HISTORY COURSES
Department of History
College of Liberal Arts

HIST 100 03(3-0-0). Western Civilization, Pre-Modern. (GT-H11, AUCC 3D). F, S, SS. Prerequisite: None.
Historical development of Western civilization from antiquity to the early modern era (c. 1600 C.E.).

HIST 101 03(3-0-0). Western Civilization, Modern. (GT-H11, AUCC 3D). F, S, SS. Prerequisite: None.
Historical development of Western civilization from c. 1600 C.E. to the contemporary era.

HIST 115 03(3-0-0). Islamic World to 1800. (GT-H11, AUCC 3D). F. Prerequisite: None.
Religion, society, and culture in the Islamic world from the time of Muhammad to 1800.

HIST 120 03(3-0-0). Asian Civilizations I. (GT-H11, AUCC 3D). F. Prerequisite: None.
Major traditional intellectual and cultural patterns of Asia during the formative years.

HIST 121 03(3-0-0). Asian Civilizations II. (GT-H11, AUCC 3D). S. Prerequisite: None.
Transformation of major intellectual and cultural patterns and the process of globalization in Asia.

HIST 150 03(3-0-0). U.S. History to 1876. (GT-H11, AUCC 3D). F, S. SS. Prerequisite: None.
Major issues and themes in the development of the United States from the colonial period through reconstruction.

HIST 151 03(3-0-0). U.S. History Since 1876. (GT-H11, AUCC 3D). F, S, SS. Prerequisite: None.
Major issues and themes in the historical development of the United States since reconstruction.

HIST 170 03(3-0-0). World History, Ancient-1500. (GT-H11, AUCC 3D). F, S, SS. Prerequisite: None.
Historical developments and interactions of world societies from the ancient to modern periods.

HIST 171 03(3-0-0). World History, 1500-Present. (GT-H11, AUCC 3D). F, S, SS. Prerequisite: None.
Historical developments and interactions of world societies from 1500 to the present.

HIST 250/ETST 250 03(3-0-0). African American History. (GT-H11, AUCC 3D). F. Prerequisite: None. Credit not allowed for both HIST 250 and ETST 250.
Slavery, emancipation, labor, political, socioeconomic, and cultural history of African Americans since colonial times.

HIST 252/ETST 252 03(3-0-0). Asian American History. (GT-H11, AUCC 3D). F. Prerequisite: None. Credit not allowed for both HIST 252 and ETST 252.
Asian-American historical experience in the United States from 1850s to the present time.

HIST 255/ETST 255 03(3-0-0). Native American History. (GT-H11, AUCC 3D). S. Prerequisite: None. Credit not allowed for both HIST 255 and ETST 255.
History of Native American peoples in the United States to the present, including origin stories.

HIST 300 03(3-0-0). Ancient Greece to 323 B.C.E. F. Prerequisite: HIST 100 or HIST 115 or HIST 120 or HIST 170; completion of 45 credits. Credit not allowed for both HIST 300 and HY 305.
From the Bronze Age to the death of Alexander the Great, emphasizing political, social, intellectual, and cultural developments.

HIST 301 03(3-0-0). Roman Republic. S. Prerequisite: HIST 100 or HIST 115 or HIST 120 or HIST 170; completion of 45 credits. Credit not allowed for both HIST 301 and HY 304.
Roman history from the monarchy to the fall of the republic; special emphasis on political, cultural, and social history.

HIST 302 03(3-0-0). Roman Empire. S. Prerequisite: HIST 100 or HIST 115 or HIST 120 or HIST 170; completion of 45 credits.
Roman history from the principate of Augustus to the reign of Constantine; special emphasis on political, intellectual, cultural, and social history.

HIST 303 03(3-0-0). Hellenistic World: Alexander to Cleopatra. S. Prerequisite: HIST 100 or HIST 115 or HIST 120 or HIST 170; completion of 45 credits. Credit not allowed for both HIST 303 and HY 306.
From Alexander the Great to Cleopatra VII, emphasizing intellectual, social, military, political, and cultural developments.

HIST 304 03(3-0-0). Women in Ancient Greece and Rome. F. Prerequisite: HIST 100 or HIST 115 or HIST 120 or HIST 170; completion of 45 credits. Credit not allowed for both HIST 304 and HY 309.
Comparative study of roles of women and gender in Ancient Greece and Rome.

HIST 308 03(3-0-0). Ancient Christianity to 500 A.D. F. Prerequisite: HIST 100 or HIST 115 or HIST 120 or HIST 170; completion of 45 credits. Credit not allowed for both HIST 308 and HY 451.
Growth of Christian Church from 1st to 5th century; emphasis on its role in Roman Empire; development of ecclesiastical institutions and literature.

HIST 309 03(3-0-0). Medieval Christianity, 500-1500. S. Prerequisite: HIST 100 or HIST 115 or HIST 120 or HIST 170; completion of 45 credits. Credit not allowed for both HIST 309 and HY 452.
Christian Church in Eastern and Western Christendom emphasizing its role in medieval society, relationship with the state, and its institutions.

HIST 310 03(3-0-0). Medieval Europe. F, S, SS. Prerequisite: HIST 100 or HIST 115 or HIST 120 or HIST 170; completion of 45 credits.
Political, legal, socioeconomic development of Europe from 300-1500 emphasizing emergence of major states.

HIST 311 03(3-0-0). Medieval England. S. Prerequisite: HIST 100 or HIST 115 or HIST 120 or HIST 170; completion of 45 credits. Credit not allowed for both HIST 311 and HY 410.
Political, social, and intellectual development of England from Romans to end of Middle Ages.

HIST 312 03(3-0-0). Women in Medieval Europe. F. Prerequisite: HIST 100 or HIST 115 or HIST 120 or HIST 170; completion of 45 credits.
Women in the European Middle Ages; political, social, economic, religious, and cultural developments.

HIST 315 03(3-0-0). Tudor Stuart England, 1485-1689. F. SS. Prerequisite: HIST 100 or HIST 101 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 315 and HY 414.
Political, economic, and social history of England from 1485-1689 emphasizing religious movements, revolution, and constitutional development.

HIST 317 03(3-0-0). Renaissance and Reformation Europe. F. Prerequisite: HIST 100 or HIST 101 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 317 and HY 310.
Development of European society during Renaissance and Reformation eras; religion, society, and the rise of nation-states.

*Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
HIST 318 03(3-0-0). The Age of the Enlightenment. S. Prerequisite: HIST 100 or HIST 101 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 318 and HY 312.

Development of European society from settlement of religious wars to French Revolution emphasizing political, economic, and intellectual trends.

HIST 319 03(3-0-0). Early Modern France, 1500-1789. S. Prerequisite: HIST 100 or HIST 101 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 319 and HY 415.

Political, social, economic, religious, and cultural developments in France (16th-18th centuries) emphasizing formation of the absolutist state.

HIST 320 03(3-0-0). Women and Gender in Europe, 1450-1789. F. Prerequisite: HIST 100 or HIST 101 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 320 and HY 417.

Women and gender in western Europe (15th-18th centuries); political, social, economic, religious, and cultural developments.

*HIST 321 03(3-0-0). Industrial Society in Europe, 1600-1871. F. Prerequisite: HIST 101 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 321 and HY 474.

Causes and consequences of European industrialization and its impact on society, 1600-1871; emphasis on northwest Europe.

HIST 322 03(3-0-0). Industrial Society in Europe, 1871-1989. S. Prerequisite: HIST 101 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 322 and HY 475.

Causes and consequences of industrialization and its impact on European societies between 1871 and 1989; completion of 45 credits.

HIST 323 03(3-0-0). Russia Before 1700. F. Prerequisite: HIST 100 or HIST 101 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 323 and HY 438.

Russia’s political predecessors; contacts with Byzantium, Western Europe, and the Mongol Empire, and resulting cultural, religious, and social change.

HIST 324 03(3-0-0). Imperial Russia. F, S. SS. Prerequisite: HIST 100 or HIST 101 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 324 and HY 440.

Tsarist Russia from its beginnings to November 1917 Revolution with emphasis on modern period. (NT-C)

HIST 328 03(3-0-0). Modern Europe, 1815-1914. F, S. SS. Prerequisite: HIST 101 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 328 and HY 316.

Europe in 19th century emphasizing growth of liberalism, nationalism, and industrialism.

HIST 329 03(3-0-0). Europe in Crisis, 1914-1941. F. Prerequisite: HIST 101 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 329 and HY 318.

Political, social, economic developments since 1914; consequences of world wars, Great Depression, spread of totalitarianism, decline of imperialism.

*HIST 330 03(3-0-0). Eastern Europe Since 1918. S. Prerequisite: HIST 101 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 330 and HY 423.

Breakup of Austrian, German, Russian, Turkish Empires; successor states between wars; communist revolutions and character of East European socialist regimes.

HIST 331 03(3-0-0). The Soviet Union. F, S, SS. Prerequisite: HIST 101 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 331 and HY 442.

Formation of Soviet system in 1918 to its demise in 1991 emphasizing emergence of an advanced socialist state.

HIST 332 03(3-0-0). Germany Since World War I. F. Prerequisite: HIST 101 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 332 and HY 435.

German history, culture, and everyday life from 1914 to present.

HIST 333 03(3-0-0). Contemporary Europe. F, SS. Prerequisite: HIST 101 or HIST 171. Credit not allowed for both HIST 333 and HY 319.

Political, economic, social, and cultural history of major European nations since World War II; completion of 45 credits.

HIST 334 03(3-0-0). European Culture in the 20th Century. S. Prerequisite: HIST 101 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 334 and HY 463.

Cultural developments since World War I emphasizing science, art, clash of ideologies, existentialism, youth culture, and environmental issues.

*HIST 335 03(3-0-0). Britain in the 20th Century. F. Prerequisite: HIST 101 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 335 and HY 418.

Political, economic, and social developments emphasizing role of Britain in world affairs and internal changes that led to welfare state.

*HIST 336 03(3-0-0). Germany from Napoleon to WWI. F. Prerequisite: HIST 101 or HIST 171; completion of 45 credits. Modern Germany for the late eighteenth to the early twentieth centuries.

HIST 339 03(3-0-0). World War II in Europe. F, S. SS. Prerequisite: HIST 101 or HIST 171; completion of 45 credits.

WWII in Europe (1939-1945): military strategy, tactics; political and diplomatic events; economic and social impacts; ethnic and gender consequences.

HIST 340 03(3-0-0). Colonial North America, 1492-1800. F, S. SS. Prerequisite: HIST 101 or HIST 150 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 340 and HY 360.

New World encounters between native Americans, Europeans, and Africans, and the colonial societies they built.

HIST 341 03(3-0-0). Eighteenth Century America. S, S. SS. Prerequisite: HIST 101 or HIST 150 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 341 and HY 362.

Politics, culture, and society in Colonial British America and the new United States, 1700-1815.

*HIST 343 03(3-0-0). Early U.S. Republic. F, S. SS. Prerequisite: HIST 101 or HIST 150 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 343 and HY 364.

Major themes of U.S. cultural, economic, social, and political history, 1787 to 1815.

HIST 344 03(3-0-0). Antebellum America. S, S. SS. Prerequisite: HIST 101 or HIST 150 or HIST 171; completion of 45 credits.

National growth, 1800 to 1860, emphasizing political, social, and economic developments.

HIST 345 03(3-0-0). Civil War Era. F, S, SS. Prerequisite: HIST 100 or HIST 101 or HIST 150 or HIST 151 or HIST 170 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 345 and HY 370.

U.S. history between 1848 and 1865 emphasizing causes and results of the Civil War. (NT-O)

HIST 346 03(3-0-0). Reconstruction and the New South. F. Prerequisite: HIST 101 or HIST 150 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 346 and HY 372.

Reconstruction Era, 1865-1877, and the South to present with emphasis on purposes and results of Reconstruction.

*HIST 347 03(3-0-0). United States, 1876-1917. S. Prerequisite: HIST 101 or HIST 151 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 347 and HY 373.

*Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
Vic torian way of life; rise of industry; reform movements; imperialism; World War I.

**HIST 348 03(3-0-0). United States, 1917-1945.** F. SS. Prerequisite: HIST 101 or HIST 151 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 348 and HY 376.

World War I, the 1920s, the Great Depression, and World War II.

**HIST 349 03(3-0-0). United States Since 1945.** S. SS. Prerequisite: HIST 101 or HIST 151 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 349 and HY 377.

The Cold War, foreign and domestic affairs from Truman to present.

**HIST 350 03(3-0-0). United States Foreign Relations Since 1914.** S. Prerequisite: HIST 101 or HIST 151 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 350 and HY 457.

Main problems in U.S. foreign relations in the 20th century, especially causes and consequences of the two world wars, Great Depression, and the Cold War.

**HIST 351 03(3-0-0). American West to 1900.** F. Prerequisite: HIST 101 or HIST 150 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 351 and HY 470.

Social, political, economic, environmental developments and intercultural relations in trans-Mississippi West to 1900.

**HIST 352 03(3-0-0). American West Since 1900.** S. Prerequisite: HIST 101 or HIST 151 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 352 and HY 471.

Social, political, economic, environmental developments and intercultural relationships in trans-Mississippi West since 1900.

**HIST 353 03(3-0-0). U.S.-Mexico Borderlands.** F, S. SS. Prerequisite: HIST 101 or HIST 150 or HIST 151 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 353 and HY 472.

Borderlands, northern Mexico, southwestern U.S.; intercultural relationships among Indian, Spanish, Mexican, U.S. cultures.

**HIST 354 03(3-0-0). American Architectural History.** S. Prerequisite: HIST 101 or HIST 150 or HIST 151 or HIST 171; completion of 45 credits.

Broad historical interpretation of the North American built environment from 1500 to present.

**HIST 355 03(3-0-0). American Environmental History.** S. Prerequisite: HIST 101 or HIST 150 or HIST 151 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 355 and HY 464.

Interaction of humans and nature in American history with emphasis on relationships between environmental, social, and cultural change.

**HIST 356 03(3-0-0). American Cultural and Intellectual History.** F, S. SS. Prerequisite: HIST 101 or HIST 150 or HIST 115 or HIST 120 or HIST 121 or HIST 150 or HIST 151 or HIST 170 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 356 and HY 466.

Role of American cultural and intellectual developments in American society and the world.

**HIST 357/MISC 357 03(3-0-0). The American Military Experience.** F. SS. Prerequisite: HIST 100 or HIST 115 or HIST 121 or HIST 150 or HIST 151 or HIST 170 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 357 and MISC 357.

Role of the armed forces in American society; development of military traditions, institutions, and practices.

**HIST 358 03(3-0-0). American Women’s History to 1800.** F. Prerequisite: HIST 100 or HIST 115 or HIST 150 or HIST 151 or HIST 170 or HIST 171; completion of 45 credits.

History of Indian, African, and European women in North America from early colonial contact through the American Revolution and into Early Republic.

**HIST 359 03(3-0-0). American Women’s History Since 1800.** S. Prerequisite: HIST 101 or HIST 150 or HIST 151 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 359 and HY 468.

Social, cultural, economic, and political history of women in the United States since 1800.

**HIST 360 03(3-0-0). United States Immigration History.** S. Prerequisite: HIST 101 or HIST 150 or HIST 151 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 360 and HY 469.

Examines central themes of U.S. immigration from perspective of major immigrant groups and within context of U.S. immigration policy.

**HIST 361 03(3-0-0). American Indians in the Age of Conquest.** S. Prerequisite: HIST 101 or HIST 150 or HIST 171 or HIST 255; completion of 45 credits. Credit not allowed for both HIST 361 and HY 461.

American Indian history from pre-contact to the era of Indian removal (1840s) focused on the impact of colonization.

**HIST 362 03 (3-0-0). American Indian Renaissance in Modern America.** S. Prerequisite: HIST 101 or HIST 151 or HIST 171 or HIST 255; completion of 45 credits. Credit not allowed for both HIST 362 and HY 462.

American Indian history from the reservation era to the present with a focus on cultural and political renewal.

**HIST 363 03(3-0-0). Colorado History.** F, S. SS. Prerequisite: HIST 100 or HIST 101 or HIST 150 or HIST 151 or HIST 170 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 363 and HY 260.

History of Colorado from pre-history to present. (NT-O, $)

**HIST 364/ETST 364 03(3-0-0). Asian American Social Movements, 1945-Present.** F, S. Prerequisite: HIST 151 or HIST 252/ETST 252; completion of 45 credits. Credit not allowed for both HIST 364 and ETST 364.

Historical relationships between Asian Americans and social movements for social, economic, and political equity in the U.S. since 1945.

**HIST 365 03(2-3-0). American West Field Study.** SS. Prerequisite: None. Students may take course only once for credit toward degree completion. Required field trips.

Explore western U.S. history through primary sources and field trips to sites in Colorado and the West. Topic varies by semester and instructor. (S)

**HIST 366 03(3-0-0). African-American History to 1865.** F, S. Prerequisite: HIST 150 or HIST 151; completion of 45 credits.

African-American history from the colonial era to the end of the Civil War.

**HIST 367 03(3-0-0). African-American History Since 1865.** F, S. Prerequisite: HIST 150 or HIST 151; completion of 45 credits.

African-American history from the end of the Civil War to the late twentieth century.

**HIST 368 03(3-0-0). The American South.** S. Prerequisite: HIST 150 or HIST 151; completion of 45 credits.

The American South, 1607 to the present; plantation system, slave culture, secession, Civil War, Reconstruction, Jim Crow, civil rights, and the modern South.

**HIST 379/ECON 379 03(3-0-0). Economic History of the United States.** F. Prerequisite: AREC 202 or ECON 101 or ECON 202 or any two courses in American history; completion of 45 credits. Credit not allowed for both HIST 379 and ECON 379.

Economic analysis of growth and welfare from beginning of industrialization to present.
HIST 410 03(3-0-0). Colonial Latin America. F, S. Prerequisite: HIST 101 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 410 and HY 354. Spanish and Portuguese America from pre-Columbian times through independence (c. 1825).

HIST 411 03(3-0-0). Latin America Since Independence. F, S. SS. Prerequisite: HIST 101 or HIST 151 or HIST 171; completion of 45 credits.
Major trends in the social, cultural, political, and economic evolution of Spanish America and Brazil since independence.

HIST 412 03(3-0-0). Mexico. S. Prerequisite: HIST 101 or HIST 151 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 412 and HY 350.
Social, economic, and political development of Mexican people from pre-Columbian times to present.

HIST 414 03(3-0-0). Revolutions in Latin America. F, S. Prerequisite: HIST 101 or HIST 151 or HIST 171; completion of 45 credits. Historical and theoretical issues arising from revolutionary episodes in Latin America, with emphasis on 20th century case studies.

HIST 420 03(3-0-0). Africa-Precolonial States and Empires. F. Prerequisite: HIST 100 or HIST 101 or HIST 115 or HIST 120 or HIST 170 or HIST 171; completion of 45 credits.
Origins of societal and political development in Africa before 1800: technology, the environment, human migrations, and trade.

°HIST 421 03(3-0-0). Africa: Colonialism to Independence. S. Prerequisite: HIST 101 or HIST 151 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 421 and HY 330.
Africa from abolition of the slave trade to independence, focusing on economic, social, and political change under colonialism.

*HIST 422 03(3-0-0) Modern Africa. S. Prerequisite: HIST 101 or HIST 151 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 422 and HY 429.
Colonial roots of modern Africa focusing on the period since 1935. Case studies of social and political change in Africa since World War II.

°HIST 423 03(3-0-0). South African History. F. Prerequisite: HIST 101 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 423 and HY 425.
South African history from human origins to the end of Apartheid.

HIST 424 03(3-0-0). East African History. F, S. Prerequisite: HIST 100 or HIST 101 or HIST 115 or HIST 120 or HIST 121 or HIST 170 or HIST 171.
Overview of east African history from human origins to modern times, focusing on Kenya, Tanzania, and Uganda.

*HIST 430 03(3-0-0). Ancient Near East. S. Prerequisite: HIST 100 or HIST 115 or HIST 120 or HIST 121 or HIST 170 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 430 and HY 302.
Neolithic period to 500 B.C.E. emphasizing political, social, intellectual, and cultural developments.

HIST 431 03(3-0-0). Ancient Israel. F. Prerequisite: HIST 100 or HIST 115 or HIST 120 or HIST 170; completion of 45 credits. Credit not allowed for both HIST 431 and HY 303.

HIST 432 03(3-0-0). Sacred History in the Bible and the Qur’an. F, S, SS. Prerequisite: HIST 100 or HIST 115 or HIST 120 or HIST 170; completion of 45 credits. Credit not allowed for both HIST 432 and HY 342.
Conceptions of sacred history in the Biblical and Qur’anic traditions, emphasizing pre-modern historiography and exegesis.

°Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)

°HIST 433 03(3-0-0). Muhammad and the Origins of Islam. F. Prerequisite: HIST 100 or HIST 115 or HIST 120 or HIST 170; completion of 45 credits. Credit not allowed for both HIST 433 and HY 344.
Emergence of Islam and growth of the Islamic community from time of Muhammad to decline of the Arab Caliphate.

HIST 435 03(3-0-0). Jihad and Reform in Islamic History. F. Prerequisite: HIST 100 or HIST 101 or HIST 115 or HIST 120 or HIST 121 or HIST 170 or HIST 171; completion of 45 credits.
Jihad and reform in classical and modern Islamic thought and practice.

HIST 438 03(3-0-0). The Modern Middle East. S. Prerequisite: HIST 101 or HIST 115 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 438 and HY 348.
Historical developments in the Middle East in 19th and 20th centuries.

HIST 440 03(3-0-0). Modern South Asia. F, S. Prerequisite: HIST 101 or HIST 120 or HIST 121 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 440 and HY 331.
Major political, social, economic and cultural developments in South Asia from the seventeenth century to the present.

HIST 441 03(3-0-0). South Asia Since Independence. S. Prerequisite: HIST 101 or HIST 120 or HIST 121 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 441 and HY 332.
Major political, social, economic, and cultural developments in South Asia since independence.

HIST 450 03(3-0-0). Ancient China. F. Prerequisite: HIST 100 or HIST 115 or HIST 120 or HIST 170; completion of 45 credits. Credit not allowed for both HIST 450 and HY 337.
Development of civilization in China from Neolithic times to 200 B.C.E.

HIST 451 03(3-0-0). Medieval China and Central Asia. S. Prerequisite: HIST 100 or HIST 115 or HIST 120 or HIST 121 or HIST 170; completion of 45 credits. Credit not allowed for both HIST 451 and HY 339.
Historical developments in China and Central Asia from 200 B.C.E. to 1300 A.D.

HIST 452 03(3-0-0). China in the Modern World, 1600-Present. S, SS. Prerequisite: HIST 101 or HIST 120 or HIST 121 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 452 and HY 341.
Historical developments in China since 1600.

HIST 455 03(3-0-0). Tokugawa and Modern Japan, 1600-Present. F, S. Prerequisite: HIST 101 or HIST 120 or HIST 121 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 455 and HY 335.
Historical developments in Japan since 1600.

HIST 456 03(3-0-0). East Asia in the Age of Empire, 1800-Present. F. Prerequisite: HIST 120 or HIST 121 or HIST 171; completion of 45 credits.
Rise of modern imperialism in East Asia, both from without (the “West”) and from within (Japan), 1800-present.

HIST 460 03(3-0-0). Slavery in the Americas. F. Prerequisite: HIST 101 or HIST 150 or HIST 171 or HIST 250; completion of 45 credits.
Slave labor; Atlantic world economy; African contributions to American culture; gender and racial dynamics; emancipation movements.

°HIST 461 03(3-0-0). Rise and Fall of British Empire. S. Prerequisite: HIST 100 or HIST 101 or HIST 121 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 461 and HY 416.
Beginnings of globalization; its origins in the spread of the British Empire; major causes of expansion, forms of control, long-term effects.
HIST 463 03(3-0-0). Science and Technology in Modern History. S. Prerequisite: HIST 101 or HIST 121 or HIST 150 or HIST 151 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 463 and HY 447.

Impact of science and technology on industry, agriculture, medicine, education, etc. Issues in science and technology policy.

HIST 464 03(3-0-0). Pacific Wars: Philippines-WWII. F. Prerequisite: HIST 101 or HIST 121 or HIST 151 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 464 and HY 402.

Diplomatic, ideological, political, cultural, and military aspects of war in the Pacific from the Philippines war through WWII.

HIST 465 03(3-0-0). Pacific Wars: Korea and Vietnam. S. Prerequisite: HIST 101 or HIST 121 or HIST 151 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 465 and HY 403.

Diplomatic, ideological, political, cultural, and military aspects of war in the Pacific from the war in Korea through the war in Vietnam.

HIST 466 03(3-0-0). U.S. China Relations Since 1800. F. S. Prerequisite: HIST 120 or HIST 121 or HIST 171; completion of 45 credits. Credit not allowed for both HIST 466 and HY 460.

United States-China relations as represented in travel narratives, memoirs, journalistic and diplomatic writing, biography, and autobiography.

HIST 467 03(3-0-0). Modern Jewish History. S. Prerequisite: HIST 101 or HIST 150 or HIST 151 or HIST 171; completion of 45 credits.

Political, social, cultural and economic dimensions of modern Jewish history from both a regional and global perspective.

HIST 469 03(3-0-0). The Crusades. S. Prerequisite: HIST 100 or HIST 115 or HIST 120 or HIST 170; completion of 45 credits. Credit allowed for only one of the following: HIST 434, HIST 469, or HY 346.

The Crusades, emphasizing religion, politics, and warfare in Western Europe, Byzantium, the Near East, and the Mongol world empire, c. 1050-1300.

HIST 470 03(3-0-0). World Environmental History, 1500-Present. F. Prerequisite: HIST 101 or HIST 121 or HIST 150 or HIST 151 or HIST 171; completion of 45 credits.

World environmental history since 1500, emphasizing the dynamic interaction of nature, culture, and human activity.

HIST 471 03(3-0-0). History of Antarctica, 1800-Present. F. S. SS. Prerequisite: HIST 100 or HIST 101 or HIST 150 or HIST 151 or HIST 170 or HIST 171; completion of 45 credits.

History of Antarctica from discovery in the early nineteenth century to the present. (NT-O)

HIST 476 03(3-0-0). History of America’s National Parks. S. Prerequisite: HIST 101 or HIST 150 or HIST 151 or HIST 171; completion of 45 credits.

The national park system and its development from concept to design to implementation.

HIST 477 03(3-0-0). Teaching History. F. Prerequisite: HIST 100 or HIST 101 or HIST 115 or HIST 120 or HIST 121 or HIST 150 or HIST 151 or HIST 170 or HIST 171; completion of 45 credits.

Teaching history, emphasizing teaching historical literacy, research, and writing at the middle and high school levels.

"HIST 478/ANTH 478 03(3-0-0). Heritage Resource Management. S. Prerequisite: Junior or senior standing. Credit not allowed for both HIST 454 and ANTH 454. Credit not allowed for both HIST 478/ANTH 478 and HY 454/AP 454.

Cultural resource laws and policy; practices commonly employed in the management and preservation of these diverse resources.

*HIST 479 03(3-0-0). Practice of Public History. F. Prerequisite: HIST 101 or HIST 150 or HIST 151 or HIST 171; completion of 45 credits.

Public history methodology.

HIST 484 Var[1-3] Supervised College Teaching. F, S, SS. Prerequisite: Completion of 45 credits. A maximum of 10 combined credits for all 384 and 484 courses are counted towards graduation requirements.

Assisting the instructor in teaching introductory history courses; relevant readings and discussions.

HIST 487 Var [1-3]. Internship. Prerequisite: Completion of 45 credits. A maximum of 10 combined credits for all 384 and 484 courses are counted towards graduation requirements.

Application of historical methods in museums, libraries, and at historic sites.

HIST 492 03(0-0-3). Capstone Seminar. F. S. Prerequisite: Senior status. History majors only. To count toward the major, the course must be completed with a C or better. Seminar involving critical reading, writing, research, and discussion. Topics vary by instructor.

HIST 495 Var [1-3]. Independent Study. Prerequisite: Completion of 45 credits.

HIST 497 Var [1-3]. Group Study. Prerequisite: Completion of 45 credits.

HIST 501 03(0-0-3). Historical Method: Historiography. F, S, SS. Prerequisite: Written consent of instructor. Historiographical skills and methods; emphasis on research, writing, and interpretation.

HIST 502 03(0-0-3). Historical Method: Archives. F, S, SS. Prerequisite: Written consent of instructor. Historiographical skills and methods; emphasis on fundamentals of archival science.

HIST 503 03(0-0-3). Historical Method: Preservation. F, S, SS. Prerequisite: Written consent of instructor. Historiographical skills and methods; emphasis on theory and practice of historic preservation.

HIST 504 03(0-0-3). Historical Method: Museums. F, S, SS. Prerequisite: Written consent of instructor. Historiographical skills and methods; emphasis on theory and practices of history museums.

HIST 511 03(0-0-3). Reading Seminar-U.S. to 1877. F, S, SS. Prerequisite: HIST 501. Readings on United States history to 1877.

HIST 512 03(0-0-3). Reading Seminar-U.S. Since 1877. F, S, SS. Prerequisite: HIST 501. Readings on United States history since 1877.

"HIST 515 03(3-0-0). Records Management. S. Prerequisite: HIST 501.

Basic records management techniques and concepts such as retention, vital records, disaster planning, and electronic records.

HIST 520 03(0-0-3). Reading Seminar-Europe to 1815. F, S, SS. Prerequisite: HIST 501. Readings on European history to 1815.

HIST 521 03(0-0-3). Reading Seminar-Europe Since 1815. F, S, SS. Prerequisite: HIST 501. Readings on European history since 1815.

HIST 530 03(0-0-3). Reading Seminar-Africa. F, S, SS. Prerequisite: HIST 501. Readings on major historiographical issues in African history.

HIST 531 03(0-0-3). Reading Seminar-Latin America. F, S, SS. Prerequisite: HIST 501.

Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCCSubcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
Readings on major historiographical issues in Latin American history.

**HIST 532 03(0-0-3). Reading Seminar-Middle East.** F, S, SS. Prerequisite: HIST 501.
Readings on major historiographical issues in Middle East history.

**HIST 533 03(0-0-3). Reading Seminar-East Asia.** F, S, SS. Prerequisite: HIST 501.
Readings on major historiographical issues in East Asian history.

**HIST 534 03(0-0-3). Reading Seminar-South Asia.** S. Prerequisite: HIST 501.
Major historiographical issues in South Asian history.

**HIST 539 03(0-0-3). Reading Seminar - World Environmental History.** S. Prerequisite: Graduate standing.
Major works in the field of world environmental history and the major historiographical debates.

**HIST 540 03(0-0-3). Material Culture.** F, S, SS. Prerequisite: HIST 501.
Social, cultural, economic, and political developments in history as interpreted through artifacts.

**HIST 556 Var. Practicum.** Prerequisite: HIST 501.
**HIST 557 Var [1-6]. Internship.** Prerequisite: HIST 501.
Work-oriented instruction involving implementation of classroom or laboratory experiences coordinated by faculty member.

**HIST 611 03(0-0-3). Research Seminar: United States.** F, S, SS. Prerequisite: HIST 501.
Research on United States history.

**HIST 621 03(0-0-3). Research Seminar: Europe.** F, S, SS. Prerequisite: HIST 501.
Research on European history.

**HIST 640 03(0-0-3). Research Seminar: State and Local History.** F, S, SS. Prerequisite: Written consent of instructor.
Research in and interpretation of state and local history within the broader context of United States history.

**HIST 684 Var. Supervised College Teaching.** Discussions and readings to enhance teaching proficiency.

**HIST 695 Var. Independent Study.** Prerequisite: HIST 501.

**HIST 697 Var [1-3]. Group Study.**

**HIST 699 Var. Thesis.** Prerequisite: HIST 501.

*Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
HONORS COURSES
Nondepartmental
University Honors Program
Office of Provost and Executive Vice President

HONR 192 04(3-0-1). Honors First Year Seminar. F, S. Prerequisite: Participation in University Honors Program. Humanistic and scientific studies; emphasis on literate activities, written communication; student development and transition to university life.

HONR 193 03(0-0-3). Honors Seminar. (AUCC 1A). F, S. Prerequisite: HONR 192; participation in University Honors Program. Humanistic and scientific studies with emphasis on rigorous literate activities, especially written communication.

HONR 195 Var[1-3]. Honors Independent Study. Prerequisite: Participation in University Honors Program.

HONR 197 Var[1-4]. General Honors Colloquium. Prerequisite: Participation in University Honors Program. Limited to qualified freshmen and sophomores. Students from all major fields meet in small groups to focus on a problem of concern to all.

HONR 384 Var. Supervised College Teaching. F, S. Prerequisite: Participation in University Honors Program. A maximum of 10 combined credits for all 384 and 484 courses are counted towards graduation requirements.

HONR 392 03(0-0-3). Honors Seminar. (AUCC 3B). F, S. Prerequisite: HONR 193, participation in University Honors Program. Various topics in humanistic and scientific studies.

HONR 397 Var[1-4]. General Honors Colloquium. Prerequisite: Participation in University Honors Program. Normally limited to qualified juniors and seniors. Students from all major fields meet in small groups to focus on a problem of concern to all.

HONR 399 01(0-0-1). Pre-thesis. F, S. Prerequisite: Participation in University Honors Program. Preparation for Honors senior thesis.

HONR 492 03(0-0-3). Honors Senior Seminar. (AUCC 3C). Prerequisite: HONR 392; participation in University Honors Program. Variable topics on humanistic and scientific studies.

HONR 495 Var[1-5]. Independent Study. Prerequisite: Participation in University Honors Program. Individual projects developed by the student and the major adviser at the upper-division level but which transcends basic course content.

HONR 498 Var[1-4]. Honors Undergraduate Research. F. Prerequisite: Junior standing; participation in University Honors program.

HONR 499 03(0-0-3). Senior Honors Thesis. Prerequisite: HONR 399; participation in University Honors Program.

°Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
HORTICULTURE COURSES
Department of Horticulture and Landscape Architecture
College of Agricultural Sciences

HORT 100 04(3-2-0). Horticultural Science. (AUCC 3A). F, S, SS. Prerequisite: None.
Principles of plant science and related disciplines as the base and context for the introduction of horticulture practices. (§)

HORT 171/SOCR 171 03(2-0-1). Environmental Issues in Agriculture. (GT-SS3, AUCC 3E). F. Prerequisite: None. Credit not allowed for both HORT 171 and SOCR 171.
Historical development of agriculture, environmental consequences of modern food production, and other cultural approaches to agriculture.

+HORT 221 04(2-4-0). Landscape Plants. F, S. Prerequisite: None. Required field trips.
Identification, landscape features, cultural requirements, and landscape use of coniferous and deciduous trees and shrubs, vines, and evergreens. ($)

HORT 231 04(2-4-0). Landscape Graphics Studio. F. Prerequisite: None.
Mechanical and freehand graphic techniques for landscape design. Use of pencil, ink, and colored markers. Plan, sectional, and perspective views.

HORT 232 04(2-4-0). Principles of Landscape Design. S. Prerequisite: HORT 231.
Basic concepts in the art and process of landscape design. (§)

HORT 260 04(3-2-0). Plant Propagation. S. Prerequisite: BZ 120 or concurrent registration or HORT 100 or concurrent registration or LIFE 103 or concurrent registration.
Theories, principles, and techniques of sexual and asexual propagation. (§)

HORT 270 02(2-0-0). Fundamentals of Horticultural Therapy. F. Prerequisite: None.
Theory and practice of horticultural therapy in health care and human services; applications, settings, and professional career topics. (NT)

*HORT 277 01(1-0-0). Introduction to Enology. F. Prerequisite: None.
Methods/criteria to evaluate, compare, and describe aroma and flavor characteristics in sound commercial wines; identification of common wine defects.

HORT 310 04(3-2-0). Greenhouse Management. F, S. SS. Prerequisite: None.
Design and use of enclosed structures to manipulate controlled environments, effects on growth as applied to crops, production, and marketing crops. (S, NT-O)

+HORT 321 04(3-2-0). Nursery Production and Management. S. Prerequisite: BZ 120 or HORT 100 or LIFE 103. Required field trips.
Nursery industry organization, management, equipment, field and container production, storage, shipping, marketing, and business management practices. (§)

+HORT 322 03(2-2-0). Herbaceous Plants. F. Prerequisite: None. Required field trips.
Identification, landscape features, cultural requirements, and uses of ornamental annual, perennial, and bulb plants. ($)

HORT 330 02(2-0-0). Computers for Landscape Design. S. Prerequisite: None.
Applications and techniques of computer software utilized in small-scale landscape design-build.

HORT 331 02(2-0-0). Landscape Design. S, SS. Prerequisite: None.
For non-design majors only.
Fundamentals of landscape design theory and plant composition as presented in simple problems. For non-design majors only.

+HORT 335 04(2-4-0). Landscape Structures. F. Prerequisite: CON 131; HORT 232. Required field trips.
Design and construction methods for structures commonly used in residential landscaping. Preparation of construction documents. ($)

HORT 336 04(2-4-0). Landscape Grading and Drainage Studio. S. Prerequisite: HORT 221; HORT 322; HORT 335; MATH 118.
Basic design principles for grading, drainage, and earth forms for small-scale projects. ($)

+HORT 341 03(2-2-0). Turfgrass Management. F. Prerequisite: HORT 100 or concurrent registration. Required field trips.
Principles and practices of turfgrass propagation and maintenance. ($)

*HORT 344 01(1-0-0). Organic Greenhouse Production. S. Prerequisite: HORT 310.
Fundamentals of greenhouse production using organic production methods. ($)

*HORT 345/+SOCR 345 02(0-4-0). Diagnosis and Treatment in Organic Fields. SS. Prerequisite: BSPM 302 or BSPM 308 or BSPM 361; HORT 100 or SOCR 100; SOCR 240. Credit not allowed for both HORT 345 and SOCR 345.
Field experience in diagnosis of pest and nutrient problems on organic farms and development of treatment recommendations. (§)

HORT 367 03(2-2-0). Landscape Irrigation. S. Prerequisite: None.
Credit allowed for only one of the following: HORT 367, HORT 368, LAND 368.
Practical design of sprinkler and trickle irrigation systems for commercial and residential landscapes.

HORT 368/LAND 368 03(2-2-0). Landscape Irrigation and Water Conservation. F, S. Prerequisite: HORT 100 or LAND 110. Credit allowed for only one of the following: HORT 367, HORT 368, LAND 368.
Practical approaches and methods of irrigation, water conservation, and water management in the designed landscape.

HORT 370 01(1-0-0). Landscape Irrigation. S. Prerequisite: HORT 100 or concurrent registration.
Necessary skills to design and manage irrigation systems commonly used in the landscape industry.

HORT 377 01(1-0-0). Horticultural Methods for Therapy Programs. S. Prerequisite: HORT 100; HORT 270.
Horticultural methods for health care and human service settings, including indoor and outdoor growing techniques, management and plant selection. (NT)

HORT 382 03(0-0-3). Origins of Agriculture in the Andes of Peru, SS. Prerequisite: HORT 100 or BZ 120 or LIFE 103.
Study abroad experience focused on understanding the agricultural, biological, cultural and geographical diversity of the Andes region of Peru.

HORT 384 Var[1-5]. Supervised College Teaching. F, S. A maximum of 10 combined credits for all 384 and 484 courses are counted towards graduation requirements.

*HORT 401 03(3-0-0). Medicinal and Value-Added Uses of Plants. S. Prerequisite: BZ 120 or HORT 100 or LIFE 103.
Chemical, biochemical and ethnobotanical perspective on the medicinal and value-added uses of plants.

+HORT 412 04(3-0-1). Floriculture Crops. F, S, SS. Prerequisite: None. Required field trips.
Commercial production and marketing of bedding plants, potted container crops, and cut flowers. (NT-O)

*Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCCsubcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
HORT 421 02(2-0-0), Horticultural Therapy Techniques. S. Prerequisite: HORT 270.

Clinical skills in horticultural therapy; communication, safety, leadership, therapeutic relationships, adaptation of tools and activities. (NT)

HORT 423 02(2-0-0), Horticultural Therapy Programming. S. Prerequisite: HORT 421.

Methods for individual treatment planning, intervention, documentation, and reporting within therapy, social, and vocational HT programs. (NT)

*HORT 424*/SOCR 424 03(3-0-0), Topics in Organic Agriculture. S. Prerequisite: AREC 202 or ECON 202; AREC 328; HORT 100 or SOCR 100; HORT 171/SOCR 171; SOCR 240. Credit not allowed for both HORT 424 and SOCR 424.

Examination of issues specific to organic food production systems and marketing.

HORT 425 03(2-0-1), Horticultural Therapy Management. F. Prerequisite: HORT 423.

