chairs for Graduate and Undergraduate Studies, assigning space to research groups and recommending salary increases to the Dean. The Chair will recommend salary increases for faculty and staff to the Dean after consultation with the Cabinet and the Faculty Advisory Committee. The Chair will communicate the needs and wishes of the department to the Dean, particularly in the area of faculty development and promotion and tenure (Appointments, Promotion and Tenure Document).

VII.A.2  Duties

1. To have general administrative responsibility for its program, subject to the approval of the Dean of the college.

2. To develop, in consultation with the faculty, a pattern of administration. This pattern of administration shall be made available to all present and prospective members of the faculty of the department or school, and a copy shall be deposited in the office of the Dean of the college, and in the office of the senior Vice president for academic affairs.

   a) The Chair will provide a schedule of all regular faculty meetings (see rule 3335-5-18 of the Administrative Code) to all faculty members before the start of each academic term.

   b) The Chair (or designee) will maintain minutes of all faculty meetings and maintain records of all other actions covered by the Pattern of Administration.

   c) The Chair will consult with the faculty as a whole on all policy matters, and such consideration will, whenever practicable, be undertaken at a meeting of the faculty as a whole.

   d) There is a presumption favoring majority faculty rule on all matters covered by the Pattern of Administration. Whenever majority faculty rule is not followed, the department Chair shall explain the reasons for the departure to enhance communication and to facilitate understanding within the department. Where possible, this statement of reasons shall be provided before the departure occurs. This explanation shall outline the decision of the department Chair and the reasons the decisions differ. The explanation shall be communicated to the faculty in writing, where possible, or at a faculty meeting, with an opportunity approved by the Office of Academic Affairs
07/18/12
provided for faculty to comment.

e) The faculty shall be consulted in the initiation of a search and in the review and selection of new faculty members for appointment.

f) The Chair shall work to see that faculty duties and responsibilities in instruction, scholarship, and service are assigned and distributed equitably.

3. The Chair shall, after consultation with the faculty and in accordance with the pattern of departmental administration, develop the Appointments, Promotion and Tenure (APT) document for the department. The APT document describes the criteria and procedures according to which recommendations are made concerning appointments and/or dismissals, salary adjustments, promotions in rank, and matters affecting the tenure of the faculty. This document is subject to approval by the Dean and OAA, and shall be made available to all present and prospective members of the department or school; a copy shall be deposited in the office of the Dean of the College of Arts and Sciences and in the office of the executive vice president for academic affairs and provost. At the beginning of each four-year term of the Chair of a department, the members of the department, the office of the Dean of the college, and the office of the executive vice president and provost shall receive either a revision or reaffirmation of the original document.

4. To operate the business of the department or school with efficiency and dispatch.

5. To plan with the members of the faculty and the Dean of the college a progressive program.

6. To evaluate continuously the instructional and administrative processes and lead in the study of methods of improving them.

7. To evaluate faculty members periodically in accordance with criteria approved by the board of trustees and subject to instructions from the executive vice president for academic affairs and provost, and also according to such supplemental criteria as may be set up by the department or college.

8. To inform faculty members when they receive their annual review of their right to review their primary personnel file and to place in that file a response to any evaluation, comment or other material contained in the file.

9. To recommend to the Dean of the college, after consultation with the faculty in accordance with the Department’s APT document, appointments, promotions, dismissals and matters affecting the tenure of members of the department or school faculty.

10. To encourage research and educational investigations and promote and facilitate the Research Focus Groups.

11. To see that all faculty members, regardless of their assigned location, are offered the departmental privileges and responsibilities appropriate to their rank, and in general to lead in maintaining a high level of morale.

12. To see that adequate supervision and training are given to those members of the faculty, staff and students who may profit by such assistance.

13. To prepare (after consultation with the faculty) annual budget recommendations for consideration by the Dean of the college.
14. To promote improvement of instruction by providing for the evaluation of each course when offered, including written evaluation by students of the course and instructors, and periodic review by the faculty.

15. A critical role of the Chair is to build faculty consensus. This is best accomplished by the Chair’s dissemination of information to the faculty as thoroughly as is practical and timely and to allow faculty input into important decisions. In addition to the regular faculty meetings, an annual retreat for strategic planning is recommended. It is recognized, however, that in sensitive situations, the Chair may have to keep certain sensitive information from the faculty.

16. The Chair, after consultation with the Vice Chair for Administration and the Vice Chairs, will approve or modify the teaching roster, the use of emeritus faculty in the teaching program, and requests for increased or reduced teaching by an active faculty member. These decisions dictate the need for temporary lecturers.

17. The Chair will approve or reject requests by the faculty for absences from Campus during on-duty periods (Faculty Rule 3335-5-08).

18. The Chair has final approval power over all financial matters in the department. In consultation with the Cabinet and the College, the Chair will determine the salaries of teaching assistants, lecturers, emeritus, and visiting faculty employed in the teaching program, and determine the maximum number of offers that can be made to foreign and domestic applicants to the graduate program and the salaries of teaching assistants. The same rate of compensation will be paid to all emeritus faculty members re-employed to teach in the department. Additional funds to support research will be allocated to faculty engaged in extra teaching. The Chair will delegate portions of the department budget appropriately.

19. The Chair will report annually to the faculty on the state of the department’s finances. This task will normally be delegated to the CAO as appropriate.

20. The Chair will supervise certain members of the staff including the CAO and the administrative assistant to the Chair. As vacancies develop in the staff, the Chair will decide whether to fill the vacated position or to hire a new staff member with different skills and responsibilities. This decision will be made in consultation with the cabinet and interested faculty members.

21. The performance of the department Chair will be reviewed by the department approximately two years into his/her term. The review will be undertaken by the Faculty Advisory Committee. The findings of this review will be reported to the Chair and, at the discretion of the committee, to the faculty and the Dean.

VII.B Vice Chair for Administration

VII.B.1 Appointment

The Vice Chair for Administration (VCA) is a member of the faculty and is appointed by and answers to the Chair. The VCA is a member of the Chair’s Cabinet. Initially, the primary role of the VCA will be to coordinate the integration of the programs of the legacy departments of Chemistry and Biochemistry. Subsequently, the VCA will assist the chair in managing ongoing
educational and research operations at South Campus locations and in coordinating research and educational activities of students from departmental and interdepartmental graduate programs. The VCA normally has a reduced teaching load in recognition of significant administrative responsibilities.

VII.B.2 Duties

The VCA will assist the chair in assigned aspects of department administration, particularly in regard to administration, appointments, salary and performance reviews, and promotion and tenure. Assigned duties include:

1. The VCA will represent the chair in appropriate official capacities and serve as acting chair when the Chair is unavailable.

2. The VCA will work with the VCA and VCG to oversee the integration of students from Interdisciplinary Graduate Programs (IGPs) in relevant departmental activities.

3. The VCA will work with the CRO and CAO to coordinate north and south campus operations, infrastructure, computing resources, teaching, facilities and space assignments.

4. The VCA will work with the VCU to ensure uniformity of resources devoted to the Chemistry and Biochemistry major programs.

VII.C Vice Chair for Undergraduate Studies

VII.C.1 Appointment

The Vice Chair for Undergraduate Studies (VCU) is a member of the faculty and is appointed by and answers to the Chair of the Department of Chemistry and Biochemistry. The VCU is broadly responsible for managing scheduling and staffing of honors and non-honors undergraduate courses, managing undergraduate curricula, undergraduate recruiting and advising of undergraduate students majoring or minoring in the department’s programs. The VCU is a member of the Chair’s Cabinet and Chair of the Undergraduate Studies Committee. The VCU normally has a reduced teaching load in recognition of significant administrative responsibilities.

VII.C.2 Duties

1. Coordinating General and Organic Chemistry and the Chemistry and Biochemistry Majors:

   a. The VCU is responsible for working with the faculty assigned to teach in General and Organic Chemistry and Biochemistry in order to **ensure high quality of teaching**.

      With insufficient Chemistry and Biochemistry faculty to cover all course offerings, the VCU will use auxiliary faculty, senior lecturers and temporary
lecturers to fill these roles. Such an appointment is made after careful consideration of the credentials of the candidate and after the candidate has given a presentation that permits an assessment of their technical and classroom skills. Typically, lecturers are appointed for part-time positions only; these are not regular faculty positions, and as such they do they carry the possibility of becoming regular or tenured positions.

b. The VCU is responsible for coordinating the services provided by the department for the General Chemistry and Biochemistry Program. These services include:

i. **Administrative support:** includes maintaining student rosters and records, providing lecturers with printed material such as syllabi, quizzes, and exams.

ii. **Laboratory organization:** includes planning laboratory schedules in coordination with the lecturers and holding weekly staff meetings to assure that teaching assistants are well informed of their responsibilities and assignments. It also includes coordination of the Learning Resource Center, both in organizing the staffing and in maintaining the computers in that room used by students.

iii. **Laboratory supplies activities:** include preparation of all solutions and equipment used in the general Chemistry and Biochemistry laboratories, including stock solutions, unknown samples, standard equipment maintained in the laboratories, and special equipment available for specific experiments. This group is also responsible for overseeing the proper disposal of wastes from the laboratories.

iv. **Support for lecture demonstrations:** including providing a large collection of demonstrations which may be coordinated with lectures presented in the General Chemistry and Organic Chemistry and Biochemistry Programs or other courses.

c. The VCU assists the Chair in **responding to complaints** raised by or for students in undergraduate courses, especially those in the General Chemistry and Biochemistry Program.

d. The VCU **coordinates the scheduling** of classes and laboratories for all of Chemistry and Biochemistry’s courses. This includes working with people within the department from the administrative support and laboratory organization areas, as well as the Scheduling Office for the University. The objective is to accommodate all students wishing to enroll in Chemistry and Biochemistry courses, while maintaining maximum enrollment in each section. This ensures maximum service to the students while minimizing the cost to the department. These activities include responding to requests for long-range planning of course enrollment in order to maximize the support from the University for these course offerings. The Vice Chair and his/her staff are responsible for the assignment of
all departmental teaching assistants, TAs, to undergraduate courses. The VCU
reports to the Chair the enrollment and evaluation of these courses.

e. **Coordinating Other Undergraduate Courses:** The VCU will work with faculty
in each teaching division to facilitate the organization and presentation of
undergraduate courses in those divisions.

f. The VCU serves as **Chair of the Chemistry and Biochemistry Undergraduate
Studies Committee.** This committee reviews all proposed changes in
undergraduate courses within the department, including additional courses,
deletions of courses, and modifications to existing courses. It also is responsible
to the faculty for all issues associated with the undergraduate degree programs in
Chemistry and Biochemistry. The VCU normally serves on the **College
Curriculum Committee** in order to maintain close coordination of activities with
that group.

g. VCU oversees staff and personnel in the undergraduate office involved in
managing the department’s undergraduate teaching programs.

2. **Advising Chemistry and Biochemistry Majors:** The VCU coordinates the advising of
all undergraduate students with an interest in Biochemistry or Chemistry as a major or
minor. This includes maintaining descriptive information for these programs, promoting
the program among students with an interest in Chemistry and Biochemistry,
coordinating advising with the ASC and Honors advising offices, assisting students to
develop their program of study, and maintaining academic records of their progress. Most
of these responsibilities are shared between the Program Administrator(s) and the VCU.
Honors students are directed to several faculty members who help them with their special
requirements. The VCU will encourage all students to become involved in undergraduate
research with faculty of the department.

3. The VCU is responsible for **establishing procedures for bestowing scholarships and
awards** for Undergraduate Chemistry and Biochemistry Majors. In most cases, the
procedures involve evaluations by the Undergraduate Studies Committee, though some
are delegated to subsets of the Chemistry and Biochemistry Faculty in accord with
conditions of the award.

4. **Providing Other Services for Undergraduates:** The VCU coordinates providing
advice and counsel to all students who take undergraduate Chemistry and Biochemistry
courses or who have an interest in the area. The largest of these activities is in the
evaluation of transfer credit, handled primarily by the program administrator for
Undergraduate Chemistry and Biochemistry majors, for students who come to OSU with
Chemistry and Biochemistry courses at other institutions. This evaluation establishes
whether or not courses taken elsewhere are equivalent to courses at OSU so that students
may use them to satisfy degree requirements and/or to satisfy prerequisites for additional
courses they need at OSU.

5. The VCU reviews all cases of suspected **Academic Misconduct** involving undergraduate
courses before their submittal to the Committee on Academic Misconduct. This is a responsibility specifically delegated by the Chair to fulfill his/her defined role in the University procedures regarding Academic Misconduct.

VII.D Vice Chair for Graduate Studies

VII.D.1 Appointment

The Vice Chair for Graduate Studies (VCG) is a member of the faculty and is appointed by and answers to the Chair of the Department of Chemistry and Biochemistry. The VCG is broadly responsible for administering graduate programs in the Department of Chemistry and Biochemistry. The primary mission of the office of the Vice Chair is the development of a strong national and international reputation for the graduate programs sponsored by the Department of Chemistry and Biochemistry. The VCG is a member of the Chair’s Cabinet, Chair of the Graduate Studies Committee, and is a non-voting member of the Graduate Admissions Committee. The duties of this office include the supervision and regular evaluation of the performance of staff assigned to the Graduate Studies Office; the preparation annually of a budget for the recruitment of graduate students; the recruitment, hiring, and assignment of Graduate Teaching Associates in consultation with the Vice Chair for Undergraduate Studies; and the responsibility, shared with the Vice Chair for Undergraduate Studies, for casual instructional staff. The VCG normally has a reduced teaching load in recognition of significant administrative responsibilities.

VII.D.2 Duties

1. Administering the Graduate Studies Office and its staff, that is responsible for all graduate academic programs in the department.

2. Planning and implementing innovative approaches to graduate student recruiting.

3. Making offers of admission to students admitted to the department’s graduate program.

4. The VCG serves as Chair of the Graduate Studies Committee, and in that role, is responsible for the graduate curriculum and the academic progress of all graduate students enrolled in the department. The Graduate Admissions Committee works with the VCG to recruit the most highly qualified students possible for the program, and the Graduate Studies Committee is responsible to the VCG for the enrollment, progress and evaluation of performance of all graduate students matriculated in the program. The VCG is also responsible to the Chair for regular evaluation of the quality of graduate instruction.

5. The VCG will coordinate a variety of graduate level activities, including: nominations for University Fellowships, the Mack Lecture, the Henne Research Competition, and the competition for the Swenton Award for outstanding teaching by a graduate student. The latter award will be presented during the Mack or Meek Award activities.
VII.E Chief Administrative Officer

VII.E.1 Appointment

The Chief Administrative Officer (CAO) is a member of the permanent staff and reports to the Chair. The CAO is the senior staff member of the department, and directly or indirectly supervises and provides support for all staff functions and responsibilities.

The primary obligation of the CAO is to enable the staff to support the faculty and students in their teaching, research, and service activities.

VII.E.2 Duties

The CAO exercises two levels of supervision and support. The first is operational or direct supervision. He/she is the direct supervisor to those staff members responsible for administrative support, facility management, finance, IT, personnel, safety, and research support.

The second level of supervision is administrative or indirect supervision. The purpose of administrative supervision is to provide adequate resources to all other staff members to enable them to accomplish the directives and goals of their immediate supervisors.

The CAO oversees the department’s physical plant and assists the Chair and Vice Chair for Administration in planning and keeping the department budget. Other duties of the CAO include: 1) overall department fiscal oversight and fiscal responsibility to College SFO and University Senior VP of Business and Finance in accordance with university policies and rules, 2) representing the department to other OSU administrators, and 3) performing duties as delegated by the Chair.

VII.F Chief Research Resource Officer

VII.F.1 Appointment

The Chief Research Resource Officer (CRO) is a member of the permanent staff and reports to the department Chair through the Chief Administrative Officer. The CRO is a senior staff member of the department, and directly or indirectly supervises and provides support for the spectroscopic and production facilities of the department.

VII.F.2 Duties

The mission and vision of the CRO is to provide excellence in supporting the teaching, research and service missions of the Department of Chemistry and Biochemistry. To this end, the Vision of the Office of the CRO is to: Provide superior customer service by providing pro-active, timely and responsive services at the lowest real cost possible; provide state-of-the-art facilities supported by trained professionals that amplify researchers’ abilities to explore their chemical and biochemical systems and assist students in their education as practicing chemists and biochemists; and be leaders in their areas of expertise, train and share their knowledge and skills with facility users and serve the Department and University as opportunities present themselves.

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07/18/12
The mission and vision are the primary focus goals of the CRO.

The CRO exercises two levels of supervision and support. The first is operational or direct supervision. He/she is the direct supervisor to those staff members responsible for supervising and managing the research support facilities, including providing adequate resources to other staff members in research support facilities to enable them to accomplish the directives and goals of their immediate supervisors.

The CRO oversees the department’s research support services and their attendant budgets. Other duties of the CRO include: 1) representing the department when requested by the CAO, 2) assisting in the selection and acquisition of departmental instrumentation, and 3) performing duties as delegated by the Chair, Vice Chair for Administration or CAO.

VII.G Staff

VII.G.1 Program Administrator for Undergraduate Studies
Staff member has primary responsibilities, in cooperation with VCU and faculty representatives, for managing and advising undergraduate students majoring (BA, BS) or minor ing in Biochemistry or Chemistry, and others interested in the department’s undergraduate curriculum and programs.

VII.G.2 Other Staff
The department’s teaching, research and service missions are supported by staff located at its North and South campus locations. These staff members provide services that include coordination and management of fiscal matters, human resources, research infrastructure, teaching laboratories, analytical support laboratories, computer support, laboratory safety, degree program administration and outreach.

VIII ORGANIZATION OF THE DEPARTMENT

VIII.A Teaching Divisions
The department is organized into five teaching divisions for convenience in the staffing of curricular offerings and in establishing the requirements for graduate degrees of students pursuing research in related areas of Chemistry and Biochemistry. Each faculty will be a member of one or more teaching division. The divisions are (1) Analytical, (2) Biochemistry, (3) Inorganic, (4) Organic, and (5) Physical. Responsibilities of the teaching divisions are established by the faculty of the department as a whole.

VIII.B Research Focus Groups (RFGs)
The faculty will organize into a limited number of research focus groups (RFGs) based on research interest and expertise. The primary purpose of the RFGs is to promote graduate education and collaborative research. RFGs provide opportunities for faculty research coherence that can be advantageous in faculty hiring decisions, graduate program teaching and training, and competing for intra- and extramural research and education funding.

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07/18/12
Each faculty member will be affiliated with one or more RFGs. RFGs will be established by the faculty in cooperation with the Chair, Vice Chair for Administration, and the Vice Chair for Graduate Studies. RFGs are expected to be dynamic entities, with faculty moving in or out of an RFG over their academic career.

Through their elected representatives, the RFGs will have input into department policy, graduate curriculum, graduate student recruitment, seminar programs, faculty hiring, TA policies and the deployment of research support staff and investment in major multi-user instruments.

IX Committees

The Chair is responsible for appointment of faculty, staff, and students to all departmental committees except those for which specific methods of selection are described below. The Chair is ex-officio on all department committees, non-voting on the committee of the eligible faculty. Committee assignments typically will coincide with the academic year unless otherwise noted. The Chair may also, from time to time, create ad hoc committees. The composition and duties of the department’s standing committees are:

IX.A Standing Committees

IX.A.1 Faculty Advisory Committee (FAC)

Membership: Faculty will nominate representatives to serve a term of three years on the FAC. The terms will be staggered so that approximately one third of the committee shall be named or elected or re-elected every year. All associate and full professors are eligible to serve on this committee with the exception of the Vice Chairs.

The FAC is constituted to provide advice to the Chair on all matters concerning the department. The committee will normally meet at least once each semester (fall and spring) with the Chair. Meetings, which may be called by the Chair or by a majority of the committee, will be scheduled in a timely manner by the Chair. Additional meetings may be called by either the chair or the majority of the committee.

In cases where special expertise is required, the Chair may appoint an additional member of the committee. The Chair is also a member, ex officio, of this committee and shall act as Chair of the FAC.

The FAC is specifically charged with advising the Chair on policy issues, and on matters of salary and performance evaluations. This committee is also responsible for biannual evaluation of the Chair.

IX.A.2 Committee of Eligible Faculty (CEF), Columbus Campus

The Committee of Eligible Faculty is constituted by all tenured faculty of higher rank than the candidate(s) being reviewed, excluding the Chair, the dean and assistant and associate deans of the college, the executive vice president and provost, and the president. This committee evaluates all candidates for promotion and tenure and reports their recommendations to the Chair of the
IX.A.2.a  Promotion and Tenure Committee (P&T)

A subset of the Committee of Eligible Faculty comprises the Promotion and Tenure committee. This subcommittee is responsible for organizing faculty promotion and tenure reviews, and presenting each case to the entire P&T committee. This subcommittee will be composed of:

1) The Committee Chair. This is a full professor appointed by the Chair

2) A Procedures Oversight Designee (POD). This full professor is assigned to ensure the review procedure is properly executed, including considerations of Affirmative Action issues.

3) An ad hoc member of the P&T committee whose disciplinary specialty is close to that of the candidate. This member will vary depending on the candidate under review.

IX.A.3 Graduate Admissions Committee (GAC)

The Graduate Admissions Committee is responsible for reviewing applications for admission to the department’s graduate programs and for recommending selected students for admission to the Graduate School. Admission is based on a set of academic metrics and the size and distribution of the entering class is estimated by the ability of the faculty to support the students as Research Associates (RAs) along with the need for fulfilling the department’s requirement of teaching assistants (TAs). They will also select and recommend entering graduate students for award of teaching associateships and fellowships.

Membership consists of faculty representing RFGs and a committee Chair appointed by the Department Chair. The committee Chair reports directly to the Vice Chair for Graduate Studies, who is a non-voting member of the committee. This committee is charged with developing a budget for student recruiting. This budget will be presented to the department Chair who, in consultation with the Cabinet, will approve or modify it.

IX.A.4 Graduate Studies Committee (GSC)

The rules of the Graduate School provide for the supervision of all graduate students in Chemistry and Biochemistry by the graduate faculty of the department. The committee will apply the “Rules of the Graduate Program” (see Appendix I). These guidelines are subject to annual review. Students are governed by the guidelines in place at the time they enter the Program.

In addition to the duties listed above, the committee is responsible for soliciting and reviewing nominations for and making recommendations on the award of departmental and university graduate fellowships.

Membership consists of graduate faculty representing each RFG, and the Vice Chair for Graduate Studies, who will serve as Chair of this committee.
The Graduate Studies Committee approves the selection of an advisor for beginning graduate students, monitors student progress and reviews petitions for continued TA support and extensions of graduate standing. In extraordinary cases, the GSC may assign a new advisor to a senior student.

IX.A.5 Undergraduate Studies Committee

The Undergraduate Studies Committee is responsible for the curricular offerings, degree programs, and awards of the department at the undergraduate level. The committee will have faculty representatives of each teaching division appointed by the Chair, with the Vice Chair for Undergraduate Studies serving, *ex officio.* The VCU shall also serve as Chair of this committee. This committee reviews all proposed changes in undergraduate courses within the department, including additional courses, deletions of courses, and modifications to existing courses. It also is responsible to the faculty for all issues associated with the undergraduate degree programs in Chemistry and Biochemistry. The Vice Chair normally serves on the College Curriculum Committee in order to maintain close coordination of activities with that group.

IX.A.6 Assistant Professor Advisory Committees

The Chair will appoint an advisory committee of three tenured faculty members for each assistant professor. Members of this committee will monitor the classroom teaching, study the annual report, and the publications of the assistant professor. During the spring semester, this committee will meet with the Chair to discuss the progress of the assistant professor. The Chair will communicate these findings to the assistant professor in a meeting and in writing at the time of the annual review.

A member of the advisory committee may be selected to serve as the *ad hoc* member of each candidate’s P&T Committee during the time of the sixth-year review of the assistant professor.

IX.A.7 Safety Committee (Chemical Hygiene and Safety)

Safety rules and policies of the Department of Chemistry and Biochemistry are described in the departmental Chemical Hygiene Plan (CHP, Appendix V).

The Safety Committee and its Chair will consist of members of the faculty and the staff and are appointed by the Chair. The Safety Committee is responsible for establishing rules regarding safety and hygiene in the conduct of research and teaching activities in the department. The committee is responsible for planning and preparation of programs to educate the students, staff, and faculty in safe practices in their teaching, learning, and support duties. In particular, the committee oversees the planning for and compliance with federal (OSHA, etc.) and state regulations regarding chemical hygiene and safety in the department.

The Safety Committee shall conduct annual reviews of the CHP and recommend changes to and implementation of new safety policies as required and needed by the department. Revisions and new policies will be adopted by a majority vote of the faculty.

Enforcement issues will be handled according to the policy described in Appendix V.
IX.A.8 Nominations Committee

The Nominations Committee is responsible for nominating members of the faculty for various awards and prizes. In selecting nominees, this committee will select the individual considered most likely to win the award. The second criteria will be to nominate as many members of the faculty as possible for various awards.

IX.B Faculty Search Committee(s)

The Chair will meet with the AC, RFG’s and FAC periodically as appropriate to discuss the department’s needs in hiring new members of the faculty. The Chair will then appoint ad hoc recruiting committees as dictated by available resources. The committee(s) will be charged with conducting the procedures established in the department’s APT document to recruit outstanding new faculty to the department.

IX.C Other Committees

In addition to the standing committees, there are a number of committees functioning at any time and whose membership and duties may vary as needs change.

