Structure of Interdisciplinary Graduate Education at UC Davis

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Decidedly Not Interdisciplinary Structure
Integrated and Interdisciplinary Structure
Philosophy of Graduate Education at UC Davis

• Graduate education emphasizes shared intellectual interests of faculty and students;

• Programs should be flexible; support emerging areas of inquiry that transcend disciplines and are of special interest to the best students;

• Faculty scholarship enhanced by opportunities to participate in multiple graduate programs;

• All faculty should have the opportunity to work with graduate students.
Interdisciplinary Graduate Education

Prepares students in a manner that integrates and synthesizes methodologies, perspectives, terminologies, information, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge to enable them to creatively advance fundamental understanding or to solve problems beyond the scope of a existing disciplines.
Drivers for Formation of Interdisciplinary Programs

• Interesting questions are found at the intersections between disciplines;

• Desire to solve natural and societal problems that are inherently complex;

• Generative technologies stimulate new areas of scholarship;

• Flexibility in organizing graduate education.
Interdisciplinary Program

- Discipline A
- Discipline B
- Discipline C
Graduate Groups at UC Davis

• Out of approximately 90 graduate programs, 55 are organized as interdisciplinary graduate groups;

• Graduate groups most common in the life, agricultural and environmental sciences;

• Growing interest in the humanities;

• Sometimes have transition from graduate group to department-based program or vice versa.
Biomedical Engineering

Graduate Group

Anatomy, Physiology & Cell Biology

Veterinary Medicine

Letters & Sciences

Chemistry

Biological Chemistry
Human Physiology
Orthopaedics
Radiology
Oncology

Neurobiology, Physiology and Behavior

Genomics
Medical Technology

LLNL

Applied Science
Biological & Agricultural Engr.
Biomedical Engineering
Computer Science
Civil & Environmental Engr.
Electrical & Computer Engr.
Mechanical & Aero. Engr.
Why form a graduate group?

- Truly interdisciplinary area of study;
- Interdisciplinary approach to a disciplinary field;
- Broad faculty participation from multiple schools/colleges/departments; no primary department;
- Program will benefit from organizational flexibility.
Factors to Support Interdisciplinary Graduate Groups

- Faculty leadership and vision to integrate across disciplines;
- Committed core faculty;
- Supportive rules and culture;
- Committed support staff;
- Adequate financial resources;
- Supportive administration.
Graduate Group Management Philosophy

- Treat department-based programs and graduate groups as equals with respect to academic requirements, fellowship funding, program review, etc.;
- Ensure that a lead academic dean shares responsibility for each graduate group;
- Graduate Dean must remain responsive to special challenges of graduate groups.
## Administration

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<th>Graduate Group</th>
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<td>Chancellor</td>
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<td>Graduate Adviser Appt.</td>
<td>Graduate Dean</td>
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<td>Academic Policy</td>
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# Financial Resources

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<td>Graduate Dean &amp; Academic Dean</td>
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<td>Fellowships, Recruit. Funds</td>
<td>Competitive</td>
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Challenges of Graduate Groups

• No teaching faculty in graduate groups; difficult to offer courses and plan for faculty hiring that meets evolving needs of group;

• No control over TA positions – allocated through undergraduate teaching departments;

• Graduate Student Researcher (or RA) appointments made through major professor’s department, but stipend level set by graduate program;
Challenges of Graduate Groups

• Difficult to identify proper administrative funding level;

• Lack “sense of place”;

• Membership review must be regular and rigorous;

• May lose vision/cohesiveness/leadership.

• Evolution of scholarship – what was once interdisciplinary may become an accepted discipline.
Impact of Campus Budget Structure

• Allocate budget credit for teaching graduate courses (home department of faculty member);

• Allocate credit for enrollment in major;

• Allocate budget and space credit for research mentoring (home department of major professor);

• Adoption of incentive-based or activity-based budget models that favor traditional administrative structures.
Summary

• Interdisciplinary graduate education requires alignment of academic and administrative structures.

• Interdisciplinary graduate education should be aligned as closely as possible with traditional graduate program structures, recognizing explicit differences as necessary.