Horticultural therapy program and site design, proposals, funding, marketing, management, and evaluation. (NT)

HORT 431 04(2-4-0), Planting Design Studio. F. Prerequisite: HORT 221; HORT 322; HORT 336.

Functional and aesthetic values of plant materials; their creative use in landscape design. ($)

+HORT 432 05(2-6-0), Intensive Landscape Design Studio. S. Prerequisite: HORT 431; HORT 487. Required field trips.

Site planning and design for landscape projects of a limited scale. Problems of increasing complexity. Emphasis on real sites and clients. ($)

+HORT 441 03(3-0-0), Turfgrass Science. F. Prerequisite: BZ 120 or HORT 100 or SOCR 240. Required field trips.

Examination of turfgrass management practices from a scientific perspective; discussion of advanced turfgrass management technologies.

+HORT 450A-D 01(1-0-0), Horticulture Food Crops. F. Prerequisite: BZ 120 or HORT 100 or LIFE 103 or SOCR 100. Required field trips.

*A Cool season vegetable production. ($) *B Warm season vegetable production. ($) *C Small fruit production. ($) *D Tree fruit production. ($)

+HORT 452 01(1-0-0), Viticulture-Grape Production. F. Prerequisite: BZ 120 or HORT 100 or LIFE 103 or SOCR 100.

Grape production in temperate zone climates. ($) 

HORT 454 02(2-2-0), Horticulture Crop Production and Management. S. Prerequisite: HORT 310 or HORT 450A-B.

Production and management of horticulture crops.

+HORT 460*/SOCR 460 03(2-0-1), Plant Breeding. F. Prerequisite: BZ 350 or concurrent registration or LIFE 201A or concurrent registration or SOCR 330 or concurrent registration. Credit not allowed for both SOCR 460 and HORT 460.

Theory and practice of plant breeding using principles of genetics and related sciences.

+HORT 461*/SOCR 461 01(0-2-0), Plant Breeding Laboratory. S. Prerequisite: HORT 460/SOCR 460 or concurrent registration. Credit not allowed for both HORT 461 and SOCR 461.

Techniques and procedures used in public and commercial plant breeding programs.

+HORT 462 03(3-0-0), Viticulture Practices in Grape Production. F. Prerequisite: None.

Biology of grape vines and cultural practices including planning, training, pest control, pruning, and harvesting; special emphasis on Colorado.

+HORT 464 03(2-2-0), Arboriculture. F. Prerequisite: HORT 100; SOCR 240. Required field trips.

Care of trees in the landscape including planting, pruning, appraisal, and diagnosis.

HORT 465 03(2-2-0), Landscape Estimating. F. Prerequisite: MATH 117; MATH 118; MATH 124 or MATH 125 or MATH 141 or MATH 155; HORT 221.

Landscape construction estimating and bidding, contract documentation, and other business practices relevant to landscape design-build and contracting. ($)

+HORT 466 03(2-2-0), Community Forestry. S. Prerequisite: HORT 221.

Policies and management of public and privately owned community forests in urbanized areas.

+HORT 476 03(3-0-0), Environmental Plant Stress Physiology. S. Prerequisite: BZ 440. Credit not allowed for both HORT 476 and HORT 576.

Plant growth, development and physiology, major sources of stress in plants, global issues in environment and plant stress.

+HORT 477 03(3-0-0), Enology-History and Winemaking. F. Prerequisite: CHEM 107 or concurrent registration and CHEM 108 or concurrent registration or CHEM 111 or concurrent registration and CHEM 112 or concurrent registration.

History and development of the wine industry; mechanics of various processes and factors affecting wine quality and consumer acceptance.

HORT 479 02(2-0-0), Professional Landscape Practices. S. Prerequisite: HORT 100; HORT 465.

Business skills involved in a successful career in the green industry.

HORT 486A-B. Practicum. 

A) Floriculture, 02(0-4-0), F. S. Prerequisite: HORT 310. Directed experience in applications of floriculture. B) General, Var[1-6], F. S. SS, Directed experiences in applications of horticulture techniques and procedures.

HORT 487 Var. Internship.

HORT 495 Var. Independent Study.

HORT 496 Var. Group Study.

+HORT 571 03(3-0-0), Soil-Plant-Water Relations/Water Stress. S. Prerequisite: BZ 440.


+HORT 575 02(2-0-0), Plant Germplasm Conservation. S. Prerequisite: HORT 460/SOCR 460.

Principles, concepts, and methodology for collection, conservation, and utilization of plant genetic resources.

+HORT 576 04(3-0-1), Advanced Environmental Plant Stress Physiology. S. Prerequisite: BZ 440. Credit not allowed for both HORT 576 and HORT 476.

Advanced aspects of plant growth, development and physiology, major sources of stress in plants, global issues in environment and plant stress.

HORT 588 Var. Supervised Extension Practices.

Field experiences in extension practices in horticulture.

+HORT 601 02(1-0-1), Topics in Root and Rhizosphere Biology. S. Prerequisite: One course in plant physiology; one course in biochemistry.

In-depth overview of the biology of roots and the rhizosphere processes related to roots.

*Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCCSubcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
HORT 675 03(3-0-0). Plant Stress Physiology. F. Prerequisite: BZ 440.
Research concepts based on physiological, biochemical, and molecular mechanisms controlling environmental stresses in plants.

HORT 698 Var. Research.


HORT 784 Var. Supervised College Teaching.

HORT 792 01(0-0-1). Seminar. F, S.

HORT 795 Var. Independent Study.


*Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
INTERNATIONAL EDUCATION COURSES
Nondepartmental, Interdisciplinary
Office of Provost and Executive Vice President

IE 116/AGRI 116 03(2-0-1), Plants and Civilizations. (GT-SS3, AUCC 3E). F, S. Prerequisite: None. Credit not allowed for both IE 116 and AGRI 116.
Plant origins and their relationships with cultures/civilizations as food, spices, perfumes, and medicines and in art, religion, wars, slavery, etc.

IE 179 03(3-0-0), Globalization: Exploring Our Global Village. (GT-SS3, AUCC 3E). S. Prerequisite: None.
Analysis and implications of social, cultural, economic, and political change in the context of globalization and transnational relationships.

IE 270/AGRI 270 03(3-0-0), World Interdependence-Population and Food. (GT-SS3, AUCC 3E). S. Prerequisite: None. Credit not allowed for both IE 270 and AGRI 270.
Survey of world population and food; emphasis on understanding the problems and opportunities in a world context.

IE 271 03(3-0-0), India. S. Prerequisite: None.
Interdisciplinary interpretation of philosophical, historical, cultural, physical, and technological influences shaping modern India.

IE 272 Var[1-3], World Interdependence-Current Global Issues. F. Prerequisite: None.
Current global issues, using guest speakers and focusing on global/international topics that are in the news.

IE 370 03(3-0-0), Model United Nations. (AUCC 3E) F. Prerequisite: None.
Structure and function of the United Nations; role of international organizations in international relations; opportunity to practice modeling role of UN representatives.

IE 450/SOWK 450 03(2-0-1), International Social Welfare and Development. F. Prerequisite: None. Credit not allowed for both IE 450 and SOWK 450.
Framework of social welfare and development in international area; social need with focus on cultures/countries in transition.

IE 470 03(3-0-0), Women and Development. F. Prerequisite: None.
Research and policy issues related to women in developing countries.

IE 471 03(3-0-0), Children and Youth in Global Context. S. Prerequisite: None.
Global issues affecting children and youth are examined in cultural context. (NT-O)

IE 472 03(3-0-0), Education for Global Peace. F, S. Prerequisite: Upper-division status.
Peacekeeeping, peacemaking and peace-building on micro and macro levels, and education’s role in them, as key components for sustaining global peace.

IE 479/ANTH 479 03(3-0-0), International Development Theory and Practice. F. Prerequisite: Junior or senior standing. Credit not allowed for both IE 479 and ANTH 479.
Contemporary issues in international community and economic development, with practical and theoretical analysis from interdisciplinary perspectives.

IE 482A-G Var[1-6], Travel Study-Global Studies. F, S. Prerequisite: None.
Current global issues, topics, traditions studies in one or more countries of the region. A) Africa. B) Asia. C) Australia/Oceania.


IE 492 Var[1-3], International Education Seminar. F, S, SS.
Topics in international education.

*IE 517/*PSY 517 03(0-0-3), Perspectives in Global Health. S. Prerequisite: None. Credit not allowed for both IE 517 and PSY 517.
Science, skills, and beliefs directed at the maintenance and improvement of health for all people.

IE 550/PHIL 550 03(3-0-0), Ethics and International Development. F. Prerequisite: Written consent of instructor. Credit not allowed for both IE 550 and PHIL 550.
Ethical reflection applied to development goals, strategies of Third World countries; relations between developed and developing countries.

 IE 679/ANTH 679 03(3-0-0), Applications of International Development. F, S. Prerequisite: Graduate standing.
In-depth interdisciplinary analysis of theoretical and practical issues in implementing economic and community-based international development programs.

IE 692 Var[1-3], International Education Seminar. F, S, SS.
Prerequisite: Graduate standing.
Topics in international education. (NT-O)

° Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
**INTERNATIONAL STUDIES COURSES**

*Nondepartmental*

*College of Liberal Arts*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Schedule</th>
<th>Prerequisites/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>INST 300 03(0-0-3)</td>
<td>Approaches to International Studies. F.</td>
<td></td>
<td>Prerequisite: GR 100. Interdisciplinary and comparative analytical approaches to the field of international studies.</td>
</tr>
<tr>
<td>INST 484 Var[1-5]</td>
<td>Supervised College Teaching. F, S, SS.</td>
<td></td>
<td>A maximum of 10 combined credits for all 384 and 484 courses are counted towards graduation requirements.</td>
</tr>
<tr>
<td>INST 487 Var[1-3]</td>
<td>Internship. F, S, SS.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INST 492 03(0-0-3)</td>
<td>Seminar. F, S.</td>
<td></td>
<td>Prerequisite: INST 300; International Studies major students only.</td>
</tr>
</tbody>
</table>

°Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
INTD 129 03(3-0-0). Introduction to Interior Design. F, S, SS. 
Prerequisite: None.
Interior design discipline's professional values with emphasis on 
elements and principles of design. (NT-O)

INTD 166 03(0-6-0). Visual Communication/Sketching. F, S, SS. 
Prerequisite: None.
Hand drafting, free-hand sketching and conceptualization to 
communicate interior design concepts visualizing 2 and 3 dimensional 
representations.

INTD 200 03(3-0-0). Housing Values in America. F, S. Prerequisite: None.
Housing issues in the U.S.; values, norms, roles of government and 
building professions; interaction of issues with U.S. public values to 
meet housing needs.

INTD 201 03(0-6-0). Two-Dimensional Fundamentals—Interior 
Design. F. Prerequisite: INTD 129; INTD 166; design scenario 
advancement. 
Demonstration of 2-dimensional elements and principles of design 
incorporating creative thinking, design fundamentals, design 
communications skills.

+INTD 210 03(3-0-0). Interior Design Anatomy. F. Prerequisite: 
INTD 129; INTD 166; design scenario advancement. Required field 
trips.
Applying basic concepts of human behavior, anthropometrics, and 
space planning to residential interiors.

INTD 235 03(2-2-0). Interior Design Technologies. S. Prerequisite: 
INTD 210.
Principles and procedures required in interpreting and producing 
building site plans, floor plans, elevations, sections, and interior details.

INTD 236 03(0-6-0). Three Dimensional Thinking. F. Prerequisite: 
INTD 129; INTD 166; design scenario advancement. 
Demonstration and application in visualizing interior space in three 
dimensions.

INTD 255 03(3-0-0). Residential Interiors. F, S, SS. Prerequisite: None. 
Offered as an online course only.
Theories, issues, and planning elements that impact the design of 
residential interiors. (NT-O)

+INTD 256 03(1-4-0). Computer-Aided Design for Interior 
Designers. F. Prerequisite: INTD 129; INTD 166; design scenario 
advancement. Required field trips.
Use of computer-aided design (CAD), specifically two-dimensional 
and three-dimensional drafting using PC software.

INTD 266 03(0-6-0). Visual Communication-Multi-Media. S. 
Prerequisite: INTD 210; INTD 236.
Visual communication using advanced sketching rendering, manually 
and with technology, and alternative presentation methods.

+INTD 276 03(0-6-0). Interior Design I. S. Prerequisite: INTD 235; 
INTD 210; INTD 236; INTD 256. Required field trips.
Application of design process to small interior design projects. 
Design solutions communicated using manual and technology tools.

INTD 296A-B Var[1-3]. Group Study. F, S, SS. Prerequisite: Design 
scenario advancement. 
A) Space planning and application. B) Design application.

+INTD 330 03(2-2-0). Lighting Design. F. Prerequisite: CON 371 or 
concurrent registration; INTD 276 with a C or better. Required field 
trips.
Application of lighting design in interior environments. (S)

INTD 336 03(3-0-0). Color. F, S, SS. Prerequisite: None. Offered 
only through the Division of Continuing Education.
Color theories, principles, trends and application in design. (NT-O)

INTD 340 03(3-0-0). Interior Materials and Finishes. F. Prerequisite: 
DM 120; INTD 276 with a C or better.
Analysis of materials and resources for interiors.

INTD 350 03(3-0-0). Codes-Health and Safety. S. Prerequisite: 
INTD 210; INTD 276 or concurrent registration or INTD 376 or 
concurrent registration.
Health and safety issues in interior design, including codes, 
regulations, and universal design.

INTD 356 03(3-0-0). Professional Communications-Interior Design. 
S. Prerequisite: CO 150 or HONR 193; INTD 276 with a C or better.
Mastery of written communication skills required in the field of 
interior design.

INTD 359 03(3-0-0). History of Interior Design. S. Prerequisite: INTD 
276 with grade of C or better.
Survey of interior design history from ancient through the present.

INTD 376 03(0-6-0). Interior Design II. S. Prerequisite: CON 371; 
INTD 330; INTD 340.
Application of design components to medium-scale residential 
and non-residential interior design projects.

INTD 384 Var. Supervised College Teaching. F, S. A maximum of 10 
combined credits for all 384 and 484 courses are counted towards 
graduation requirements.

+INTD 400 04(1-4-1). Interior Design Research Proposal. F. 
Prerequisite: INTD 376 with a C or better. Required field trips.
Research, development, and presentation of a programming proposal 
for a large scale interior design project with service learning component.

INTD 450/CON 450 03(3-0-0). Travel Abroad-Sustainable Building. 
SS. Prerequisite: None. Credit not allowed for both INTD 450 and CON 
450.
Major components of sustainable design and construction, energy, 
healthy buildings, natural resources, and other environmental issues.

INTD 476 04(0-8-4). Interior Design Project. S. Prerequisite: INTD 
400 with a C or better.
Large scale projects representing research-based design solutions, 
illustrating synthesis and analysis of entry-level concepts, portfolio 
development. (S)

INTD 487 Var. Internship. Prerequisite: INTD 356; INTD 376 with a 
C or better.

INTD 495 Var. Independent Study. Maximum of 10 credits allowed in 
course.

INTD 496A-B Var[1-3]. Group Study. Maximum of 10 credits 
allowed in course.
A) Program skills. B) Design application.

+INTD 550 03(3-0-0). Universal Design. F. Prerequisite: INTD 376 
with a C or better. Required field trips.
Analysis and evaluation of universal design as it applies to diverse 
population segments and interior environments.

INTD 575 Var[1-8]. Problems-Interior Design. F, S, SS. Prerequisite: 
INTD 376 with a C or better or undergraduate degree in interior design 
or related field. (NT-O)

* Alternate year offering (odd); ° Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = 
blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and 
AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
INTD 578 03(2-0-1). Trends/Issues in Interior Design. F, S, SS. Prerequisite: INTD 376 with a C or better. (NT-O)

INTD 675 Var[1-8]. Problems-Interior Design. F, S, SS. Prerequisite: Three credits of INTD 575. (NT-O)
### INTRA-UNIVERSITY COURSES

#### Nondepartmental

**Office of Provost and Executive Vice President**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester(s)</th>
<th>Prerequisite Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>IU 150 02(2-0-0)</td>
<td>Diverse Students in Higher Education. S.</td>
<td>S</td>
<td>None. Issues surrounding educational opportunity and social mobility through direct mentoring with high school students.</td>
</tr>
<tr>
<td>IU 170 02(1-0-1)</td>
<td>A Call to Lead I: Theories and Skills. F.</td>
<td>F</td>
<td>Must be a member of the President’s Leadership Program; written consent of instructor. Fundamentals of leadership theories and skills.</td>
</tr>
<tr>
<td>IU 171 02(1-0-1)</td>
<td>A Call to Lead II: Social Change Model. S.</td>
<td>S</td>
<td>Must be a member of the President’s Leadership Program; IU 170; written consent of instructor. Social change model of leadership development.</td>
</tr>
<tr>
<td>IU 193 01(0-0-1)</td>
<td>Freshman Seminar. F, S, SS.</td>
<td>F, S, SS</td>
<td>Students who have earned fewer than 30 credits (CSU and transfer) only. Maximum of 1 credit allowed. Academic study in small-class setting. Topics vary by instructor.</td>
</tr>
<tr>
<td>IU 198 01(0-3-0)</td>
<td>Freshman Laboratory Research.</td>
<td></td>
<td>Freshmen only; written consent of instructor. Hands-on research on an academic research project.</td>
</tr>
<tr>
<td>IU 270 02(1-0-1)</td>
<td>Leadership Styles I: Personal Application. F.</td>
<td>F</td>
<td>Must be a member of the President’s Leadership Program; written consent of instructor. Leadership styles and contexts for personal application.</td>
</tr>
<tr>
<td>IU 271 02(1-0-1)</td>
<td>Leadership Styles II: Prominent Leaders. S.</td>
<td>S</td>
<td>Must be a member of the President’s Leadership Program; IU 270; written consent of instructor. Leadership styles and contexts of prominent leaders for personal application.</td>
</tr>
<tr>
<td>IU 273 02(1-0-1)</td>
<td>Leadership Techniques for Greeks. F.</td>
<td>F</td>
<td>None. Critical elements of analytical and intellectual examination and reflection of certain core issues in the practice of leadership.</td>
</tr>
<tr>
<td>IU 470 03(2-0-1)</td>
<td>Effective Leadership I: Success as a Leader. F.</td>
<td>F</td>
<td>Must be a member of the President’s Leadership Program; written consent of instructor. Personal leadership skill development and its relationship to success as a leader.</td>
</tr>
<tr>
<td>IU 471 03(2-0-1)</td>
<td>Effective Leadership II: Vision and Change. S.</td>
<td>S</td>
<td>Must be a member of the President’s Leadership Program; IU 470; written consent of instructor. Individual personal leadership styles; relationship between personal skill development and successful leadership.</td>
</tr>
</tbody>
</table>

°Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
### JOURNALISM AND TECHNICAL COMMUNICATION COURSES

**Department of Journalism and Technical Communication**  
**College of Liberal Arts**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Prerequisite(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JTC 100</td>
<td>Media in Society</td>
<td>(GT-SS3, AUCC 3C); F, S; Prerequisite: None. Role of media in American democracy; impact of media on individuals and society.</td>
</tr>
<tr>
<td>JTC 192</td>
<td>Freshman Seminar</td>
<td>F, S; Prerequisite: Admission to major. Credit not allowed for both JTC 192 and JTC 210. Basic journalism skills; newspapering and newswriting.</td>
</tr>
<tr>
<td>JTC 200</td>
<td>Professional Writing</td>
<td>F, S; Prerequisite: CO 150 or HONR 193. Basic elements of writing for professional and specialized audiences.</td>
</tr>
<tr>
<td>JTC 210</td>
<td>Newswriting</td>
<td>F, S, SS; Prerequisite: None. Credit not allowed for both JTC 210 and JTC 192. Theory and practice in newswriting.</td>
</tr>
<tr>
<td>JTC 211</td>
<td>Computer-Mediated Visual Communication</td>
<td>F, S, SS; Prerequisite: JTC 210. Theory, techniques for using computer-related techniques for visual presentation of news, specialized, and technical information. (S, NT-O)</td>
</tr>
<tr>
<td>JTC 300</td>
<td>Professional and Technical Communication</td>
<td>(AUCC 2); F, S, SS; Prerequisite: CO 150 or HONR 193. Professional writing and presentation skills applied to students' major fields. (NT-O)</td>
</tr>
<tr>
<td>JTC 301</td>
<td>Corporate and Professional Communication</td>
<td>F, S, SS; Prerequisite: CO 150 or HONR 193. Principles and practice of effective corporate communication with emphasis on written professional reports. (NT-O)</td>
</tr>
<tr>
<td>JTC 310</td>
<td>Copy Editing</td>
<td>F, S; Prerequisite: JTC 100; JTC 210. Theory of copy preparation and editing; publication layout.</td>
</tr>
<tr>
<td>JTC 311</td>
<td>History of Media</td>
<td>F, S; Prerequisite: None. Media development, growth, trends within context of political, social, and economic change. (NT-O)</td>
</tr>
<tr>
<td>JTC 316/ETST 316</td>
<td>Multiculturalism and the Media</td>
<td>S; Prerequisite: None. Credit not allowed for both JTC 316 and ETST 316. Media and multiculturalism with emphasis on race, ethnicity, and other protected groups.</td>
</tr>
<tr>
<td>JTC 320</td>
<td>Reporting</td>
<td>F, S; Prerequisite: JTC 210. Theory, methods, and practice of gathering information and reporting news.</td>
</tr>
<tr>
<td>JTC 326</td>
<td>Online Writing and Journalism</td>
<td>F, S; Prerequisite: JTC 210; JTC 211. Website and message design and creation for media practitioners based on understanding of online attributes and technological context of journalism. (NT-O)</td>
</tr>
<tr>
<td>JTC 328</td>
<td>Feature Writing</td>
<td>S; Prerequisite: JTC 210. Theory, methods and practice of reporting and writing feature stories, including human-interest, travel/adventure, reflective and in-depth articles.</td>
</tr>
<tr>
<td>JTC 335</td>
<td>Digital Photography</td>
<td>F, S; Prerequisite: JTC 211. Basic photographic theory and practice using digital camera and image processing technology. ($)</td>
</tr>
<tr>
<td>+JTC 340</td>
<td>Digital Video Editing</td>
<td>F, S; Prerequisite: JTC 210. Required field trips. Theory and technique of editing picture and sound on digital platforms. ($) (NT-O)</td>
</tr>
<tr>
<td>JTC 341</td>
<td>TV News Writing, Reporting and Producing</td>
<td>F, S; Prerequisite: JTC 210. Practical application of principles, theory, and methods used in television newswriting, reporting, and producing. ($)</td>
</tr>
<tr>
<td>JTC 342</td>
<td>Writing for Specialized Electronic Media</td>
<td>F; Prerequisite: JTC 210. Audience and subject research; script structure and development; narrative techniques; visual story and role of visual media as change agents.</td>
</tr>
<tr>
<td>JTC 343</td>
<td>Advanced Television News Production</td>
<td>F.S; Prerequisite: JTC 341. Advanced theory and practice of reporting and producing television news; basics of television news management. ($)</td>
</tr>
<tr>
<td>+JTC 345</td>
<td>Electronic Field Production</td>
<td>F, S; Prerequisite: JTC 340. Required field trips. Theory and techniques of video field production emphasizing news, current affairs, and special interest programs. ($)</td>
</tr>
<tr>
<td>JTC 350</td>
<td>Public Relations</td>
<td>F, S; Prerequisite: None. Public relations principles and practices of business, industry, education, and public agencies. (NT-O)</td>
</tr>
<tr>
<td>JTC 351</td>
<td>Publicity and Media Relations</td>
<td>F; Prerequisite: JTC 210; JTC 211. Public relations techniques to gain exposure in news and entertainment media.</td>
</tr>
<tr>
<td>JTC 353</td>
<td>Communications Campaigns</td>
<td>F, S; Prerequisite: JTC 210; JTC 350 or JTC 355 or JTC 365. Development of professional communications programs, including analysis and research, strategy, implementation and evaluation.</td>
</tr>
<tr>
<td>JTC 355</td>
<td>Advertising</td>
<td>F, S; Prerequisite: None. Advertising principles and techniques used to develop effective advertising campaigns. (NT-O)</td>
</tr>
<tr>
<td>JTC 356</td>
<td>Advertising Creativity and Copywriting</td>
<td>F, S; Prerequisite: JTC 211; JTC 355. Principles and practices producing advertising materials-print, broadcast, digital, out-of-home media, direct response, and collateral.</td>
</tr>
<tr>
<td>JTC 358</td>
<td>Advertising Media Buying and Selling</td>
<td>F, S; Prerequisite: JTC 211; JTC 355. Principles of advertising planning, assessment and sales for client, agency and media organization personnel.</td>
</tr>
<tr>
<td>JTC 361</td>
<td>Writing for Specialized Magazines</td>
<td>S; Prerequisite: JTC 210. Writing articles for agricultural, business, hobby, technical, trade, and other specialized periodicals whose readers use information to make decisions. (NT-O)</td>
</tr>
<tr>
<td>JTC 365</td>
<td>Computer Mediated Communication Foundations</td>
<td>F; Prerequisite: JTC 210. Issues and research in computer mediated communication relating to individuals, groups, community, and society.</td>
</tr>
<tr>
<td>JTC 371</td>
<td>Publications Design and Production</td>
<td>F, S; Prerequisite: JTC 211. Principles of producing publications for print and electronic delivery, including newspapers, magazines, newsletters, brochures, and printed ephemera.</td>
</tr>
<tr>
<td>JTC 372</td>
<td>Web Design and Management</td>
<td>F, S; Prerequisite: JTC 210; JTC 211.</td>
</tr>
</tbody>
</table>

*Alternate year offering (odd); * Alternate year offering (even); + Field trips; S Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCCSubcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
Design, development, and management of World Wide Web content.
(NT-O)

JTC 373 03(3-0-0). Digital Promotion Management. F. Prerequisite: JTC 211.
How organizations use digital technologies for advertising, publicity, promotional, and information purposes.

JTC 386 Var[1-3]. Communication Practicum. F, S, SS.
Practicum in using the different communication tools that comprise student media.

JTC 410 02(2-0-0). Newspaper Editing. F. Prerequisite: JTC 310.
Editorial techniques, responsibilities, news evaluation.

JTC 411 03(3-0-0). Media Ethics and Issues. F, S. Prerequisite: Junior or senior status.
Professional ethics, issues of media performance and of the relation of media systems to the social systems. (NT-O)

JTC 412 03(3-0-0). International Mass Communication. S. Prerequisite: None.
Media communication systems, their roles throughout the world; news flow; propaganda in national development; role of foreign correspondents.

JTC 413 03(3-0-0). New Communication Technologies and Society. F, S. Prerequisite: None.
Political, economic, social, philosophical, legal, and educational impacts of new technologies. (NT-O)

JTC 414 03(3-0-0). Media Effects. F, S. Prerequisite: None.
Perspectives on audience processes and media effects on individuals and society.

JTC 415 03(3-0-0). Communications Law. F, S, SS. Prerequisite: Junior or senior standing.
Constitutional, statutory law of political speech, obscenity, advertising, libel; privacy, copyright, information ownership and access. (NT-O)

JTC 416 03(3-0-0). New Communication Technologies in the U.S. SS. Prerequisite: Written consent of instructor.
Broad-based survey of evolving and emergent communication technologies in the United States.

JTC 420 03(1-4-0). Advanced Reporting. F, S. Prerequisite: JTC 211; JTC 310; JTC 320.
Advanced techniques for gathering and evaluating information; interpretive reporting of public affairs issues.

JTC 430 03(2-2-0). Advanced Digital Documentary Photography. S. Prerequisite: JTC 326; JTC 335.
Conceptualization, production, and editing of photographic documentaries.

JTC 433 03(3-0-0). Advanced Video Editing. S. Prerequisite: JTC 345.
Professional video editing practices, theories, and techniques with practical applications using current hardware and software.

JTC 435 03(2-3-0). Documentary Video Production. F. Prerequisite: JTC 345.
Writing, directing, and editing of long-form television documentaries. ($)

JTC 440 03(2-2-0). Advanced Electronic Media Production. F, S. Prerequisite: JTC 341; JTC 345.
Techniques and concepts used in advanced media production for television. ($)

JTC 450 03(2-2-0). Public Relations Cases. S. Prerequisite: JTC 351; JTC 353; JTC 371 or JTC 372 or JTC 373.
Preparation of materials, use of media to achieve objectives with target audiences; work with nonprofit organizations in actual campaigns.

JTC 454 03(2-0-1). Travel Abroad – Media Studies in Europe. SS. Prerequisite: Junior or senior standing; written consent of instructor.
Field survey of international media systems, technologies, and providers in diverse national and regional cultures.

JTC 456/LB 456 03(2-2-0). Documentary Film as a Liberal Art. F. Prerequisite: Junior or senior standing. Credit not allowed for both JTC 456 and LB 456.
Documentary film and its role in human history, culture, and social interaction.

JTC 460 03(3-0-0). Senior Capstone. F. S. Prerequisite: JTC 326; 27 additional credits of JTC.
Integration and reflection for seniors with a career component that will prepare them for the job market. (NT-O)

JTC 461 03(2-2-0). Writing about Science, Health, and Environment. F. Prerequisite: JTC 210 or JTC 300 or LB 300.
Writing about science, health, and the environment for lay audiences from a journalistic perspective.

JTC 464 03(2-2-0). Technical Communication. F, S. Prerequisite: JTC 210 or JTC 300 or LB 300.
Writing and producing technical and scientific information for electronic and print media for professionals.

JTC 465 03(2-2-0). Specialized and Technical Editing. S. Prerequisite: JTC 210 or JTC 300 or LB 300; JTC 211; JTC 326 or JTC 335 or JTC 341 or JTC 342 or JTC 351 or JTC 361 or JTC 371 or JTC 372; JTC 461; JTC 464.
Editorial purpose, techniques, and evaluation of specialized and technical print and online information.

JTC 468 03(3-0-0). Convergence and Hypermedia. S. Prerequisite: JTC 310; JTC 365; 9 credits selected from JTC 326, JTC 372, JTC 373, or JTC 487.
Applications of theories of convergence, hypermedia, and social practices in computer-mediated communication. Development of a professional portfolio.

JTC 471 03(3-0-0). Communication Research Methods. F. Prerequisite: One statistics course. Credit not allowed for both JTC 471 and JTC 500.
Quantitative, qualitative methods of analyzing process and effects of mass and interpersonal communication.

JTC 484 Var[1-3]. Supervised College Teaching. F, S. A maximum of 10 combined credits for all 384 and 484 courses are counted towards graduation requirements.

JTC 487 Var[1-3]. Internship. Prerequisite: Written consent of department.

JTC 490 Var[1-3]. Workshop.

JTC 495A-G Var[1-3]. Independent Study.

JTC 496 Var[1-3]. Group Study.

JTC 500 04(4-0-0). Communication Research and Evaluation Methods. F. Prerequisite: None. Credit not allowed for both JTC 500 and JTC 471.
Theory and applied communication research and evaluation methodologies for assessing and improving communication in technological environment.

JTC 501 04(4-0-0). Process and Effects of Communication. F. Prerequisite: Written consent of instructor.
Examination of communication theory including communicator credibility, messages, channels, audiences, and information, behavior, and attitude change.

**JTC 511 03(3-0-0). Corporate Media Ethics and Issues.** F, S. Prerequisite: Graduate standing. Offered online only.
Professional ethics in corporate and media settings. (NT-O)

**JTC 513 Var[1-2]. Impacts of New Communication Technologies.** F, S. Prerequisite: None.
Current topics and issues regarding uses and impacts of video and computer-based communication technologies.

**JTC 526 03(3-0-0). Digital Media Writing and Production.** SS. Prerequisite: Graduate standing.
Writing and producing media content that will be delivered via a variety of communication channels to diverse publics.

**JTC 535 03(3-0-0). Electronic Media Regulation and Policy.** F. Prerequisite: None.
Role of legislators, regulatory agencies, judiciary and public in the evolution of U.S. broadcast and digital media. Implications for free press.

**JTC 540 03(3-0-0). Corporate Digital Video Editing.** F, S, SS. Prerequisite: Graduate standing.
Offered only as an online course through the Division of Continuing Education.
Advanced theory and techniques of digital video editing in a corporate setting. (NT-O)

**JTC 544 03(2-3-0). Corporate and Institutional Media Production.** S. Prerequisite: None.
Advanced techniques in media production and management in corporate and institutional settings. ($)

**JTC 545 3(3-0-0). Organizational Media Production.** SS. Prerequisite: Graduate standing.
Incorporation of multimedia content in video production in governmental, corporate and institutional media production.

**JTC 550 03(3-0-0). Public Relations.** F, S, SS. Prerequisite: Graduate standing.
Contemporary public relations principles and practices. (NT-O)

**JTC 560 03(3-0-0). Managing Communications Systems.** S. Prerequisite: Written consent of instructor.
Examination of role, responsibilities of communication managers in translating theory into effective, applied communication programs.

**JTC 568A-C Var[1-3]. Journalism for High School Advisers.** F, S, SS. Prerequisite: None.

"**JTC 570 03(3-0-0). Political Economy of Global Media.** F. Prerequisite: Written consent of instructor.
Examination of the changing media information system worldwide and the role of social, political, legal and economic forces upon it.

**JTC 571 03(3-0-0). Digital Media Research and Evaluation Methods.** F. Prerequisite: Graduate standing.
Basic conceptual processes and tools for conducting applied research in the field of communication; research tools in real-world professions.

**JTC 572 03(3-0-0). Corporate Web Design and Management.** F, S. Prerequisite: Graduate standing. Offered only online.
Design, development, and management of corporate digital media content. (NT-O)

**JTC 573 03(3-0-0). Strategic Digital Communication.** F. Prerequisite: Graduate standing.
Development, implementation and assessment of digital communication projects and campaigns/programs.

**JTC 601 03(3-0-0). Cognitive Communication Theory.** F. Prerequisite: JTC 501 or written consent of graduate advisor.
Theories of information technology and communication as they relate to cognitive and social cognitive processing.

**JTC 602 03(3-0-0). Social and Cultural Communication Theory.** F. Prerequisite: JTC 501 or written consent of graduate advisor.
Theories of information technology and communication as they relate to the field of media systems, organizations, and culture.

**JTC 614 03(3-0-0). Public Communication Campaigns.** F. Prerequisite: Written consent of advisor.
Role of health communication in public health programs and campaigns.

**JTC 640 03(3-0-0). Public Communication Technologies.** S. Prerequisite: Written consent of instructor.
Analysis of evolving and emergent communication technologies.

**JTC 650 03(3-0-0). Strategic Communications.** F. S. Prerequisite: Graduate standing.
Theoretical/practical management issues in public relations, advertising/promotional communications including behavioral, societal, ethical, legal.

**JTC 660 03(3-0-0). Communication and Innovation.** F. Prerequisite: JTC 501 or written consent of graduate advisor.
Communication’s role in the process of innovation as well as the diffusion of new technologies, products, ideas, behaviors and attitudes.

**JTC 661 03(3-0-0). Information Design.** S. Prerequisite: Written consent of instructor.
Theoretical and empirical review of creation, presentation, storage, and distribution of information.

**JTC 662 03(3-0-0). Communicating Science and Technology.** S. Prerequisite: Written consent of instructor.
Examination of theoretical and empirical studies concerning communication of science and technology subject matter.

**JTC 664 03(3-0-0). Quantitative Research in Communication.** F. Prerequisite: JTC 500 or written consent of graduate advisor.
Advanced quantitative research methods used in communication research.

**JTC 665 03(3-0-0). Qualitative Methods in Communication Research.** S. Prerequisite: JTC 500 or written consent of graduate advisor.
Techniques for collecting, interpreting, analyzing qualitative communication data.

**JTC 670 03(0-0-3). Communication in the Social Processes of Risk.** S. Prerequisite: Graduate standing.
Communication and psychological, sociological, and cultural factors shaping risk involving technology, health, environment, disasters, sustainability.

**JTC 684 Var. Supervised College Teaching.** Prerequisite: Written consent of instructor.
Philosophy, techniques, and approaches to teaching journalism skills courses, as supervised by faculty.

**JTC 687 Var[1-3]. Internship.** Prerequisite: Written consent of instructor.

**JTC 690 Var[1-3]. Workshop.** Prerequisite: Written consent of instructor.

ºAlternate year offering (odd); * Alternate year offering (even); + Field trips; S Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
JTC 695 Var[1-3]. Independent Study. Prerequisite: Written consent of instructor.

JTC 698 03(0-0-3). Research. Prerequisite: JTC 500; JTC 501. Development of theoretical basis and methodology for thesis or research project.


JTC 701 01(1-0-0). Colloquium in Communication and IT. F, S. Course may be taken up to four times for credit. Orientation to graduate studies; communication theories, processes, media, and technology.

JTC 784 Var. Supervised College Teaching. F, S.

JTC 790 Var. Workshop. F, S.


JTC 793A-F 03(0-0-3). Seminar. F, S. Prerequisite: Graduate standing. A) Experimental design. Prerequisite: JTC 500 or written consent of graduate advisor. B) Survey design. Prerequisite: JTC 500 or written consent of graduate advisor. C) Content analysis. Prerequisite: JTC 500 or written consent of graduate advisor. D) Qualitative methods. Prerequisite: Written consent of advisor. E) Human factors. Prerequisite: JTC 500 or written consent of graduate advisor. F) Critical and cultural methods. Prerequisite: Written consent of advisor.

JTC 795 Var. Independent Study.

JTC 798 03(0-0-3). Research. F, S. Prerequisite: Written consent of advisor.

KEY 192A-C. Key Community Seminar. F, S. Prerequisite: Concurrent registration in companion courses in the Key Course Cluster. Examination of an intellectual problem or theme. Topics vary by instructor. A) 01(0-0-1). B) 02(0-0-2). C) 03(0-0-3).

KEY 263 01(0-0-1). Academic and Career Decision-Making. F, S, SS. Prerequisite: Participation in the Key Plus Learning Community. Enhance academic and career development and decision-making through self-authorship, critical thinking, and reflection.

KEY 272 01(0-0-1). Leadership—Higher Education Environment. F, S. Prerequisite: Participation in the KEY Plus Learning Community. Personal leadership and diversity theories.
LANDSCAPE ARCHITECTURE
COURSES
Department of Horticulture and Landscape Architecture
College of Agricultural Sciences

LAND 110 03(1-2-1). Introduction to Landscape Architecture. F. Prerequisite: None.
Introductory theories, methods, and applications of landscape studies.

LAND 120 03(3-0-0). History of the Designed Landscape. S. Prerequisite: None.
Major monuments and spaces from ancient Middle East through classical antiquity, the Renaissance, and Western tradition.

LAND 220/LIFE 220 03(3-0-0). Fundamentals of Ecology. (GT-SC2, AUCC 3A). F. Prerequisite: Three credits of 100-level biology or HORT 100; three credits of 100-level mathematics. Credit allowed for only one of the following: BIO 220, BIO 320, LAND 220, LIFE 220, LIFE 320, SOCR 320.
Interrelationships among organisms and their environments. (S, NT-O)

LAND 230 04(2-4-0). Drawing the Landscape. F. Prerequisite: None.
Visual communication techniques; exploration of symbology, model building, design development drawing, and construction documentation drafting.

LAND 240 04(1-4-1). Fundamentals of Landscape Design Process. S. Prerequisite: LAND 230.
Initiation of formal exploration of design elements, materials, and principles, and introduction of design process as a defensible methodology. ($)

LAND 241 03(1-4-0). Environmental Analysis. S. Prerequisite: LAND 230; concurrent registration in LAND 240.
Exploration and understanding of natural and cultural landscapes through analytical simulation techniques. ($)

LAND 357 04(0-8-0). Omnibus Field Studies. SS. Prerequisite: Three credits in landscape drawing and analysis.
Theories and methods for the analysis, design, and planning of garden and landscape scale environments. ($)

LAND 360 03(0-6-0). Basic Landscape Design and Construction. F. Prerequisite: LAND 240.
Site programming, analysis, design, and construction, including skill development in specifying earthwork, drainage, and vegetative composition. ($)

LAND 361 03(2-2-0). Digital Methods. F. Prerequisite: LAND 360 or concurrent registration.
Landscape research, analysis, and design with ARCVIEW, AutoCAD, Microstation, and Photoshop. ($)

LAND 362 03(0-6-0). Form and Expression in Garden Design. S. Prerequisite: LAND 361.
Formal decision making for site scale environments, including creative processes for form-giving, and generation of experimental solutions. ($)

LAND 363 04(2-4-0). Advanced Landscape Site Engineering. S. Prerequisite: LAND 360.
Understanding and documenting the built environment with emphasis on construction and surveying as integral parts of design process. ($)

LAND 364 04(1-6-0). Design and Nature. F. Prerequisite: LAND 361.
Computer-aided processes for siting, organizing, and evaluating cultural activities within ecologically fragile, landscape-scale environments. ($)

Construction details, design development, and construction documentation emphasizing implementation of design projects.

