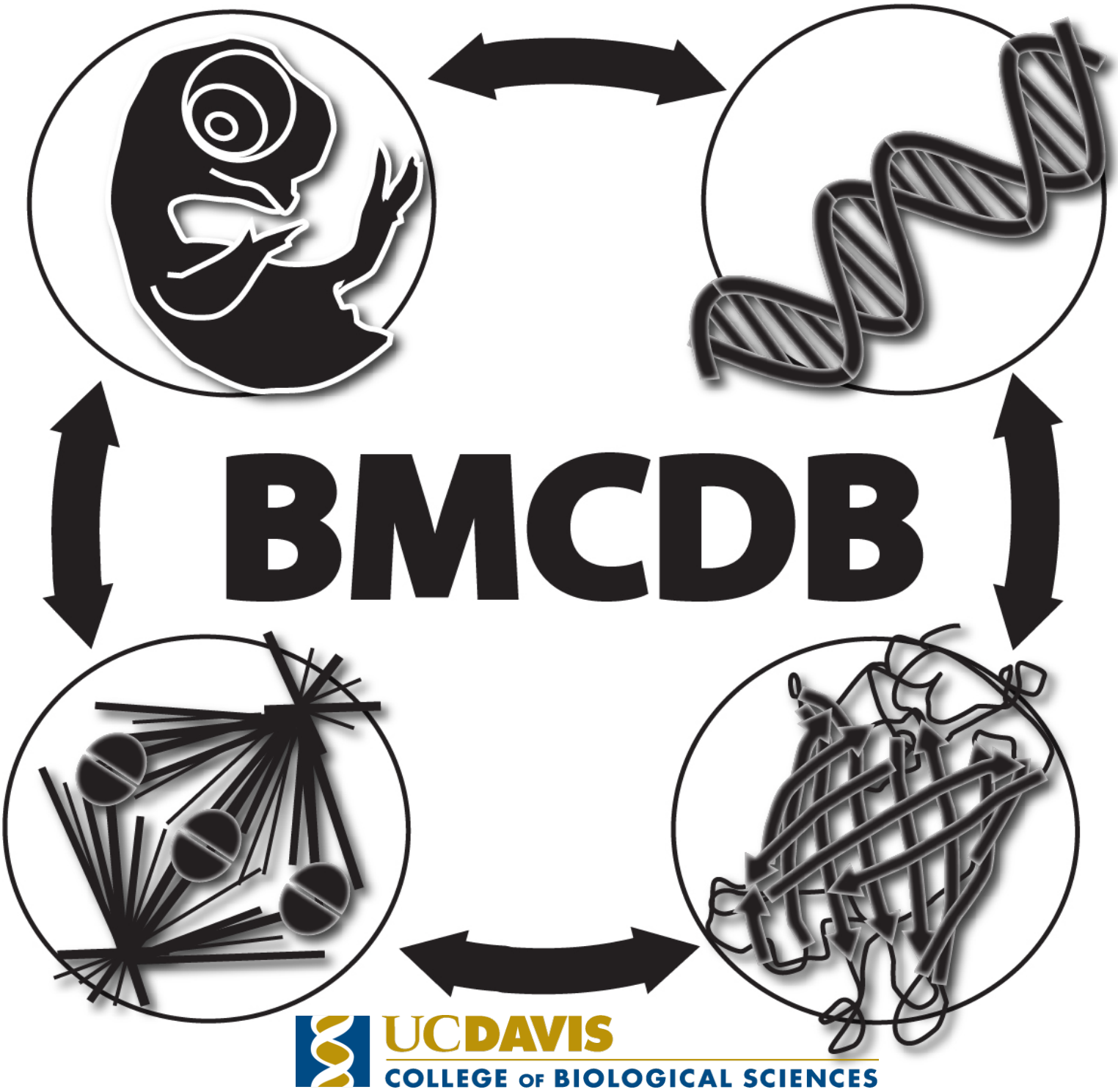

UCDAVIS
COLLEGE OF BIOLOGICAL SCIENCES

A Survival Guide for Students, Faculty and Graduate Advisors
2013-2014

Updated 8/15/13

September 2013

Dear Colleagues,

Please find enclosed a handbook with pertinent information for BMCDB faculty, students and advisors, as well as BMB and CDBers.

"Steps to a degree", outlines the major events that must be completed throughout a student's journey to the Ph.D. as well as information for PSTP and Masters students. This includes what is required of the student, the academic advisor, the major professor, the graduate group chair and coordinator.

This is followed by mentoring guidelines, and coursework information.

The appendixes include Progress report and dissertation committee forms, as well as an updated list of faculty and students in the combined programs.

Your feedback on this handbook is greatly appreciated. Let me know what we can do to make it more informative for next year.

Sincerely,

Mitch Singer
Chair, BMCDB

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STEPS TO THE PH.D. IN BMCDB:
A GUIDE FOR GRADUATE ADVISORS, STUDENTS & FACULTY

Cast of Characters

Graduate Group Chair:	Mitch Singer, 752-9005 (mhsinger@ucdavis.edu)
Graduate Group Coordinator:	Aaron Morrison, 752-9091 (aaronpm@ucdavis.edu)
Graduate Advisors:	Enoch Baldwin (BMCDB), 752-1108 (epbaldwin@ucdavis.edu) Kermit Carraway (Sacramento), 916-734-3114 (klcarraway@ucdavis.edu) Elva Diaz (CDB/BMCDB), 754-6080 (ediaz@ucdavis.edu) JoAnne Engebrecht (BMCDB) 754-6034 (jengebrecht@ucdavis.edu) Robert Fairclough (BMB/BMCDB), 754-5005 (rhfairclough@ucdavis.edu) Chris Fraser (BMCDB), 752-1716 (csfraser@ucdavis.edu) Paul Knoepfler (Sacramento), 916-453-2289 (knoepfler@ucdavis.edu) Frank McNally (CDB), 754-8018 (fjmcnally@ucdavis.edu) Ted Powers (BMB/BMCDB), 754-5052 (tpowers@ucdavis.edu) Lesilee Rose (BMB), 754-9884 (lsrose@ucdavis.edu) Richard Tucker (MS: BMCDB/BMB/CDB) 752-0238 (rptucker@ucdavis.edu) Karen Zito (BMCDB) 752-7832 (kzito@ucdavis.edu)

1. Before first-year students arrive on campus

Prior to arrival on campus, BMCDB graduate students will:

Receive a letter by early summer that will include:

a. Financial aid package
b. A request from MCB 220L instructor for a prioritized list of labs in which the student wants to do a rotation
c. A request for the student to enroll in 12 units using SISWEB
d. Outline of the events planned for the first full week of the Fall Quarter
e. Name and contact information of Academic Advisor

Group Chair:

- will determine financial aid packages
- will plan orientation meeting and first week schedule
- will compose the above letter with the help of the Coordinator

Coordinator:

- will make sure all new students attend TA Orientation
- will help Group Chair organize the Orientation week schedule
- will serve as the primary contact for answering questions
- will assemble orientation packets

2. Orientation to the Graduate Program

Typically, on the Friday before the first day of the Fall Quarter there will be an orientation meeting for the first-year students. This meeting will be run by the Chair and Graduate Coordinator. At the meeting, students will be informed of:

a. Schedule of activities for the first week including: reception for new students, TA training sessions, etc.
b. The need to complete enrollment for the Fall Quarter
c. If appropriate, how to get their paycheck
d. Instructions for how to apply for California Residency (if not yet a resident)
e. General information about the BMCDB Graduate Program

3. Graduate Academic Advisor:

Additionally each student will be scheduled for a meeting with their Graduate Academic Advisor. During the meeting with the **Graduate Academic Advisor** the following will be discussed:

a. Undergraduate preparation and the need for any remedial courses (see Appendix 1)
b. Course schedule for the Fall Quarter
c. Assessment of research interests
d. Stress the requirement for one quarter of TA experience

It is the charge of the Academic Advisor, in collaboration with the student, to develop an academic plan during the first month of the Fall Quarter for the next two years that satisfies the requirements of the BMCDB Graduate Program and will prepare the student for their qualifying exam (to be taken at the end of the second year). The advisor and student will discuss course requirements for the BMCDB program and the development of a schedule for the next two years.

Note: Topics and examiners for the qualifying exam will be discussed at a subsequent meeting with the Academic Advisor, typically during the Winter Quarter of the second year.

Graduate Coordinator:

- will prepare the file
- will assist with the scheduling of the meeting with the Graduate Advisor

4. Progress Report-Year One

Every spring quarter Graduate Studies requires a progress report for each student. To complete this report, **first-year students** will meet with their Major Professor to sign the report followed by a meeting with the Graduate/Academic Advisor, who will determine:

a. The requirements for the degree that remain to be completed,
b. If the student is making normal progress toward the degree,
c. That the student has joined a lab, and that they and the Major Professor have agreed on how the student will be supported for the remainder of their tenure in the Major Professor's laboratory.

At this meeting, the student and the Graduate Advisor both sign the progress report. The report must be filed with the BMCDB office by **the end of June**.

Graduate Coordinator:

- will prepare the progress reports and send them to each student near the beginning of the Spring Quarter.
- will periodically remind students that the reports must be filed and notify the Major Professor (if there is one) or the Graduate Advisor if the student has not returned the progress report in a timely manner.

Graduate Student:

- must have the Major Professor sign the report

- must make an appointment to see the Graduate Advisor and discuss the report
- must return the report to the Graduate Coordinator by the deadline

Graduate Advisor:

- must carefully assess student progress and requirements left for the degree
- must sign the progress report

Major Professor:

- must make clear his/her plans to support the graduate student. **If TAships will be necessary for part or all of the financial support, the student must apply for TA positions and be aware of the deadlines for applications.**

It should be emphasized that the student has several sources of advice available at all times prior to being advanced to candidacy. These include the:

a. Major Professor
b. Graduate Advisor
c. Chair of the BMCDB Graduate Program
d. Group Coordinator
e. Student Mentorship Committee

However, only the Graduate Advisor has signatory rights, including approving waivers of graduate group curriculum, approval of S/U grading, etc.

5. Progress Report-Year Two

In the Winter Quarter of the second year (or before, if the student wishes) the student, after discussion with their major professor, must meet with their Graduate Advisor and discuss:

a. Topics for the oral exam
b. Possible examiners for the oral exam
c. Any remaining requirements, which must be completed before the oral exam and advancement to candidacy (TA requirement must be fulfilled prior to the QE)

These recommendations will be noted on the student "contract" and any deficiencies noted on the progress report.

Graduate Coordinator:

- will send each student their progress report no later than the beginning of the Winter Quarter
- will notify student and then Graduate Advisor if the report has not been filed in a timely fashion

Graduate Student:

- will arrange all meetings and be sure the progress report is signed and then

returned to the Graduate Coordinator

- will be responsible for seeing that the proper paperwork is filed with Graduate Studies for the composition of the oral examining committee.
- this must be done well in advance of the exam.

Graduate Advisor & Major Professor:

- same as year one (see above).

6. Qualifying Exam/Advancement to Candidacy- Spring Quarter Year Two

A student in the Ph.D. program should take their qualifying exams at the end of Spring Quarter of their second year. If they require Spring Quarter to finish coursework or TA requirements, the qualifying exam can be taken during the summer of their second year. They may take it earlier if they wish. Only exceptional circumstances will exempt a student from the summer deadline, which may include: serious illness, temporary withdrawal from the academic program (PELP), debilitating personal problems, or a switch in major professors. Major Professors should note that the Graduate Advisors will not approve the delay of a student's oral exam because a Major Professor requires additional data collected for a grant proposal or a manuscript.

