

# Complex Adaptive Systems (CAS)

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Courses primarily for graduate students, open to qualified undergraduates:

**CAS 502. Complex Adaptive Systems Seminar.**

(Cross-listed with COM S). (1-0) Cr. 1. F.S. *Prereq: Admission to CAS minor*

Understanding core techniques in artificial life is based on basic readings in complex adaptive systems. Techniques of complex system analysis methods including: evolutionary computation, neural nets, agent based simulations (agent based computational economics). Large-scale simulations are to be emphasized, e.g. power grids, whole ecosystems.

**CAS 503. Complex Adaptive Systems Concepts and Techniques.**

(Cross-listed with COM S). (3-0) Cr. 3. S. *Prereq: Admission to CAS minor or related field*

Survey of complex systems and their analysis. Examples are drawn from engineering, computer science, biology, economics and physics.