LAND 366 04(0-8-0). Landscape Design Expression. S. Prerequisite: LAND 365. Credit not allowed for both LAND 366 and LAND 376.
Idea, values, and process landscape form applied to interactions of natural, cultural systems at the site and community scale; design competitions. ($) 

LAND 368/HORT 368 03(2-2-0). Landscape Irrigation and Water Conservation. F, S. Prerequisite: HORT 100 or LAND 110. Credit not allowed for both LAND 368 and HORT 368.
Practical approaches and methods of irrigation, water conservation, and water management in the designed landscape. ($)

+LAND 376 04(0-8-0). Landscape Design and Visualization. SS. Prerequisite: LAND 362. Credit not allowed for both LAND 376 and LAND 366. Required field trips.
Precedents, ideas, values and processes of landscape form applied to landscape systems at the site and community scale; design competitions.

LAND 384 Var[1-5]. Supervised College Teaching. A maximum of 10 combined credits for all 384 and 484 courses are counted towards graduation requirements.

LAND 392 02(0-0-2). Seminar-Designed Landscapes-Theory and Criticism. F. Prerequisite: LAND 365.
Readings, discussions, and writing in landscape architectural design theory; critical analysis of the designed and constructed landscape.

+LAND 444 03(3-0-0). Ecology of Landscapes. S. Prerequisite: LAND 220/LIFE 220; LIFE 320. Required field trips.
Theories, methods, and practices for interpreting, describing, and representing natural and human modified landscapes.

LAND 446 04(0-8-0). Urban Design. F. Prerequisite: LAND 366. 
Designing the urban landscape, including precedent exploration about overall image, materials, and structure of the city and its components. ($)

LAND 447 04(0-8-0). Comprehensive Landscape Design. S. Prerequisite: LAND 446.
Terminal studio; research, analysis, and synthesis for comprehensive project identified by student and approved in advance by faculty committee.

LAND 449 01(1-0-0). Professional Practice. S. Prerequisite: LAND 447 or concurrent registration.
Theory and skills of landscape architectural professional practice including functional, human, business, legal, and political aspects.

LAND 454 05(1-6-1). Landscape Field Studies. SS. Prerequisite: LAND 366.
Field observation of spatial and temporal landscape patterns resulting from natural and cultural processes and interactions. ($)

LAND 455 05(1-6-1). Travel Abroad-European Landscape Architecture. SS. Prerequisite: LAND 362.
Exploration of major theoretical platforms in design through drawing, photographing, and measuring landscape architecture precedents in Europe.

A) Design projects. B) Field service.

LAND 496 Var[1-8]. Group Study. Maximum of 8 credits allowed in course.

LAND 510 03(2-2-0). Virtual Design Methods. F. Prerequisite: None.
Exploration and application of advanced computing technology and methods for analyzing and organizing natural and cultural landscapes.

*Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
LAND 520 03(1-4-0). Geographic Information Systems. S. Prerequisite: LAND 241. Theories and applications of geographic information systems in spatial analysis and land planning.

LAND 560 03(2-2-0). Structure of Landscape Patterns. S. Prerequisite: 300-level ecology course. Mechanisms and concepts in landscape structure for planning, design, and environmental management.

LAND 610 04(2-6-0). Topics in Garden Design. F. Prerequisite: Graduate standing. Garden design theories, methods, and operations. ($)

LAND 620 04(2-6-0). Topics in Park Design. S. Prerequisite: Graduate standing. Ideas, values, and processes of landscape form applied to interactions of natural and cultural systems for park and recreation applications.

LAND 630 04(2-6-0). Topics in Urban Design. F. Prerequisite: Graduate standing. History and application of urban design principles, practices, and policies.

LAND 640 04(2-6-0). Major Landscape Change. S. Prerequisite: Graduate standing. Addresses social and ecological resilience of large-scale landscapes through theory and application. ($)

LAND 670 04(1-6-1). Landscape Architecture Studio Option. F, S. Prerequisite: Graduate standing. Course may be taken up to 5 times for credit. Ideas, values, and processes of landscape architectural studio practice.


LAND 698 Var[1-5]. Research. F, S, SS. Prerequisite: Graduate standing. Guided research experience in landscape architecture.

*Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
ARABIC LANGUAGE COURSES
Department of Foreign Languages and Literatures
College of Liberal Arts

LARA 105 05(5-0-0). First-Year Arabic I. F, S, SS. Prerequisite: No previous study in Arabic.
  Essentials of Arabic for the beginner: aural comprehension, speaking, reading, writing.

LARA 107 05(5-0-0). First-Year Arabic II. F, S, SS. Prerequisite: LARA 105.
  Essentials of Arabic for the continuing student: aural comprehension, speaking, reading, writing.

LARA 200 04(4-0-0). Second-Year Arabic I. (GT-AH4, AUCC 3B). F, S. Prerequisite: LARA 107 or placement exam.
  Grammar review and extensive practice in conversation, reading, and writing.

LARA 201 04(4-0-0). Second-Year Arabic II. (GT-AH4, AUCC 3B). F, S. Prerequisite: LARA 200 or placement exam.
  Grammar review and extensive practice in conversation, reading, and writing.

LARA 250 03(3-0-0). Arabic Language, Literature, Culture in Translation. (GT-AH2, AUCC 3B). F, S. Prerequisite: None.
  Selected works in translation from different periods and genres which represent the interrelationship of language, literature, and culture.

LARA 296 Var[1-5]. Group Study-Arabic. F, S.

LARA 300 03(3-0-0). Third Year Arabic. F. Prerequisite: LARA 201.
  Develop reading and writing skills.

LARA 301 03(3-0-0). Oral Communication-Arabic. S. Prerequisite: LARA 201.
  In-depth language study to improve proficiency, emphasizing oral communication.

LARA 495 Var[1-6]. Independent Study-Arabic. Prerequisite: Three years of college-level Arabic.

°Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
LIBERAL ARTS COURSES

Nondepartmental
College of Liberal Arts

LB 170 03(3-0-0), World Literatures to 1500. (GT-AH2, AUCC 3E). F, S. Prerequisite: None.
Culturally significant literary texts from the beginnings of writing to 1500 from Europe, Asia, and Africa.

LB 171 03(3-0-0), World Literatures-The Modern Period. (GT-AH2, AUCC 3E). F, S. Prerequisite: None.
Culturally significant literary texts from 1500 to the present from Europe, Asia, Africa, the Americas.

LB 192 03(0-0-3), College of Liberal Arts First-Year Seminar. F. Prerequisite: None.
Traditions, concepts, and topics integral to the liberal arts; cultivates reading, communication, and critical thinking.

LB 193 01(0-0-1), Concepts/Critical Thinking in Liberal Arts. F, S. Prerequisite: Declared majors within the College of Liberal Arts; written consent of instructor.
Concepts and success strategies essential to the Liberal Arts. Students create a comprehensive academic plan. ($)

LB 200 01(1-0-0), Liberal Arts Research Methods. F, S. Prerequisite: None.
Research methods for the liberal arts, evaluation of sources, various style manuals (MLA/APA), essay format, note cards, and selected reference works. (NT-O)

+LB 205 03(3-0-0), Contemporary Legal Studies. F, S, SS. Prerequisite: None. Required field trips.
Introduction to sources and contemporary principles of law in the United States and to the study and practice of law.

LB 300 03(2-0-1), Specialized Professional Writing. (AUCC 2) F, S, SS. Prerequisite: CO 150 or HONR 193.
Emphasizes specialized writing skills used in professional letters, resumes, manuals, critiques complaints, and interest-specific research projects. (NT-O)

LB 386A-E Var[1-3], Practicum. F, S. Prerequisite: None.
Practicum at CTV, KCSU, The Collegian, College Avenue, or in Arts Production. A) CTV. B) KCSU. C) Collegian. D) College Avenue. E) Arts Production.

LB 455/SPCM 455 03(2-3-0), Narrative Fiction Film as a Liberal Art. S. Prerequisite: Senior standing. Credit not allowed for both LB 455 and SPCM 455.
Narrative fiction film and its role in human history, culture, and social interaction.

LB 456/JTC 456 03(2-2-0), Documentary Film as a Liberal Art. F. Prerequisite: Junior or senior standing. Credit not allowed for both LB 456 and JTC 456.
Documentary film and its role in human history, culture, and social interaction.

LB 484 Var[1-5], Supervised College Teaching. F, S, SS.
A maximum of 10 combined credits for all 384 and 484 courses are counted towards graduation requirements.

LB 487 Var[1-3], Internship. F, S, SS.

LB 492 03(0-0-3), Liberal Arts Capstone Seminar. F, S, SS. Prerequisite: LB 200; senior standing.
Integration and reflection for liberal arts majors with an emphasis on core competencies and academic, professional and/or career transitions. (NT-O)

*Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
CHINESE LANGUAGE COURSES
Department of Foreign Languages and Literatures
College of Liberal Arts

LCHI 105 05(5-0-0). First-Year Chinese I. F, S, SS. Prerequisite: No previous study in Chinese.
   Essentials of Chinese for the beginner: aural comprehension, speaking, reading, writing.

LCHI 107 05(5-0-0). First-Year Chinese II. F, S, SS. Prerequisite: LCHI 105.
   Essentials of Chinese for the continuing student: aural comprehension, speaking, reading, writing.

LCHI 200 05(5-0-0). Second-Year Chinese I. (GT-AH4, AUCC 3B). F, S. Prerequisite: LCHI 107 or placement exam. Credit not allowed for both LCHI 200 and LCHI 228A.
   Grammar review and extensive practice in conversation, reading, and writing.

LCHI 201 05(5-0-0). Second-Year Chinese II. (GT-AH4, AUCC 3B). F, S. Prerequisite: LCHI 200 or placement exam.
   Grammar review and extensive practice in conversation, reading, and writing.

LCHI 205 03(3-0-0). Intermediate Written Chinese. S. Prerequisite: LCHI 200 or placement exam.
   Development of fundamental language skills emphasizing writing and reading.

   Selected works in translation from different periods and genres which represent the interrelationship of Chinese literature, and culture.

LCHI 296 Var[1-5]. Group Study-Chinese.
   Group study in language/literature/culture.

LCHI 304 03(3-0-0). Third-Year Chinese I. F. Prerequisite: LCHI 201 or placement exam.
   Development of reading comprehension, communicative competence, and cultural understanding.

LCHI 305 03(3-0-0). Third-Year Chinese II. S. Prerequisite: LCHI 304 or placement exam.
   Development of reading comprehension, communicative competence, and cultural understanding.

LCHI 309 03(3-0-0). Contemporary Chinese Literature and the Arts. S. Prerequisite: None.
   Trends resulting from traditional Chinese and contemporary foreign influences in Chinese literature and the arts.

LCHI 365 03(3-0-0). Introduction to Chinese Cinema Studies. F, S. Prerequisite: LCHI 305.
   Terminology, techniques, and approaches specific to Chinese cinema. Taught in Chinese.

LCHI 408 01(1-0-0). Chinese Calligraphy. F, S. Prerequisite: LCHI 304.
   History of Chinese calligraphy and basic Chinese calligraphy skills.

LCHI 495 Var[1-6]. Independent Study-Chinese. Prerequisite: Three years of college-level Chinese.

LCHI 496 Var[1-5]. Group Study-Chinese. F.

°Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
LEADERSHIP, ENTREPRENEURSHIP, ARTS ADVOCACY, AND THE PUBLIC COURSES

Nondepartmental College of Liberal Arts

LEAP 200 03(0-0-3). Advocacy in the Visual and Performing Arts.
F. Prerequisite: Music, Theatre, Dance or Art major.
The importance of the role of advocacy for the arts, issues of censorship, public funding, arts education, and artists’ advocacy through the arts.

LEAP 220 03(2-2-0). Technology and the Arts in the 21st Century. S.
Prerequisite: LEAP 200; Music, Theatre, and Dance major.
Utilizing technology to better serve arts creation, arts marketing and promotion.

+LEAP 300 03(3-0-0). Arts Outreach and Community Engagement.
F. Prerequisite: LEAP 220. Required field trips.
Research, development and production of arts outreach projects; team projects for community engagement.

LEAP 310 03(3-0-0). Creating and Managing a Career in the Arts.
S. Prerequisite: LEAP 300.
Training artists to create careers as entrepreneurs through self-promotion, career development, media, networking, and fiscal awareness/understanding.

LEAP 487 Var[3-12]. Internship. F, S, SS. Prerequisite: Enrollment in LEAP minor, Music, Theatre, Dance or Art major; junior or senior standing.
Weekly seminar with 8 hours per week of involvement with the in-field internship.

LEAP 500 03(3-0-0). Leadership in the Arts. F, SS. Prerequisite: Senior or graduate standing.
Theoretical and applied knowledge about concepts of leadership, leadership styles as applied to arts-related organizations. (NT-O)

LEAP 600 03(0-0-3). Arts Policy and Advocacy. F. Prerequisite: Admission to the Master in Arts Leadership and Administration program.
Discussion of the role of artist as citizen and how we affect public policy.

LEAP 650 03(3-0-0). Arts Events Management. S. Prerequisite: LEAP 600.
Technical aspects of events, season and festival management for arts related organizations.

+LEAP 660 03(1-4-1). Arts Collaboration and the Community. F.
Prerequisite: LEAP 600. Required field trips.
Research, development and production of outreach projects; team projects for community engagement.

LEAP 670 03(3-0-0). Law and the Arts. S. Prerequisite: LEAP 600.
Examines the legal foundations of artistic creation including copyright, freedom of expression, public domain laws, and contract negotiation.

LEAP 687 Var[3-12]. Internship. F, S, SS. Prerequisite: LEAP 600; LEAP 692 or concurrent registration.
Field internship at local, regional or national arts organization (45 hours per credit).

LEAP 692 01(0-0-1). Internship Seminar. F, S, SS. Prerequisite: LEAP 600.

°Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCCsubcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
# FRENCH LANGUAGE COURSES

## Department of Foreign Languages and Literatures

## College of Liberal Arts

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LFRE 105 05(5-0-0)</td>
<td>First-Year French I.</td>
<td>F, S, SS. Prerequisite: No previous study in French. Credit not allowed for both LFRE 105 and LFRE 106. Essentials of French for the beginner: aural comprehension, speaking, reading, writing.</td>
<td></td>
</tr>
<tr>
<td>LFRE 106 03(3-0-0)</td>
<td>First-Year French Review.</td>
<td>F, S, SS. Prerequisite: Placement exam or instructor placement. For students with minimal proficiency. Credit not allowed for both LFRE 106 and LFRE 105. Basic review of essential skills: aural comprehension, speaking, reading, writing.</td>
<td></td>
</tr>
<tr>
<td>LFRE 107 05(5-0-0)</td>
<td>First-Year French II.</td>
<td>F, S, SS. Prerequisite: LFRE 105 or LFRE 106. Essentials of French for the continuing student: aural comprehension, speaking, reading, writing.</td>
<td></td>
</tr>
<tr>
<td>LFRE 108 05(5-0-0)</td>
<td>Intensive French I.</td>
<td>F. Prerequisite: Grade of A in LFRE 105 or LFRE 106 with written consent of instructor; or placement by exam. Accelerated practice in speaking, reading, writing, and aural comprehension.</td>
<td></td>
</tr>
<tr>
<td>LFRE 120 03(3-0-0)</td>
<td>Reading for Proficiency.</td>
<td>F, S, SS. Prerequisite: None. Credit for LFRE 120 not allowed if LFRE 107 or LFRE 108 has been completed. Essentials of language for developing reading proficiency.</td>
<td></td>
</tr>
<tr>
<td>LFRE 200 03(3-0-0)</td>
<td>Second-Year French I.</td>
<td>(GT-AH4, AUCC 3B). F, S. Prerequisite: LFRE 107 or LFRE 108 or placement exam. Credit not allowed for both LFRE 200 and LFRE 228A. Grammar review and extensive practice in conversation, reading, and writing.</td>
<td></td>
</tr>
<tr>
<td>LFRE 201 03(3-0-0)</td>
<td>Second-Year French II.</td>
<td>(GT-AH4, AUCC 3B). F, S. Prerequisite: LFRE 200 or placement exam. Grammar review and extensive practice in conversation, reading, and writing.</td>
<td></td>
</tr>
<tr>
<td>LFRE 208 05(5-0-0)</td>
<td>Intensive French II.</td>
<td>S. Prerequisite: LFRE 108 or placement exam. Accelerated practice in speaking, reading, writing, and aural comprehension.</td>
<td></td>
</tr>
<tr>
<td>LFRE 250 03(3-0-0)</td>
<td>French Language, Literature, Culture in Translation-French.</td>
<td>(GT-AH2, AUCC 3B). F, S. Prerequisite: None. Selected works in translation from different periods and genres which represent the interrelationship of language, literature, and culture.</td>
<td></td>
</tr>
<tr>
<td>LFRE 296 Var[1-5].</td>
<td>Group Study-French.</td>
<td>F, S.</td>
<td></td>
</tr>
<tr>
<td>LFRE 300 03(3-0-0)</td>
<td>Reading and Writing for Communication-French.</td>
<td>F, S, SS. Prerequisite: LFRE 201 or LFRE 208 or placement. Development of reading and writing proficiency through an in-depth examination of contemporary writing.</td>
<td></td>
</tr>
<tr>
<td>LFRE 301 03(3-0-0)</td>
<td>Oral Communication-French.</td>
<td>F, S. Prerequisite: LFRE 201. In-depth language study to improve proficiency in all language skills emphasizing oral.</td>
<td></td>
</tr>
<tr>
<td>LFRE 310 03(3-0-0)</td>
<td>Approaches to French Literature.</td>
<td>F, S. Prerequisite: LFRE 300. Appreciation and critical readings of representative works in prose, drama, and poetry.</td>
<td></td>
</tr>
</tbody>
</table>

*Alternate year offering (odd); ° Alternate year offering (even); + Field trips; S Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
LFR 460 03(3-0-0). French/ Francophone Women Writers. S. Prerequisite: LFR 300; LFR 310. May be taken up to 3 times for credit.

Selected French and Francophone women writers in a variety of genres emphasizing relationships among gender, culture, and writing.

*LFR 470 03(3-0-0). French Grammatical Constructions. S. Prerequisite: LFR 312.

Linguistic analysis of selected French grammatical constructions (word order, word formation, and sentence structure), their relationship to meaning.

LFR 492 03(0-0-3). Seminar- French Language, Literature, and Society. F, S. Prerequisite: LFR 310; two 400-level L*** courses; senior status.

Integrative study of language, literature, and society.

LFR 495 Var[1-6]. Independent Study-French. Prerequisite: Three years of college-level French.

LFR 500 03(3-0-0). Language Analysis/Stylistics-French. F. Prerequisite: LFR 400.

Analysis of language structure through the examination of style in literary and non-literary texts.

LFR 508 04(3-3-0). Intensive French-Graduate Review. SS. Prerequisite: Admission to Summer Institute for Foreign Language Teaching.

Immersion review of language for the teacher, developing intermediate-level proficiency in culture and the four skills.

LFR 514 01(1-0-0). Issues in Teaching Language-French. F, S. Prerequisite: Concurrent graduate teaching assistantship.

Current theory and practice in second-language instruction; technological applications.

LFR 525 03(3-0-0). History of the French Language. S. Prerequisite: LFR 400.

Investigation of both internal (strictly linguistic) and external (sociolinguistic) factors in development of the language.

LFR 536 03(3-0-0). Topics in French Linguistics. F, S. Prerequisite: LFR 500.

Acquisition, discourse analysis, and language change and variation over time and space.

LFR 551 03(3-0-0). Selected French Literary Movements/Periods. F. Prerequisite: Undergraduate degree in French.

Advanced studies in and critical approaches to selected literary movements or periods.

LFR 552 03(3-0-0). Advanced Studies in French Literary Genres. F. Prerequisite: Undergraduate degree in French.

Advanced studies in and critical approaches to literary genres through study of major works in foreign literatures.

LFR 553 03(3-0-0). Advanced French Author Studies. S. Prerequisite: Undergraduate degree in French.

Critical approaches to the study of selected authors through appreciation and analysis of their major works.