The oral portion of the qualifying exam is intended to demonstrate the student's critical thinking ability, synthesis, and broad knowledge of the field of study. The student must also submit a research proposal to each member of his/her examining committee of no more than 5 pages, written in the format of the Research Plan of an NIH proposal, that outlines his/her proposed thesis research. If a student has not accumulated sufficient preliminary data, the proposal will necessarily be more general in nature so that the examining committee has evidence that a student can formulate hypotheses and experimentally test them. Note: The focus of the proposal is not on the students' own preliminary data, but rather to determine if the student can formulate hypotheses based on prior work from the lab or the literature, then propose approaches that experimentally test those hypotheses. Therefore, a student will not be able to delay their orals if they have not generated what they or their Major Professor consider sufficient preliminary data.

Research proposals should be distributed to the examining committee no later than 2 weeks prior to the exam date.

Qualifying examination committees will consist of five faculty members who are recommended to Graduate Studies by the BMCDB Student Affairs Committee in the Winter quarter of the student's second year. Three members will be selected by the BMCDB student with solicited input from major advisers and graduate advisors, who will be asked to recommend names of the members - ideally two of these faculty will also to serve on the student's dissertation committee. The remaining three faculty will be selected by the Student Affairs Committee to ensure coverage of the core areas of BMCDB (i.e. Biochemistry, Molecular Genetics, Cell Biology, and Developmental Biology). Qualifying examination committees are submitted to Graduate Studies and appointed in accordance with the Academic Senate regulations. The chair of the qualifying examination committee is expected

to ensure that the student receives a fair examination. Qualifying Examination Committees may not include the major professor who will serve as chair of the student's dissertation committee. The area of the student's dissertation research will be considered so that at least one individual with expertise in this area is a member of the qualifying examination committee. These names are forwarded to the Office of Graduate Studies for formal appointment in accordance with Graduate Council policy (DDB 80. Graduate Council B.1.). The "Application for Qualifying Examination" can be found at http://gradstudies.ucdavis.edu/forms/qx.pdf

* Please note that students are requested to ***not*** provide food or drink to the examining committee.

7. Appointment of the Thesis Committee (Ph.D. Program)

When a student passes his/her oral exam they must file the paperwork with Graduate Studies for "Advancement to Candidacy." This document is signed by the Chair of the Qualifying Examination Committee, the student, and the Graduate Advisor. In consultation with the major professor, who will serve as Chair, the student will select two members for the thesis committee. ONLY ONE member of the Thesis Committee may come from outside the BMCDB Graduate Group, and the proposed members should be contacted for their availability before turning in the paperwork. This committee must be approved by the Graduate Advisor (as indicated by their signature), the document signed by the student and submitted to Graduate Studies for approval.

The student should file this document immediately after successfully passing the qualifying exam. Foreign students should remember that their tuition is reduced considerably after they file the papers for "Advancement to Candidacy."

8. Progress Reports After a Student has Advanced to Candidacy

Once a Ph.D. student has advanced to candidacy, they will be working full-time on their dissertation research, although students are still encouraged to participate in seminar courses and journal clubs. The only formal requirement during this time is to meet yearly with the thesis committee. At this time:

a. The student will give **an oral presentation** of progress to date on his/her thesis research and provide the committee with a **written summary** of the research accomplished in the previous year and work that must be finished.
b. The Thesis Committee will advise the student about his/her progress, will provide written comments on the Dissertation Committee Report under "Recommendations to Student", and all members will sign the report. In addition, the Major Professor (Chair of the Thesis Committee) must also sign the progress report, indicating the student's progress as satisfactory, marginal, or unsatisfactory.
c. The Graduate Advisor must also sign the progress report.

Third Years- Progress Reports and Dissertation Committee Reports are due by the **end of Spring Quarter**.

Fourth Years: Progress Reports and Dissertation Committee Reports are due by the **end of WINTER quarter**.

Fifth years and above: Schedule a meeting for Fall quarter at the beginning of the 5th year, and at a minimum every 6 months thereafter. Advisors may waive the Fall meeting if they feel there is clear evidence of progress and graduation is imminent. **Interim Progress Report forms are available for the midyear meeting; the normal progress report and dissertation report should be filled out in the spring quarter as usual.**

The extra meetings are to facilitate discussion by all members as to what is needed for the student to complete their thesis in a timely fashion (ie by the end of the 5th or sometime in the 6th year). This discussion should include whether additional experiments should be carried out, and also whether the thesis chapters need to be published, or at least submitted, before the committee will sign off on the thesis. The BMCDB group does not require a certain number of publications for completion of the Ph.D. Rather, the status of thesis chapters is left to the discretion of the major professor and dissertation committee, and thus should be discussed the committee well in advance of when completion is expected. We recommend that students provide their committee with an outline of the thesis at least 6 months prior to the expected completion date that was noted on the last progress report.

A student's progress will be reported as unsatisfactory if they do not give an oral presentation of their thesis research to their thesis committee.

9. Completion of Ph.D. Degree Requirements

A student will have completed all the requirements for the degree when:

a. The written dissertation is signed by the Major Professor and the two other thesis committee members. While there are no explicit rules defining an adequate dissertation, it is the expectation that the research will be of publishable quality, and that the research represents a significant contribution to the research area.

   A website with guidelines for completing the dissertation can be found at: http://gradstudies.ucdavis.edu/forms/chklistphd.pdf

b. The student gives an exit seminar. The exit seminar should be a widely advertised event held on campus.

10. Where to go and what to do if problems arise

It is everyone's desire for students to successfully obtain their Ph.D. in a timely manner. The best way to ensure this is to take advantage of the resources available throughout your tenure in graduate school. Meeting regularly with your academic advisor, especially in the early

stages of the Ph.D. program, will ensure that you are enrolled in the correct courses and are in good academic standing. Your advisor can also help you in selecting a lab in which to perform your thesis work.

The qualifying exam in the second year can be a very stressful experience. Communicating with your major professor about the time you need to study is very important. Your fellow students can greatly help with studying general knowledge and practicing presentations. Furthermore, your lab mates can help ensure that you are prepared for the examination on your thesis work.

Once you have advanced to candidacy, your yearly meeting with your thesis committee is essential to make sure you are on track to complete your degree. If necessary, more frequent meetings can be scheduled. If you find that you are not progressing as expected, or have conflicts with your major professor, your committee can help to determine a course of action. Also remember that you can go to your academic advisor for additional help and support. Your academic advisor can act as an impartial mediator throughout your graduate career and should be used as general resource if any questions or problems arise.

Especially in cases where you have a conflict with your major professor and need guidance, you should contact your academic advisor as well as the group chair. The group coordinator and the student mentoring committee are additional resources to seek advice and help. Finally the university has counseling services free of charge.

Counseling and Psychological Services (CAPS): errodolfa@ucdavis.edu, (530)752-0871, 219 North Hall

11. PSTP students

Due to the nature of the PSTP program there are some differences with the normal course of progression to your Ph.D. In particular,

a. Core courses: PSTP students in BMCDB will be required to take the Medical School 410B and BCM405 courses and the Graduate School MCB 210-215 (Molecular Genetics & Genomics, Biochemistry, Cell Biology, Developmental Biology, Molecular Biology, Readings Course, see attached). The IOR for Medical School 410A has agreed to accept B or better grades in the core courses for 410A credit. The BCM405 Medical School course can be taken to satisfy elective credits.
b. Lab rotations: Students will rotate in at least 3 different laboratories for four 5-week rotations. These laboratory rotations will not be restricted to the fall and winter quarter and may include rotations taken as part of a required Summer PSTP Research Training Program immediately preceding formal matriculation. However, PSTP BMCDB students will be required to prepare a written and oral report of their research to be arranged during the subsequent fall or winter quarters in which MCB220L is in session. Please note that PSTP students must be registered for MCB220L for two quarters and present a total of 4 written and oral reports to fulfill the requirements; however, as the lab rotations will be spread out in time the presentations can be given in quarters in which the student is not registered for the course. **It is the students' responsibility to contact the current**

instructors of MCB220L in the quarter they wish to present their rotation talks and to make sure that a record of participation is recorded in the BMCDB office.

c. TA responsibilities: Not required for MSTP Training grant funded students, but highly recommended.
d. PSTP students will have the same requirements as other BMCDB students with respect to other course and advancement requirements. This includes 2 electives and ethics training. These requirements can be fulfilled with Medical School courses. Please consult with your academic advisor about the specific courses that are eligible. Further, the qualifying exam will be conducted as with other BMCDB students.

12. M.S. degree in Biochemistry, Molecular, Cell and Developmental Biology must complete each of the following:

a. All University Requirements for the Master's Degree, as specified in the Graduate
b. Advisor's Handbook, U.C. Davis.
c. Plan 1 OR Plan 2

Plan 1: Thesis Option

a. *Satisfactory completion of 30 units of upper division and graduate level course work,* including at least 12 units of BMCDB core courses, AND
b. *Submission of a thesis.* The subject of the written thesis must be approved by the Masters Advisor and the Dean of Graduate Studies. The thesis must be submitted to a committee of three members of the Graduate Group faculty, who are nominated by the Masters Advisor, and appointed by the Dean of Graduate Studies. The thesis must be signed by each of the three committee members to be acceptable. If one member of the committee dissents, then a majority and minority report are submitted to the Dean of Graduate Studies, who will make the final decision. If two or more members of the committee find the thesis unsatisfactory, then the student must be given a written description of the deficiencies and an appropriate and specific time in which to correct the deficiencies. The thesis is then submitted to the committee for re-evaluation. If the thesis is still unacceptable to the majority of the committee, then the majority may recommend to the Dean of Graduate Studies that the student be disqualified from further graduate study.

Implementation of the Thesis Option

Fall Quarter: The student meets with a Masters Degree Advisor during the orientation week and establishes an academic plan that will meet the requirements of the program if completed successfully. During the Fall Quarter the student should also begin to formulate a topic for the thesis.

Winter Quarter: In addition to taking the required courses, the student should meet with the Masters Degree Advisor during the month of January to determine the subject of the written thesis. When the topic is approved by both the Masters Degree Advisor and the Dean of Graduate Studies, the student and advisor meet to formulate the Thesis Reading Committee. This committee will be available to assist the student in preparing outlines,

finding references, etc. At the end of the quarter, the student applies for advancement to candidacy (see below). Bench research (BCB299) in a laboratory designated by the Masters Degree Advisor and student is an option during this quarter and the Spring Quarter.

Spring Quarter: According to Graduate Council policy, the finished thesis must be given to each member of the committee at least four weeks before the filing deadline (approximately April 1). It is our group's policy that the Thesis Reading Committee will inform the student if the thesis is acceptable or if revisions are necessary at least two weeks before the filing deadline. The revised thesis must be given to each member of the committee at least one week before the filing deadline. This version will be either approved or the student will be disqualified from further graduate study.

Note: This sample scenario shows a student completing the degree in 3 quarters, which means writing the thesis while taking a full load of courses. The sample Academic Plan shown below includes units of Independent Study (MCB299) incorporated into both the Winter and Spring quarters to make this realistic. However, the program may also be completed over a longer period if the student and Graduate Advisor establish a longer academic plan (e.g., one that involves original bench research or TAing).

Example of an Academic Plan for the Thesis Option:

Fall: MCB210 (Molecular Genetics and Genomics, 3 units); MCB 211 (Biochemistry and Biophysics, 3 units), MCB259 (Literature in Developmental Biology, 1 unit); MCB291 (Current Progress in Molecular and Cellular Biology, 1 unit), STA100 (Statistics, 4 units);—12 units total

Winter: MCB212 (Cell Biology, 3 units); MCB213 (Developmental Biology, 3 units); GER040 (Great German Short Stories, 4 units); BCB299 (Independent Study, 2 units)—12 units total

Spring: MCB214 (Molecular Biology, 3 units); MCB259 (Literature in Developmental Biology, 1 unit); MCB291 (Current Progress in Molecular and Cellular Biology, 1 unit), MCB299 (Independent Study, 7 units)—12 units total

Totals: 32 units upper division and graduate level course work, 15 units BMCDB core courses

Plan 2: Examination Option

a. *Satisfactory completion of 36 units of upper division and graduate level course work.* At least 18 of these units must be graduate course work in Biochemistry, Molecular, Cell and Developmental Biology. Of the 18 units of graduate course work, 15 units should come from the BMCDB core course, no more than 9 units may be research (299 or equivalent), AND
b. *Satisfactory completion of a written or oral comprehensive final examination*, which shall cover three subject areas in Biochemistry, Molecular, Cell and Developmental Biology, selected by the student and the graduate advisor. The examination committee will consist of three members of the graduate group, nominated by the graduate advisor, and appointed by the Graduate Dean. Graduate Studies requires that the vote be unanimous

in order to pass. If the student fails to pass the exam, the examination committee may recommend that the student be reexamined one time. If the Graduate Advisors agree with this recommendation, the student may be reexamined. Failure to pass the reexamination may result in a recommendation that the student be disqualified from further graduate study.