X FACULTY MEETINGS

The chair will provide to the faculty a schedule of department faculty meetings at the beginning of each academic term. The schedule will provide for at least one meeting per academic term and will normally provide for monthly meetings. A call for agenda items and a completed agenda will be delivered to faculty by e-mail before a scheduled meeting. Reasonable efforts will be made to call for agenda items at least seven days before the meeting, and to distribute the agenda by e-mail at least three business days before the meeting. A meeting of the department faculty will also be scheduled on written request of 25% of the department regular faculty. The chair will make reasonable efforts to have the meeting take place within one week of receipt of the request. The chair will distribute minutes of faculty meetings to faculty by email – within seven days of the meeting if possible. These minutes may be amended at the next faculty meeting by a simple majority vote of the faculty who were present at the meeting covered by the minutes.

Special policies pertain to voting on personnel matters, and these are set forth in the department's Appointments, Promotion and Tenure document.

For purposes of discussing department business other than personnel matters, and for making decisions where consensus is possible and a reasonable basis for action, a quorum will be defined as a simple majority of all faculty members eligible to vote.

Either the chair or one-third of all faculty members eligible to vote may determine that a formal vote conducted by written ballot is necessary on matters of special importance. For purposes of a formal vote, a matter will be considered decided when a particular position is supported by at least a majority of all faculty members eligible to vote. When warranted to ensure necessary participation in voting, balloting will be conducted by mail or electronically.
When a matter must be decided and a simple majority of all faculty members eligible to vote cannot be achieved on behalf of any position, the chair will necessarily make the final decision.

The department accepts the fundamental importance of full and free discussion but also recognizes that such discussion can only be achieved in an atmosphere of mutual respect and civility. Normally, department meetings will be conducted with no more formality than is needed to attain the goals of full and free discussion and the orderly conduct of business. However, Robert’s Rules of Order will be invoked when more formality is needed to serve these goals.

XI POLICY ON FACULTY DUTIES AND RESPONSIBILITIES

The university's policy with respect to faculty duties and responsibilities is set forth in the Office of Academic Affairs Policies and Procedures Handbook, http://oaa.osu.edu/handbook.html. The information provided below supplements these policies.

The Chair, with appropriate consultation, is responsible for ensuring equitable assignment of responsibilities to the faculty. All faculty members are expected to make contributions in all areas of faculty responsibility. Significant differences in the assignment of responsibilities to individual faculty members may exist, reflecting temporary factors, individual faculty strengths, interests, and abilities to contribute to the overall mission of the Department.

XI.A Faculty Duties and Responsibilities, Columbus Campus

Faculty with at least a 30% FTE appointment in the department has the right to serve as advisor and preceptor to graduate students of the Department of Chemistry and Biochemistry. All members of the faculty are expected to contribute to all facets of the graduate and undergraduate teaching, service, and research mission of the department.

The faculty will evaluate the quality of classroom teaching in the department using a suitable individual, division-, department-, or university-approved instrument, and peer review. All course offerings will be so evaluated and results will be forwarded to the relevant Vice Chair.

All members of the faculty have the right to call and conduct a meeting of the faculty.

Emeriti faculty members are welcome to attend all meetings of the faculty but do not have voting privileges. Consistent with the rules of the Graduate School, emeritus faculty may continue to act as advisors for their advisees in progress at the time of retirement with the approval of the Graduate Studies Committee and notification to the Graduate School. For these faculty emeriti to engage in graduate teaching or advising activities not in progress at the time of retirement, approval of both their Graduate Studies Committee and the Dean of the Graduate School is required.

Many faculty members voluntarily take on a variety of professional activities that fall outside the department’s policy on faculty duties and responsibilities. These activities often benefit the department or University and may be taken into account in considering a faculty member’s total workload.

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XI.B Scholarly Activity

All faculty members are expected to engage in scholarly activity. These activities will generally take the form of inquiry into fundamental scientific questions but may also include research in pedagogy.

Results of research activities are expected to result in publications in peer reviewed scholarly journals and theses for undergraduate and graduate students.

Since Chemistry and Biochemistry research and related teaching is primarily funded from external sources, all faculty members are expected to seek such funding to support their research programs.

Faculty members are expected to serve on administrative, advisory, and evaluation committees for the University, for government agencies, and for professional societies.

Faculty members are also expected to review papers for professional journals and research proposals for funding agencies.

XI.C Industrial Sponsorship of Graduate Research

Faculty have the right to manage research sponsored by industry which may impose, as part of the contract, rules governing disclosure to protect intellectual property generated at The Ohio State University. Although it is advisable that postdoctoral associates rather than graduate students participate in these studies, graduate student participation is allowed. In these cases, however, faculty will identify to the graduate office annually those graduate students involved in proprietary research. These students will be interviewed by the Vice Chair of Graduate Studies to ensure that the progress of the student to graduation and employment in the profession is not being impeded by issues of non-disclosure and that the activities of the student are in line with the university’s conflict of interest policy (http://oaa.osu.edu/assets/files/documents/financialconflictofinterest.pdf). If the GSC concludes that the students’ progress is impeded by the industrial sponsorship, it has the power to remedy the situation.

The GSC will ensure that the results of thesis and dissertation work can be published in a timely fashion and that the dissertation is fully public.

XI.D Service

Members of the faculty are expected to serve on departmental or divisional committees, in addition to student advisory and examination committees.

XI.E Regional Campus Faculty

The Regional Campuses of The Ohio State University have a different mission than the Columbus Campus. Thus, there is a different weighting of the teaching, service, and research functions.
Chemistry and Biochemistry faculty (tenure track) at the regional campuses:

a) have the right to vote for the Chair of the Department of Chemistry and Biochemistry

b) will have the Chair appoint an advisory committee or faculty mentor

c) will use the same instruments to measure student satisfaction of teaching as members of the Columbus campus

d) may establish research groups involving undergraduates or staff on the Columbus campus and in that capacity use department instruments on the Columbus campus

e) may periodically teach on the Columbus campus with the approval of the Vice Chair for Undergraduate Students and the regional campus Dean.

Regional campus faculty members are encouraged to spend their sabbaticals and summers involved in research on the Columbus campus.

The Vice Chair for Undergraduate Studies will coordinate consistency between courses taught at the regional and Columbus campuses, including efforts in innovative teaching.

XII DEPARTMENT FACULTY TEACHING LOAD POLICY

The university’s policy with respect to faculty teaching load is set forth in the Office of Academic Affairs Policies and Procedures Handbook, [http://oaa.osu.edu/handbook.html](http://oaa.osu.edu/handbook.html). The information provided below supplements these policies.

*The following policy statements do not constitute a contractual obligation and are subject to modification as conditions warrant.*

The faculty of the Department of Chemistry and Biochemistry teach students in two principal modes: (1) undergraduate and graduate students in lecture and laboratory courses, and (2) graduate and undergraduate students and postdoctoral researchers in extensive individual instruction in research. This inseparable program of classroom instruction and individual research instruction in research universities is the primary way in which fundamental new knowledge is generated in this country. All faculty members are expected to participate in both modes of instruction (teaching), at both the graduate and undergraduate level. Moreover, each faculty member is expected to:

1. Teach a variety of courses: large-enrollment freshman and sophomore courses, smaller-enrollment advanced undergraduate and graduate courses, and research courses.

2. Establish and maintain vigorous research programs involving graduate and undergraduate students and postdoctoral researchers.

3. Participate in undergraduate and graduate curriculum development.

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XII.A  Base Teaching Load

The base teaching load in the department, consists of five courses per year, which is consistent with the guidelines provided by the College of Arts and Sciences. Two courses will be lecture or laboratory courses and three will be research courses.

XII.B  Mitigating factors

Adjustments to the base load may be approved by the Chair in consultation with the Faculty Advisory Committee, who shall annually review faculty annual reports to determine how each faculty member can best contribute to the department’s mission. The Chair and FAC will work together to strive for transparency in assigning adjustments in teaching loads. Nevertheless, all faculty members will be subject to a minimum teaching requirement. Example mitigating factors that may justify reduced teaching assignments: new (untenured) faculty, administrative posts, release time. For example, when a faculty member leads a major center grant, release from 0.5-1 course per year is expected. The extent of the reduced load would be determined based on the size of the additional workload of the faculty member.

XII.C  Teaching Release Time Policy

The baseline cost of full release from teaching for a semester is 20% of the 9-month salary and benefits. This may be adjusted downward for partial relief of teaching. No more than one semester may be released in this manner, per academic year. If the course release is purchased by funds outside ASC, then 60% of the recovered salary goes to the department to cover supplementary teaching and other activities at the discretion of the Chair and 40% is returned to the faculty member as discretionary funds.

XII.D Special Assignments (SA)

Information on special assignments is presented in the following link http://oaa.osu.edu/assets/files/documents/specialassignment.pdf. The information provided below supplements these policies.

Untenured faculty will normally be provided an SA during their probationary period. Reasonable efforts will be made to provide SA opportunities to all productive faculty on a rotating basis subject to the quality of faculty proposals, including their potential benefit to the department, and the need to assure that sufficient faculty are always present to carry out department work.

XIII COURSE OFFERINGS AND TEACHING SCHEDULES

The department Chair will annually develop a schedule of course offerings and teaching schedules in consultation with the faculty, both collectively and individually. While every effort will be made to accommodate the individual preferences of faculty, the department's first obligation is to offer the courses needed by students at times most likely to meet student needs. To ensure classroom availability, reasonable efforts must be made to distribute course offerings across the day and week. To meet student needs reasonable efforts must be made to assure that course offerings match student demand and that timing conflicts with other courses students are
known to take in tandem are avoided. A scheduled course that does not attract the minimum number of students required by Faculty Rule 3335-8-17, http://www.trustees.osu.edu/ChapIndex/index.php will normally be cancelled and the faculty member scheduled to teach that course will be assigned to another course. Finally, to the extent possible, courses required in any curriculum or courses with routinely high demand will be taught by at least two faculty members across offerings to ensure that instructional expertise is always available for such courses.

XIII.A Policy on Cross-Listing Graduate Courses

1. The Graduate Studies Committee may consider requests by departments other than Chemistry and Biochemistry for cross-listing of graduate courses under a Departmental number.

2. Typical reasons for cross-listing are:
   a) To make students aware of offerings in other departments that may be of value to Chemistry and Biochemistry students in their graduate studies.
   b) To make courses outside the Department available for graduate curricular requirements.
   c) To consolidate enrollments in two or more departments where enrollments from a single department would be insufficient to justify teaching the course.
   d) To avoid duplication of graduate offerings in two or more departments.

XIV ALLOCATION OF DEPARTMENT RESOURCES

The Chair is responsible for the fiscal and academic health of the department and for assuring that all resources—fiscal, human, and physical—are allocated in a manner that will optimize achievement of department goals. The chair will discuss the department budget at least annually with the faculty and attempt to achieve consensus regarding the use of funds across general categories. However, final decisions on budgetary matters rest with the chair.

Research space shall be allocated on the basis of research productivity including external funding and will be reallocated periodically as these faculty-specific variables change.

The allocation of office space will include considerations such as achieving proximity of faculty in subdisciplines, proximity to research space and grouping staff functions to maximize efficiency.

The allocation of salary funds is discussed in the department’s Appointments, Promotion and Tenure document.

XIV.A ASSIGNMENT OF RESEARCH SPACE TO INDIVIDUAL FACULTY MEMBERS

It is the policy of the Department of Chemistry and Biochemistry to use space within the department so as to best maximize the potential of every faculty member and student in the department. The Chair has final authority to assign all laboratory space to members of the faculty. These assignments will be made in consultation with the Vice Chair for Adminstration, the Faculty Advisory Committee (FAC) and interested faculty.
In the course of faculty recruiting, the Chair will consult with the Faculty Advisory Committee (FAC) and relevant Research Focus Groups as to the most appropriate space to offer candidates.

It is expected that space allotments will vary over time as individual groups expand and contract. It is understood that group sizes will vary over time due to changes in external funding, personal choice, and success in graduate student recruiting. Faculty members who feel they need additional space can submit a request in writing to the Chair at any time. Minor requests will be handled by the CRO with the approval of the Chair. At the discretion of the Chair, the FAC may be charged with reviewing the request and consulting with all other faculty members influenced by the request. The FAC can seek external expertise to help its deliberations. The Chair may accept, reject, or modify the recommendation of the committee.

The Chair may reassign laboratory space to faculty who do not have active research groups. An active research group is defined as a group that is publishing original research in a peer reviewed journal and has or is actively seeking external support.

**XIV.A. 1 Guidelines for Assigning Space**

The following guidelines will be used in space deliberations:

1) The Chair will strive to allocate a minimum of 600 sq. ft. of space per active research group (including office space).

2) All students will have the space necessary to conduct their research and graduate in a timely fashion.

3) Groups of faculty with related interests should be located in the same general area.

4) Research groups should be contiguous.

5) Space assignments should minimize renovation costs to the Department and minimize disruption to individual groups.

6) Newly built and renovated space should be used to strengthen faculty resources, including specifically the recruitment of new faculty.

7) Faculty actively engaged in experimental research will be assigned a minimum of 400 sq. ft. of laboratory space. The FAC will determine which faculty members are actively engaged in research.

8) The Chair will consider the needs for space for special equipment on a case-by-case basis.