LFR 554 03(3-0-0). Advanced Topic Studies-French. S. Prerequisite: Undergraduate degree in French.

Selected topics (theme, topoi, and interdisciplinary subjects) in foreign literatures.

LFR 692 03(0-0-3). Seminar-French. F, S. Prerequisite: Undergraduate degree in French.

Treatment of selected topics in seminar.

LFR 695 Var[1-6]. Independent Study-French.

Alternate year offering (odd); * Alternate year offering (even); + Field trips; Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
FOREIGN LANGUAGES AND
LITERATURES – GENERAL COURSES
Department of Foreign Languages and
Literatures
College of Liberal Arts

LGEN 114 Var[1-10]. First-Year Language I. SS. Prerequisite: None. Offered only through the Division of Continuing Education.
Critical language immersion courses taught abroad by members of the Council of American Overseas Research Centers.

LGEN 115 Var[1-10]. First-Year Language II. SS. Prerequisite: None. Offered only through the Division of Continuing Education.
Critical language immersion courses taught abroad by members of the Council of American Overseas Research Centers.

LGEN 192 03(3-0-0). Modern Languages/Cultures: Italian and Japanese. S. Prerequisite: None.
Language, cultural issues, and historical heritage of modern Italian and Japanese societies.

LGEN 290 Var[1-3]. Theatre Workshop in a Foreign Language. F, S. Prerequisite: LARA 105 or LCHI 105 or LFRE 105 or LGER 105 or LITA 105 or LJPN 105 or LKOR 105 or LRUS 105 or LSPA 105.
Application of communication skills in a foreign language through informal staging of dramatic scripts.

LGEN 505 02(2-1-0). Methods/Technologies in Language Instruction. SS. Prerequisite: Admission to Summer Institute for Foreign Language Teaching.
Theory and methodology of teaching foreign languages and cultures, including video and computer-assisted technology.

LGEN 510 01(1-0-0). Research Methods. F. Prerequisite: Written consent of instructor.
Resources and reference tools appropriate to research in foreign languages and literatures.

LGEN 516 03(3-0-0). Theory/Methods-Foreign Language Instruction. F. Prerequisite: Admission to graduate studies in foreign languages.
Foreign language teaching methodology.

LGEN 530 3(3-0-0). Literary and Cultural Theory. F. Prerequisite: Written consent of instructor.
Theoretical approaches to contemporary literary and cultural criticism.

LGEN 535 03(3-0-0). Graduate Studies in Civilization. S. Prerequisite: LFRE 433A-B or LGER 434 or LSPA 436 or LSPA 437.
Critical and analytical approaches to a foreign civilization and culture. Research related to language of specialization.

LGEN 545 Var[1-3]. Literary Translation Theory and Practice. S. Prerequisite: Reading knowledge of foreign language.
Theory and practice of translating literary texts from foreign language to comparable English.

LGEN 684 Var. Supervised College Teaching. F, S.

LGEN 694 Var[1-6]. Independent Study: Portfolio. F, S, SS.

LGEN 699 Var[1-6]. Thesis.

LGEN 487 Var[1-12]. Internship.

LGEN 492 03(0-0-3). Language, Literature, and Society-General. F, S. Prerequisite: LFRE 310 or LGER 310 or LSPA 310; two 400-level L*** courses; senior status.
Integrative study of language, literature, and society.

LGEN 492 03(0-0-3). Language, Literature, and Society-General. F, S. Prerequisite: LFRE 310 or LGER 310 or LSPA 310; two 400-level L*** courses; senior status.
Integrative study of language, literature, and society.

LGEN 492 03(0-0-3). Language, Literature, and Society-General. F, S. Prerequisite: LFRE 310 or LGER 310 or LSPA 310; two 400-level L*** courses; senior status.
Integrative study of language, literature, and society.
GERMAN LANGUAGE COURSES
Department of Foreign Languages and Literatures
College of Liberal Arts

LGER 105 05(5-0-0). First-Year German I. F, S, SS. Prerequisite: No previous study in German.
   Essentials of German for the beginner: aural comprehension, speaking, reading, writing.

LGER 107 05(5-0-0). First-Year German II. F, S, SS. Prerequisite: LGER 105.
   Essentials of German for the continuing student: aural comprehension, speaking, reading, writing.

LGER 108 05(5-0-0). Intensive German I. F. Prerequisite: Grade of A in LGER 105 and written consent of instructor; or placement by exam.
   Accelerated practice in speaking, reading, writing, and aural comprehension.

LGER 120 03(3-0-0). Reading for Proficiency. F, S, SS. Prerequisite: None. Credit for LGER 120 not allowed if LGER 107 or LGER 108 has been completed.
   Essentials of language for developing reading proficiency.

LGER 200 03(3-0-0). Second-Year German I. (GT-AH4, AUCC 3B). F, S. Prerequisite: LGER 107 or LGER 108 or placement exam. Credit not allowed for both LGER 200 and LGER 228A.
   Grammar review and extensive practice in conversation, reading, and writing.

LGER 201 03(3-0-0). Second-Year German II. (GT-AH4, AUCC 3B). F, S. Prerequisite: LGER 200 or placement exam.
   Grammar review and extensive practice in conversation, reading, and writing.

LGER 208 05(5-0-0). Intensive German II. S. Prerequisite: LGER 108 or placement exam.
   Accelerated practice in speaking, reading, writing, and aural comprehension.

LGER 250 03(3-0-0). German Language, Literature, Culture in Translation. (GT-AH2, AUCC 3B). F, S. Prerequisite: None.
   Selected works in translation from different periods and genres which represent the interrelationship of language, literature, and culture.

LGER 296 Var[1-5]. Group Study-German.
   Group study in language/literature/culture.

LGER 300 03(3-0-0). Reading and Writing for Communication-German. F, S, SS. Prerequisite: LGER 201 or LGER 208 or placement.
   Development of reading and writing proficiency through an in-depth examination of contemporary writing.

LGER 301 03(3-0-0). Oral Communication-German. S. Prerequisite: LGER 201 or placement exam.
   In-depth language study to improve proficiency in all language skills emphasizing oral.

LGER 310 03(3-0-0). Approaches to German Literature. F, S. Prerequisite: LGER 201 or LGER 208.
   Appreciation and critical readings of representative works in prose, drama, and poetry.

LGER 313 03(3-0-0). Introduction to German Translation and Interpreting. F, S. Prerequisite: LGER 300.
   Translation and interpreting of written and oral texts into and from German.

LGER 326 03(3-0-0). German Phonetics. F, S. Prerequisite: LGER 300.
   Phonetic principles and their application to language sound system; intensive practice in pronunciation, intonation.

LGER 335 03(3-0-0). Issues in German Culture. S. Prerequisite: LGER 300.
   Historical context of contemporary issues in the culture of German-speaking countries.

LGER 336 03(3-0-0). Issues in Swiss and Austrian Culture. S. Prerequisite: LGER 300.
   Swiss and Austrian culture focusing on the development of their respective cultures from the medieval to the modern periods. Taught in German.

LGER 345 03(3-0-0). Business German. F, S, SS. Prerequisite: LGER 300.
   Business and commercial aspects of the German language and culture.

LGER 355 03(3-0-0). 20th Century German Literature. F, S. Prerequisite: LGER 310.
   Representative literary works from the 20th century.

LGER 365 03(3-0-0). Introduction to German Cinema Studies. F, S. Prerequisite: LGER 310 or LGER 335.
   Terminology, techniques, and approaches specific to German cinema. Taught in German.

LGER 400 03(3-0-0). Advanced German Communication Skills. F. Prerequisite: LGER 300.
   Development of speaking, reading, and writing proficiency through an in-depth examination of representative writings and media communications.

LGER 401 03(3-0-0). Advanced German Oral Communication. S. Prerequisite: LGER 300.
   Advanced language study to improve proficiency in German language skills, with an emphasis on oral communication.

LGER 413 03(3-0-0). Advanced German Translation and Interpreting. F, S. Prerequisite: LGER 313.
   Advanced practice in translation and interpreting of written and oral texts into and from German.

LGER 434 03(3-0-0). Advanced German Culture. F, S. Prerequisite: LGER 335.
   Critical examination of selected topics in culture and cultural history of German-speaking countries.

LGER 441 03(3-0-0). Advanced Business German. F, S. Prerequisite: LGER 345.
   Advanced business and commercial aspects of the German language and culture.

LGER 450 03(3-0-0). Selected German Literary Movements and Periods. F, S. Prerequisite: LGER 300; LGER 310. May be taken up to 3 times for credit.
   Studies in selected literary movements and periods of Germany such as classicism, realism, naturalism, existentialism.

LGER 452 03(3-0-0). Genre Studies in German. F, S. Prerequisite: LGER 300; LGER 310. May be taken up to 3 times for credit.
   Development of critical approaches to major works in literature through selected literary genres and subgenres.

LGER 453 03(3-0-0). Author Studies in German. F. S. Prerequisite: LGER 300; LGER 310. May be taken up to 3 times for credit.
   Development of critical approaches to authors through the appreciation and analysis of selected works.

°Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCCsubcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
LGER 454 03(3-0-0). Topic Studies in German. F, S. Prerequisite: LGER 300; LGER 310. May be taken up to 3 times for credit. Selected topic studies such as themes, topics, and interdisciplinary subjects in literature.

LGER 465 03(3-0-0). Advanced Studies in German Film. S. Prerequisite: LGER 365. Representation of German society and culture through film. Taught in German.

LGER 492 03(0-0-3). Seminar-German Language, Literature, and Society. F, S. Prerequisite: LGER 310; two 400-level LGER courses; senior status. Integrative study of language, literature, and society.

LGER 495 Var[1-6]. Independent Study-German. Prerequisite: Three years of college-level German.

LGER 500 03(3-0-0). Language Analysis/Stylistics-German. F. Prerequisite: LGER 400. Analysis of language structure through the examination of style in literary and non-literary texts.

LGER 508 04(3-3-0). Intensive German-Graduate Review. SS. Prerequisite: Admission to Summer Institute for Foreign Language Teaching. Immersion review of language for the teacher, developing intermediate-level proficiency in culture and the four skills.

LGER 514 01(1-0-0). Issues in Teaching German. F, S. Prerequisite: Concurrent graduate teaching assistantship. Current theory and practice in second-language instruction; technological applications.

LGER 525 03(3-0-0). History of the German Language. S. Prerequisite: LGER 400. Investigation of both internal (strictly linguistic) and external (sociolinguistic) factors in development of the language.

LGER 551 03(3-0-0). Selected German Literary Movements/Periods. F. Prerequisite: Undergraduate degree in German. Advanced studies in and critical approaches to selected literary movements or periods.

LGER 552 03(3-0-0). Advanced Studies in German Literary Genres. F. Prerequisite: Undergraduate degree in German. Advanced studies in and critical approaches to literary genres through study of major works in foreign literatures.

LGER 553 03(3-0-0). Advanced German Author Studies. S. Prerequisite: Undergraduate degree in German. Critical approaches to the study of selected authors through appreciation and analysis of their major works.

LGER 554 03(3-0-0). Advanced German Topic Studies. S. Prerequisite: Undergraduate degree in German. Selected topics (theme, topoi, and interdisciplinary subjects) in foreign literatures.

LGER 692 03(0-0-3). Seminar-German. F, S. Prerequisite: Undergraduate degree in German. Treatment of selected topics in seminar.

LGER 695 Var[1-6]. Independent Study-German.
GREEK LANGUAGE COURSES
Department of Foreign Languages and Literatures
College of Liberal Arts

*LGRK 152 03(3-0-0). Classical Greek I. S. Prerequisite: None.
Essentials of the language, reading, and translation.

*LGRK 153 03(3-0-0). Classical Greek II. S. Prerequisite: LGRK 152.
Essentials of the language, reading, and translation.

*Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
LI 301 01(1-0-0). Research in the Information Age. F, S, SS.
Prerequisite: None.
Developing strategies for library research; locating appropriate resources; and selecting, evaluating, and recording relevant information.
(NT-O)
LIFE SCIENCE COURSES
Nondepartmental, Interdisciplinary
Office of Provost and Executive Vice President

LIFE 102 04(3-3-0). Attributes of Living Systems. (GT-SC1, AUCC 3A) F, S, SS. Prerequisite: High school chemistry. Intended for students requiring additional courses in biology or areas related to biological science.
Levels of organization, stability, and change in living systems. ($) 

LIFE 103 04(3-3-0). Biology of Organisms-Animals and Plants. F, S, SS. Prerequisite: LIFE 102.
Diversity of animals and plants; their structural and functional characteristics. ($) 

LIFE 162 02(2-0-0). Bridging Biol/Chem Gulf for Pre-Health Majors. F. Prerequisite: Enrollment in the KEY Health Professions Learning Community.
Connections between chemistry and biology through inquiry-based exercises centered around societal and health issues. 

LIFE 201A-B 03(3-0-0). Introductory Genetics. (GT-SC2, AUCC 3A) F, S. Prerequisite: LIFE 102. Credit not allowed for both LIFE 201A and LIFE 201B.
A) Emphasis on applied genetics, population genetics, and conservation/ecological genetics. B) Emphasis on molecular, immunological, and developmental genetics. 

LIFE 202A-B 01 (0-0-1). Introductory Genetics Recitation. F, S. Credit not allowed for both LIFE 202A and LIFE 202B.
Case studies and problems solving in: A) Applied genetics, population genetics, and conservation/ecological genetics. Prerequisite: LIFE 201A or concurrent registration. B) Honors Recitation. Molecular genetics. Prerequisite: LIFE 201B or concurrent registration; participation in University Honors program. 

LIFE 203 02(0-3-1). Introductory Genetics Laboratory. S. Prerequisite: LIFE 201A or concurrent registration or LIFE 201B or concurrent registration.
Basic molecular genetics and molecular aspects of development laboratory. 

LIFE 205 03(3-0-0). Microbial Biology. S. Prerequisite: (BZ110; BZ 111) or LIFE 102; CHEM 107 or CHEM111.
General principles of microbiology focused on human-microbial interactions. 

LIFE 206 02(0-4-0). Microbial Biology Laboratory. F, S. Prerequisite: LIFE 205 or concurrent registration. 

LIFE 210 03(3-0-0). Introductory Eukaryotic Cell Biology. F, S. Prerequisite: CHEM 111; CHEM 112; LIFE 102.
Solid understanding of a cell, different cell types, molecular aspects of cellular and subcellular biology and biochemistry. 

LIFE 211 01(0-0-1). Introductory Cell Biology Honors Recitation. F, S. Prerequisite: LIFE 210 or concurrent registration; participation in University Honors program.
Molecular aspects of cellular and subcellular biology and introductory biochemistry recitation. 

LIFE 212 02(0-3-1). Introductory Cell Biology Laboratory. F, S. Prerequisite: CHEM 112 or concurrent registration.; LIFE 210 or concurrent registration.
Molecular aspects of cellular and subcellular biology and introductory biochemistry laboratory. ($) 

*LIFE 220/LAND 220 03(3-0-0). Fundamentals of Ecology. (GT-SC2, AUCC 3A). F. Prerequisite: Three credits of 100-level biology or HORT 100; three credits of 100-level mathematics. Credit allowed for only one of the following: BIO 220, BIO 320, LAND 220, LIFE 220, LIFE 320, SOCR 220.
Interrelationships among organisms and their environments. ($, NT-O) 

LIFE 320 03(3-0-0). Ecology. F, S. Prerequisite: BZ 101 or BZ 104 or BZ 110 or BZ 120 or LIFE 102; MATH 141 or MATH 155 or MATH 160.
Credit allowed for only one of the following: BIO 220, BIO 320, LAND 220, LIFE 220, LIFE 320, SOCR 220.
Interrelationships among organisms and their environments using conceptual models and quantitative approaches. 

*Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
ITALIAN LANGUAGE COURSES  
Department of Foreign Languages and Literatures  
College of Liberal Arts  

LITA 105 05(5-0-0), First-Year Italian I. F, S, SS. Prerequisite: No previous study in the language.  
Essentials of Italian for the beginner: aural comprehension, speaking, reading, writing.

LITA 107 05(5-0-0), First-Year Italian II. F, S, SS. Prerequisite: LITA 105.  
Essentials of Italian for the continuing student: aural comprehension, speaking, reading, writing.

LITA 200 03(3-0-0), Second-Year Italian I. (AUCC 3B). F, S. Prerequisite: LITA 107 or placement exam. Credit not allowed for both LITA 200 and LITA 228A.  
Grammar review and extensive practice in conversation, reading, and writing.

LITA 201 03(3-0-0), Second-Year Italian II. (AUCC 3B). F, S. Prerequisite: LITA 200 or placement exam.  
Grammar review and extensive practice in conversation, reading, and writing.

LITA 296 Var[1-5], Group Study-Italian.  
Group study in language/literature/culture.

LITA 365 03(3-0-0), Studies in Foreign Film-Italian. F, S. Prerequisite: None.  
Representation of Italian society through film. Taught in Italian.

LITA 495 Var[1-6], Independent Study-Italian. Prerequisite: Three years of college-level Italian.
JAPANESE LANGUAGE COURSES
Department of Foreign Languages and Literatures
College of Liberal Arts

LJPN 105 05(5-0-0). First-Year Japanese I. F, S, SS. Prerequisite: No previous study in Japanese.
   Essentials of Japanese for the beginner: aural comprehension, speaking, reading, writing.

LJPN 107 05(5-0-0). First-Year Japanese II. F, S, SS. Prerequisite: LJPN 105.
   Essentials of Japanese for the continuing student: aural comprehension, speaking, reading, writing.

LJPN 200 05(5-0-0). Second-Year Japanese I. (GT-AH4, AUCC 3B). F, S. Prerequisite: LJPN 107 or placement exam. Credit not allowed for both LJPN 200 and LJPN 228A.
   Grammar review and extensive practice in conversation, reading, and writing.

LJPN 201 05(5-0-0). Second-Year Japanese II. (GT-AH4, AUCC 3B). F, S. Prerequisite: LJPN 200 or placement exam.
   Grammar review and extensive practice in conversation, reading, and writing.

LJPN 208 01(1-0-0). Kanji Study. F, S. Prerequisite: LJPN 105. May be taken up to 4 times for credit.
   Kanji (Chinese characters) learning strategies, through examination and analysis of Kanji characters.

LJPN 250 03(3-0-0). Japanese Language, Literature, Culture in Translation. (GT-AH2, AUCC 3B). F, S. Prerequisite: None.
   Selected works in translation from different periods and genres which represent the interrelationship of Japanese language, literature, and culture.

LJPN 296 Var[1-5]. Group Study-Japanese.
   Group study in language/literature/culture.

LJPN 304 03(3-0-0). Third-Year Japanese I. F. Prerequisite: LJPN 201 or placement exam.
   Development of reading comprehension, communicative competence, and cultural understanding.

LJPN 305 03(3-0-0). Third-Year Japanese II. S. Prerequisite: LJPN 304 or placement exam.
   Enhanced development of reading comprehension, communicative competence, and cultural sensitivity.

LJPN 365 03(3-0-0). Introduction to Japanese Cinema Studies. F, S. Prerequisite: LJPN 305.
   Terminology, techniques, and approaches specific to Japanese cinema. Taught in Japanese.

LJPN 404 03(3-0-0). Historical Aspects of the Language and Society. F. Prerequisite: LJPN 305.
   Advanced Japanese language course designed to further enhance proficiency through a variety of activities.

LJPN 405 03(3-0-0). Integrated Japanese: Beyond Words. S. Prerequisite: LJPN 305.
   Advanced Japanese language course designed to further enhance proficiency through a variety of activities for the continuing student.

LJPN 408 01(1-0-0). Advanced Kanji Study. F, S. Prerequisite: LJPN 201. May be taken up to four times for credit.
   Kanji learning strategies and acquisition of advanced Kanji characters.

LJPN 495 Var[1-6]. Independent Study-Japanese. Prerequisite: Three years of college-level Japanese.

LJPN 496 Var[1-5]. Group Study-Japanese. Prerequisite: LJPN 305.
   Group study in language/literature/culture.

°Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
KOREAN LANGUAGE COURSES
Department of Foreign Languages and Literatures
College of Liberal Arts

LKOR 105 05(5-0-0). First-Year Korean I. F, S, SS. Prerequisite: No previous study in Korean.
   Essentials of Korean for the beginner: aural comprehension, speaking, reading, writing.

LKOR 107 05(5-0-0). First-Year Korean II. F, S, SS. Prerequisite: LKOR 105.
   Essentials of Korean for the continuing student: aural comprehension, speaking, reading, writing.

LKOR 202 03(3-0-0). Intermediate Korean and Culture I. F, S, SS. Prerequisite: LKOR 107.

LKOR 203 03(3-0-0). Intermediate Korean and Culture II. F, S, SS. Prerequisite: LKOR 202.
LATIN LANGUAGE COURSES
Department of Foreign Languages and Literatures
College of Liberal Arts

LLAT 105 05(5-0-0). First Year Latin I. F. Prerequisite: None. Essentials of Latin grammar, vocabulary, and phonology.

LLAT 107 05(5-0-0). First-Year Latin II. S. Prerequisite: LLAT 105. Six tenses of verbs, active and passive; use subjunctive review of the five declensions of nouns and adjectives; new vocabulary.

LLAT 296 Var[1-5]. Group Study-Latin. F, S.
RUSSIAN LANGUAGE COURSES

Department of Foreign Languages and Literatures
College of Liberal Arts

LRUS 105 05(5-0-0). First-Year Russian I. F, S, SS. Prerequisite: No previous study in Russian.
   Essentials of Russian for the beginner: aural comprehension, speaking, reading, writing.

LRUS 107 05(5-0-0). First-Year Russian II. F, S, SS. Prerequisite: LRUS 105.
   Essentials of Russian for the continuing student: aural comprehension, speaking, reading, writing.

LRUS 200 04(4-0-0). Second-Year Russian I. (GT-AH4, AUCC 3B). F, S. Prerequisite: LRUS 107 or placement exam. Credit not allowed for both LRUS 200 and LRUS 228A.
   Grammar review and extensive practice in conversation, reading, and writing.

LRUS 201 04(4-0-0). Second-Year Russian II. (GT-AH4, AUCC 3B). F, S. Prerequisite: LRUS 200 or placement exam.
   Grammar review and extensive practice in conversation, reading, and writing.

LRUS 250 03(3-0-0). Russian Literature, Culture in Translation. (GT-AH2, AUCC 3B). F, S. Prerequisite: None.
   Selected works in translation from different periods and genres which represent the interrelationship of language, literature, and culture.

LRUS 296 Var[1-5]. Group Study-Russian. Prerequisite: One semester of Russian.
   Group study in language/literature/culture.

LRUS 304 03(3-0-0). Third-Year Russian I. F. Prerequisite: LRUS 201 or placement exam.
   Development of reading comprehension, communicative competence, and cultural understanding.

LRUS 305 03(3-0-0). Third-Year Russian II. S. Prerequisite: LRUS 304 or placement exam.
   Enhanced development of reading comprehension, communicative competence, and cultural sensitivity.

LRUS 350 03(3-0-0). Russian Culture. S. Prerequisite: LRUS 201.
   Russian culture and its development through literature, as well as geography, history, and music.

LRUS 365 03(3-0-0). Introduction to Russian Cinema Studies. F, S. Prerequisite: LRUS 305.
   Terminology, techniques, and approaches specific to Russian cinema. Taught in Russian.

LRUS 495 Var[1-6]. Independent Study-Russian. Prerequisite: Three years of college-level Russian.

LRUS 496 Var[1-5]. Group Study-Russian. Prerequisite: LRUS 305 or placement exam.
   Group study in language/literature/culture.

°Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
SIGN LANGUAGE COURSES
Department of Foreign Languages and Literatures
College of Liberal Arts

LSGN 109 05(5-0-0). American Sign Language I. F. Prerequisite: None.
   Vocabulary, grammar and basic conversational skill in ASL, with information on deaf culture.

LSGN 110 05(5-0-0). American Sign Language II. F, S, SS.
   Prerequisite: LSGN 109.
   Development of communicative competence in ASL skill and expansion of knowledge of deaf culture.

LSGN 296 Var[1-5]. Group Study–American Sign Language. F, S.

°Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
**SPANISH LANGUAGE COURSES**  
*Department of Foreign Languages and Literatures*  
*College of Liberal Arts*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Prerequisite and Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSPA 105 05(3-0-0)</td>
<td>First-Year Spanish I</td>
<td>F, S, SS. Prerequisite: No previous study in Spanish. Credit not allowed for both LSPA 105 and LSPA 106. Essentials of Spanish for the beginner: aural comprehension, speaking, reading, writing.</td>
</tr>
<tr>
<td>LSPA 106 03(3-0-0)</td>
<td>First-Year Spanish Review</td>
<td>F, S, SS. Prerequisite: Placement exam or instructor placement. For students with minimal proficiency. Credit not allowed for both LSPA 106 and LSPA 105. Basic review of essential skills: aural comprehension, speaking, reading, writing.</td>
</tr>
<tr>
<td>LSPA 107 05(3-0-0)</td>
<td>First-Year Spanish II</td>
<td>F, S, SS. Prerequisite: LSPA 105 or LSPA 106. Essentials of Spanish for the continuing student: aural comprehension, speaking, reading, writing.</td>
</tr>
<tr>
<td>LSPA 108 05(3-0-0)</td>
<td>Intensive Spanish I</td>
<td>F. Prerequisite: Grade of A in LSPA 105 or LSPA 106 with written consent of instructor; or placement by exam. Accelerated practice in speaking, reading, writing, and aural comprehension.</td>
</tr>
<tr>
<td>LSPA 120 03(3-0-0)</td>
<td>Reading for Proficiency—Spanish</td>
<td>F, S, SS. Prerequisite: None. Credit for LSPA 120 not allowed if LSPA 107 or LSPA 108 has been completed. Essentials of language for developing reading proficiency.</td>
</tr>
<tr>
<td>LSPA 200 03(3-0-0)</td>
<td>Second-Year Spanish I</td>
<td>(GT-AH4, AUCC 3B). F, S. Prerequisite: LSPA 107 or LSPA 108 or placement exam. Credit not allowed for both LSPA 200 and LSPA 228A. Grammar review and extensive practice in conversation, reading, and writing.</td>
</tr>
<tr>
<td>LSPA 201 03(3-0-0)</td>
<td>Second-Year Spanish II</td>
<td>(GT-AH4, AUCC 3B). F, S. Prerequisite: LSPA 200 or placement exam. Grammar review and extensive practice in conversation, reading, and writing.</td>
</tr>
<tr>
<td>LSPA 208 05(3-0-0)</td>
<td>Intensive Spanish II</td>
<td>S. Prerequisite: LSPA 108 or placement exam. Accelerated practice in speaking, reading, writing, and aural comprehension.</td>
</tr>
<tr>
<td>LSPA 230 03(3-0-0)</td>
<td>Spanish for Heritage Speakers</td>
<td>S. Prerequisite: Instructor’s written permission. Expands vocabulary, oral communication, writing and reading skills, as well as the contents and contexts of communication in the language.</td>
</tr>
<tr>
<td>LSPA 250 03(3-0-0)</td>
<td>Spanish Language, Literature, Culture in Translation</td>
<td>(GT-AH2, AUCC 3B). F, S. Prerequisite: None. Selected works in translation from different periods and genres which represent the interrelationship of Spanish literature, and culture.</td>
</tr>
<tr>
<td>LSPA 300 03(3-0-0)</td>
<td>Reading and Writing for Communication</td>
<td>F, S, SS. Prerequisite: LSPA 201 or placement exam. Development of reading and writing proficiency through an in-depth examination of contemporary writing.</td>
</tr>
<tr>
<td>LSPA 301 03(3-0-0)</td>
<td>Spanish Oral Communication</td>
<td>F, S. Prerequisite: LSPA 201 or placement exam. In-depth language study to improve proficiency in all language skills emphasizing oral.</td>
</tr>
<tr>
<td>LSPA 310 03(3-0-0)</td>
<td>Approaches to Spanish Literature</td>
<td>F, S. Prerequisite: LSPA 300 or placement exam. Appreciation and critical readings of representative works in prose, drama, and poetry.</td>
</tr>
<tr>
<td>LSPA 312 03(3-0-0)</td>
<td>Introduction to Spanish Linguistics</td>
<td>F. Prerequisite: LSPA 300 or concurrent registration. Phonetics, phonology, morphology, syntax, semantics, and pragmatics.</td>
</tr>
<tr>
<td>LSPA 313 03(3-0-0)</td>
<td>Introduction to Spanish Translation and Interpreting</td>
<td>F, S. Prerequisite: LSPA 300. Translation and interpreting of written and oral texts into and from the foreign language.</td>
</tr>
<tr>
<td>LSPA 326 03(3-0-0)</td>
<td>Spanish Phonetics</td>
<td>F, S. Prerequisite: LSPA 300 or concurrent registration. Phonetic principles and their application to Spanish sound system; intensive practice in pronunciation, intonation.</td>
</tr>
<tr>
<td>LSPA 335 03(3-0-0)</td>
<td>Issues in Hispanic Culture</td>
<td>F. Prerequisite: LSPA 300. Historical context of contemporary issues in the culture of Spanish-speaking countries.</td>
</tr>
<tr>
<td>LSPA 345 03(3-0-0)</td>
<td>Business Spanish</td>
<td>F, S, SS. Prerequisite: LSPA 300. Business and commercial aspects of the Spanish language and culture.</td>
</tr>
<tr>
<td>LSPA 346 03(3-0-0)</td>
<td>Spanish for Health Care</td>
<td>F, S. Prerequisite: LSPA 300. Specific linguistic and cultural issues necessary to function in the Hispanic health care world.</td>
</tr>
<tr>
<td>LSPA 365 03(3-0-0)</td>
<td>Studies in Foreign Film-Spanish</td>
<td>F. S. Prerequisite: LSPA 310. Representation of Spanish society through film. Taught in Spanish. (NT-0)</td>
</tr>
<tr>
<td>LSPA 379 01(0-2-0)</td>
<td>Service Learning-Spanish</td>
<td>F, S, SS. Prerequisite: Concurrent registration with 300-level Spanish course with written consent of instructor. Language-related voluntary community work.</td>
</tr>
<tr>
<td>LSPA 400 03(3-0-0)</td>
<td>Advanced Spanish Communication Skills</td>
<td>F, S, SS. Prerequisite: LSPA 300. Development of speaking, reading, and writing proficiency through an in-depth examination of representative writings and media communications.</td>
</tr>
<tr>
<td>LSPA 401 03(3-0-0)</td>
<td>Advanced Spanish Oral Communication</td>
<td>S. Prerequisite: LSPA 300. Advanced language study to improve proficiency in Spanish language skills, with an emphasis on oral communication.</td>
</tr>
<tr>
<td>LSPA 413 03(3-0-0)</td>
<td>Advanced Spanish Translation and Interpreting</td>
<td>F, S. Prerequisite: LSPA 313. Advanced practice in translation and interpreting of written and oral texts into and from Spanish.</td>
</tr>
<tr>
<td>LSPA 435 03(3-0-0)</td>
<td>Caribbean Culture in Hispanic Literature</td>
<td>S. Prerequisite: LSPA 335. Hispanic-Caribbean cultures with emphasis on African heritage and cultural identity.</td>
</tr>
<tr>
<td>LSPA 436 03(3-0-0)</td>
<td>Advanced Latin American Culture</td>
<td>F, S, SS. Prerequisite: LSPA 335. Latin American cultural identities and their history.</td>
</tr>
</tbody>
</table>

*Alternate year offering (odd); * Alternate year offering (even); + Field trips; S Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
LSPA 437 03(3-0-0). Advanced Spanish Culture. F, S. Prerequisite: LSPA 335.
Cultural characteristics of Spanish society through the ages.

LSPA 441 03(3-0-0). Advanced Business Spanish. F, S. Prerequisite: LSPA 345.
Advanced business and commercial aspects of the Spanish language and culture.

LSPA 442 03(3-0-0). Colonial Latin American Literature. F. Prerequisite: LSPA 300; LSPA 310.
Literature and literary culture of colonial Latin America.

LSPA 443 03(3-0-0). Spanish Theatre. F, S. Prerequisite: LSPA 300; LSPA 310.
Major authors and works of Spanish theatre.

LSPA 445 03(3-0-0). Women Writers in the Hispanic Worlds. F. Prerequisite: LSPA 300; LSPA 310.
Selected Hispanic women writers in a variety of genres emphasizing relationships among gender, culture, and writing.

LSPA 449 03(3-0-0). Spanish-American Literary Movements and Periods. F. Prerequisite: LSPA 300; LSPA 310.
Studies in selected literary movements and periods of Spanish America such as classicism, realism, naturalism, existentialism.

LSPA 450 03(3-0-0). Selected Spanish Literary Movements and Periods. F, S. Prerequisite: LSPA 300; LSPA 310.
Studies in selected literary movements and periods of Spain, such as classicism, realism, naturalism, existentialism.

LSPA 452 03(3-0-0). Genre Studies in Spanish. F, S. Prerequisite: LSPA 300; LSPA 310. May be taken up to 3 times for credit.
Development of critical approaches to major works in literature through selected literary genres and subgenres.

LSPA 453 03(3-0-0). Author Studies in Spanish. F, S. Prerequisite: LSPA 300; LSPA 310. May be taken up to 3 times for credit.
Development of critical approaches to authors through the appreciation and analysis of selected works.

LSPA 454 03(3-0-0). Topic Studies in Spanish. F, S. Prerequisite: LSPA 300; LSPA 310. May be taken up to 3 times for credit.
Selected topic studies such as themes, topoi, and interdisciplinary subjects in literature.

LSPA 465A 03(3-0-0). Studies in Foreign Film—Spain. S, SS. Prerequisite: LSPA 310 and LSPA 335.
Representation of Spanish society or specific topics through film. Taught in Spanish.

LSPA 465B 03(3-0-0). Studies in Foreign Film—Latin America. S, SS. Prerequisite: LSPA 310 and LSPA 335.
Representation of Latin American societies or specific topics through film. Taught in Spanish.

LSPA 468 03(3-0-0). Spanish Vocabulary and Word Formation. F, S. Prerequisite: LSPA 312.
Spanish vocabulary: meaning relations, word formation through prefixation, suffixation, and composition, and meaning change over time and space.

LSPA 470 03(3-0-0). Spanish Grammatical Constructions. S. Prerequisite: LSPA 400.
Linguistic analysis of selected Spanish grammatical constructions (word order, word formation, and sentence structure), their relationship to meaning.

LSPA 479 01(0-2-0). Service Learning-Spanish. F, S, SS. Prerequisite: Concurrent registration with 400-level Spanish course. May be taken up to 3 times for credit.
Language-related voluntary community work in conjunction with a 400-level departmental course with written consent of instructor.

LSPA 492 03(0-0-3). Seminar-Spanish Language, Literature, and Society. F, S. Prerequisite: LSPA 310; two 400-level Spanish courses; senior status.
Integrative study of language, literature, and society.

LSPA 495 Var[1-6]. Independent Study-Spanish. Prerequisite: Three years of college-level Spanish.

LSPA 500 03(3-0-0). Language Analysis/Stylistics-Spanish. F. Prerequisite: LSPA 400.
Analysis of language structure through the examination of style in literary and non-literary texts.

LSPA 508 04(3-3-0). Intensive Spanish-Graduate Review. SS. Prerequisite: Admission to Summer Institute for Foreign Language Teaching.
Immersion review of language for the teacher, developing intermediate-level proficiency in culture and the four skills.

LSPA 514 01(1-0-0). Issues in Teaching Spanish. F, S. Prerequisite: Concurrent graduate teaching assistantship.
Current theory and practice in second-language instruction; technological applications.

LSPA 525 03(3-0-0). History of the Spanish Language. S. Prerequisite: LSPA 400.
Investigation of both internal (strictly linguistic) and external (sociolinguistic) factors in development of the language.

LSPA 536 03(3-0-0). Topics in Spanish Linguistics. F, S. Prerequisite: LSPA 500.
Acquisition, discourse analysis, and language change and variation over time and space.

LSPA 540 03(3-0-0). Literary Periods of Spanish America. F. Prerequisite: Undergraduate degree in Spanish.
Advanced studies in critical approaches to selected literary movements or periods of Spanish America.

LSPA 551 03(3-0-0). Selected Spanish Literary Movements/Periods. F. Prerequisite: Undergraduate degree in Spanish.
Advanced studies in and critical approaches to selected literary movements or periods.

LSPA 552 03(3-0-0). Advanced Studies in Spanish Literary Genres. F. Prerequisite: Undergraduate degree in Spanish.
Advanced studies in and critical approaches to literary genres through study of major works in foreign literatures.

LSPA 553 03(3-0-0). Advanced Spanish Author Studies. S. Prerequisite: Undergraduate degree in Spanish.
Critical approaches to the study of selected authors through appreciation and analysis of their major works.

LSPA 554 03(3-0-0). Advanced Spanish Topic Studies. S. Prerequisite: Undergraduate degree in Spanish.
Selected topics (theme, topoi, and interdisciplinary subjects) in foreign literatures.

LSPA 692 03(0-0-3). Seminar-Spanish. F, S. Prerequisite: Undergraduate degree in Spanish.
Treatment of selected topics in seminar.
LSPA 695 Var[1-6]. Independent Study-Spanish.

°Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended; C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
# MATHEMATICS COURSES
Department of Mathematics  
College of Natural Sciences