Implementation of the Examination Option

Fall Quarter: The student meets with a Masters Advisor during the orientation week and establishes an academic plan that will meet the requirements of the program if completed successfully.

Winter Quarter: In addition to taking the necessary courses, the student should meet with the Masters Advisor during January to determine the examiners for the comprehensive examination. After contacting the examiners and confirming their participation, the exam committee is submitted to the Dean of Graduate Studies for approval. Near the end of the quarter, the student applies for advancement to candidacy (see below).

Spring Quarter: The comprehensive exam should be held at least two weeks before the end of the session. The Examination Committee will inform the student at the end of the exam if the exam was: 1) a pass, 2) a no pass, or 3) if a re-examination is necessary. A re-examination should be scheduled before the end of the Spring Quarter.

Example of an Academic Plan for the Examination Option:

Fall: MCB210 (Molecular Genetics and Genomics, 3 units); MCB 211 (Biochemistry and Biophysics, 3 units), MCB259 (Literature in Developmental Biology, 1 unit); MCB291 (Current Progress in Molecular and Cellular Biology, 1 unit), STA100 (Statistics, 4 units);—12 units total

Winter: MCB212 (Cell Biology, 3 units), MCB213 (Developmental Biology, 3 units), (Seminar in Developmental Biology, 2 units); MCB259 (Literature in Developmental Biology, 1 unit); NSC226 (Molecular and Developmental Neurobiology, 4 units)—13 units total

Spring: MCB214 (Molecular Biology, 3 units); MCB259 (Literature in Developmental Biology, 1 unit); MCB291 (Current Progress in Molecular and Cellular Biology, 1 unit), BCB299 (Independent Study, 7 units)—12 units total

Total: 37 units toward degree, 15 units BMCDB core courses, 4 units approved elective(s)

13. Transfer between the Ph.D. program and the M.S. program

Students in the Ph.D. program can earn the M.S. degree only by transferring to the M.S. program. This can be done at any point prior to advancement to candidacy after consulting with the Dissertation Advisor (if applicable) and Graduate Advisor. Note that a change of degree objective form must be completed in a timely manner. Both M.S. degree options are available. Students in the M.S. program can apply to the Ph.D. program during the Fall Quarter of their first year. If they are

accepted into the Ph.D. program the courses they have taken toward the M.S. will transfer as courses toward the Ph.D., and the student will withdraw from the M.S. program without earning the M.S. degree.

Note: For ALL candidates for the M.S. in BMCDB:

a. Courses must be approved by the Masters Advisor.
b. Only courses in the 100 or 200 series, for which a grade of A, B, C, or S is received, will satisfy the requirements.
c. Cumulative grade point average in courses taken to satisfy the requirements for this degree must be 3.0 or greater.
d. After completion of at least one half the required units, the student must file an official application for Advancement to Candidacy. Forms are available in Rm., 250, Mrak Hall.

Mentoring Guidelines

Graduate Council recognizes that the mentoring of graduate students by faculty is an integral part of the graduate experience for both. Faculty mentoring is broader than advising a student as to the program of study to fulfill coursework requirements and is distinct from formal instruction in a given discipline. Mentoring encompasses more than serving as a role model. Because of the uncertainty as to the nature of mentoring, the UC-Davis Graduate Council has outlined the following mentoring roles to guide the relationship between faculty and graduate students. Faculty and graduate students must realize that, while the major professor will be the primary mentor during a student's career at UCD, many of the mentoring "functions" defined below may be performed by program faculty other than the major professor. An important corollary to this recognition is that faculty members must realize that much of their interaction with all students has an important mentoring component to it. Graduate students also have responsibilities to insure successful mentoring and these are also indicated below.

Faculty have a responsibility to mentor graduate students. Mentoring has been defined as….

I. Guiding students through degree requirements. This means:

a. Providing a clear map of program requirements from the beginning, making clear the nature of the coursework requirements and qualifying examination, and defining a timeline for their completion.
b. Providing clear guidelines for starting and finishing dissertation or thesis work, including encouraging the timely initiation of the dissertation or thesis research.

II. Guiding students through thesis or dissertation research. This means:

a. Evaluating clearly the strengths and weaknesses of the student's research.
b. Encouraging an open exchange of ideas, including pursuit of the student's ideas.
c. Checking regularly on progress.
d. Critiquing written work.
e. Providing and discussing clear criteria for authorship of collaborative research.
f. Assisting in finding sources to support dissertation research**;** such as**,** teaching assistantships, research assistantships, fellowships, etc.
g. Being aware of student's research needs and providing assistance in obtaining required resources**.** For example, serve as the student's advocate for necessary desk and/or laboratory space.

III. Guiding students through professional development. This means:

a. Providing guidance and serving as a role model for upholding the highest ethical standards.
b. Treating students respectfully.
c. Encouraging and critiquing oral and written presentations.
d. Encouraging participation in professional meetings of regional groups as well as of learned societies.
e. Facilitating interactions with other scholars, on campus and in the wider professional community.
f. Assistance with applications for research funding, fellowship applications, and other

applications as appropriate for the respective discipline.

g. Being the student's advocate in academic and professional communities.
h. Providing career guidance, specifically assistance in preparation of CV and job interviews, and writing letters of recommendation in a timely manner.
i. Recognizing and giving value to the idea that there are a variety of career options available to the student in her/his/your field of interest and accepting that the student's choice of career options is worthy of your support. For example, guiding the student to teaching opportunities when appropriate for the student's goals.

As partners in the mentoring relationship, graduate students have responsibilities. As mentees, students should:

I. Be aware of their own mentoring needs and how they change through their graduate tenure. Graduate students should discuss these changing needs with their mentors.

II. Recognize that one faculty member may not be able to satisfy all of a student's mentoring needs. Seek assistance from multiple individuals/organizations to fulfill the mentoring roles described above.

III. Recognize that their mentoring needs must respect their mentor's other responsibilities and time commitments.

IV. Maintain and seek regular communication with their mentors, especially their major professor.

While we have tried to provide examples of what mentoring means, we recognize that each discipline will provide its own special set of mentoring needs and challenges. We recommend that each graduate program meet to define what "good mentoring" means to and for its faculty and graduate students.

Approved by UC Davis Graduate Council
June 24, 1999

APPENDIX 1. BMCDB Graduate Group Course Requirement Form

Student Name:_____ Date: _____

Advisor Name:_____

Graduate Courses at UCD:

REQUIRED CLASSES – 1st year

Fall		Winter		Spring	
MCB 220 L	_____	MCB 220 L	_____	BCB 299	_____
MCB 210	_____	MCB 212	_____	MCB 214	_____
MCB 211	_____	MCB 213	_____	MCB 215	_____
MCB 291	_____	MCB 291	_____	MCB 291	_____
GGG 296	_____			Elective	_____

Summer: BCB 290 _____

2nd year

BCB 299	_____	BCB 299	_____	BCB 299	_____
MCB 291	_____	MCB 291	_____	MCB 291	_____
Elective	or	Elective	or	Elective	or
TA	or	TA	or	TA	or

Students must earn a grade of B- or better in each of the six core classes. CHECK WHETHER ALTERNATE YEAR CLASSES ARE OFFERED IN THAT YEAR !!!!

Student Signature:_____ Date: _____

Graduate Advisor Signature:_____ Date:_____

APPENDIX 2. Graduate Courses Approved to Meet Ph.D. Degree Requirements

This list was compiled from both the most recent and an older General Catalog, some things may be out of date. Consult the most recent General Catalog for course availability.

The General Catalog, including updates, can be found at: http://registrar.ucdavis.edu/UCDWebCatalog/

Electives by area

Biochemistry electives

BCM/BPH231 Biological Nuc. Magnetic Res.(3)
CHE216+ Magnetic Resonance Spec.y(3)
CHE217 X-ray Structure Determination(3)
CHE218 Macromolecules: Phys.l Principles(3)
CHE219 Spectroscopy of Organic Comps(4)
CHE237 Bio-organic Chemistry(3)
EDO240 Biochemical Endocrinology(3)
ETX214+ Mechanisms of Toxic Action(3)
FST201 Food Chemistry & Biochemistry(3)
FST210 Proteins: Functional Act. and Interact.(3)FST211 Lipids: Chemistry & Nutrition(3)
MCB123 Anal. of Enz. & Receptor Sys. (3)
MCB126 Plant Biochemistry (3)
MCB221B/CHE221B Mechanistic Enzymology/Enzymes and Metabolism (4)
MCB241 Membrane Biology(3)
MIC263 Princip. of Protein –Nucleic Acid Interactions (3)
NPB/NSC 270 How to Write a Fundable Grant Proposal (3)
PBI205C Advanced Plant Physiol/Biochemi (3)
PBI208 Plant Hormones and Regulators (4)
PBI218B+ Advanced Concepts in Plant Cell Biology: Signal Trans. & Intercellular Transduction & Intercellular Communication(3)
PBI227 Plant Molecular Biology (4)
STAT205 Statistical Methods for Research (4)

Cell Biology electives

MCB241 Membrane Biology (3)
MCB251 Biology of Fertilization (3)
MCB256 Cell and Molecular Biology of Cancer
MCB257 Cell Prolif. and Cancer Genes (3)
MCP200L Animal Cell Culture Laboratory (4)
MCP210A-210B-210C Advanced Physiol. (4)
MIC200A Biology of Prokaryotes (3)
MIC200B Advanced Bacteriology (3)
MIC250 Biology of Yeasts(5)
MIC262 Advanced General and Molecular Virology (3)
NPB/NSC 270 How to Write a Fundable Grant Proposal (3)
NSC(NPB)221 Cell. and Molec. Neurosci. (4)
PBI214 Higher Plant Cell Walls (3)
PBI217 Membrane Biology of Plants (3)
PBI218B Advanced Concepts in Plant Cell Biology: Signal Trans. and Intercell. Com.
PTX202 Princ. of Pharm. and Toxicol. II (4)
STAT205 Statistical Methods for Research (4)

Developmental Biology electives

MCB251 Biology of Fertilization (3)
MCB252 Cellular Basis of Morphogenesis (4)
MCP219 Muscle Growth and Development (3)
MCP220 Gen. and Compar. Physiol. of Repro. (3)
MCP222 Gametogenesis and Fertilization (3)
NSC226 Molec. and Dev. Neurobiology (4)

PBI219 Repro. Biol. of Flowering Plants (3)
PBI220 Plant Developmental Biology (4)
PBI229 Molec. Biology of Plant Reproduction (3)
STAT205 Statistical Methods for Research (4)

Molecular Genetics & Genomics electives
GGG201A Advanced Genetic Analysis (5)
GGG201B Genomics (5)
GGG201C Molecular Biology (4)
GGG201D Quant. and Population Genetics (5)
GGG210 Horizontal Gene Transfer (3)
MIC215. Recombinant DNA (3)
MIC262 Advanced General & Molec. Virology(3)
MIC263 Princ.of Protein-Nucleic Acid Inter.
NSC226 Molec. and Dev. Neurobiology (4)
PBI227 Plant Molecular Biology (4)
PHA250: Functional Genomics: from Bench to Bedside (2)
PLP/BCM 217 Molecular Genetics of Fungi(3)
STAT205 Statistical Methods for Research (4)
VCR220 Genomi. & Biotech. of Plant Improv. (3)

Seminar courses
Biochemistry track
BCM230 Practical NMR Spectro. & Imaging(1)
BPH200/MCB 200C Current Tech. in Biophys.(2)
CDB205 Cell Biol. of the Cytoskeleton (2)

Cell Biology track
CDB205 Cell Biol. of the Cytoskeleton (2)
MCB248 Seminar in Cell Biology (2)
MCB291 Current Prog. in Molec. & Cell. Biol.(1)

Developmental Biology track
MCB258 Seminar in Development (2)

Molecular Genetic & Genomics track
BPH200/MCB 200C Current Tech. in Biophys.(2)
MCB291 Current Prog. in Mole. & Cell. Biol.(1)
MIC274 Seminar in Genetic Recombination(1)
MIC275 Seminar in DNA Repair & Recombi.(1)
MIC292 Seminar in Bacterial Physiology & Genetics(1)

GRADUATE STUDENT PROGRESS REPORT

NAME: _____

MAJOR: BMCDB__ DEGREE OBJECTIVE: _____

1. Degree requirements completed (to be filled in with the academic advisor):

__MCB 210 __MCB 212 __MCB 214 __MCB 220L (1) (2)

__MCB 211 __MCB 213 __MCB 215 __ Ethics (GGG 296 or RCR seminars)

__Elective_____ __ Elective_____ __MCB 291 (1-6)

__MCB390, TA _____

__12 units per quarter __Qualifying exam __Thesis

__Other _____

2. Estimated date when degree requirements will be fulfilled:_____

3A. Major Professor:_____

Source of support_____

Check the progress that the student has made over the past academic year:

Comments:

___ Satisfactory _____

___ Marginal _____

___ Unsatisfactory _____

If you indicated that the student is making marginal or unsatisfactory progress, please specify why and explain either here or in an attached memorandum the precise conditions, **including deadlines**, the student must fulfill to achieve a satisfactory report and return to good academic standing.

_____ _____

Major Professor Date

3B. Academic Advisor: Check the progress that the student has made over the past academic year:

Comments:

___ Satisfactory _____

___ Marginal _____

___ Unsatisfactory _____

_____ _____

Graduate Advisor***** Date

*Note: Graduate advisor should not sign this form until major professor/ dissertation committee report has been completed and signed.

GRADUATE STUDENT PROGRESS REPORT

NAME: _____

MAJOR: Biochemistry & Molecular Biology DEGREE OBJECTIVE: _____

1. Degree requirements completed (to be filled in with the academic advisor):

__MCB221A __MCB221B __MCB221C __MCB221D

__MCB200B __MCB220L (1) (2) __MCB290 (1) (2) (3) (4)

__Elective_____ __MCB390, TA _____

__12 units per quarter __Qualifying exam __Thesis

__Other _____

2. Estimated date when degree requirements will be fulfilled:_____

3A. Major Professor: _____

Check the progress that the student has made over the past academic year:

Comments:

___ Satisfactory _____

___ Marginal _____

___ Unsatisfactory _____

If you indicated that the student is making marginal or unsatisfactory progress, please specify why and explain either here or in an attached memorandum the precise conditions, **including deadlines**, the student must fulfill to achieve a satisfactory report and return to good academic standing.

_____ _____

Major Professor Date

3B. Academic Advisor: Check the progress that the student has made over the past academic year:

Comments:

___ Satisfactory _____

___ Marginal _____

___ Unsatisfactory _____

_____ _____

Graduate Advisor***** Date

*Note: Graduate advisor should not sign this form until the dissertation committee report has been completed and signed.

GRADUATE STUDENT PROGRESS REPORT

NAME: _____

MAJOR: Cell & Developmental Biology DEGREE OBJECTIVE: _____

1. Degree requirements completed (to be filled in with the academic advisor):

2. Estimated date when degree requirements will be fulfilled:_____

3A. Major Professor: Check the progress that the student has made over the past academic year:
Comments:

☐ Satisfactory _____

☐ Marginal _____

☐ Unsatisfactory _____

If you indicated that the student is making marginal or unsatisfactory progress, please specify why and explain either here or in an attached memorandum the precise conditions, **including deadlines**, the student must fulfill to achieve a satisfactory report and return to good academic standing.

_____ _____
Major Professor Date

3B. Academic Advisor: Check the progress that the student has made over the past academic year:
Comments:

☐ Satisfactory _____

☐ Marginal _____

☐ Unsatisfactory _____

_____ _____
Graduate Advisor***** Date

*Note: Graduate advisor should not sign this form until the major professor/dissertation committee report has been completed and signed.

BMCDB GRADUATE GROUP
DISSERTATION COMMITTEE REPORT

Name: _____

Date Dissertation Committee met: _____

1. Title of dissertation or description of research project:

2. Progress Summary: (Student should attach a 2-3 page Research Progress Summary)
3. Check the progress that the student has made over the past academic year:

___ Satisfactory ___ Marginal ___ Unsatisfactory

Comments regarding progress and recommendations to student from Dissertation Committee: This must be filled out by the Committee even if progress is satisfactory. In addition, if there are concerns or unsatisfactory progress, please specify why and explain either here or in an attached memorandum the precise conditions, including deadlines, the student must fulfill to achieve a satisfactory report and return to good academic standing. Use back if necessary.

4. Expected completion date: _____
5. Additional comments (e.g. discussion of postdoctoral opportunities):

Dissertation Committee: (name) (signature)
Major professor: -_____ -_____
-_____ -_____
-_____ -_____

Biochemistry & Molecular Biology GRADUATE GROUP
DISSERTATION COMMITTEE REPORT

Name: _____

Date Dissertation Committee met: _____

1. Title of dissertation or description of research project:

2. Progress Summary: (Student should attach a 2-3 page Research Progress Summary)
3. Check the progress that the student has made over the past academic year:

___ Satisfactory ___ Marginal ___ Unsatisfactory

Comments regarding progress and recommendations to student from Dissertation Committee: This must be filled out by the Committee even if progress is satisfactory. In addition, if there are concerns or unsatisfactory progress, please specify why and explain either here or in an attached memorandum the precise conditions, including deadlines, the student must fulfill to achieve a satisfactory report and return to good academic standing. Use back if necessary.

4. Expected completion date: _____
5. Additional comments (e.g. discussion of postdoctoral opportunities):

Dissertation Committee: (name) (signature)
Major professor: -_____ -_____
-_____ -_____
-_____ -_____

Cell & Developmental Biology GRADUATE GROUP
DISSERTATION COMMITTEE REPORT

Name: _____

Date Dissertation Committee met: _____

1. Title of dissertation or description of research project:

2. Progress Summary: (Student should attach a 2-3 page Research Progress Summary)
3. Check the progress that the student has made over the past academic year:

☐ Satisfactory ☐ Marginal ☐ Unsatisfactory

Comments regarding progress and recommendations to student from Dissertation Committee: This must be filled out by the Committee even if progress is satisfactory. In addition, if there are concerns or unsatisfactory progress, please specify why and explain either here or in an attached memorandum the precise conditions, including deadlines, the student must fulfill to achieve a satisfactory report and return to good academic standing. Use back if necessary.

4. Expected completion date: _____
5. Additional comments (e.g. discussion of postdoctoral opportunities):

Dissertation Committee: (name) (signature)
Major professor: -_____ -_____
-_____ -_____
-_____ -_____

DISSERTATION COMMITTEE – INTERIM REPORT
BMCDB, BMB or CDB Graduate Group

Name: _____

Date Committee met: _____

1. Check the progress that the student has made in the past three months-6months (please indicate time period/dates): _____

__ Satisfactory __ Concerns __ Unsatisfactory

If you indicated that the student is making marginal or unsatisfactory progress, please specify why and explain either here or in an attached memorandum the precise conditions, **including deadlines**, the student must fulfill to achieve a satisfactory at the next meeting (please specify a time period such as 3 or 6 months).

2. List of Expectations for the student in the next few months -please indicate time period and use back if necessary. This must be filled out by the Committee even if progress is satisfactory. In addition, if there are concerns or unsatisfactory progress, please specify why and explain either here or in an attached memorandum the precise conditions, including deadlines, the student must fulfill to achieve a satisfactory report and return to good academic standing. Use back if necessary.

3. Expected degree completion date: _____ STUDENT should schedule their next meeting for: _____

4. Additional comments (e.g. discussion of postdoctoral opportunities):

Dissertation Committee: (name) (signature)

Major professor: -_____ -_____
-_____ -_____
-_____ -_____

Graduate Advisor: -_____ -_____

APPENDIX 4. BMCDB Graduate Student Roster 2013-2014

The entire student roster is not available in the web version. Please see:
http://biosci3.ucdavis.edu/GradGroups/BMCDB/People/Students.aspx

APPENDIX 5. BMCDB Faculty Roster

New members are joining all the time! More up-to-date information can be found at the BMCDB webpage: http://biosci3.ucdavis.edu/GradGroups/BMCDB/Faculty/Faculty.aspx

Name	Department	Email
Adamopoulos, Iannis	iadamopoulos@ucdavis.edu	MED DIV OF INTERNAL MED
Al-Bassam, Jawdat M.	jmalbassam@ucdavis.edu	MOLECULAR & CELLULAR BIO
Albeck, John	jgalbeck@ucdavis.edu	MOLECULAR & CELLULAR BIO
Armstrong, Peter B	pbarmstrong@ucdavis.edu	MOLECULAR & CELLULAR BIO
Atsumi, Shota	atsumi@chem.ucdavis.edu	CHEMISTRY
Baldwin, Enoch P	epbaldwin@ucdavis.edu	MOLECULAR & CELLULAR BIO
Beal, Peter A	pabeal@ucdavis.edu	CHEMISTRY
Beck, Kenneth A	kabeck@ucdavis.edu	MED HUMAN ANATOMY
Bennett, Alan B	abbennett@ucdavis.edu	DEPARTMENT OF PLANT SCIENCES
Bers, Donald M	dmbers@ucdavis.edu	MED PHARMACOLOGY
Bevins, Charles L	clbevins@ucdavis.edu	MED MICROBIOLOGY
Bisson, Linda F	lfbisson@ucdavis.edu	VITICULTURE & ENOLOGY
Blumwald, Eduardo	eblumwald@ucdavis.edu	DEPARTMENT OF PLANT SCIENCES
Borodinsky, Laura N	lnborodinsky@ucdavis.edu	MED HUMAN PHYSIOLOGY
Borowsky, Alexander D	adborowsky@ucdavis.edu	MED PATHOLOGY
Brady, Siobhan Mary	sbrady@ucdavis.edu	PLANT BIOLOGY
Britt, Anne B	abbritt@ucdavis.edu	PLANT BIOLOGY
Brown, Nadean L	nlbrown@ucdavis.edu	MED HUMAN ANATOMY
Burgess, Sean Marie	smburgess@ucdavis.edu	MOLECULAR & CELLULAR BIO
Burns, Marie E	meburns@ucdavis.edu	MED OPHTHALMOLOGY
Callis, Judy	jcallis@ucdavis.edu	MOLECULAR & CELLULAR BIO
Carraway, Kermit L	klcarraway@ucdavis.edu	MED BIOLOGICAL CHEMISTRY
Carvajal-Carmona, Luis G	lgcarvajal@ucdavis.edu	MED BIOLOGICAL CHEMISTRY
Chedin, Frederic Louis	flchedin@ucdavis.edu	MOLECULAR & CELLULAR BIO
Chen, Hongwu	hwzchen@ucdavis.edu	MED BIOLOGICAL CHEMISTRY
Chen, Tsung-Yu	tycchen@ucdavis.edu	MED NEUROLOGY
Chen, Xinbin	xbchen@ucdavis.edu	VM SURG/RAD SCIENCE
Cheng, Hwai-Jong	hjcheng@ucdavis.edu	NEURO PHYSIO & BEHAVIOR
Chiu, Joanna Chungyen	jcchiu@ucdavis.edu	ENTOMOLOGY
Cortopassi, Gino A	gcortopassi@ucdavis.edu	VM MOLECULAR BIO SCIENCES
David, Sheila S	ssdavid@ucdavis.edu	CHEMISTRY
Dawson, Scott C	scdawson@ucdavis.edu	MICROBIOLOGY
Denison, Michael S	msdenison@ucdavis.edu	ENVIRONMENTAL TOXICOLOGY
Diaz, Elva Denise	ediaz@ucdavis.edu	MED PHARMACOLOGY
Dinesh-Kumar, Savithramma P	spdineshkumar@ucdavis.edu	PLANT BIOLOGY
Drakakaki, Georgia	gdrakakaki@ucdavis.edu	DEPARTMENT OF PLANT SCIENCES
Draper, Bruce W.	bwdraper@ucdavis.edu	MOLECULAR & CELLULAR BIO
Engebrecht, Joanne	jengebrecht@ucdavis.edu	MOLECULAR & CELLULAR BIO