**XIV.B Limits on Assignment of GTAs to Individual Faculty**

[Restated in Appendix II.C]

Faculty must provide at least one-sixth (1/6) of the annual support of each TA. Thus, one “year”
of departmental TA support (a “TA slot”) amounts to 5/6 of the student’s annual stipend (plus benefits, tuition and fees).

GTA allocation to research active faculty follows a “TA = RA + 2” formula. Thus, a faculty member supporting two (2) graduate students as GRAs may access up to four (2 + 2) TA slots, up to a maximum of 6 per faculty. Untenured assistant professors are not subject to this limit. Tenured faculty may recruit additional graduate students into their groups to the extent that they have other means of supporting them (e.g., via GRAs). In consideration of extraordinary teaching or service, this formula may be modified by the Chair, in consultation with the VCG and VCU.

XIV.C Support for Research Activities in Non-Departmentally Managed Centers
The department will seek to support research activities of its faculty and students by pursuing collective bargaining arrangements with campus instrument and service centers (e.g., CCIC, PMGF) when those services are essential for the work of the faculty, when it is impractical for the Department to provide comparable subsidized services, and when the expense of carrying out the studies would represent a significant burden on affected faculty. Financial and logistic terms will be coordinated out on a case-by-case basis between the CRO and participating center on behalf of the department and affected faculty.

XIV. D Policy on Allocation of Travel Funds
The Department adheres to University rules and regulations regarding use of travel funds.

The Department will support faculty travel by automobile for the purpose of graduate student recruitment. The Department will cover one night’s lodging and standard per diem expenses.

Travel requiring travel by air will need prior approval for reimbursement.

This policy will be reviewed annually and amended if necessary by financial constraints.

XV LEAVES AND ABSENCES
The university's policies and procedures with respect to leaves and absences are set forth in the Office of Academic Affairs Policies and Procedures Handbook, http://oaa.osu.edu/handbook.html, and Office of Human Resources Policies and Procedures website http://hr.osu.edu/policy/, in accordance with the Faculty Rules approved by the Board of Trustees, http://trustees.osu.edu/ChapIndex/index.php. The information provided below supplements these policies.

XV. A Discretionary Absence
During on-duty periods faculty members are expected to be accountable for interaction with students, service assignments, and other responsibilities even if they have no formal course assignment that period. In accordance with Faculty Rule 3335-5-08, on-duty faculty members who need to be away from campus to conduct research or other university business may do so with permission of their chair, dean, and OAA. Faculty unpaid leaves and faculty paid leaves due
to university business that exceed ten consecutive work days require approval by the department, college, and the Office of Academic Affairs.

In the event that professional demands require a faculty member to miss a regularly scheduled class, it is the responsibility of the faculty member to ensure their assigned class is covered by a qualified substitute. Prior notification of the Vice Chair for Undergraduate Studies is required when a faculty member will be absent from a regularly scheduled class meeting for undergraduate courses. Prior notification of the Vice Chair for Graduate Studies is required when a faculty member will be absent from a regularly scheduled class meeting for graduate courses. Approval of the substitute by the Vice Chair is necessary when the substitute is not a faculty member.

XV.B Absence for Medical Reasons

When absences for medical reasons are anticipated, faculty members are expected to complete an Application for Leave form as early as possible. When such absences are unexpected, the faculty member, or someone speaking for the faculty member, should let the chair know promptly so that instructional and other commitments can be managed. Faculty members are always expected to use sick leave for any absence covered by sick leave (personal illness, illness of family members, medical appointments). Sick leave is a benefit to be used—not banked. For additional details see OHR Policy 6.27, www.hr.osu.edu/policy/index.aspx.

XV.C Unpaid Leaves of Absence

The university's policies with respect to unpaid leaves of absence and entrepreneurial leaves of absence are set forth in http://oaa.osu.edu/handbook.html

XV.D Faculty Professional Leave (FPL)


The FPL proposals will be reviewed by the chair and the FAC. The chair's recommendation to the dean regarding an FPL proposal will be based on the quality of the proposal and its potential benefit to the department and to the faculty member as well as the ability of the department to accommodate the leave at the time requested.

XVI SUPPLEMENTAL COMPENSATION AND PAID EXTERNAL CONSULTING ACTIVITY

The university's policies with respect to supplemental compensation and paid external consulting are set forth in the Office of Academic Affairs Policies and Procedures Handbook, http://oaa.osu.edu/handbook.html. The information provided below supplements these policies. All arrangements for extra compensation require administrative approval. Units must secure approvals before the extra work is carried out in order for the faculty member to be compensated.
The department expects faculty members to carry out the duties associated with their primary appointment with the university at a high level of competence before seeking other income-enhancing opportunities. All activities providing supplemental compensation must be approved by the department chair regardless of the source of compensation. External consulting agreements must also be approved. Approval will be contingent on the extent to which a faculty member is carrying out regular duties at an acceptable level, the extent to which the extra income activity appears likely to interfere with regular duties, and the academic value of the proposed consulting activity to the department. In addition, it is university policy that faculty may not spend more than one business day per week on supplemental compensated activities and external consulting combined.

Faculty who fail to adhere to the university's policies on these matters, including seeking approval for external consulting, will be subject to disciplinary action.

**XVII  FINANCIAL CONFLICTS OF INTEREST**

The university's policy with respect to financial conflicts of interest is set forth in the Office of Academic Affairs Policies and Procedures Handbook, [http://oaa.osu.edu/handbook.html](http://oaa.osu.edu/handbook.html). A conflict of interest exists if financial interests or other opportunities for tangible personal benefit may exert a substantial and improper influence upon a faculty member or administrator's professional judgment in exercising any university duty or responsibility, including designing, conducting or reporting research.

Faculty members with external funding or otherwise required by university policy are required to file conflict of interest screening forms annually and more often if prospective new activities pose the possibility of financial conflicts of interest. Faculty who fail to file such forms or to cooperate with university officials in the avoidance or management of potential conflicts will be subject to disciplinary action.

**XVIII GRIEVANCE PROCEDURES**

Members of the department with grievances should discuss them with the chair who will review the matter as appropriate and either seek resolution or explain why resolution is not possible. Content below describes procedures for the review of specific types of complaints and grievances

**XVIII.A Salary Grievances**

A faculty or staff member who believes that his or her salary is inappropriately low should discuss the matter with the chair. The faculty or staff member should provide documentation to support the complaint.

Faculty members who are not satisfied with the outcome of the discussion with the chair and wish to pursue the matter may be eligible to file a more formal salary appeal (the Office of Academic Affairs Policies and Procedures Handbook, [http://oaa.osu.edu/handbook.html](http://oaa.osu.edu/handbook.html)).
Staff members who are not satisfied with the outcome of the discussion with the chair and wish to pursue the matter should contact Consulting Services in the Office of Human Resources (www.hr.osu.edu/).

**XVIII.B Faculty Misconduct**

Complaints alleging faculty misconduct or incompetence should follow the procedures set forth in Faculty Rule 3335-5-04, www.trustees.osu.edu/ChapIndex/index.php.

**XVIII.C Faculty Promotion and Tenure Appeals**

Promotion and tenure appeals procedures are set forth in Faculty Rule 3335-5-05, www.trustees.osu.edu/ChapIndex/index.php.

**XIII.D  Sexual Harassment**


**XVIII.E Student complaints**

Normally student complaints about courses, grades, and related matters are brought to the attention of individual faculty members. In receiving such complaints, faculty should treat students with respect regardless of the apparent merit of the complaint and provide a considered response. When students bring complaints about courses and instructors to the department chair, the chair will first ascertain whether or not the students require confidentiality. If confidentiality is not required, the chair will investigate the matter as fully and fairly as possible and provide a response to both the students and any affected faculty.

If confidentiality is required, the chair will explain that it is not possible to fully investigate a complaint in such circumstances and will advise the student(s) on options to pursue without prejudice as to whether the complaint is valid or not.

Faculty complaints regarding students must always be handled strictly in accordance with university rules and policies. Faculty should seek the advice and assistance of the chair and others with appropriate knowledge of policies and procedures when problematic situations arise. In particular, evidence of academic misconduct must be brought to the attention of the Committee on Academic Misconduct (see www.oaa.osu.edu/coam/home.html and www.senate.osu.edu/COAMDuties.pdf).

XIX LIST OF APPENDICES

Rules and Policies of the Department of Chemistry and Biochemistry

I  APPENDIX: Rules of the Graduate Program
II  APPENDIX: Procedures and Priorities for Appointment of Teaching Associates
III APPENDIX: RULES FOR Searching for a Department Chair
IV APPENDIX: Rules regarding the Newman, Dow, Fox, and Kimberly Professorships and new professorships to be named
V  APPENDIX: Safety Policies
VI APPENDIX: Rules for Course Textbook Selection
VII APPENDIX: Departmental Diversity Action Plan
VIII APPENDIX: Research Support Service Policies

Approved by the Office of Academic Affairs
07/18/12
Rules and Policies of the Department of Chemistry and Biochemistry

LIST OF APPENDICES

I   APPENDIX: Rules of the Graduate Program................................................................. 2
   I.A Preceptor Selection .................................................................................................... 2
   I.B Teaching Assistantships ......................................................................................... 3
   I.C Graduate Admissions ............................................................................................... 3
   I.D Oral Examinations ................................................................................................. 3

II  APPENDIX: Procedures and Priorities for Appointment of Teaching Associates ...... 4
   II.A Procedures .............................................................................................................. 4
   II.B Departmental GRA (dGRA) Awards .................................................................. 4
   II.C Limits on Assignment of GTAs to Individual Faculty .......................................... 4
   II.D Priorities for additional TA allocation .................................................................. 5
   II.E GTA Selection Criteria ......................................................................................... 5

III Rules for Searching for a Department Chair .......................................................... 7
   III.A Internal Search .................................................................................................... 7

IV  APPENDIX: Rules regarding the Newman, Dow, Fox, and Kimberly Professorships and new professorships to be named: ................................................................. 9

V   APPENDIX: Safety Policies ....................................................................................... 10
   V.A Safety Enforcement ............................................................................................... 10
      V.A.1 Introduction .................................................................................................... 10
      V.A.2 Inspections ..................................................................................................... 11
      V.A.3 The Enforcement Mechanism ...................................................................... 11
   V.B Table of Incentives for Compliance with Fire, Safety and Chemical Hygiene Plan Requirements .............................................................................................................. 12
   V.C Disposal Policy for Materials of Uncertain Composition ...................................... 13
      V.C.1 Procedure ....................................................................................................... 13

VI  APPENDIX: Rules for Course Textbook Selection .................................................. 18

VII APPENDIX: Departmental Diversity Action Plan .................................................. 19
   VII.A Introduction ....................................................................................................... 19
   VII.B Current Status of Department ........................................................................... 19

VIII APPENDIX: Research Support Service Policies .................................................... 26
   VIII.A Criteria for Departmental Instrumentation Acquisition .................................. 27
I APPENDIX: Rules of the Graduate Program

I.A Preceptor Selection

All faculty members will be invited to make a short presentation to first year graduate students during the first half of the Autumn term. Attendance at half of these presentations by first year graduate students is required to receive credit for Chemistry and Biochemistry 8998. Waivers will only be granted to students for illness or other extraordinary circumstances by the Vice Chair for Graduate Studies (VCG). The faculty presentations will be scheduled by the graduate office. First year graduate students must interview and obtain signatures verifying those interviews from a minimum of four faculty members. These faculty members are selected by the graduate student and approved by the VCG. The VCG has the discretion to add additional faculty to the list or to remove faculty who cannot serve as an advisor, such as one who is not a faculty member (as defined in the POA document). A faculty member may choose to accept attendance at their presentation as satisfying the interview requirement.

First year graduate students who have attended the faculty presentations and interviews may submit their advisor preferences to the office of the VCG in late November or early December, by the date announced by the Graduate Studies Office. The graduate office will communicate the student preferences to the RFG secretaries who will call a meeting of the RFGs to discuss the student and faculty preferences. The result of the meeting will be communicated to the GSC who will make final preceptor assignments based on this information. The announcement of final preceptor assignments to students will be made by the Graduate Studies Office. These announcements should take place before winter break so that students may begin work in the research lab during this time.

Only members of the Chemistry and Biochemistry faculty (as defined in the POA document) may be assigned as an advisor to students in departmental graduate programs.

The GSC will appoint a new advisor of record for all students whose preceptors leave the active faculty as a result of retirement or resignation. Students in this category who remain in the Department when their preceptor retires or resigns will be required to finish their existing projects within 6-12 months unless they petition and receive an extension. If this work is insufficient for a complete thesis, they will begin a new project under the supervision of their newly appointed preceptor within six months of the appointment of the new preceptor. This policy will be waived for students who leave Columbus to finish their original projects with their preceptors at another institution.

