BIOL 693/PHIL 693: Modern Synthesis of Evolution - 3 Credits

Location and Meeting Time:
Spring Semester 2006 - TBA

Instructors:
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Office hours:
Monday & Wednesday 3:30 to 4:30 pm or by appointment

Course Description:
This course will focus on the creation of the 'Modern Synthesis of Evolution'. The course will critically analyze the original work of key authors such as Haldane, Fisher, Mayr, Dobzhansky, Sewall Wright, Simpson, and Stebbins. Additionally, students will be guided and motivated by critical analyses of this period by philosophers and historians of biology such as Bowler, Provine, and Smocovitis. Instructors will prepare a collection of readings from the authors above and other prominent evolutionary biologists, and historians and philosophers of biology of this period.

Course Format:
The course will consist of introductory lectures by the instructors, readings from relevant literature, and concurrent discussion sessions during a weekly three-hour course meeting.

Required Readings:
The Genetical Theory of Natural Selection - Fisher (1930)
Systematics and the Origin of Species – Mayr (1942)
Tempo and Mode in Evolution – Simpson (1944)
This View of Life – Simpson (1966)
Genetics of the Evolutionary Process – Dobzhansky (1970)
The Evolutionary Synthesis – Mayr & Provine (1980)

The Origins of Theoretical Population Genetics - Provine (2001)
Unifying Biology: The Evolutionary Synthesis and Evolutionary Biology - Smocovitis (1996)

Course Schedule:
Week 1: Mayr & Provine - The Evolutionary Synthesis
Week 2: Provine - The Origins of Theor. Pop. Genetics
Week 3: Fisher - Genetical Theory of Natural Selection
Week 4: continued
Week 5: continued
Week 6: Dobzhansky - Genetics / Evolutionary Process
Week 7: continued
Spring Break
Week 8: Mayr Systematics and the Origin of Species

Week 9: continued
Week 10: continued
Week 11: Simpson – Tempo and Mode in Evolution
Week 12: Simpson - This View of Life
Week 13: continued
Week 14: Bowler - Evolution: The History of an Idea
Smocovitis - Unifying Biology: The Evolutionary Synthesis and Evolutionary Biology
Week 15: Final exam period

Course requirements:
Attend and participate actively in all lectures and discussions and keep up with readings. Lead weekly discussions. Students will be assigned randomly at the beginning of each lecture to organize and lead discussion sessions, so it is imperative that each student keep up with the literature and be prepared to discuss it.

Grading:
50% Participation in course lectures and discussions
50% Organization and performance as discussion leader

Incomplete policy:
Incomplete grades are strongly discouraged and will only be authorized under the most difficult circumstances. Your performance and participation in the course will factor into this decision. If an incomplete is granted by the instructor, the student and professor will work together to determine a combination of readings and writing exercises that will satisfy the goals of the course.

Student code of conduct:
Students are subject to the UAF student code of conduct. Plagiarism, cheating, and other forms of academic dishonesty will be not tolerated, and will result in immediate failure of the course (not just the assignment). Students that participate in these types of activities will be withdrawn from the course and turned over to the Dean of Student Affairs.

Other policies:
Needs of students with disabilities will be accommodated following university policies. Please talk to the instructor privately if you have questions or require assistance. The UAF Center for Health and Counseling also provides disability services: