193D. History of Modern Iran, From 1850 to Present (4)
Lecture—3 hours; term paper. Prerequisite: course 6
and course 121A. Modern Iran from the mid 19th cen-
tury to the present. Themes include the legacy of
imperialism, cultural renaissance, the World Wars,
nationalism, modernization, Islamic revival, gender,
revolutionary movements, politics of oil and power.
Offered in alternate years. GE credit: SciSo, Div, Wrt
| AH or SS, VL, WC, WE. —Anooshahr

194A. Aristocratic and Feudal Japan (4)
Lecture—3 hours; term paper and/or discussion.
Survey of the cultural, social, economic, and politi-
cal aspects of Japanese history from the eighteenth
to the nineteenth centuries emphasizing the
formation of political state. GE credit: ArtHum or
SciSo, Div | Wrt | AH or SS, WC, WE. —Kim

194B. Early Modern Japan (4)
Lecture—3 hours; term paper and/or discussion.
Survey of the cultural, social, economic, and politi-
cal aspects of Japanese history from the eighteenth
to the nineteenth centuries emphasizing the formation of political state. GE credit: ArtHum or
SciSo, Div | Wrt | AH or SS, WC, WE. —Kim

194C. Modern Japan (4)
Lecture—3 hours; term paper. Survey of labor and
management relations in Japan from the early-mid
nineteenth century to the present. Offered in alternate
years. GE credit: ArtHum or SciSo | AH or SS, WC,
WE. —Kim

194D. Business and Labor in Modern Japan (4)
Lecture—3 hours; term paper. Survey of labor and
management relations in Japan from the mid-eigh-
ten century to the present. Offered in alternate
years. GE credit: ArtHum or SciSo | AH or SS, WC,
WE. —Kim

195B. History of Modern Korea (4)
Seminar—2 hours; tutorial—1 hour. Prerequisite: course
121B, 121C recommended. Topics in the history of
Korea from 1592 to the present. Offered in alternate
years. GE credit: SciSo, Div | Wrt | AH or SS, WC,
WE. —Bossler

194B. Early Modern Japan (4)
Lecture—3 hours; term paper and/or discussion.
Survey of the cultural, social, economic, and politi-
cal aspects of Japanese history from the eighteenth
to the nineteenth centuries emphasizing the
formation of political state. GE credit: ArtHum or
SciSo, Div | Wrt | AH or SS, WC, WE. —Kim

194C. Modern Japan (4)
Lecture—3 hours; term paper. Survey of labor and
management relations in Japan from the early-mid
nineteenth century to the present. Offered in alternate
years. GE credit: ArtHum or SciSo | AH or SS, WC,
WE. —Kim

194D. Business and Labor in Modern Japan (4)
Lecture—3 hours; term paper. Survey of labor and
management relations in Japan from the mid-eigh-
ten century to the present. Offered in alternate
years. GE credit: ArtHum or SciSo | AH or SS, WC,
WE. —Kim

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Seminar—2 hours; tutorial—1 hour. Prerequisite: course
121B, 121C recommended. Topics in the history of
Korea from 1592 to the present. Offered in alternate
years. GE credit: SciSo, Div | Wrt | AH or SS, WC,
WE. —Bossler

194B. Early Modern Japan (4)
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Survey of the cultural, social, economic, and politi-
cal aspects of Japanese history from the eighteenth
to the nineteenth centuries emphasizing the
formation of political state. GE credit: ArtHum or
SciSo, Div | Wrt | AH or SS, WC, WE. —Kim

194C. Modern Japan (4)
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management relations in Japan from the early-mid
nineteenth century to the present. Offered in alternate
years. GE credit: ArtHum or SciSo | AH or SS, WC,
WE. —Kim

194D. Business and Labor in Modern Japan (4)
Lecture—3 hours; term paper. Survey of labor and
management relations in Japan from the mid-eigh-
ten century to the present. Offered in alternate
years. GE credit: ArtHum or SciSo | AH or SS, WC,
WE. —Kim

195B. History of Modern Korea (4)
Seminar—2 hours; tutorial—1 hour. Prerequisite: course
121B, 121C recommended. Topics in the history of
Korea from 1592 to the present. Offered in alternate
years. GE credit: SciSo, Div | Wrt | AH or SS, WC,
WE. —Bossler

201A-N, P-Q, S-T, W, X. Sources and
and Advanced Undergraduate (1-3)
Prerequisite: consent of instructor. (P/N grading
only.)