Students may resign from a research group at any time. Faculty may resign as the advisor of any student at any time. In these cases, the GSC may appoint a new preceptor; choose to allow the student to use data previously generated by the student as the basis of a thesis; or if the student’s progress is unsatisfactory, dismiss the student from the program. The student in this situation can make a copy of all of their own data and their notebooks but must return the original documents to the previous advisor in accordance with the Office of Research policy on Research Data. The previous advisor retains the right to publish any of this information. The student will not publish this data anywhere, except the thesis, without concurrence of the former preceptor.
I.B Teaching Assistantships
Graduate students admitted to the Chemistry and Biochemistry Graduate Programs by the departmental Graduate Admissions Committee are offered a position as a Graduate Teaching Associate by the Vice Chair for Graduate Studies, with the assurance that all students who maintain good standing will receive support in the form of a Graduate Associate stipend for five years.

I.C Graduate Admissions
Graduate program applicants are reviewed by the Graduate Admissions Committee (GAC). The Chair of the GAC will report to the VCG. The program does not require either Chemistry or Biochemistry Subject GRE. The department Chair will define the maximum number of standard international offers that can be made. Non-native speakers of English must, in general, have a minimum overall TOEFL score of 105 and a minimum score of 23 on the speaking section of the test. Direct admission of non-native English speakers is possible under special circumstances. A faculty member may petition the GAC, after obtaining permission from the department chair, to have non-native speakers of English accepted into the Department, and into their groups based on special needs in his/her research group. The admission of any additional students through this method will only be permitted if it does not result in an increase in the number of international offers above the maximum set by the chair. Once a direct admission to a research group has been granted, the particular student will need to be evaluated by the GAC. Only students whose academic performance and other criteria for admission fall within average or above those of typical students of the program will be granted admission. Faculty members who directly admit a student must guarantee support of the student as a Graduate Research Associate for at least one year. If the student chooses to switch to another group during this time or before he or she is English certified, the original advisor will still be financially responsible for the student, unless the new advisors agrees to support the student as a GRA. However, if a cost to the department is incurred in the form of a GTA or GAA appointment, the original advisor should make appropriate arrangements with the department chair for payment of the stipend and the tuition. All non-native graduate students who are not certified in English after two semesters in the program will not be supported by the Department as GTAs or GAAs.

I.D Oral Examinations
All members of an oral examination committee must be present for an examination to be official. Non-members of the committee may attend an examination only with the approval of both the candidate and the Chair of the committee. If this permission to attend the examination is granted, non-members of the committee may not speak or ask questions of the candidate without permission from the committee Chair and may not be present when the committee is deliberating.
II APPENDIX: Procedures and Priorities for Appointment of Teaching Associates

The Department of Chemistry and Biochemistry employs approximately 250 to 300 graduate and undergraduate students and a few non-students to assist in the instructional responsibilities of the Department. It is the purpose of this memorandum to describe the criteria used by the Vice Chair for Graduate Studies (VCG) to decide who will be employed in these positions.

Faculty must provide at least one-sixth (1/6) of the annual support of each GTA. Thus, one “year” of departmental TA support (a “TA slot”) amounts to 5/6 of the student’s annual stipend (plus benefits, tuition and fees).

II.A Procedures

Each year, in late spring or early summer, each member of the Chemistry and Biochemistry graduate faculty is asked to verify the Graduate Office records of those graduate students working in each group and asked to indicate whether they will be supported by fellowship, teaching associateship or research associateship during each term of the upcoming academic year. On the basis of this inquiry, a draft-teaching list is prepared and letters of appointment are drawn up for students who are to be supported by the Department.

Faculty must request TA support for graduate students at least **eight weeks prior to the beginning** of the semester for which the GTA service is to begin. For graduate students from IGPs, the request must be accompanied by a copy of the student’s application to OSU; transcripts of the student’s work prior to OSU enrollment; evidence of English language certification, and a current OSU student advising report.

II.B Departmental GRA (dGRA) Awards

Coincident with the Graduate School rules on Semester, graduate students in the Department of Chemistry and Biochemistry are eligible for awards of a third semester **stipend** via a departmental Graduate Research Associate (dGRA) immediately following every two semesters of satisfactory service as a Graduate Teaching Associate. These awards are granted to ensure that every graduate student in the department has the regular opportunity to devote full time to research leading to their graduate degree. dGRA stipends are the same as GTA stipends. The stipend, tuition, and fees are split (50:50) between the advisor and the department. Awards are conditional on good graduate standing, full-time enrollment (principally in Thesis Research), and resident attendance throughout the research semester. The dGRA support period is intended for educational activity only, and permission must be sought and granted by the VCG, for the student to be absent from the Department during that time.

II.C Limits on Assignment of GTAs to Individual Faculty

Faculty must provide at least one-eighth (1/6) of the annual support of each TA. Thus, one “year” of departmental TA support (a “TA slot”) amounts to 5/6 of the student’s annual stipend (plus benefits, tuition and fees).
GTA allocation to research active faculty follows a “TA = RA + 2” formula. Thus, a faculty member supporting two (2) graduate students as GRAs may access up to four (2 + 2) TA slots, up to a maximum of 6 TA slots per faculty. Untenured assistant professors are not subject to this limit. Tenured faculty may recruit additional graduate students into their groups to the extent that they have other means of supporting them (e.g., via GRAs). In consideration of extraordinary teaching or service, this formula may be modified by the Chair, in consultation with the VCG and VCU.

II.D Priorities for additional TA allocation

After allocating the base distribution of TAs to each faculty member, additional positions may be allocated based on the following priority schedule:

1. Students in the Department of Chemistry and Biochemistry Graduate Program
2. Graduate Students Enrolled in Other Graduate Programs with Chemistry and Biochemistry Faculty Preceptors
3. Undergraduate Student Instructional Aides (SIAs)

The duties of the SIAs are limited to ten hours per week, so two undergraduate Aides replace approximately one Graduate Teaching Associate.

The number of SIA positions funded each year may vary each year in order to balance the needs and obligations of the graduate teaching contributions. It would be unwise, however, to reduce the number to zero in any one year. A desirable number for program viability might be in the vicinity of 30–50 SIA positions in any one semester.

4. Non-Students and Other Casuals

Qualified and experienced applicants from the general community may be employed from time-to-time as casual teaching personnel. Their appointments are made as Instructional Assistants, with duties and stipend equivalent to a Graduate Teaching Associate. Instructional Assistant appointments are usually made on a semester-by-semester basis and do not carry tuition authorization or departmental GRA benefits.

5. Graduate Students Enrolled in Other Graduate Programs Who Do Not Have Preceptors in the Department of Chemistry and Biochemistry

Students in interdisciplinary programs, in this category, who provide two semesters of satisfactory GTA service, are not eligible for the award of a departmental GRA upon completion of two semesters of teaching service.

The availability of departmental funds may also impact the order above.

II.E GTA Selection Criteria

The principal criteria for employment of graduate students enrolled in graduate programs other than Chemistry and Biochemistry (in excess of the guarantee of a total of two qualified IGPs per research group) are the Department’s need for teaching personnel and its assessment of each individual’s ability to contribute to the teaching program. Prior teaching evaluations of “Excellent” or "Satisfactory +" by faculty other than the student’s advisor are very strong

Approved by the Office of Academic Affairs
07/18/12
indicators for continued employment. English language certification is required for international students. Strong undergraduate or graduate training in Chemistry and Biochemistry and prior “Satisfactory” rated performance in a GTA position in this program are important teaching qualifications. Students are also required to obtain a score of ≥ 80% on an exam administered by the Graduate Studies Office in order to qualify as a GTA in the department.

International students must pass English language certification before they can be supported as GTAs. During the first year, students who have not yet passed language certification may be supported as GAAs (Graduate Administrative Associate) at a reduced stipend level, or as GRAs once they have joined a laboratory.

Students may not be supported as GTAs after five years of graduate enrollment at OSU without a formal petition and approval by the GSC. Students who receive an "Unsatisfactory" or two "Satisfactory Minuses – " evaluations for their performance of teaching will not be allowed to teach in the program for at least one semester, and must petition the VCG for reinstatement.
III Rules for Searching for a Department Chair

The Chair will inform the faculty when 15 months remain in his/her term. At that time, the Chair will appoint a member of the Faculty Advisory Committee to call a meeting of the faculty to discuss the search for the next department Chair. The faculty will discuss the merits of an internal or external or a completely open search. The FAC will fashion a ballot after this meeting. The faculty will then vote their preference by anonymous mail ballot (double envelope-secret ballot) or electronic ballot. The results of the ballot will be reported to the Dean and to the faculty at large.

The Department will suggest to the Dean that he/she appoint the Faculty Advisory Committee to serve as the Search Committee for the new Chair. However, this committee should be expanded to include at least one assistant professor and, as non-voting members, two members of the permanent staff, and two graduate students.

If the department Chair wishes to resign early (in the absence of a negative review), the department should be so informed at least 15 months before the contemplated resignation.

III.A Internal Search

If the Dean agree to conduct an internal search for a department Chair, the following process will be followed.

The Dean will appoint a search committee and designate a Chair of that committee. That committee will develop a procedure, present it to the faculty for discussion, and amend it as necessary until ratified by the faculty.

As a guide, a sample procedure used in 1999 by the Department of Chemistry is provided:

Summary:
- Eligibility is limited to full professors of the Department.
- An initial (anonymous) ballot is taken to identify candidates with broad support among the faculty, including regional campuses
- The search committee identifies which candidates have strong support based on numerical tally of the ballots; this list is made available, but not the number of preliminary votes
- The Search committee meets with the candidates to determine their willingness to be considered for the position.
- The committee develops methods to allow the nominees to address issues of concern to the faculty and staff
- A ballot is taken to determine which candidate to recommend to the Dean; in the absence of a clear majority, an additional round of voting is carried out with the two top candidates from the previous round.
Notes:

The committee designed and implemented a balanced process to enable the candidates to share their views of the role of the Chair and their vision for the future with faculty and staff. In addition, the Chair of the search committee invited anonymous comments from the faculty to be conveyed to the prospective candidates. We found this was especially valuable in getting responses from the untenured junior faculty and others who are generally less vocal at public meetings. The Chair of the search committee compiled these comments and passed them on to the potential candidates for their consideration and for use as a framework for subsequent discussions with the faculty and staff.

(During the 1999 selection process, the candidates met with faculty and staff separately. The meeting with the faculty was moderated by the Chair of the search committee and the staff meeting was moderated by the department business manager.)
IV  APPENDIX: Rules regarding the Newman, Dow, Fox, and Kimberly Professorships and new professorships to be named:

The following rules for the naming of Chaired professorships will apply as the Dow, Fox, Kimberly, and Newman professorships are vacated by their current occupants. These four Chaired professorships are referred to below as departmental Chairs.

The funded term of each Chair is five years and can be renewed; however, consecutive terms cannot be served. The department Chair will announce vacancies in the Newman, Dow, Fox, and Kimberly Chairs as they develop and solicit votes from all eligible members of the faculty. All full professors and associate professors are eligible for election except those holding Chaired professorships which currently provide financial support. Faculty may also vote for an external candidate if they wish to use the named professorship to recruit a senior colleague to the University.

Confidential votes of the Chemistry and Biochemistry faculty will be counted and examined by a committee consisting of the current Chairs Advisory Committee (elected by the faculty). If one or more of the members of the committee are amongst the possible candidates based on the vote by the faculty, then the Chair will replace them with a member from the corresponding division. This committee will decide the next recipient of the Chair in question, based on the vote of the entire faculty, internal discussion, and comments from the department Chair.

Members of the faculty may not hold two funded departmental professorships simultaneously. Once the five year funded term of a professorship elapses, the holder is eligible for other departmental professorships.
V APPENDIX: Safety Policies

V.A Safety Enforcement

V.A.1 Introduction

The Department of Chemistry and Biochemistry, specifically the Chair, faculty, and staff, recognizes that we must comply with a variety of State and Federal mandates including those issued by the Environmental Protection Agency (EPA), the Occupational Health and Safety Administration (OSHA) and the State of Ohio (Administrative, Building, and Fire Codes). Each employee of the Department, therefore, has an obligation to understand and comply with applicable environmental, health and safety regulations as well as those policies established by the University, the College of Mathematics and Physical Sciences, and the Department of Chemistry and Biochemistry. This means that

All faculty, emeritus faculty, staff, graduate students, visitors and guests must:

- Observe health and safety related signs, warning signals and directions.
- Review the Department’s emergency procedures.
- Have an awareness of potential work hazards.
- Take appropriate health and safety training.
- Follow all standard operating procedures and precautions.
- Warn coworkers about defective equipment and notify appropriate personnel.
- Use personal protective equipment and safety engineering equipment appropriate to their work.
- Stop work that poses imminent danger to health and safety and notify appropriate personnel.
- Participate in required inspection and monitoring activities.
- Report unsafe conditions to a supervisor or the Department Safety Committee.

All supervisors, Principal Investigators and Managers are responsible for the safe operation of their laboratories or areas. They must:

- Train employees to identify and mitigate potential hazards.
- Maintain and update a chemical inventory as required.
- Develop and implement procedures and practices as required by the Department Chemical Hygiene and Hazard Communication Plans.
- Analyze work procedures for hazard identification and correction.
- Promote regular self-assessment inspections to review and correct deficiencies.
- Implement measures to eliminate or control workplace hazards.
- Encourage prompt employee reporting of health and safety problems without fear of reprisal.
- Stop any work that poses imminent danger.