Etzler, Marilynn E	meetzler@ucdavis.edu	MOLECULAR & CELLULAR BIO
Facciotti, Marc Tancredi	mtfacciotti@ucdavis.edu	BIOMEDICAL ENGINEERING
Fairclough, Robert H	rhfairclough@ucdavis.edu	MED NEUROLOGY
Ferns, Michael J	mjferns@ucdavis.edu	MED ANESTHESIOLOGY
Fiehn, Oliver	ofiehn@ucdavis.edu	MOLECULAR & CELLULAR BIO
Fisher, Andrew J	ajfisher@ucdavis.edu	CHEMISTRY
Fitzgerald, Paul G	pgfitzgerald@ucdavis.edu	MED HUMAN ANATOMY
Franz, Annaliese K	akfranz@ucdavis.edu	CHEMISTRY
Fraser, Christopher S.	csfraser@ucdavis.edu	MOLECULAR & CELLULAR BIO
Furlow, John David	jdfurlow@ucdavis.edu	NEURO PHYSIO & BEHAVIOR
Gasser, Charles S	csgasser@ucdavis.edu	MOLECULAR & CELLULAR BIO
Gelli, Angela C	acgelli@ucdavis.edu	MED PHARMACOLOGY
Genetos, Damian C	dgenetos@ucdavis.edu	VM ANAT PHYSIO & CELL BIOLOGY
Ghosh, Paramita Mitra	paghosh@ucdavis.edu	MED UROLOGY
Giulivi, Cecilia Roxana	cgiulivi@ucdavis.edu	VM MOLECULAR BIO SCIENCES
Glaser, Thomas M	tmglaser@ucdavis.edu	MED HUMAN ANATOMY
Gomes, Aldrin V	avgomes@ucdavis.edu	NEURO PHYSIO & BEHAVIOR
Gong, Qizhi	qzgong@ucdavis.edu	MED HUMAN ANATOMY
Hagerman, Paul J	pjhagerman@ucdavis.edu	MED BIOLOGICAL CHEMISTRY
Hagiwara, Nobuko	nhagiwara@ucdavis.edu	MED INT MED - CARDIOVASCULAR
Haj, Fawaz George	fghaj@ucdavis.edu	NUTRITION
Hammock, Bruce D	bdhammock@ucdavis.edu	ENTOMOLOGY
Harada, John J	jjharada@ucdavis.edu	PLANT BIOLOGY
Haudenschild, Dominik	drhaudenschild@ucdavis.edu	MED ORTHOPEDIC SURGERY
Hell, Johannes W	jwhell@ucdavis.edu	MED PHARMACOLOGY
Henderson, Paul	paul.henderson@ucdmc.ucdavis.edu	MED INT MED - HEMATOLOGY/ONCOL
Heyer, Wolf D	wdheyer@ucdavis.edu	MICROBIOLOGY
Hildreth, James E.K.	jekhildreth@ucdavis.edu	COLLEGE BIO SCI DEANS OFFICE
Horne, Mary C	mhorne@ucdavis.edu	MED PHARMACOLOGY
Hunter, Neil	nhunter@ucdavis.edu	MICROBIOLOGY
Inoue, Kentaro	kinoue@ucdavis.edu	DEPARTMENT OF PLANT SCIENCES
Izumiya, Yoshihiro	yizumiya@ucdavis.edu	MED - DERMATOLOGY
Kaplan, Kenneth B.	kbkaplan@ucdavis.edu	MOLECULAR & CELLULAR BIO
Kim, Jinoh	jinoh.kim@ucdmc.ucdavis.edu	MED GENERAL PEDIATRICS
Kliebenstein, Daniel J.	kliebenstein@ucdavis.edu	DEPARTMENT OF PLANT SCIENCES
Knoepfler, Paul S	knoepfler@ucdavis.edu	MED HUMAN ANATOMY
Knowlton, Anne A	aaknowlton@ucdavis.edu	MED INT MED - CARDIOVASCULAR
Kopp, Artyom V	akopp@ucdavis.edu	EVOLUTION & ECOLOGY
Korf, Ian	ifkorf@ucdavis.edu	MOLECULAR & CELLULAR BIO
Kowalczykowski, Stephen C	sckowalczykowski@ucdavis.edu	MICROBIOLOGY
Lagarias, J Clark	jclagarias@ucdavis.edu	MOLECULAR & CELLULAR BIO
Last, Jerold A	jalast@ucdavis.edu	MED INT MED - PULMONARY MED
Leal, Walter Soares	wsleal@ucdavis.edu	ENTOMOLOGY
Leary, Julie A	jaleary@ucdavis.edu	MOLECULAR & CELLULAR BIO
Li, Jian-Jian	jian-jian.li@ucdmc.ucdavis.edu	MED RADIATION ONCOLOGY
Lin, Su-Ju	slin@ucdavis.edu	MICROBIOLOGY

Lin, Yu-Fung	yflin@ucdavis.edu	MED ANESTHESIOLOGY
Liu, Bo	bliu@ucdavis.edu	PLANT BIOLOGY
Lo, Su Hao	shlo@ucdavis.edu	MED BIOLOGICAL CHEMISTRY
Louie, Angelique	aylouie@ucdavis.edu	BIOMEDICAL ENGINEERING
Luckhart, Shirley	sluckhart@ucdavis.edu	MED MICROBIOLOGY
Martinez-Cerdeno, Veronica	vmartinezcerdeno@ucdavis.edu	MED PATHOLOGY
Mcnally, Francis J	fjmcnally@ucdavis.edu	MOLECULAR & CELLULAR BIO
Mudryj, Maria	mmudryj@ucdavis.edu	MED MICROBIOLOGY
Natzle, Jeanette E	jenatzle@ucdavis.edu	MOLECULAR & CELLULAR BIO
Navarro, Lorena	lonavarro@ucdavis.edu	MICROBIOLOGY
Nolta, Jan	janolta@ucdavis.edu	MED INT MED - HEMATOLOGY/ONCOL
Nunnari, Jodi	jmnunnari@ucdavis.edu	MOLECULAR & CELLULAR BIO
O Donnell, Martha Eaton	meodonnell@ucdavis.edu	MED HUMAN PHYSIOLOGY
Parales, Rebecca E	reparales@ucdavis.edu	MICROBIOLOGY
Payne, John A	japayne@ucdavis.edu	MED HUMAN PHYSIOLOGY
Pleasure, David E	depleasure@ucdavis.edu	MED NEUROLOGY
Powell, Jerry S	jspowell@ucdavis.edu	MED INT MED - HEMATOLOGY/ONCOL
Powers, Ted Edmund R	erpowers@ucdavis.edu	MOLECULAR & CELLULAR BIO
Privalsky, Martin L	mlprivalsky@ucdavis.edu	MICROBIOLOGY
Rice, Robert H.	rhrice@ucdavis.edu	ENVIRONMENTAL TOXICOLOGY
Rose, Alan B.	abrose@ucdavis.edu	MOLECULAR & CELLULAR BIO
Rose, Lesilee S.	lsrose@ucdavis.edu	MOLECULAR & CELLULAR BIO
Segal, David	djsegal@ucdavis.edu	MED PHARMACOLOGY
Shiozaki, Kazuhiro	kshiozaki@ucdavis.edu	MICROBIOLOGY
Shoemaker, Charles F	cfshoemaker@ucdavis.edu	FOOD SCIENCE & TECHNOLOGY
Singer, Mitchell H.	mhsinger@ucdavis.edu	MICROBIOLOGY
Solnick, Jay V	jvsolnick@ucdavis.edu	VM CTR COMPARATIVE MEDICINE
Starr, Daniel A.	dastarr@ucdavis.edu	MOLECULAR & CELLULAR BIO
Stolzenberg, Danielle S	dstolzenberg@ucdavis.edu	PSYCHOLOGY
Sweeney, Colleen A	casweeney@ucdavis.edu	MED BIOLOGICAL CHEMISTRY
Tablin, Fern	ftablin@ucdavis.edu	VM ANAT PHYSIO & CELL BIOLOGY
Takada, Yoshikazu	ytakada@ucdavis.edu	MED - DERMATOLOGY
Tarantal, Alice Faye	aftarantal@ucdavis.edu	MED GENERAL PEDIATRICS
Theg, Steven M.	smtheg@ucdavis.edu	PLANT BIOLOGY
Tian, Li	ltian@ucdavis.edu	DEPARTMENT OF PLANT SCIENCES
Tian, Lin	lintian@ucdavis.edu	MED BIOLOGICAL CHEMISTRY
Trimmer, James	jtrimmer@ucdavis.edu	NEURO PHYSIO & BEHAVIOR
Tucker, Richard Parke	rptucker@ucdavis.edu	MED HUMAN ANATOMY
Vandevoort, Catherine A	cavandevoort@ucdavis.edu	MED OBSTETRICS & GYNECOLOGY
Vaughan, Andrew	atvaughan@ucdavis.edu	MED RADIATION ONCOLOGY
Vazquez, Ana	avazquez@ucdavis.edu	MED OTOLARYNGOLOGY
Voss, John C	jcvoss@ucdavis.edu	MED BIOLOGICAL CHEMISTRY
Wan, Yu-Jui Yvonne	yjywan@ucdavis.edu	MED PATHOLOGY
Wilson, David K.	dkwilson@ucdavis.edu	MOLECULAR & CELLULAR BIO
Wood, Matthew James	mjwood@ucdavis.edu	ENVIRONMENTAL TOXICOLOGY
Xiang, Yang Kevin	ykxiang@ucdavis.edu	MED PHARMACOLOGY

Xu, Lifeng	lfxu@ucdavis.edu	MICROBIOLOGY
Yamada, Soichiro	syamada@ucdavis.edu	BIOMEDICAL ENGINEERING
Yoder, John I	jiyoder@ucdavis.edu	DEPARTMENT OF PLANT SCIENCES
Yokobayashi, Yohei	yoko@ucdavis.edu	BIOMEDICAL ENGINEERING
Zarbalis, Konstantinos	kzarbalis@ucdavis.edu	MED PATHOLOGY
Zhao, Min	minzhao@ucdavis.edu	MED - DERMATOLOGY
Zhou, Chengji	cjzhou@ucdavis.edu	MED HUMAN ANATOMY
Zito, Karen M	kzito@ucdavis.edu	NEURO PHYSIO & BEHAVIOR

APPENDIX 6. BMCDB Bylaws

Graduate Group in
Biochemistry, Molecular, Cellular & Developmental Biology (BMCDB)
BYLAWS
Administrative Home: **Graduate Group Complex Life Science**
Approved by Graduate Council: April 15, 2009

ARTICLE I. OBJECTIVE

The Graduate Groups in Biochemistry, Molecular, Cellular & Developmental Biology (hereafter referred to as BMCDB or the Group) is organized primarily to establish and administer graduate education leading to the M.S. and Ph.D. degrees in conformance with the rules of the Graduate Council and the Office of Graduate Studies of the Davis Campus of the University of California. A function of equal importance is to provide a focus on research in molecular biology by facilitating the research interaction of graduate students, faculty and postdoctorals. Postdoctoral training is considered part of the groups mission.

Discipline: The study of fundamental biological problems at a molecular level. Experimental approaches used to address these problems range from the atomic and ultra-structural levels to the cellular and organismal levels. Research in the groups reflects traditional disciplinary strengths in biochemistry, molecular genetics, cell and developmental biology, as well as interdisciplinary approaches that combine biology, chemistry, physics, engineering, math and/or computational approaches.

Mission: The Group is organized to administer the graduate groups in BMB/CDB. The Group may consider and act upon any matters pertaining to those programs. The Group functions as a mechanism for curricular structure in training students in molecular biology at UC Davis and fosters interactions and collaborations among faculty pursuing molecular biological research through different academic departments.

ARTICLE II. MEMBERSHIP

A. Criteria for Membership in the Graduate Group

1. Disciplinary expertise, research area, and accomplishments.
The Group consists of those faculty members of the Davis campus qualified to guide candidates for the M.S. and Ph.D. degrees in BMB and CDB. Interested faculty having
strong interest and expertise in biochemistry, molecular genetics, and cell & developmental biology whose appointment authorizes the direction of graduate work,
may be elected to membership in the Group by the Executive Committee.

Members shall hold an appropriate academic title as (a) a member of the Academic Senate of the University of California (includes Professors, Lecturers with Security of Employment, Professors in Residence, Professors of Clinical "__", Professors Emeritus/a, and Research Professors), (b) Adjunct Professor, (c) Lecturer (without

Security of Employment) or (d) Lecturer Without Salary. Academic staff with primary appointments as Cooperative Extension Specialists or in the Professional Research series are not eligible to be members of graduate programs unless they also hold an appropriate instructional title (normally Lecturer Without Salary).

2. Active research-appropriate to the discipline(s) encompassed by the groups.
Members must have training in fields related to Biochemistry, Molecular Genetics, Cell and/or Developmental Biology and be engaged in an active research that meets the expectations of the University of California in order to provide appropriate guidance to graduate students. A member should have formal training in Biochemistry, Molecular Genetics, Cell & Developmental Biology, as evidenced by M.D., M.S. or Ph.D. degrees or peer-reviewed publications in Biochemistry, Molecular Genetics, Cell and/or Developmental Biology.

3. Voting rights, per Graduate Council policy and Academic Senate Rule 55.
All active members are eligible to vote on graduate matters, except those defined in Section C. Emeritus.

B. Application Process
Candidates apply directly to the Membership Committee. Admissibility shall be determined by the Membership Committee with review by the Executive Committee of the Group. If the Executive Committee does not concur with the decision of the Membership Committee, the final decision will be made by joint consideration of the two. A majority vote of both committees would then determine the applicant's membership. The applicant should provide the following materials to the Membership Committee:
1. BMB/CDB New Membership Application form and CV which includes the following:
a. Education, training and prior professional appointments;
b. The month and year of appointment to the UC-Davis faculty;
c. Peer-reviewed publications for at least the last three years;
d. External grant support, including source of funds and principal investigator;
e. Membership in other graduate groups;
f. The program enrolled in, year of graduation and current position of all students for whom candidate has served as major professor.

Anticipated Contributions by Members
Graduate faulty members are expected to contribute through any of the following:
1. Active role in the administration of the graduate group by serving on administrative committees; as a graduate adviser (not to be confused with a major professor); or as an administrative officer of the group.
2. Providing graduate level instruction, as appropriate, in addition to research instruction.
3. Service on dissertation and qualifying examinations/Master’s comprehensive examination committees, etc.

C. Emeritus
Emeritus faculty who are members of the Group are afforded full rights, except Emeritus faculty who no longer run active research programs; they may attend and participate in

Group activities, including meetings, but are not afforded the right to vote on policy and Bylaw issues related to the Group. Emeritus faculty are eligible to teach in graduate courses and serve on student dissertation committees.

D. Verification of Continued Membership.
Each faculty member's contributions to the Group shall be reviewed once every three years for the purpose of identifying faculty members who are not providing a minimal level of service to the Group.

This review will be conducted by the Committee on Membership, who will review on a yearly basis one-third of the membership. The review will focus on the areas defined in Section B. above, "Anticipated Contributions by Members."
Faculty whose record reflects poor performance in any of these areas will be subject to nonrenewal or to a probationary period in which greater involvement must be demonstrated as a condition of continuing membership.

E. Membership Appeal Process
If membership is denied, a faculty can appeal to the Executive Committee. Applicants denied membership or renewal of membership may make a final appeal to the Dean of Graduate Studies.

ARTICLE III. ADMINISTRATION

The academic leadership and management of the Group shall be vested in the Group Chair and an Executive Committee. The Chair is the chief officer and spokesperson for the Group and for the Executive Committee. Management of the Group shall be open and democratic.

ARTICLE IV. GROUP CHAIR

A. Appointment of the Chair.
The graduate group chair nomination process will be conducted in accordance with current Graduate Council and Academic Personnel Manual policies, APM Section UCD-245B. http://manuals.ucdavis.edu/apm/245b.htm.

A "Nominating Committee" will be named by the Executive Committee or Chair to solicit nominations for Graduate Group Chair from the faculty and graduate students of the Group. The name(s) of the candidate(s) indicating a willingness to serve will then be submitted to the Group's faculty and graduate students for comments. All comments will kept confidential by the Nominating Committee and the Dean of Graduate Studies.

The Nominating Committee will forward candidate(s) name(s) to the Dean of Graduate Studies along with all commentary received on the candidates**.** The Group may express a preference and, if it does, should indicate the basis for determining that preference. After interviewing the nominees the Dean of Graduate Studies will forward his/her recommendation to the Chancellor. The normal term of the Chair's appointment is a maximum of 3 years; however, shorter terms are possible, based on the nominee's willingness to serve.

B. Duties of the Chair.
The chair shall be the chief officer and spokesperson for the Group and for the Executive Committee. The chair is also the chair of the Educational Policy Committee. The chair shall call and preside over meetings of these bodies. The chair shall appoint, with approval of the Executive Committee, standing committee chairs, standing committee and special committee members, and shall recommend to the Dean of Graduate Studies appointment of graduate advisors, with approval of the Executive Committee. Insofar as practicable, graduate advisors shall be appointed for renewable two-year periods with staggered terms.

The chair shall maintain liaison with biochemistry, molecular genetics, cell and developmental biology groups on other campuses of the University and with related groups on the Davis campus.

C. Vice Chair
The Executive Committee shall select of and for itself, and for the Group, a Vice Chair to serve for a three-year term of service. The Vice Chair will vote on all issues brought before the Executive Committee. The Vice Chair will serve as chief officer of the Group in the absence of the Chair, for less than a quarter. If the Chair will be absent from campus for more than a quarter, the Chair appointment procedures must be followed.

ARTICLE V. COMMITTEES

Executive Committee
The Executive Committee shall consist of the chair of the Group, who serves as chair of the committee, plus six faculty elected from the membership, plus the Master Adviser and one student appointed annually by the BMB/CDB Graduate Students' Association. To ensure broad participation, the Executive Committee shall have members from at least three different departments (tri-department rule) including at least one member each from the College of Biological Sciences and from the School of Medicine. All members have voting rights, including the student representative, unless the student does not participate in the discussion due to the nature of the item (see below). The faculty members of the Executive Committee shall be elected for a three-year term, which is renewable two times. Two members shall be elected each year.

Election of faculty members of the Executive Committee: nomination shall be made either by e-mail or from the floor at the annual Spring Quarter meeting of the Group. Elections shall be conducted by mail or electronic-mail ballot within two weeks of the annual Spring Quarter meeting. At election, each member of the Group shall vote for not more than the number of positions to be filled on a ballot provided, without weighing of choice. Those receiving the most votes will be declared elected. Ties will be resolved by lot. Election results shall be communicated to the members of the Group promptly. Elected members shall assume their duties on July 1.

The principal duties of the Executive Committee shall be to determine and implement policy for the good of the Group, and to represent the interests of the Group generally to various universities and other agencies. The Executive Committee is also responsible for distribution of Block grant and work study funds.

The Chair of the Executive Committee may rule that an item of business is inappropriate for discussion in the presence of the student representative. That item of business will then be discussed in the absence of the student member of the Committee. More generally, The chair of any committee with a student member must excuse the student representatives from meetings during discussion about personnel actions or disciplinary issues relating to faculty, during rankings of existing students for funding, and for disciplinary issues related to students.

The Executive Committee shall meet at least quarterly. Additional meetings and executive sessions may be held as deemed necessary, or upon petition by five members of the Group.

The Executive Committee shall fill interim vacancies for the remainder of the current year.

Membership Committee
The Membership Committee shall consist of five members appointed by the chair of the Group for three-year terms, renewable two times. The Chair of the Membership committee is an Executive committee member appointed by the Chair of the Group. The Committee on Membership shall review on a yearly basis one-third of the membership in addition to new applicants.

Educational Policy Committee
The Educational Policy Committee shall consist of the members of the Executive Committee and two graduate advisors. The chair of the Group shall be the chair of the Committee on Educational Policy. The function of this committee shall include consideration of course offerings in biochemistry, molecular biology, cell and developmental biology and recommendations regarding the graduate program in BMB/CDB and supervision of teaching assignments and teaching experience of graduate students. The faculty members of the Educational Policy Committee will serve for a three-year term renewable two times.

Admissions Committee
The Admissions Committee shall consist of the Vice Chair of the Group, five members appointed by the chair for three-year terms, and one student appointed by the BMB/CDB Association. The Vice Chair of the Group shall be the chair of the Committee on Admissions.
The functions of this committee shall include admission of students to the Group and the preparation of recommendations of their financial support. The faculty members of the Admissions Committee shall serve for a three-year term.

Student Affairs Committee
The Student Affairs Committee shall consist of the chair of the Group, four graduate advisors, and the Master Adviser who shall be the chair of the Student Affairs Committee. The term of appointment encompasses the tenure of the Chair and advisors. This committee shall be responsible for (a) analysis of the results of the placement examinations for new entering students and determination of what remedial actions may be needed, (b) the assignment of all students to research advisors, (c) the recommendation of student Master's and Ph.D. qualifying exam committees, (d) the active overview of the status of student financial support during their entire period of study, and (e) the coordination of any changes in funding which may occur.

Fellowship Committee

The Fellowship Committee shall consist of three faculty members appointed by the chair of the Group for three-year terms renewable two times. The Chair of the Fellowship Committee is an Executive Committee member appointed by the Chair of the Group. The functions of the committee include nomination and ranking of students for consideration of university fellowships and awards and identification of students to receive tuition waivers.

Recruitment Committee
The Recruitment Committee shall consist of three members appointed by the chair of the Group for three-year terms renewable two times, and two students appointed by the BMB/CDB Graduate Students' Association. The Chair of the Recruitment Committee is an Executive Committee member appointed by the Chair of the Group. The functions of the committee are to coordinate the hosting of selected applicants for visitation to the campus, to develop and administer programs for increasing the number, quality and diversity of applicants to the Group, and to generate suitable brochures and web sites to provide information to prospective applicants.

Student Mentorship Committee
The Student Mentorship Committee shall consist of three members appointed by the chair of the Group for three-year terms, renewable two times, and two students appointed by the BMB/CDB Graduate Students' Association. The Chair of the Student Mentorship Committee is an Executive Committee member appointed by the Chair of the Group. The functions of the committee are to oversee: (i) modification of Graduate Council Mentoring Guidelines (http://gradstudies.ucdavis.edu/gradcouncil/mentoring.pdf) to fit the specific circumstances of the Group, (ii) their adoption by the Group, and (iii) distribution and notification to the students and faculty of where the Guidelines are posted.

ARTICLE VI. STUDENT REPRESENTATIVES

Student representatives (who shall be in good standing academically) are appointed annually by the BMB/CDB Students' Association to the Executive, Admissions, Recruitment and Student Mentorship committees and have voting rights except on an item where they are excused from the discussion.

The Chair of any committee with student members must excuse the student representatives from meetings during discussion about other students, personnel actions or disciplinary issues relating to faculty, during rankings of existing students for funding, and for disciplinary issues related to students.

ARTICLE VII. GRADUATE ADVISORS

Graduate Advisers will be appointed in compliance with policies and procedures of the Graduate Council and the Office of Graduate Studies. When selecting Graduate Advisers, nominations shall be solicited from Group members. Comments on nominees shall then be sought from Group members and students. The Chair and Executive Committee will recommend nominees to be forwarded to the Office of Graduate Studies for review and appointment.

A minimum of 6 Graduate Advisers will be appointed. This will include a Master Adviser, a

minimum of one adviser each specializing in one of the four tracks (Biochemistry, Molecular Genetics, Cell, Development), and one Master of Science Adviser, who will advise Master's students. The Master Adviser will oversee and coordinate advising activities and serve on the Executive Committee. Two of the advisers shall serve on the Educational Policy Committee, four advisers will serve on the Student Affairs Committee.

Graduate advisers will be appointed for a 2-year term, which is renewable for as long as the faculty is willing to serve.

ARTICLE VIII. MEETINGS

The Group Chair shall call an annual meeting during Spring quarter for the purpose of electing officers and conducting other business. The Chair shall be privileged to call other meetings in the interest of the Group and shall be required to do so at the written request of three or more members. Notification will be emailed at least two weeks before the meeting. Faculty not on campus may participate by telephone.

ARTICLE IX. QUORUM

Fifty+ percent of the members of the Group constitutes a quorum for the conduct of business. In the absence of a quorum, issues requiring a vote will be taken up by e-mail balloting.

All issues that require a vote must be: 1) voted on by 50+% of the available members who are eligible to vote (i.e., not on sabbatical or other approved leave), and 2) passage requires a 50+% supporting vote by those voting. Changes to the Bylaws require a two-thirds majority of those voting.

ARTICLE X. AMENDMENTS

Amendments to the By-Laws may be proposed to the Group membership by a majority of the Executive Committee, or in writing to the Group Chair by any 5 members of the Group. Amendments to the By-Laws shall be circulated to the membership by mail or e-mail and at least two-thirds of those votes, assuming a quorum as defined above, received within 10 working days of distribution shall be required for an amendment to pass. All such amendments and revisions will be submitted to Graduate Council for review and approval.

APPENDIX 7. BMCDB Degree Requirements

Graduate Group in Biochemistry, Molecular, Cellular & Developmental Biology
Ph.D. and M.S. DEGREE REQUIREMENTS
Graduate Council Approval: REQUESTED August 2011

MASTER'S PROGRAM

1) Admissions Requirements

Applicants for admission to BMCDB must meet the University of California minimum GPA requirement for admission (3.0 overall). Other requirements for admission include:

- Hold a Bachelor's degree: An undergraduate major in biology or chemistry is typical for BMCDB graduate students, but is not required. Prerequisites include calculus; statistics; physics; general chemistry; organic chemistry; biology; biochemistry; genetics.
- Graduate Record Examination (General Test)
- English proficiency examination for international applicants who have not studied at an English speaking University: TOEFL or other University approved examination. International applicants must meet the Office of Graduate Studies minimum TOEFL score requirement (or equivalent for other University-approved examination).
- Three letters of recommendation.

2) **M.S. Degree, Master's Plan I and II:**

Plan I. This plan requires a minimum of 30 units of adviser-approved, graduate and upper division courses (the 100 and 200 series only) in which the student receives a letter grade (B- or better) or S, and, in addition, a thesis. At least 12 of the 30 units must be graduate work in the major field.

Plan II. This plan requires a minimum of 36 units of adviser-approved, graduate and upper division courses, of which at least 18 units must be graduate courses in the major field, and in which the student receives a letter grade (B- or better) or S. Not more than 9 units of research (299 or equivalent) may be used to satisfy the 18-unit requirement. A comprehensive final examination in the major subject is required of each candidate. No thesis is required.

3) **Course Requirements - Core and Electives** (see summary table)

**the following 5 courses replace the former 4 core courses (MCB 221 A,B,C,D) which were 4 units each*

a) Core Courses (15 units):
MCB 210 Molecular Genetics & Genomics (3 units)
MCB 211 Macromolecular Structure & Interactions (3 units)
MCB 212 Cell Biology (3 units)
MCB 213 Developmental Biology (3 units)
MCB 214 Molecular Biology (3 units)

Additional required courses (4 units):

MCB 215 (2 units) Graduate Reading Course. The goal of this course is to develop critical reading skills for graduate students and to expose them to major

paradigm advances in specialized fields of molecular and cellular biology. To advance active learning and participation, this course is designed to bring small groups of students together with faculty who are expert in a given area. Faculty (2/section) will choose papers that highlight major advances (technical and/or intellectual) and that form a narrative of discovery. Faculty will provide a historical background to the problem addressed by the paper, review special techniques used in the paper and challenge students to develop their own ideas for how to address the major questions in the field. The intensive meeting schedule and small group size are a critical to the goals of the course.

MCB xxx (pending) (2 units; S/U grading) Research Ethics. *Modeled after GGG296.* Review of basic skills required of contemporary scientists. Topics include scientific conduct, manuscript preparation, grant writing, seminar presentations and time management. Emphasis on responsibilities of scientists to factually and thoughtfully communicate results.

b) Elective Courses (11 units Plan I; 8 units Plan II):

Each student must take at least two additional letter graded advanced undergraduate or graduate courses to be selected in consultation with the academic adviser and major professor (see attachment (b) for courses). Attention to the schedule on which such courses are offered is essential - many are offered only in alternate years

c) Total Minimum Unit Requirement:

A total of 30 units for Plan I and 36 units for Plan II (core, elective and research) are required. Students will enroll for 12 units per quarter including research, academic and seminar units. Courses that fulfill any of the course requirements may not be taken S/U unless the course is normally graded S/U.

Students must maintain a GPA of 3.0. If the GPA falls below 3.0, the student is placed on academic probation. If a student is on academic probation for more than three quarters, the student is subject to disqualification upon recommendation of the BMCDB Executive Committee to the Dean of Graduate Studies.

4) Special requirements – none

5) Committees:

a) **<u>Admission Committee</u>**

Once the completed application, all supporting material, and the application fee have been received, the application will be submitted to the Admissions Committee. The Admissions Committee consists of six graduate group faculty and one graduate group student. Based on a review of the entire application, a recommendation is made to accept or decline an applicant's request for admission. That recommendation is forwarded to the Dean of Graduate Studies for final approval of admission. Notification of admissions decisions will be sent by Graduate Studies. Applications are accepted through December 15 of the previous year for the next Fall entering class.

b) <u>Course Guidance/Advising/Major Professor Selection</u>

Upon entering the group, students will work with the Master degree adviser to ensure the students enroll in the correct courses and remedy any deficiencies. The Master degree adviser will also help place the student in a lab if research is to be undertaken (Plan I). A minimum of 12 units is required per quarter to maintain full time student status.

c) Thesis Committee or Comprehensive Examination Committee

The student, in consultation with his/her major professor and graduate adviser, nominate 3 faculty to serve on the Thesis (Examination) Committee. These nominations are submitted to the Office of Graduate Studies for formal appointment in accordance with Graduate Council policy (DDB 80, Graduate Council B.1.). The major professor serves as Chair of the thesis committee.

6) Advising Structure and Mentoring

The **Major Professor** is the faculty member who supervises the student's research and thesis (Plan I); this person serves as the Chair of the Thesis Committee. The **Master of Science Adviser**, who is appointed by the Chair of the group, is a resource for information on academic requirements, policies and procedures, and registration information until the Course Guidance Committee is formed. A Student Mentorship committee will deal with any mentoring problems that arise. The **Mentoring Guidelines** can be found in the graduate student handbook on the web (the current BMCDB handbook can be found at: http://biosci3.ucdavis.edu/GradGroups/BMCDB/Programs/courses.aspx).

7) Advancement to Candidacy

Every student must file an official application for Candidacy for the Degree of Master of Science after completing one-half of their course requirements and at least one quarter before completing all degree requirements. The Candidacy for the Degree of Master form can be found online at: http://www.gradstudies.ucdavis.edu/forms/. A completed form includes a list of courses the student will take to complete degree requirements. If changes must be made to the student's course plan after s/he has advanced to candidacy, the Graduate Adviser must recommend these changes to Graduate Studies. Students must have their Graduate Adviser and thesis committee Chair sign the candidacy form before it can be submitted to Graduate Studies. If the candidacy is approved, the Office of Graduate Studies will send a copy to: the Thesis Committee Chair, the appropriate graduate staff person, and the student. If the Office of Graduate Studies determines that a student is not eligible for advancement, the department and the student will be told the reasons for the application's deferral. Some reasons for deferring an application include: grade point average below 3.0, outstanding "I" grades in required courses, or insufficient units.

8) Comprehensive Examination and Thesis Requirements

a) **Thesis Requirements (Plan I)**

The Master's thesis is to be carried out under the supervision of a faculty member of the BMCDB Group and must represent a contribution to knowledge in biochemistry, molecular genetics, cell biology or developmental biology. The thesis is submitted to a committee of three faculty members recommended by the Adviser and appointed in accordance with the Academic Senate regulations. The topic of the thesis should be acceptable to all members of the committee when they agree to serve and a joint meeting of committee members and

the student should be held at that time. For the thesis to be acceptable for the degree, all committee members must sign the title page. Instructions on preparation of the thesis and a schedule of dates for filing the thesis in final form are available from Graduate Studies; the dates are also printed in the UC Davis General Catalog

b) **Comprehensive Examination (Plan II)**

The student must pass a comprehensive final examination in biochemistry, molecular genetics, cell and developmental biology. The comprehensive exam is taken after all coursework is finished, in the winter/spring of the 2nd year. The format is an oral examination administered by a committee of three faculty members nominated by the Adviser. A unanimous vote of the committee is required to pass a student. If a student does not pass the examination, the committee may recommend that she or he be re-examined one time. If the Graduate Adviser concurs, the student may be re-examined. A student who does not pass on the second attempt is subject to disqualification from further work as a graduate student. The results of all Master's examinations must be reported to Graduate Studies.

9) Normative Time to Degree

The Normative Time to Degree for the M.S. program is six quarters (two years).

10) Typical Time Line and Sequence of Events

Year 1:

Fall	***Winter***	***Spring***
MCB210	MCB212	MCB214
MCB211	MCB213	MCB215
MCB291	MCB291	MCB291
	Advancement to candidacy in Winter or Spring	

Year 2:

Fall	***Winter***	***Spring***
Elective(s)		
Ethics		
MCB291	***M.S. Comprehensive Exam or preparation of thesis***	
BCB299 for Thesis Plan I		

11) Sources of funding

There is no guarantee of funding for the Plan I and Plan II Master programs. Master students can TA to support themselves. Faculty are NOT required to support an MS student.

12) PELP and Filing Fee status.

Information about PELP (Planned Educational Leave) and Filing Fee status can be found in the Graduate Student Handbook:
http://gradstudies.ucdavis.edu/students/handbook/GS201_GraduateStudentGuide.pdf

Ph.D. PROGRAM

1) Admissions Requirements

Applicants for admission to BMCDB must meet the University of California minimum GPA requirement for admission (3.0 overall). Other requirements for admission include:

- Hold a Bachelor's or Master's degree: An undergraduate major or masters degree in biology or chemistry is typical for BMCDB graduate students, but is not required.
- Graduate Record Examination (General Test) is required; Subject test in Biochemistry, Biology or Chemistry is recommended but not required.
- English proficiency examination for international applicants who have not studied at an English speaking University: TOEFL or other University approved examination. International applicants must meet the Office of Graduate Studies minimum TOEFL score requirement (or equivalent for other University-approved examination).
- Three letters of recommendation

Deficiencies:

If there are deficiencies in background, appropriate remedial undergraduate courses will be recommended; they must be completed prior to the Qualifying exam either by (1) taking courses as approved by the Graduate Adviser, or (2) by being a Teaching Assistant in the appropriate courses, and by attending the course lectures.

2) Dissertation (Plan B under Grad Studies definitions)

Three member (minimum) dissertation committee, an optional final oral examination (made on an individual student basis by the dissertation committee), and an exit seminar.

3) Course Requirements

**the following 5 courses replace the former 4 core courses (MCB 221 A,B,C,D) which were 4 units each*

a) Core Courses (must earn B- or better):

MCB 210 Molecular Genetics & Genomics (3 units)
MCB 211 Macromolecular Structure & Interactions (3 units)
MCB 212 Cell Biology (3 units)
MCB 213 Developmental Biology (3 units)
MCB 214 Molecular Biology (3 units)

Additional required courses (21 units):

MCB 215 (2 units) Graduate Reading Course. The goal of this course is to develop critical reading skills for graduate students and to expose them to major paradigm advances in specialized fields of molecular and cellular biology. To advance active learning and participation, this course is designed to bring small groups of students together with faculty who are expert in a given area. Faculty (2/section) will choose papers that highlight major advances (technical and/or intellectual) and that form a narrative of discovery. Faculty will provide a historical background to the problem addressed by the paper, review special techniques used in the paper and challenge students to develop their own ideas for how to address the major questions in the field. The intensive meeting schedule and small

group size are a critical to the goals of the course.

MCB xxx (pending) (2 units) Research Ethics. Modeled after GGG296.
Review of basic skills required of contemporary scientists. Topics include scientific conduct, manuscript preparation, grant writing, seminar presentations and time management. Emphasis on responsibilities of scientists to factually and thoughtfully communicate results.

MCB 220L (10 units) Advanced Molecular Biology Laboratory Rotations. Taken in both the fall and winter for a total of 10 units. Two, five-week rotations per quarter. At the end of each rotation, students give short presentations on their rotation projects to other first-year students, the instructor in charge and any other faculty and students who wish to attend. In addition, each student prepares a short written report.

MCB 291 (1 unit) Current Progress in Molecular and Cellular Biology Seminar. Taken fall, winter and spring quarters of years 1 and 2 for a total of 6 units. Seminars presented by guest lecturers on subjects of their own research activities.

BCB 290 (1 unit) Current Progress in Molecular and Cellular Biology Seminar. Taken fall quarter of year 2 for 1 unit.

b) Elective Courses (6 units):
Each student must take at least two additional advanced courses (minimum of 6 units) to be selected in consultation with the academic adviser and major professor (see attachment (b) for courses). Attention to the schedule on which such courses are offered is essential - many are offered only in alternate years

c) Total Minimum Unit Requirement = 72 units:
A total of 72 units (core, elective, and research) are required. Students will enroll for 12 units per quarter including research, academic and seminar units. Courses that fulfill any of the course requirements may not be taken S/U unless the course is normally graded S/U. Required core and elective courses constitute 41 units, the additional 31 units is enrollment in research credit (299).

Students must maintain a GPA of 3.0. If the GPA falls below 3.0, the student is placed on academic probation. If a student is on academic probation for more than three quarters, the student is subject to disqualification upon recommendation of the BMCDB Executive Committee to the Dean of Graduate Studies.

4) Teaching Assistantship (TA) requirement:
Participation in teaching is an essential part of training in the graduate program. In addition, teaching experience can be helpful later in obtaining employment. Students are required to TA one adviser-approved undergraduate biochemistry, molecular genetics, cell biology or developmental biology lecture or laboratory course. It is expected that students fulfill this requirement during the third quarter of their first year or during the first two quarters of the

second year. It must be fulfilled prior to the qualifying examination. While working as TA's students must register for MCB 390 (1 unit) or equivalent.

Teaching assignments may vary according to past teaching experience and source of support. Open positions are advertised quarterly across the campus. Application forms may be obtained from Departmental offices. In general, applications are current only for the quarters indicated on the form. New applications must be filed for subsequent consideration.

An exception to the requirement to complete a TAship prior to the student's QE will be allowed for students supported by a fellowship that prohibits 'work' outside of research (e.g. NSF). In such cases, students will fulfill their TA requirement following completion of their fellowship support and in consultation with their academic and thesis advisors.

5) Committees

a) Admissions Committee

Once the completed application, all supporting material, and the application fee have been received, the application will be submitted to the Admissions Committee. The Admissions Committee consists of six graduate group faculty and three graduate group students. Based on a review of the entire application, a recommendation is made to accept or decline an applicant's request for admission. That recommendation is forwarded to the Dean of Graduate Studies for final approval of admission. Notification of admissions decisions will be sent by Graduate Studies. Applications are accepted through December 15 of the previous year for the next Fall entering class.

b) Course Guidance/Advising/Major Professor Selection

Upon entering the group, students are assigned an Academic Adviser based on their area of interest (Biochemistry, Molecular Biology, Cellular Biology, Developmental Biology). A minimum of 12 units is required per quarter to maintain full time student status. Selection of the dissertation adviser (major professor) is normally accomplished by the end of the winter quarter, first year. The chair of BMCDB sends a letter to each first year student requesting that the student find a major professor with whom the student wishes to work and who is willing to take the student into the laboratory and to provide the necessary financial support. Students submit their requests to the BMCDB Student Affairs Committee, which approves and makes final assignments. Satisfactory progress in the BMCDB program is dependent upon assignment of a dissertation adviser by the end of spring quarter in the first year.

c) Qualifying Examination Committee

Qualifying examination committees will consist of five faculty members who are recommended to Graduate Studies by the BMCDB Student Affairs Committee in the Winter quarter of the student's second year. The faculty members may all be in the program, but will come from at least three different departments. Three members will be selected by the BMCDB Student Affairs Committee with solicited input from major committee well in advance of when completion is expected. We recommend that students provide their committee with an outline of the thesis at least 6 months prior to the expected completion date that was noted on the last progress report.

c) Before advancing to candidacy for a doctoral degree, a student must have satisfied all requirements set by the graduate program, must have maintained a minimum GPA of 3.0 in all course work undertaken (except those courses graded S or U), and must have passed a Qualifying Examination before a committee appointed to administer that examination.

- All students will complete the course requirements before taking their Qualifying Examination.
- The Qualifying Examination will consist of written and oral examinations.
- The written research proposal should be provided to members of the qualifying examination committee at least 1 week before the qualifying exam. The qualifying exam should be taken by the Spring quarter of the second year and no later than the end of the Fall quarter of the third year after admission to the Ph.D. program.
- According to university policy, graduate students cannot hold an academic title (e.g., Teaching Assistant, Research Assistant) for more than 9 quarters before passing their Qualifying examination.
- Passing this exam makes the student eligible for advancement to candidacy.

d) Written component of Qualifying Examination:
The goal of the dissertation research proposal is to provide a substantial and original contribution to the fields of biochemistry, molecular genetics, cell and/or developmental biology. The scope should be similar to that of a postdoctoral grant proposal. Written versions of the dissertation research proposal are to be prepared by the student and distributed to the committee at least one week prior to the examination. The format is that of an NIH postdoctoral fellowship proposal. Organize sections 1-5 of the research proposal to answer these questions: (1) Specific aims. What do you intend to do? (2) Background and significance. Why is the work important? (3) Preliminary studies. What have you already done? (4) Research design and methods. How are you going to do the work? (5) References. DO NOT EXCEED 5 PAGES FOR SECTIONS 1-4. The following distribution for length is recommended:

(1) **Specific aims**. State briefly the broad, long-term objectives of the work. Then state the specific purposes of the proposed research. One-half page is recommended.

(2) **Background and significance**. Briefly sketch the background to the proposal. Critically evaluate existing knowledge, and identify the gaps that the project is intended to fill. State concisely the importance of the proposed research by relating the specific aims to the broad, long-term objectives. One page is recommended.

(3) **Preliminary studies** - dissertation research only. Describe the work you have already accomplished that is relevant to the proposal. A maximum of one page is recommended.

(4) **Research design and methods**. Outline the experimental design and the procedures to be used to accomplish the specific aims. Include the means by which data will be collected, analyzed and interpreted. Describe any new methodology and its advantage over existing methodologies. Discuss the potential difficulties and limitations of the proposed procedures along with alternative approaches to achieve the aims. Provide a tentative sequence for the

investigation. Although no specific number of pages is recommended for this section, the total for sections 1-4 should not exceed 5 pages.

(5) **References**. Each citation must include the names of all authors, title of the article, name of the book or journal, volume number, page numbers and year of publication.

Concepts within the research proposal can be discussed with others (such as the student's major professor and peers), but the writing of the proposal should be solely the student's work (i.e., no editorial assistance is allowed) as the proposal will serve as evidence of the student's proficiency in scientific writing.

The qualifying exam committee will be responsible for assessing that the student's writing proficiency is satisfactory before advancement to candidacy. Furthermore, the research proposal will provide information that may be discussed during the oral exam.

e) Oral component of the Qualifying Examination:

The oral portion of the qualifying exam is intended to demonstrate the student's critical thinking ability, synthesis, and broad knowledge of the field of study. It will start with ~ 20 min oral chalkboard presentation of the proposal; questions will be asked related to the research topic and then proceed to more general topics.

The committee will evaluate the student's general qualifications for a respected position as an educator or leader as well as the student's preparation in a special area of study based upon relevant portions of the student's previous academic record, performance on specific parts of the examination, and the student's potential for scholarly research as indicated during the examination.

f) Qualifying Examination Evaluations

There are three possible outcomes of the examinations - pass, not pass, and fail. Pass advances the student to candidacy for the Ph.D. Fail means that the student is disqualified. Not pass means that the student is required to retake all or part of the examination OR to satisfy another requirement. If requested, the second examination is to be scheduled at the earliest possible date and will be administered by the same committee. Satisfactory completion of this examination (or completion of the new requirement) will result in Advancement to Candidacy. Failure will result in a recommendation for disqualification. Note: To officially advance to candidacy, a fee must be paid to the Cashiers Office and the fully endorsed Advanced to Candidacy Petition can then be submitted to Graduate Studies.

9) Normative Time to Degree

A minimum of three years is required for the Ph.D. but ordinarily a student should plan on four to five years to satisfy all requirements of the degree. Normative time, measured from the time a student begins graduate study at any level at UCD, is 5 years for the current groups.

10) Typical Time Line and Sequence of Events

Year 1:

Fall	***Winter***	***Spring***
MCB210 (3u)	MCB212 (3u)	MCB214 (3u)
MCB211 (3u)	MCB213 (3u)	MCB215 (2u)
MCB220L (5u)	MCB220L (5u)	Elective
MCB291 (1u)	MCB291 (1u)	BCB299
		MCB291 (1u)

Year 2:

Fall	***Winter***	***Spring***
Elective	TA	BCB299
Research Ethics	BCB299	MCB291 (1u)
BCB299	MCB291 (1u)	QE
MCB291 (1u)	**Advancement to Candidacy**	
BCB290 (1u)		

Year 3-5: **BCB299**
Completion of Dissertation

11) Sources of funding

Students are supported through block grant funds and/or fellowships for the first two quarters. Once a student has joined a lab, the Major Professor is responsible for supporting the student. This can be through GSR, TA or a combination of the above.

12) PELP and Filing Fee status.

Information about PELP (Planned Educational Leave) and Filing Fee status can be found in the Graduate Student Handbook:
http://gradstudies.ucdavis.edu/students/handbook/GS201_GraduateStudentGuide.pdf