Graduate
201A-N, P-Q, S-T, W, X. Sources and
General Literature of History (4)
Seminar—3 hours; term paper. Prerequisite: consent
on instructor. Designed primarily for students prepar-
ing for higher degrees in history. (A) Ancient; (B)
Medieval; (C) Renaissance and Reformation; (D)
Early Modern Europe; (E) Europe since 1815; (F)
China to 1880; (G) China since 1880; (H) Britain;
(I) Latin America; (J) United States to 1877; (K)
United States, 1787-1876; (L) United States since
1896; (M) Middle East; (N) Modern Japan; (P)
African Historiography; (Q) Cross-Cultural History;
(R) History of Science and Medicine; (S) Jewish
History; (T) Women's History and Gender Studies;
(U) World History; (V) Ancient World History; (W)
Modern World History; (X) History of Latin America.
May be repeated for credit when different subject area is
studied.

202A-I. Major Issues in Historical
Interpretation (4)
Seminar—3 hours; term paper. Prerequisite: grade-
standing. Fundamental issues and debates in the study of
history. (A) Ancient; (B) Medieval Europe; (C)
Modern Europe; (D) India; (E) Africa; (F) China; (G)
Japan; (H) United States; (I) Latin America. Read-
ings, papers, and class reports. May be repeated for
credit when a different subject area is studied. —I, II,
III, (I, II, III.)

203A. Research Seminar (4)
Seminar—3 hours; tutorial—1 hour. Designed for
students preparing for higher degrees in history. Indi-
vidual research and analysis resulting in substantial
research paper of publishable quality. Completion
required of all Ph.D. candidates. The three courses
must be taken in continuous sequence, ordinarily
during second year.—I (I)

203B-203C. Research Seminar (4-5)
Seminar—3 hours; tutorial—1 hour. Prerequisite:
course 203A. Designed for students preparing for
higher degrees in history. Individual research and
analysis resulting in substantial research paper
of publishable quality. Completion required of all Ph.
D. candidates. The three courses must be taken in con-
secutive sequence, ordinarily during second year.
(Deferred grading only, pending completion of
sequence.)—II, III, (I, II, III.)

204. Historiography (4)
Seminar—3 hours; term paper. Major issues in the
philosophy and methodology of history.—I (I)

221. Medieval History (4)
Seminar—3 hours. Prerequisite: courses 121A,
121B, 121C recommended. Topics in the history of
medieval and early Renaissance Europe.

245. Modern European History (4)
Seminar—3 hours. Prerequisite: course 201E. Pri-
mary sources research methodologies in the his-
tory of modern France and Germany. May be
repeated one time for credit.—III, (I, III.)

261. Latin American History (4)
Seminar—3 hours. Prerequisite: courses 2 in Latin
American history resulting in knowledge of Spanish or
Portuguese.—I, II, III, (I, II, III.)

271A-271B. United States History (4-4)
Seminar—3 hours; term paper. Prerequisite: course
201L or 202H. Research in literature, methods,
and sources on aspects of United States history,
culminating in each student completing a research
paper in the field by the end of the second quarter.
May be repeated for credit. (Deferred grading only,
pending completion of sequence.)
Horticulture and Agronomy (A Graduate Group)

Jeffrey S. Ross-Ibarra, Ph.D., Associate Professor (Plant Sciences)
Kate M. Scow, Ph.D., Professor (Land, Air and Water Resources)
Kenneth A. Shackel, Ph.D., Professor (Plant Sciences)
David R. Smart, Ph.D., Associate Professor (Viticulture and Enology)
Dina St. Clair, Ph.D., Professor (Plant Sciences)
Kenneth W. Tate, Ph.D., Professor (Plant Sciences)
Larry R. Teuber, Ph.D., Professor (Plant Sciences)
Jin Tan, Ph.D., Associate Professor (Plant Sciences)
Chris van Kessel, Ph.D., Professor (Plant Sciences)
Astrid Volder, Ph.D., Assistant Professor (Plant Sciences)
M. Andrew Yoder, Ph.D., Professor (Plant Sciences)
Florence Zakharov, Ph.D., Associate Professor (Plant Sciences)
Maciej Zwieniecki, Ph.D., Associate Professor (Plant Sciences)