The Chair with the Safety Committee must:

- Within the resources available, ensure that all environmental, health and safety obligations are fulfilled.
• Communicate the importance of establishing a high priority for health, safety and a concern for environment.

V.A.2 Inspections
The Chair, the Chief Administrative Officer, the Chemical Hygiene Officer (Safety Coordinator) and all members of the Safety Committee will have authority to:

• Conduct random and/or periodic inspections anywhere within the Department to monitor compliance.
• Issue verbal and written warnings based on above inspections. The written warnings will be addressed to the individual in violation of the policies, with copies to the individual’s supervisor and the Safety Committee.
• Stop or curtail any work or process that is immediately or imminently dangerous to life and health and padlock the laboratory until the danger can be resolved.

V.A.3 The Enforcement Mechanism
Violations of accepted policies may be discovered by casual observation, inspection by a member of the Department Safety Committee or Chemical Hygiene Officer (Safety Coordinator), inspection by State Fire Marshall or University Environmental Health and Safety Division, OSHA inspection or reported accident, or formal complaint. The attached table provides the type of incentives that can be applied for a given violation. Under normal circumstances, a first incident will result in actions taken at the first level (top of table). Increasing incentive levels may be reached by continuing noncompliance for a single violation. If the violation is egregious in nature, it is also possible to reach higher incentive levels for a single violation. The incentives listed for each level are options that may be applied individually or in combination to achieve compliance with safety requirements.

The Department of Chemistry and Biochemistry will not assess fines as an incentive for compliance. Furthermore, if penalties or charges for remedial services are applied by agencies outside of the Department or University, individual liability for direct costs and fines should not exceed $1,000 for students and/or staff or $5,000 for faculty members of the Department at the highest level of severity. Progressively lower limits should be applied for incidents of lesser severity. These limits of liability should be viewed as guidelines and do not imply a level of financial responsibility.
<table>
<thead>
<tr>
<th>Compliance Incentive Level</th>
<th>Students</th>
<th>Staff</th>
<th>Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Laboratory Supervisor or CHO</td>
<td>Verbal Reprimand by Supervisor Document Incident</td>
<td>Verbal Reprimand by Supervisor Document Incident</td>
<td>Document Incident</td>
</tr>
<tr>
<td>2 Safety Committee</td>
<td>Written Reprimand Review Pertinent MSDS’s and SOP’s Safety Refresher Reduce Laboratory Privileges</td>
<td>Written Reprimand Review Pertinent MSDS’s and SOP’s Counseling Session for Employee and Supervisor Safety Refresher</td>
<td>Written Reprimand Review Pertinent MSDS’s and SOP’s Appear before Safety Committee</td>
</tr>
<tr>
<td>3 Chair</td>
<td>Remove Lab Privileges until Safety Course Successfully Repeated</td>
<td>Initiate Disciplinary Action through Office of Human Resources</td>
<td>Initiate Disciplinary Action Remove Dept. subsidies for Support Services</td>
</tr>
<tr>
<td>4 Chair’s Advisory Committee</td>
<td>Removal of Departmental Subsidies for Tuition and Fees Removal of GTA or GRA Status Revoked Laboratory Privileges until reinstated by Chairman Postpone Graduation</td>
<td>Continue Disciplinary Actions through Office of Human Resources which may result in: Unpaid Leave of Absence Possible Reassignment Reduction in Grade</td>
<td>Suspend ability to recruit students Reduce Lab Space Padlock lab until compliance met Notify OSURF/Granting Agencies of Non-compliance</td>
</tr>
<tr>
<td>5 OSU Administration</td>
<td>Request Dismissal hearing through the Graduate School Initiate Judicial Proceedings</td>
<td>Continue Disciplinary Action which may lead to Dismissal Initiate Judicial Proceedings</td>
<td>Initiate Proceedings under Faculty Rule 3335-5-04 which may lead to dismissal Initiate Judicial Proceedings</td>
</tr>
</tbody>
</table>
V.C Disposal Policy for Materials of Uncertain Composition
(“Chemical Unknowns”)

Disposal of hazardous waste is dangerous and expensive even when the contents of the waste are identified. Fortunately, most of the chemical waste produced by the Department is identifiable. However, when the contents of a reagent bottle, reaction flask or gas cylinder are not identified, the process of disposal is much more dangerous, expensive and difficult. Without mitigating information, all unknown materials have to be treated as if they were potentially lethal and hazardous. In all cases, chemical unknowns cannot be disposed of until a general profile of the unknown has been generated. Even then, the cost of disposal is a premium. Additionally, there is a constant threat of personal injury or death to the individuals required to handle these potentially dangerous materials. No price tag can be attached to an avoidable personal injury.

The obvious goal is to reduce the number of “unknowns” to as close to zero as possible by following the Chemical Hygiene Plan and the Hazard Communication Protocol. Labeling all chemical containing glassware; disposing of all old, outdated and questionable chemicals and samples; recycling unneeded chemical reagents; maintaining separate waste containers for different classes of chemical wastes; and keeping a running log of the amounts and quantities of all wastes placed into disposal containers will reduce the number of unknowns and should be considered standard laboratory practice. This policy details the procedures that should be followed when and “unknown” is discovered and a request for disposal is to be generated.

V.C.1 Procedure

It is the responsibility of the generator to identify each “unknown” as completely as possible before submitting an “unknown” to the Safety Office. The generator is defined as the Principal Investigator (PI) or Laboratory Supervisor initiating the disposal request.

The three steps to be followed by the generator are:

2. Attach the sheet to the material being submitted for disposal.
3. Call the Safety Office at 679-1820 or 679-1820.

V.C.1.a Instructions for Completing the UNKNOWN PROFILE FORM

1. Generator Knowledge.
   If the Lab Supervisor has adequate knowledge of the material, then “Generator Knowledge” can be a substitute for analytical tests and can greatly simplify the process of dealing with the “unknown”. Provide a physical description to include the appearance, odor and quantity of the unknown; the source and/or history of the unknown; and, especially, a listing of potential elements for inorganic waste or compounds for organic waste, even if the percentages or absolute amounts are not known. The presence of a specific hazard classes should be indicated with a “Y” when known. If the presence of a material is likely (but not certain), indicate with a “?”. When compounds or classes of compounds are known to be absent, a “N” should be placed in the appropriate blanks.
2. Analytical Tests
In the absence of generator knowledge, the results of screening tests should be provided by the Laboratory Supervisor to provide an indication of the major components present. Suggested screening tests include a determination of the pH and a general qualitative analysis. If radioactive contamination is suspected, the Office of Radiation Safety must be contacted to schedule an accurate test for Alpha and Beta emissions. Specific additional tests that will assist the Safety Office in disposing the materials are strongly recommended, but are at the discretion of the Laboratory Supervisor. Use of Departmental instrumentation to test unknowns in preparation for disposal will not be charged to the Laboratory Supervisor.

3. Signature
Each sample must be accompanied by a signature of the PI or Laboratory Supervisor or designated individual certifying the above information is the best “Good Faith Effort” to describe and identify the unknown.

Notice
Individuals who dispose of hazardous wastes in an inappropriate manner will face disciplinary action as outlined in the Departmental Enforcement Policy.
D. Laboratory Inspection Checklist
Department of Chemistry and Biochemistry-Safety Committee

Inspector Names ________________________________________________________
Inspector Names ________________________________________________________
Building and Room Number ___________________ Date ____________

Emergency Equipment

How Many Safety Showers and Eye Washes: ___ Last Inspection Dates? ___ Accessible? _____


How Many Fire Blankets: ______ Available and Accessible? ______

How Many First Aid Kits? _______ Available and Accessible? ______ Adequately Stocked? ___

Fire Doors: Blocked or Blocked Open? ______ Left Open? ______

How Many Spill Kits: ______ Available and Accessible? ______ Adequately Stocked? ___

Fume Hoods

Functioning Properly (indicator or tissue paper)? ______________________________________
_____________________________________________________________________________

Are the inspection tags current? ______ Improperly Used for Storage and Disposal? ______

Hazardous Waste

Are all bottles properly labeled (any unknowns)?____ Are the Safety Can tags filled out correctly?_____

Evidence of improper glassware and sharps disposal?______________

Training Related Issues

Are carcinogens, reproductive toxins, or other highly toxic materials being used? ______ If yes, is the Designated area appropriately labeled? ______ Is the acrylic door sign accurate? ______

Are there any other unusual hazards?
If yes, are the SOP’s? __ Have the Post-Docs received training (and is there documentation)?

Have Post-Docs, Visitors, etc. received general safety training? __________________________

**Miscellaneous**

Personal Protective Equipment available and being used (gloves, safety glasses, etc.)? _____

Gas cylinders secured? ________ Evidence of food or drink in the laboratory? ____________

Chemical Inventory Up-to-Date? ___________ Chemicals properly stored? _______________

Check the refrigerators __________________________________________________________

Comments: ___________________________________________________________________
_____________________________________________________________________________

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**Inspection Explanation Sheet**

**Emergency Equipment**

Safety showers and eye was units should be tagged ad the last inspection date should be indicated. Drench hoses should not be used as eye was units and should not have a tag. If they are the only source of water in the area, however, they should be tagged and inspected. Each safety shower/eye wash unit area should be free of clutter and thus is accessible. All emergency equipment must be accessible at all times.

Each lab must have at least one CO2 fire extinguisher. Some labs may have other types depending on need. Each extinguisher should be inspected for damage, pin in place, and gauge pressure (if it has a gauge). Missing or damaged extinguishers should be reported to the Safety Office. **DO NOT “TEST” A FIRE EXTINGUISHER BY “FIRING” IT.**

Fire blankets are not required, but if you have one, it must be accessible. Each lab or lab area must have a first-aid kit and it must be stocked. The first-aid kit has an inventory of its contents as well as the re-order numbers. Replacement items are available from Stores/Fisher Scientific. Fire doors (most lab doors leading into hallways) should remain closed. They should not be blocked (preventing egress) or blocked open (potentially spreading fire). Spill-kits, like first-aid kits, must be maintained. See the Safety Office for replacement items. Each lab or lab area must have a spill-kit.

**Fume Hoods**

Fume hoods must be inspected for operation and clutter before each use or daily. A flow indicator and/or a tissue ribbon on the sash indicates flow. Mark the date on the inspection tag near the hood face. If you suspect a problem with the fume hood, notify your supervisor and the
Safety Office and indicate the problem on the tag.

**Hazardous Waste**

Refer to the “unknowns” policy (pages P. 6, 7, 8). All containers must be labeled except for those in immediate use.

Safety Can tags must be filled out completely and must not have chemical abbreviations or formulae or structures.

Refer to the Glassware Disposal policy. Glassware (broken or not) must be placed in cardboard boxes (available from the Safety Office). Contaminated glassware must be disposed of as hazardous waste. Sharps must be boxed separately before being placed into the glassware disposal boxes.

**Training and Related Issues**

Refer to Tables 10, 13, and 16 of the CHP (Appendix 4). Work with carcinogens or reproductive toxins require designated areas (refer to section 18, page 23 of the CHP). The also require standard operating procedures.

The acrylic door sign should indicate whether or not a designated area exists. It should also indicate the NFPA Level 4 Chemicals (refer to table 17 of the CHP) and the approximate amounts.

Any unusual hazards (equipment, chemicals, etc.) require that the supervisor provide and document special training. All post-docs, visitors, undergraduate researchers are required to have a minimum of general training.

**Miscellaneous**

Appropriate personal protective equipment (PPE) should be available and in good condition. Gas cylinders, whether in use or in storage, must be secured with a strap or chain. Food or drink must not be consumed in the lab. Evidence of consumption is usually found in the form of wrappers or cups on bench tops or in the trash can.

Supervisors should maintain a chemical inventory. The chemicals should be stored according to hazard class. Reactive chemicals should be stored by themselves away from other chemicals.
VI  APPENDIX: Rules for Course Textbook Selection

The selection of textbooks used for courses taught in the Department of Chemistry and Biochemistry shall be made with due regard for the objectives of the course, the needs of students taking the course, and the recommended procedures of the University. For courses which are offered in multiple sections or which are within a sequence, efforts shall be made to accommodate the expectations of everyone teaching the related courses.

In those cases where an OSU faculty or staff member is an author or co-author of a textbook under consideration, it is important that they notify the relevant Vice Chair of the potential conflict of interest. For small enrollment classes, the Vice Chair may endorse a book selection or may appoint a faculty committee to review the selection of text. For large enrollment classes, the potential conflict is managed by appointment of a selection committee with the author/coauthor excluded from its membership.

Textbook selections for large enrollment course sequences will be made by a committee appointed by the Vice Chair for Undergraduate Studies after consultation with the faculty teaching these courses. A committee shall include, if possible, faculty who have taught the courses within recent semesters and faculty from the Regional Campuses. Experienced lecturers and Graduate Teaching Associates are eligible to serve on such a committee. The committee shall be responsible for screening all appropriate textbooks, soliciting recommendations from all faculty and lecturers, and recommending to the Vice Chair the book for the course sequence. The Vice Chair shall serve ex officio as a non-voting member of all selection committees.
VII APPENDIX: Departmental Diversity Action Plan

VII.A Introduction

In January 2006, the National Science Foundation sponsored a workshop on “Building Strong Academic Chemistry and Biochemistry Departments through Gender Equity”.1 This was followed in September 2007 by a workshop on “Excellence Empowered by a Diverse Academic Workforce: Achieving Racial and Ethnic Equity in Chemistry and Biochemistry.”2 These workshops documented the importance for Chemistry and Biochemistry departments in the USA to develop effective plans for the recruitment and retention of faculty and graduate students with the goal of achieving gender and ethnic equity.3 The workshop reports defend the position that this can be accomplished while maintaining current standards of excellence. The reports emphasize graduate education and focus on goals of (1) increasing the diversity of Chemistry and Biochemistry faculties, and (2) increasing the number of Under-Represented Minorities (URM) receiving PhD degrees in Chemistry and Biochemistry. The reports suggest strategies that might be adopted to accomplish these goals, and discuss obstacles to be overcome.

With this background, the OSU Diversity Committee has developed a plan specific to our department with emphasis on the aforementioned goals. The issues of URM undergraduate majors and staff will also be briefly addressed.

VII.B Current Status of Department

The current status of the department with regard to gender and ethnic distribution of faculty and graduate students is summarized in Table 1. The department is at the national average in terms of gender distribution for both faculty and graduate students (see Appendix 1). None of the top 100 Chemistry and Biochemistry departments have URM faculty representation commensurate with the population, and not even a handful has equitable graduate student URM representation (Louisiana State University and Purdue University are the exceptions).

Table 1: Gender and Ethnicity of Chemistry and Biochemistry Faculty and Graduate Students (January 2012)

<table>
<thead>
<tr>
<th>Category</th>
<th>Men</th>
<th>Women</th>
<th>Black</th>
<th>Hispanic</th>
<th>Native American</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty (&gt;50%)</td>
<td>36 (80)</td>
<td>9 (20)</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Faculty (&lt;50%)</td>
<td>7 (88)</td>
<td>1 (13)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Faculty (Regional)</td>
<td>2 (67)</td>
<td>1 (33)</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Faculty (Total)</td>
<td>45 (80)</td>
<td>11 (20)</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Students (domestic)</td>
<td>87 (70)</td>
<td>38 (30)</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Students (international)</td>
<td>54 (56)</td>
<td>42 (44)</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Students (total)</td>
<td>141 (64)</td>
<td>80 (36)</td>
<td>6</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

*50% or greater appointment in Chemistry and Biochemistry
**Less than 50% appointment in Chemistry and Biochemistry
***Percentages in parentheses
The following comments are based (in part) on a comparison of Table 1 with data presented in Appendices I-V:

1. The percentage of women on the OSU faculty (14%) is average compared with top 100 institutions (Appendices I-II). There were no women on the Chemistry and Biochemistry faculty 30 years ago and thus, there has been progress toward gender equity. However, the number of women in the pipeline at OSU (assistant and associate professors) is low.
2. The number of URM on the faculty (Columbus campus) is very low (Appendix III).
3. Gender distribution of our graduate students is average compared with Big-10 institutions. The percentage of women entering our program (about 40%) and the percentage of PhDs granted to women (about 30%) is low compared to Big-10 schools and the national average (Women received 37% of PhDs granted by Big-10 schools from 2003-2007, but only 31% of PhDs granted from OSU during 2003-2007). The number of URM in the graduate student body is low and the number of those students who advance to a PhD is also low (Appendices IV-V).

The Applicant Pool

The percentage of women in the applicant pool for faculty positions is significantly lower than the percentage of women granted PhDs. The committee believes that this is one reason for the current inequities in gender distribution on the faculty. Similar considerations apply to ethnicity inequities. Thus, the focal point of most of this plan will be initiatives for increasing the fraction of women and underrepresented minorities (URMs) in our applicant pool. Several strategies will be adopted: (1) increase the percentage of women/URMs interested in faculty positions who apply for our positions in our department, (2) identify promising female/URM scientists early in their careers and encourage them to join our faculty, and (3) encourage our own female students to pursue academic careers.

Recognition of Bias

A second factor that can influence effect gender and ethnic inequities is bias. It is important to recognize that we all have biases in regard to one segment of the population or another. Biases cannot be allowed to have a detrimental effect on attempts to diversify our department, and should be detected and fought when it rears its head. We must do this as individuals and collectively. The committee suggests that all faculty read about this issue in the NSF workshop reports with an eye on how the suggestions contained therein (and their own ideas) can be used positively as we try to diversify our faculty.¹²

To raise the awareness of the faculty and staff regarding bias, the committee recommends workshops be held that addresses this issue.⁴ We recommend that the Chair require attendance. We also suggest that follow-up workshops be conducted in the following two academic years. The workshops will be run by professionals in the area from outside the department and will be arranged by the Diversity Committee in consultation with the Chair.
Faculty Distribution: Addressing Gender Inequities

**Goals:** Increase the number of women in the Chemistry and Biochemistry faculty at the Columbus campus to at least 30%.

Why these numbers? A 2006 National Academy of Sciences study ([http://www.nap.edu/catalog.php?record_id=11741](http://www.nap.edu/catalog.php?record_id=11741)) suggests that “if the number of women in a department grows to about 20%, a social tipping point occurs and women start to perceive their common interests and join together to press for improvements in policies relevant to their needs”.[5] The idea is that if we achieve the “critical mass”, improvements in other areas (work environment being conducive to success, and overcoming biases of which we may be unaware) will follow. The assistant professor hire will begin to address the aforementioned “pipeline” problem. The importance of retaining current faculty cannot be overstated.

How will we achieve these goals? The percentage of PhDs being awarded to women exceeds the percentage of women taking academic positions. Thus, contrary to what many of us believe, there is not a scarcity of women that might be attracted to faculty positions in our department.[1] Their careers are simply not leading to academia. We need to:

1. attract more applications from and compete better for women already inclined to enter academia.
2. undergo a culture change that will attract a higher percentage of women into academia, and encourage our own graduate students to pursue academic careers.
3. identify and overcome departmental bias that is in conflict with the aforementioned objectives.

The first point will be addressed by attempting to increase the applicant pool.

1. When a position is advertised, each committee will be charged with writing to prominent faculty members at top-50 research universities and soliciting applications and nominations of candidates with a focus on women (and URMs—see below). We will also solicit nominations from graduates of our program.
2. We will maintain contact with women who have expressed an interest in OSU by applying for admission to our graduate program. Contact will be maintained on an annual basis with women who were offered positions in our program, but went elsewhere. The hope is that we will be on the radar of women who ultimately search for academic positions. We will focus special attention on former OSU undergraduate students who might be effectively recruited back to Ohio after pursuing their PhD degree at prominent graduate programs around the country.
3. We will develop lists of women who have been awarded prestigious graduate and postdoctoral fellowships (NIH, NSF and others) and will contact them regarding career opportunities at OSU.
4. We will use faculty as “talent scouts” at meetings (ACS, SACNAS, NOBCChE, ABRCMS) for potential junior and senior faculty.
5. We will include women on search committees when feasible. We will continue our practice of having a diversity advocate (formerly the affirmative action advocate)
appointed to each search committee. The duties of the advocate will include monitoring the search to make sure it begins with a diverse pool of applicants, calling into question whether or not the search should proceed if the application pool is not sufficiently diverse and ensuring that applications are considered without a gender bias. The diversity advocate would preferably not be an URM.

The second and third points will take time. The notion is that a successful hiring effort will result in an improved environment. The 2006 NSF Workshop Report points out issues relevant to the promotion and retention of women. We have done well in both of these areas in the past and every effort should be made to maintain our excellent record in this regard. Encouraging our own students to enter academia will fall on all of our shoulders.

Faculty Distribution: Addressing Racial and Ethnic Inequities

Goals: Hire at least two additional URM to the Columbus campus faculty by the end of 2013. The more the better.

Why this number? The statistics shown in Table 1 are self-explanatory. This goal is a start. Although we will address recruitment of URM graduate students later, the notion is that hiring URM faculty will be needed to gain a competitive advantage in the recruitment of URM students.

How will we achieve this goal? The three points made in regard to addressing gender inequities also apply to racial and ethnic inequities. We need to:

(1) increase the number of URM applications for assistant professorships and actively seek targets of opportunity for senior hires.
(2) actively seek URM applicants rather than passively waiting for them to come to us.
(3) develop an environment that will attract URM to the faculty and overcome departmental biases that are in conflict with the aforementioned objectives.

We recommend that these points be addressed in the same manner as gender inequities.

Graduate Student Distribution: Gender, Racial and Ethnic Inequities

Goals: By 2013, to (1) increase the number of women in our graduate program to 40% (with an emphasis on domestic students), (2) increase the number of URM in our graduate program to 10% and (3) achieve equal PhD graduate percentages across all sectors of our graduate student population (gender, race and ethnicity).

How will we reach these goals? We feel that recruitment of women and URM faculty are necessary to achieve the aforementioned recruitment goals. A number of other activities that should help with URM student recruitment and retention are recommended below:

(1) Cultivate relationships with URM graduates of our department. Maintain regular contact with these individuals, be they in academia or industry, and encourage them to send students to our program. This is an ongoing activity that needs to be formally
maintained.

(2) Send current URM students to their home institutions to recruit. Send faculty-student recruiting teams to these institutions. Send current URM students and faculty as “talent scouts” to meetings (ACS, SACNAS, NOBCChE, ABRCMS) to search for potential URM graduate students.

(3) Establish partnerships with universities with high URM enrollments. We should have a goal of establishing “partnerships” with at least one university with high African American, Hispanic American and Native American enrollments (each) by the end of 2010. We should invite students and faculty from these institutions to present seminars at OSU. We should make arrangements such that faculty from these partner institutions can use instrumentation at OSU of value to their research programs and students. Such use of instrumentation can be local or can be via cyber-enabling our cutting-edge equipment. The department should create incentives for faculty that encourage them to establish the aforementioned partnerships.

(4) Continue the initiative of providing a first-semester fellowship to all entering minority graduate students [Offering such a fellowship to all entering students should be another departmental goal]. This initiative would not only help recruiting efforts, but might contribute to the goal of achieving equity in PhD graduation rates.

(5) Offer incentives for our faculty to spend a semester teaching at the nation’s top HBCUs. This has been a strategy used by a few other institutions to attract high quality URM graduate students.

One of the problems encountered by URM is the lack of a peer group with which to study and interact. In this regard the department should support our local student affiliate of the National Organization of Black Chemists and Chemical Engineers (NOBCChE). The department should encourage this organization to serve as the focal point for developing mentor programs for incoming URM students. We recommend that URM advisors be required to develop a mentoring plan (with the student) and discuss the plan with the Graduate Studies Office. Faculty serving as advisors to URM should be encouraged to obtain support for these students on supplemental fellowships (NSF, NIH, DOE) whenever possible.

Undergraduate Diversity Initiatives

Diversification of the undergraduate student body is a constant effort by the Undergraduate Admissions effort of the University. While faculty and staff can be involved in aiding in the effective recruitment of gender and URM diversified undergraduate students, the department is limited in our efforts for this population. However, scholarship monies can be used to ensure that our qualified gender and URM Chemistry and Biochemistry majors are successful in their undergraduate endeavors. Faculty and staff can be heavily involved in the successful recruitment of prospective undergraduate majors. Also, collaborations with universities and community colleges in Ohio, including Columbus State, provide an opportunity to recruit gender and URM populations to OSU. Current efforts with Ursuline College for a 2+2 (or 2+3) program provide an example to foster growth in undergraduate admissions for URM students, and for nurturing them to be successful at OSU. Collaborations with high school teachers with URM representation (research experiences for teachers, RET, or summer internship efforts) can be
effective in bringing attention to URM students about being at the University.

**Staff Diversity Initiatives**

**Goals:** *To improve the current gender distribution in the areas of Teaching Staff and Shop Staff. To increase the percentage of URM occupying staff positions in the department.*

Table 2 indicates that whereas hiring of women seems equitable, the number of URM on the staff is low.\(^7\) The instrumentation and shop staff numbers are reflective of the current applicant pool.

<table>
<thead>
<tr>
<th>Category</th>
<th>Men</th>
<th>Women</th>
<th>Black</th>
<th>Hispanic</th>
<th>Native American</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire Staff</td>
<td>40 (53)</td>
<td>33 (43)</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Instrumentation</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Teaching Staff</td>
<td>12</td>
<td>7</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Shop Staff</td>
<td>21</td>
<td>10</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Office Staff</td>
<td>5</td>
<td>13</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

\(^a\) X-ray, MS, NMR, surface analysis \(^b\) CISG, chemicals prep lab, computer support, glassblowing, machine shop, MBSC, safety office \(^c\) lecturers, general and organic labs, REEL, WOW \(^d\) main office, accounting, undergraduate studies, graduate studies, personnel, materials management, office associates \(^e\) percentages in parentheses

The department will take the following steps to achieve the goals. We will include at least one woman on every staff search. We will assign a diversity advocate to each staff search when feasible. The duties of the advocate will include monitoring the search to make sure it begins with a diverse pool of applicants, calling into question whether or not the search should proceed if the application pool is not sufficiently diverse, and making sure that applications are considered without a gender bias.