Affiliated Faculty

Kendra Baumgartner, Ph.D., Lecturer and Research Plant Pathologist (Plant Pathology)
Marita Cantwell, Ph.D., Lecturer and Specialist in Cooperative Extension (Plant Sciences)
Roger T. Chetelat, Ph.D., Lecturer and Agronomist (Plant Sciences)
Carlos H. Crisosto, Ph.D., Lecturer and Specialist in Cooperative Extension (Plant Sciences)
Joseph M. DiTomaso, Ph.D., Lecturer and Specialist in Cooperative Extension (Plant Sciences)
Richard Y. Evans, Ph.D., Lecturer and Specialist in Cooperative Extension (Plant Sciences)
Steven A. Fennimore, Ph.D., Lecturer and Specialist in Cooperative Extension (Plant Sciences)
Louise Ferguson, Ph.D., Lecturer and Specialist in Cooperative Extension (Plant Sciences)
Matthew W. Fidelibus, Ph.D., Associate Specialist in Cooperative Extension (Viticulture & Enology)
W. Douglas Gubler, Ph.D., Lecturer and Extension Plant Pathologist (Plant Sciences)
Bradley D. Hanson, Ph.D., Lecturer and Associate Specialist in Cooperative Extension (Plant Sciences)
Timothy K. Hartz, Ph.D., Lecturer and Specialist in Cooperative Extension (Plant Sciences)
James E. Hill, Ph.D., Lecturer and Specialist in Cooperative Extension (Plant Sciences)
Stephen R. Kaatza, Ph.D., Lecturer and Specialist in Cooperative Extension (Plant Sciences)
Bruce D. Lampe, Ph.D., Lecturer and Specialist in Cooperative Extension (Plant Sciences)
Bradly Linquist, Ph.D., Lecturer and Assistant Specialist in Cooperative Extension (Plant Sciences)
David J. Mackill, Ph.D., Adjunct Professor (Plant Sciences)
Andrew J. McElrone, Ph.D., Assistant Adjunct Professor (Viticulture and Enology)
Elizabeth J. Mitchell, Ph.D., Lecturer and Specialist in Cooperative Extension (Plant Sciences)
Jeffrey P. Mitchell, Ph.D., Lecturer and Specialist in Cooperative Extension (Plant Sciences)
Anita Oberholster, Ph.D., Lecturer and Associate Specialist in Cooperative Extension (Viticulture and Enology)
Lorraine R. Okie, Ph.D., Lecturer and Associate Specialist in Cooperative Extension (Plant Sciences)
Dan E. Parfitt, Ph.D., Lecturer and Pomologist (Plant Sciences)
Ann Powell, Ph.D., Lecturer and Researcher (Plant Sciences)
Daniel H. Putnam, Ph.D., Lecturer and Specialist in Cooperative Extension (Plant Sciences)
Johan W. Six, Ph.D., Adjunct Professor (Plant Sciences)
Keri L. Steenwerth, Ph.D., Assistant Adjunct Professor (Viticulture and Enology)

Graduate Study

The Graduate Group in Horticulture and Agronomy offers programs of study leading to the M.S. and Ph.D. degrees for students interested in agriculture or horticulture. Students may specialize in one of a number of areas, including agronomy, environmental horticulture, pomology, vegetable crops, viticulture and weed science. Within that cropping system, the student can specialize in one of a number of areas, including agroecology, biotechnology, breeding and crop improvement, crop physiology, crop production, floriculture, landscape horticulture, mineral nutrition, modeling, nursery production, plant development, postharvest physiology, revegetation, restoration, and water relations. Research may be conducted within these areas with an applied or basic focus, but in association with a cropping system.

Preparation.

For both the M.S. and Ph.D. programs, a level of competence equivalent to that of a sound undergraduate program in Plant Science is required. This includes coursework in general biology, chemistry, organic chemistry, physics, statistics, genetics, plant physiology, and soil science. A few limited deficiencies in any of these areas can be made up after admission to the graduate program. Specific requirements are outlined in detail on the group’s website. The graduate adviser, the major professor, and the student will design a program of advanced courses to meet these academic and professional needs within one of the specializations.

Graduate Advisers. Consult the Group office.

Courses in Horticulture (HRT)

Graduate

203. Research Perspectives in Horticulture (3)

Lecture—1 hour; lecture/discussion—2 hours. Prerequisite: Plant Biology 111 and 112, or Environmental Horticulture 102 or the equivalent. Following lectures/discussion of scientific methodology, student development and research proposals, group discussions, and individual interactions with instructors. Lectures and critiques of "classical papers" provide a sense of evolution of the current concepts in perennial plant biology. Offered in alternate years.—II. (II.) DeJong, van Kessel

251. Modeling Horticultural Systems (4)

Lecture—3 hours; laboratory—3 hours. Prerequisites: Plant Sciences 142, calculus, or consent of instructor. Development and application of models. Emphasis on physiological and ecological models, with examples from areas of interest to class participants. Applications to horticultural systems. Offered in alternate years.—II. (II.)