**Support for Diversity Initiatives**

Efforts to increase diversity of the faculty and graduate student body must be a high priority item for the department. There are several ways in which the department can support the aforementioned initiatives: (1) Staff support must be provided to keep track of ongoing initiatives and to help with searches (such as identifying and contacting women and URM fellowship awardees). This support should not be diffuse. It should be in the hands of one individual assigned to work with the Chair of the Diversity Committee. (2) Funds should be allocated for the aforementioned student and faculty travel, for “matching” programs that might accompany establishing partnerships, and for seminars associated with pursuing targets of opportunity and establishing long-term relationships with potential students or faculty members.
Assessment

We recommend the Diversity Committee meet every semester to evaluate progress toward the aforementioned goals. If monitoring and initiating activities becomes extremely time consuming (for example the equivalent of running the NSF-REU program), the Chair of this committee should periodically be given teaching relief. The committee should report annually to the department on progress toward the goals stated herein. Whereas this document is written with 5-year timelines on goals, the committee will seriously evaluate whether or not adopted initiatives are leading to results after a 3-year period.

References

1. “Building Strong Academic Chemistry and Biochemistry Departments through Gender Equity”; http://www.chem.harvard.edu/groups/friend/GenderEquityWorkshop/ and http://chemChairs.uoregon.edu. OSU Chemistry and Biochemistry was represented at this workshop by Prabir Dutta.
2. “Workshop on Excellence Empowered by a Diverse Academic Workforce: Achieving Racial & Ethnic Equity in Chemistry and Biochemistry”; http://chemChairs.uoregon.edu. OSU Chemistry and Biochemistry was represented at this workshop by Chris Hadad.
3. Arguments regarding the importance of increasing diversity in our discipline have been documented and will not be reiterated here. In a nutshell, demographics of the USA are changing. The traditional pool of PhDs (and faculty) is decreasing relative to URM. It is of economic and social importance to educate and train the URM workforce in areas dominated by whites through the years.
4. We recommend that this workshop be arranged in consultation with the Director for The Women’s Place at OSU.
6. Here are two examples of how this might work. (1) Jim Coe served as PhD thesis advisor to Kenneth Rodriguez. Dr. Rodriguez is now teaching at California State-Dominguez Hills. Our department is now establishing a partnership with CSDH (and their NIH-sponsored USTAR program) that involves supporting at least two undergraduate students in summer research at OSU. Largely because of efforts of Jim and Ken, we now have another graduate student from CSDH in our program. (2) Kaarina Lokko was a current graduate student with George Wang. Karina received her BS from Oakwood University (an HBCU) and was a GK-12 (program under for which Susan Olesik serves as PI). Susan has set up a collaboration with Oakwood that would fund one of their faculty members to do undergraduate research with the OSU Nanoscience and Engineering Center (NSEC). Hopefully this will increase the number of URM applicants from Oakwood.
7. This compares with 16% URMs on the entire OSU staff (Columbus campus). For OSU data see http://hr.osu.edu/statistics/div/University_summary_2007.pdf.
APPENDIX: Research Support Service Policies

1. The Chemistry and Biochemistry Instrumentation Support Group, the Chemistry and Biochemistry Machine Shop and the Glassblowing Shop reserve the right to refuse to work on any contaminated pieces of equipment. All glassware must be free of chemical residue, grease, solids and liquids. Any of the aforementioned will be cause for rejection of any request.

2. All design, construction and repair work is promised on a best effort basis.

3. Every Research Support Service user must be trained and have their training signed off by the appropriate laboratory manager prior to being authorized for full access.

4. Co-authors of departmental instrumentation grants can be subsidized up to 50% of the usage rate for that instrument. The Chair will determine the total amount of the subsidy as a percentage of the amount of the grant and will determine the allocation between the co-authors. Each subsidy will last for the period of the grant or until the allocation for the co-author is expended, which ever comes first.

5. Identification of instrumentation to be supported by the Chemistry and Biochemistry Research Support Staff is based on customer base, instrument purchase and projected operating costs, supervision and expertise required, financial responsibilities and final considerations as described in the Criteria for Departmental Instrument Acquisition document.

6. Unauthorized users gaining access or any user providing access to another will result in loss of access to the lab for one week.

7. Research Support Service users who do not self-report usage will be charged for their instrument usage from the time the log-on occurred until the next legitimate user log-on.

8. Access to each instrument does not imply any authorization to any other instrument.
VIII.A Criteria for Departmental Instrumentation Acquisition
Department of Chemistry and Biochemistry
The Ohio State University

Identification of instrumentation to be supported by the department Research Support Staff (RSS) relies on five separate, but somewhat interlocking, considerations:

1. Customer Base
2. Instrument Purchase and Operating Costs
3. Supervision and Expertise Required
4. Financial Responsibilities
5. Other

1. Customer Base

NSF, NIH and many other federal agencies have determined that at least five research groups are required to meet the definition of a shared usage instrument. This is consistent with experience with instrumentation within the Department. When an instrument is shared by at least five research groups a number of practical issues need to be resolved. Scheduling becomes a real issue as there is rarely sufficient time on the instrument for unscheduled and unlimited access. An agreement has to be enforced with regard to the length of time per user and per experiment, the number of time slots that a single research group can schedule per day or week and the types of experiments that can be scheduled and when. The latter is especially true when instrument hardware has to be reconfigured for a specific or non-standard experiment. This is exemplified by high and low temperature NMR experiments and specific reaction chamber sample treatments in surface analysis. Routine maintenance and service needs (cryogen fills for NMR, bake-outs for vacuum equipment, filament and filter replacements, etc.) also have to be scheduled in a timely manner. When the number of groups reaches or exceeds five, an instrument is managed more reliably by an individual external to the user groups.

For these reasons, the RSS will use the criterion that at least five research groups, primarily within the Department, must be committed to using an instrument on a regular basis for an instrument to be considered a Departmentally Supported Instrument.

2. Instrument Purchase and Operating Costs

Instrumentation is expensive to acquire and maintain for individual research groups and shared facilities. However, the cost of an instrument should not be a sole criterion for inclusion as a RSS supported instrument. Federal granting agencies consider that an instrument with an initial cost of less than $100,000 can be readily available via the normal research grant process. Instruments with costs above $250,000 are not as readily available without considerable justification, but single user instrument grants exceeding this cost range have been and will continue to be supported by federal funding agencies when a sufficient case is made for the need to support a given line of research. In either case, a request for funding can provide the capital for the purchase with the stipulation that continuing support of the instrument will be provided by local resources. Instruments acquired without grant funding will require local...
funds for both purchase and operating costs. A funding model should be in place prior to acceptance to cover these costs. When instruments are acquired, the costs of training the manager and support staff for the operation and maintenance of instrument should be included in the purchase agreement.

Over the long term the cost of maintaining the instrument will frequently eclipse the initial cost to acquire that instrument. Instruments requiring cooling fluids, cryogens, and/or compressed gases on a continuing basis regardless of usage and instruments with maintenance agreements or service contracts are likely to develop operating costs equaling or exceeding the purchase price over the instrument’s lifetime. More importantly, though, as the instrument’s initial cost rises, so does the complexity of maintenance. As the level of instrumental complexity rises, the need for continuous, skilled supervision becomes a necessity to ensure the continuing operation of the instrument. This is especially true for those instruments which use extensive computerization and dedicated electronic modules to probe the sample, acquire a signal and process the data. Supervision of users, initial and on-going training, continuous monitoring of instrument performance, and scheduling and completion of preventive maintenance can drastically decrease the annual costs of an instrument and dramatically increase its useful lifetime.

There is a man-power cost for maintaining the instrument which does not result in completed research for the user or experience that is generally marketable after graduation. With regard to multi-user instruments, it is not reasonable to expect that a principal investigator should reduce the research output of his/her research group to provide support for all of the users. Department experience has shown that unsupervised usage of the NMR’s and the surface facility has resulted in high incidences of instrument failures and subsequent down-time of the instrument for all users.

For these reasons, the RSS will use the criterion that instruments which have an initial cost above $250,000; OR which use extensive instrument control and data acquisition equipment; OR which require an extensive ancillary support installation; OR which require significant continuing operational expenditures or supervision should be considered for inclusion as a Departmentally Supported Instrument.

3. Supervision and Expertise Required

A trained instrument facility manager should do more than scheduling, maintaining and operating the instrument, and training new users to justify support from the Department. First and foremost, instrument facility managers are experts in the operations of the facilities they manage. They are the primary sources of expertise in the construction of scientific equipment or in the operation of the instruments they supervise. In cases in which sample preparation, instrument operation, data collection and/or data interpretation are complicated and require extensive experience and knowledge, the manager may be the primary operator. Acquisition of instruments must recognize that these qualifications will require significant salaries to attract suitable individuals.

In addition to the previously discussed areas, instrumentation has become sufficiently complex that it is advisable to have an expert present to advise new and experienced users how
to obtain optimal information from the use of the instrument. Predominantly, the manager will
be supervising the initial training of new users on the basic use of the instrument and the basis of
the measurement being made. The majority of new users will advance to a second learning
session to operate the instrument safely and efficiently and will, in the course of their research,
become very familiar with the methods and expertise required to study their particular chemical
problem(s). This is generally within a research group’s ability, but may be more thorough and
inclusive if taught by the manager. In a multi-user environment, it is best practice to have one
person to apply quality control to the training for the well-being of the instrument and to verify
that sufficient instruction has been received before the user is allowed total access to the
instrument.

It is also beneficial to have someone able to provide more general or advanced mentoring
in experiment design, sample preparation, sample handling, data acquisition, data reduction, and
data interpretation. This is especially true if new classes of samples are being studied or
different chemical information is sought. It is invaluable to sometimes have someone to ask,
“What do you really want to know about the sample?” Someone who is more familiar with the
requirements and capabilities of the instrument, with recent developments in the general field of
analysis and with the options that are or potentially are available to the experimenter. Someone
who can more easily have a “view of the forest and not just the trees”. The ability to discuss
the application of the instrument to new problems is essential for prospective clients who may
have no prior experience with the instrument and its capabilities. While the responsibility to
“sell” the facility and cultivate new clients can not be a sole justification for a supplying a
manager for an instrument, it should be considered an important part of any manager’s position.

For these reasons, the RSS will use the criterion that instruments which require
supervision of the instrument’s operation and training of users should be considered for
inclusion as a Departmentally Supported Instrument.

4. Financial Responsibilities

Instrument users have to realize that what is being provided by the Department in terms
of management and operational support is not without cost. There has to be an acceptance of
the user’s responsibility to share the costs of the facility daily operation, maintenance,
management and facility up-grades through hourly or sample fees. Whether this is on neutral
cost basis (operation, maintenance, up-grade and manager salary), operating cost basis
(operations and maintenance plus partial up-grades) or some point in between is a decision that
will have to be made by the Department in light of fiscal responsibilities. However, it is
unreasonable to expect that all costs should be borne by the department budget.

For these reasons, the RSS will require that there must be an annually reviewed
business plan based on costs and projected usage to recover costs as per general
departmental policy before an instrument can be acquired as a Departmentally Supported
Instrument.

Final Considerations

When an instrument meets the majority or key criteria above, there are specific steps that
need to occur before the Department can accept an instrument acquisition. These include:
A. It should be the joint responsibility of the Research Support Staff (RSS) and the
instrument sponsor to gather the required information to support the instrument transfer or acquisition. The Department Chairman should be empowered to make the decision, based on the information supplied, whether to support the application for Department support for the instrument, unless the Chairman determines that a faculty vote is desirable. An instrument acquisition should meet the majority, but not necessarily all, of the criteria for acquisition.

B. The instrument must be functional before it can be accepted by the Department. Final payment on new instruments is contingent on passing acceptance criteria for the instrument. A similar criterion should be applied to used equipment. The Department of Chemistry and Biochemistry should require under normal circumstances that all repairs on used equipment be completed prior to transfer of “title” to the department.

C. The Departmentally Supported Instrument Information sheet should be completed as an early step in the acquisition process. There should be an RSS manager designated, or approval to hire a new manager, before an instrument is accepted. There must be physical space available in an RSS facility to house the instrument, preferably contiguous to existing RSS instrument space. The details of supplying power, cooling, cryogens and gases need to be agreed to prior to acceptance. In the case of new instrumentation, it is best practice for the designated manager to be involved early in the proposal preparation.

D. All instruments should be accepted on a provisional basis. A memo of understanding (MOU) should be prepared and signed by all parties concerned which states the terms of acceptance. These terms should include the ability of the RSS to provide adequate training, maintenance and access for the instrument; the ability of the users to provide adequate usage for the instrument to meet the proposed business plan, and the ability of the manufacturer to continue to supply adequate technical and material support to keep the instrument operational. The MOU and business plan should be reviewed periodically.