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 117 01(1-0-0)</td>
<td>College Algebra in Context I. (GT-MA1, AUCC 1B)</td>
<td>F, S, SS, Prerequisite: Mathematics Placement Examination or Mathematics Challenge Examination. Functions as mathematical models. Linear, quadratic, and polynomial functions considered symbolically, graphically, numerically, and contextually. (NT-O)</td>
<td></td>
</tr>
<tr>
<td>MATH 118 01(1-0-0)</td>
<td>College Algebra in Context II. (GT-MA1, AUCC 1B)</td>
<td>F, S, SS, Prerequisite: MATH 117 or Mathematics Placement Examination or Mathematics Challenge Examination. Reciprocals of linear functions, rational functions, and power functions considered symbolically, graphically, numerically, and contextually. (NT-O)</td>
<td></td>
</tr>
<tr>
<td>MATH 122/CS 122 01(0-0-1)</td>
<td>Theory for Introductory Programming</td>
<td>F, S, SS, Prerequisite: MATH 118; concurrent registration in CS 161. Credit not allowed for both MATH 122 and CS 122. Credit not allowed for students who have completed CS 160. Set theory, definitions, operations, Venn diagrams, power sets, propositional logic and proofs. Functions; loop invariants. (NT-O)</td>
<td></td>
</tr>
<tr>
<td>MATH 124 01(1-0-0)</td>
<td>Logarithmic and Exponential Functions. (GT-MA1, AUCC 1B)</td>
<td>F, S, SS, Prerequisite: MATH 118 or Mathematics Placement Examination or Mathematics Challenge Examination. Definition and graphs of exponential and logarithmic functions, properties of logarithmic functions, exponential and logarithmic equations, applications. (NT-O)</td>
<td></td>
</tr>
<tr>
<td>MATH 125 01(1-0-0)</td>
<td>Numerical Trigonometry. (GT-MA1, AUCC 1B)</td>
<td>F, S, SS, Prerequisite: MATH 118 or Mathematics Placement Examination or Mathematics Challenge Examination. Definition and graphs of trigonometric functions, laws of sines and cosines, solutions of right and oblique triangles, applications. (NT-O)</td>
<td></td>
</tr>
<tr>
<td>MATH 126 01(1-0-0)</td>
<td>Analytic Trigonometry. (GT-MA1, AUCC 1B)</td>
<td>F, S, SS, Prerequisite: MATH 125 or Mathematics Placement Examination or Mathematics Challenge Examination. Inverse trigonometric functions, trigonometric identities, solving trigonometric equations. (NT-O)</td>
<td></td>
</tr>
<tr>
<td>MATH 130 03(2-2-0)</td>
<td>Math in the Social Sciences. (GT-MA1, AUCC 1B)</td>
<td>F, S, SS, Prerequisite: Mathematics Placement Examination. Voting theory, power indices, fair division, apportionment, circuits and trees, list processing, descriptive statistics, probability.</td>
<td></td>
</tr>
<tr>
<td>MATH 133 03(2-2-0)</td>
<td>Financial Mathematics. (GT-MA1, AUCC 1B)</td>
<td>F, S, SS, Prerequisite: Mathematics Placement Examination. Calculator required. Pricing, taxes, insurance, interest, annuities, amortization, investments using financial calculators and spreadsheets.</td>
<td></td>
</tr>
<tr>
<td>MATH 135 03(2-0-1)</td>
<td>Patterns of Phenomena. (GT-MA1, AUCC 1B)</td>
<td>S, Prerequisite: Mathematics Placement Examination. Applications of mathematical ideas and mode of thought in the arts and humanities, focusing on classification, recognition.</td>
<td></td>
</tr>
<tr>
<td>MATH 141 03(3-0-0)</td>
<td>Calculus in Management Sciences. (GT-MA1, AUCC 1B)</td>
<td>F, S, SS, Prerequisite: MATH 118. Credit allowed for only one of the following courses: MATH 141, MATH 155, or MATH 160. Analytic geometry, limits, equilibrium of supply and demand, differentiation, integration, applications of the derivative, integral.</td>
<td></td>
</tr>
<tr>
<td>MATH 151 01(0-2-0)</td>
<td>Mathematical Algorithms in Matlab I.</td>
<td>S, Prerequisite: MATH 141 or MATH 155 or MATH 160. Statements, expressions and variable assignments, scripts, control statements and logical statements. Newton’s method, Simpson’s rule, recursion.</td>
<td></td>
</tr>
<tr>
<td>MATH 152 01(0-2-0)</td>
<td>Mathematical Algorithms in Maple I.</td>
<td>S, Prerequisite: MATH 141 or MATH 155 or MATH 160. Iteration and recursion, control and logical statements, expressions, functions, data types, binary numbers, symbolic manipulation of terms.</td>
<td></td>
</tr>
<tr>
<td>MATH 155 04(4-0-0)</td>
<td>Calculus for Biological Scientists I. (GT-MA1, AUCC 1B)</td>
<td>F, S, SS, Prerequisite: MATH 124; MATH 125. Credit allowed for only one of the following courses: MATH 141, MATH 155, or MATH 160. Limits, continuity, differentiation, and integration of elementary functions with applications in the biosciences. Programmable graphing calculator required.</td>
<td></td>
</tr>
<tr>
<td>MATH 158/CS 158 01(0-2-0)</td>
<td>Mathematical Algorithms in C.</td>
<td>S, Prerequisite: CS 156; MATH 151; MATH 160. Credit not allowed for both MATH 158 and CS 158. Compilers, expressions, variable types, control statements, pointers, logical statements, plotting, secant method, trapezoidal rule, recursion.</td>
<td></td>
</tr>
<tr>
<td>MATH 160 04(3-2-0)</td>
<td>Calculus for Physical Scientists I. (GT-MA1, AUCC 1B)</td>
<td>F, S, SS, Prerequisite: MATH 124; MATH 126. Credit allowed for only one of the following: MATH 141; MATH 155; MATH 160. Limits, continuity, differentiation, and integration of elementary functions with applications; conic sections. (NT-O)</td>
<td></td>
</tr>
<tr>
<td>MATH 161 04(3-2-0)</td>
<td>Calculus for Physical Scientists II. (GT-MA1, AUCC 1B)</td>
<td>F, S, SS, Prerequisite: MATH 124; MATH 160. Transcendental functions, integration techniques, polar coordinates, sequences and series, with mathematical software.</td>
<td></td>
</tr>
<tr>
<td>MATH 192 01(0-0-1)</td>
<td>First-Year Seminar in Mathematical Sciences.</td>
<td>F, Prerequisite: None. Introduction to the richness and variety of problems addressed by mathematical language and techniques; resources and available careers.</td>
<td></td>
</tr>
<tr>
<td>MATH 229 02(2-0-0)</td>
<td>Matrices and Linear Equations.</td>
<td>F, S, SS, Prerequisite: MATH 141 or MATH 155 or MATH 160. Linear systems, matrix arithmetic, homogeneous coordinates, complex numbers, eigenvalues, eigenvectors, applications to discrete dynamical systems.</td>
<td></td>
</tr>
<tr>
<td>MATH 230 03(2-2-0)</td>
<td>Discrete Mathematics for Educators.</td>
<td>F, Prerequisite: EDUC 275 or concurrent registration; MATH 161. Credit allowed for only one of the following: MATH 230, MATH 301, MATH 330. Voting theory, fair division, graph theory, linear programming, probability, teaching in small groups, proof techniques, mathematical technology.</td>
<td></td>
</tr>
<tr>
<td>MATH 235 02(2-0-0)</td>
<td>Introduction to Mathematical Reasoning.</td>
<td>S, Prerequisite: MATH 161. Mathematical statements and proof techniques, induction, set theory, inequalities, number systems, functions.</td>
<td></td>
</tr>
<tr>
<td>MATH 255 04(4-0-0)</td>
<td>Calculus for Biological Scientists II. (GT-MA1, AUCC 1B)</td>
<td>F, S, Prerequisite: Concurrent registration in MATH 126; MATH 155. Credit not allowed for both MATH 255 and MATH 261. Derivatives and integrals of functions of several variables, differential and difference equations, matrices, applications in the biosciences. Programmable graphing calculator required.</td>
<td></td>
</tr>
<tr>
<td>MATH 261 04(4-0-0)</td>
<td>Calculus for Physical Scientists III.</td>
<td>F, S, SS, Prerequisite: MATH 161. Credit not allowed for both MATH 261 and MATH 255. Vector functions, partial differentiation, cylindrical and spherical coordinates, multiple integrals, line integrals, Green’s theorem.</td>
<td></td>
</tr>
<tr>
<td>MATH 301 03(3-0-0)</td>
<td>Introduction to Combinatorial Theory.</td>
<td>F, Prerequisite: MATH 160. Credit not allowed for both MATH 301 and MATH 330.</td>
<td></td>
</tr>
</tbody>
</table>

*Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCCSubcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
Matrices, orthogonal Latin squares, designs, difference sets, sets, binomial coefficients, inclusion and exclusion, recurrence, Ramsey’s theorem, SDRs.

MATH 317 04(4-0-0). Advanced Calculus of One Variable. F, S, SS. Prerequisite: MATH 161.
- Convergence of sequences, series: limits, continuity, differentiation, integration of one-variable functions; development of skills for proving theorems.

MATH 331 03(3-0-0). Introduction to Mathematical Modeling. F. Prerequisite: MATH 161 or concurrent registration; MATH 229 or concurrent registration or MATH 369 or concurrent registration.

MATH 332 03(3-0-0). Partial Differential Equations. S. Prerequisite: MATH 340 or MATH 345. Credit not allowed for both MATH 332 and MATH 530.
- Partial differential equations, separation of variables, Fourier series and transforms, Laplace, heat, and wave equations.

MATH 340 04(3-2-0). Introduction to Ordinary Differential Equations. F, S, SS. Prerequisite: MATH 255 or MATH 261. Credit not allowed for both MATH 340 and MATH 345.
- First and second order equations, series, Laplace transforms, linear algebra, eigenvalues, first order systems of equations, numerical techniques.

MATH 345 04(3-2-0). Differential Equations. F, S. Prerequisite: MATH 229 or MATH 369; MATH 255 or MATH 261. Credit not allowed for both MATH 345 and MATH 340.
- First and second order equations, Laplace transforms, first order systems of equations, numerical methods, applied linear algebra, linearization.

MATH 348/BZ 348 04(3-3-0). Theory of Population and Evolutionary Ecology. F. Prerequisite: MATH 155 or MATH 160. Credit allowed for only one of the following: MATH 348, BZ 348, BZ 548. A maximum of 10 combined credits for all 384 and 484 courses are counted towards graduation requirements.
- Principles and methods for building, analyzing, and interpreting mathematical models of ecological and evolutionary problems in biology.

MATH 360 03(3-0-0). Mathematics of Information Security. F. Prerequisite: MATH 229 or MATH 369.
- Codes, ciphers, Chinese remainder theorem, primality testing, public key ciphers, RSA, finite fields, discrete algorithms, advanced encryption standard.

MATH 366 03(3-0-0). Introduction to Abstract Algebra. F, S. SS. Prerequisite: MATH 161.
- Sets, integers, polynomials, real and complex numbers, groups, integral domains, and fields; development of skills for proving theorems.

MATH 369 03(3-0-0). Linear Algebra. F, S, SS. Prerequisite: MATH 161 or MATH 255.
- Linear systems, matrices, subspaces of Euclidean spaces, linear transformations on Euclidean spaces, eigenvalues, eigenvectors.

MATH 384 01(1-0-0). Supervised College Teaching. F. S. Prerequisite: Written consent of instructor. May not be used to satisfy Mathematics degree requirements. Maximum of 1 credit allowed in course.
- Skills for effective tutoring of precalculus mathematics; design and implementation of the Individualized Mathematics Program.

*MATH 405 03(3-0-0). Introduction to Number Theory. S. Prerequisite: MATH 360 or MATH 366.
- Diophantine equations; distribution of primes; multiplicative functions; finite fields; quadratic reciprocity; quadratic number fields.

MATH 417 03(3-0-0). Advanced Calculus I. F. Prerequisite: MATH 369.

*MATH 418 03(3-0-0). Advanced Calculus II. S. Prerequisite: MATH 417.
- Line and surface integrals, series, sequences and series of functions.

MATH 419 03(3-0-0). Introduction to Complex Variables. F. Prerequisite: MATH 261.
- Analyticity, Cauchy integral theorem and formula, Taylor and Laurent series, residue calculus, conformal mapping and harmonic functions.

MATH 425 03(3-0-0). History of Mathematics. F. Prerequisite: ED 331; two of the following courses: MATH 317, MATH 366, MATH 369.
- Historical development of geometry, arithmetic, algebra, and calculus from ancient times to 20th century.

MATH 430/ECE 430 03(3-0-0). Fourier and Wavelet Analysis with Apps. S. Prerequisite: MATH 345. Credit not allowed for both MATH 430 and ECE 430.
- Fourier analysis and transforms, FFTs; sampling theorems, computational algorithms; wavelets; applications to communication, imaging, and compression.

MATH 435 03(1-4-0). Projects in Applied Mathematics. S. Prerequisite: CS 156 or CS 160 or CS 253 or MATH 151; MATH 229 or MATH 369; MATH 340 or MATH 345.
- Open-ended projects with emphasis on problem identification and formulation, team approach, and reporting results.

MATH 450 03(3-0-0). Introduction to Numerical Analysis I. F. Prerequisite: CS 156 or CS 160 or CS 253 or MATH 151; MATH 229 or MATH 369.
- Solutions of systems of linear and nonlinear equations, interpolation, approximation.

MATH 451 03(3-0-0). Introduction to Numerical Analysis II. S. Prerequisite: CS 156 or CS 160 or CS 253 or MATH 151; MATH 340 or MATH 345.
- Numerical computation of eigenvalues, numerical solution of ordinary and partial differential equations.

*MATH 455 03(3-0-0). Mathematics in Biology and Medicine. F. Prerequisite: MATH 255 or MATH 348/BZ 348 or MATH 340 or MATH 345.
- Models in population biology, cell division, host-parasoid systems, bacterial growth and predator-prey systems.

MATH 460 03(3-0-0). Information and Coding Theory. S. Prerequisite: MATH 360 or MATH 366; MATH 369.
- Entropy, mutual information, channel capacity, channel coding theorem, syndrome decoding, BCH codes, recent developments.

MATH 466 03(3-0-0). Abstract Algebra I. F. Prerequisite: MATH 360 or MATH 366 or MATH 369.
- Comprehensive introduction to groups, rings, and fields

*MATH 467 03(3-0-0). Abstract Algebra II. S. Prerequisite: MATH 369 or concurrent registration; MATH 466.
- Advanced topics in abstract algebra: Euclidean domains, abstract vector spaces, extension fields, Galois theory.

MATH 469 03(3-0-0). Linear Algebra II. S. Prerequisite: MATH 369.

MATH 470 03(3-0-0). Euclidian and Non-Euclidian Geometry. S. Prerequisite: MATH 229 or MATH 369; MATH 261.
Topics from real Euclidean, affine metric and non-Euclidean geometries emphasizing methods and connections with other areas of mathematics.

**MATH 472 03(3-0-0). Introduction to Topology.** F. Prerequisite: MATH 317.

**MATH 474 03(3-0-0). Introduction to Differential Geometry.** F. Prerequisite: MATH 261, MATH 369.
- Local and global geometry of curves and surfaces in Euclidean space, curvature, covariant differentiation, geodesics and the Gauss-Bonnet theorem.

**MATH 476 03(3-0-0). Topics in Mathematics.** F, S, SS. Prerequisite: Written consent of instructor.
- Study experiences which deal with established content areas in mathematics.

**MATH 484 Var[1-3]. Supervised College Teaching.** F, S. Prerequisite: Written consent of instructor. A maximum of 10 combined credits for all 384 and 484 courses are counted towards graduation requirements.

**MATH 487 Var[1-16]. Internship.** Prerequisite: Written consent of instructor.
- A work–learn experience integrating classroom theory with practical experience.

**MATH 495 Var. Independent Study.** Prerequisite: Written consent of instructor.

**MATH 498 Var[1-3]. Undergraduate Research in Mathematics.** Prerequisite: Written consent of instructor.
- Research skills and techniques taught to suit student’s level and interests. Includes both oral and written communication of results.

**MATH 501 03(3-0-0). Combinatorics I.** F. Prerequisite: MATH 301; MATH 360 or MATH 366.
- Puzzles, numbers and counting, subsets, recurrence relations, generating functions, inversion, counting with symmetry, networks, matchings.

**MATH 502 03(3-0-0). Combinatorics II.** S. Prerequisite: MATH 501.
- Graph algorithms, external set theory; partitions, Hadamard matrices, q-binomials, finite geometries, strongly regular graphs, triple systems, designs.

**MATH 505 03. Teaching Problem Solving in Mathematics K-12.** F, S. Prerequisite: Teacher licensure. Offered as telecourse only.
- Problem-solving strategies, cooperative learning, and manipulatives for K-12 classroom. (NT-T)

**MATH 510 03(3-0-0). Linear Programming and Network Flows.** F, S, SS. Prerequisite: MATH 261 or MATH 315. Credit not allowed for both MATH 510 and ENGR 510.
- Optimization methods; linear programming, simplex algorithm, duality, sensitivity analysis, minimal cost network flows, transportation problem. (NT-V)

**MATH 517 03(3-0-0). Introduction to Real Analysis.** F. Prerequisite: MATH 417; MATH 369.
- Euclidean and metric spaces, compactness, continuity, sequences, series, multivariable differentiation, inverse and implicit function theorems.

**MATH 519 03(3-0-0). Complex Variables I.** S. Prerequisite: MATH 317.
- Analytic functions, complex integration theory, singularities, elementary functions, and mappings.

**MATH 520 03(3-0-0). Nonlinear Programming.** S. Prerequisite: MATH 510.
- Theoretical, computational, practical aspects of nonlinear programming (NLP); unconstrained, constrained NLP; quadratic programming; large-scale NLP.

**MATH 525 03(3-0-0). Optimal Control.** S. Prerequisite: MATH 340 or MATH 345.
- Theory and application of optimal control and optimal estimation theory; continuous and discrete time systems; Pontryagin maximum principle.

**MATH 530 04(4-0-0). Mathematics for Scientists and Engineers.** F. Prerequisite: MATH 340 or MATH 345. Not for mathematics graduate students. Credit not allowed for both MATH 530 and MATH 332.
- Proof-oriented linear algebra, ordinary and partial differential equations.

**MATH 532 03(3-0-0). Mathematical Modeling of Large Data Sets.** S. Prerequisite: MATH 369 or MATH 530.
- Mathematical theory and algorithms for modeling large data sets. Application to real world problems. Emphasis on geometric ideas.

**MATH 535 03(3-0-0). Foundations of Applied Mathematics.** F. Prerequisite: MATH 340 or MATH 345.
- Calculus of variations, perturbation methods, models of continuum, dimensional analysis, stochastic models, integral equations, diffusion.

**MATH 540 03(3-0-0). Dynamical Systems.** F. Prerequisite: MATH 340 or MATH 345 or MATH 530.
- Linear and nonlinear systems, orbits, phase space, flows of vector fields, stability, bifurcation theory, chaos, strange attractors and applications.

**MATH 545 03(3-0-0). Partial Differential Equations I.** F. Prerequisite: MATH 340 or MATH 345 or MATH 530.
- Second order linear PDEs, elliptic and parabolic equations, equations of math physics, separation of variables, Fourier series.

**MATH 546 03(3-0-0). Partial Differential Equations II.** S. Prerequisite: MATH 545.
- Distribution theory, Green’s functions, Sobolev spaces, elliptic and parabolic equations.

**MATH 550/ENGR 550 03(3-0-0). Numerical Methods in Science and Engineering.** F, S. Prerequisite: MATH 340 or MATH 345 or MATH 530. Credit not allowed for both MATH 550 and ENGR 550.
- Finite elements, finite differences, spectral methods, method of lines, conservation laws; stability and convergence analysis for PDEs.

**MATH 560 03(3-0-0). Linear Algebra.** F. Prerequisite: MATH 369.
- Finite dimensional vector spaces, inner products, dual spaces, transformations, projections, adjoints, norms, eigenvalues, eigenvectors.

**MATH 561 04(4-0-0). Numerical Analysis I.** S. Prerequisite: CS 156 or CS 160 or CS 253 or MATH 151; MATH 560.
- Numerical linear algebra, solving nonlinear systems, least squares, and minimization.

**MATH 566 03(3-0-0). Introduction to Abstract Algebra I.** F. Prerequisite: MATH 366.
- Analysis of algebraic structures including groups, rings, fields, and vector spaces.

**MATH 567 03(3-0-0). Introduction to Abstract Algebra II.** S. Prerequisite: MATH 566.
- Field theory, Galois theory, and advanced linear algebra.

**MATH 570 03(3-0-0). Topology I.** F. Prerequisite: MATH 417 or MATH 472.
- Point-set topology including basic set theory, continuity, product and quotient spaces, metrization, compactness, and connectedness.

*Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
**MATH 571. Topology II.** S. Prerequisite: MATH 566; MATH 570.
Fundamental group, free groups and presentations, and manifolds.

**MATH 584. Supervised College Teaching.** F. S. Prerequisite: Written consent of instructor.

**MATH 592. Seminar in Mathematics.** Prerequisite: Written consent of instructor.

**MATH 601. Advanced Combinatorics I.** F. Prerequisite: MATH 502; MATH 566.
Special numbers, mobius inversions, transversals, partial orders, different sets, codes, t-designs.

**MATH 602. Advanced Combinatorics II.** S. Prerequisite: MATH 601.
Hypergeometric functions, graph algorithms, hadamard matrices, strongly regular graphs, association schemes.

**MATH 605-A. Number Theory.** S. Prerequisite: MATH 519 or concurrent registration; MATH 566; MATH 567.

**MATH 617. Integration and Measure Theory.** S. Prerequisite: MATH 517.
Riemann-Cauchy integration theory, sigma-algebras, Lebesgue theory of measure and integration, Fabini’s Theorem, radon-Nikodym Theorem, L/p spaces.

**MATH 618. Advanced Real Analysis.** F. Prerequisite: MATH 560; MATH 617.
Normed linear spaces, Banach and Hilbert spaces, elements of functional analysis.

**MATH 619. Complex Variables II.** S. Prerequisite: MATH 519.
Infinite products, entire functions, analytic continuation, Riemann surfaces, other topics.

**MATH 620. Variational Methods and Optimization I.** F. Prerequisite: MATH 517; MATH 560.
Unconstrained and constrained infinite dimensional optimization, calculus of variations, applications.

**MATH 621. Variational Methods and Optimization II.** S. Prerequisite: MATH 620.
Unconstrained and constrained infinite dimensional optimization, variational inequalities, Lagrange multipliers, control, applications.

**MATH 633. Industrial and Applied Mathematics.** S. Prerequisite: MATH 530 or MATH 560 or MATH 661; preparedness to do programming in a standard language.
Team solution of problems arising in industrial and applied mathematics. Problem formulation, solution proposal, implementation and analysis.

**MATH 640. Ordinary Differential Equations I.** F. Prerequisite: MATH 340 or MATH 345 or MATH 530; MATH 369; MATH 517.
Existence and uniqueness, continuation, continuous dependence, linear systems, and stability.

**MATH 641. Ordinary Differential Equations II.** S. Prerequisite: MATH 640.
Topics selected from nonlinear boundary value problems, periodic phenomena, differential operators, and others.

**MATH 645. Advanced Partial Differential Equations I.** F. Prerequisite: MATH 546.
Abstract methods for linear partial differential equations.

**MATH 646. Advanced Partial Differential Equations II.** S. Prerequisite: MATH 645.
Problems in nonlinear partial differential equations.

**MATH 651. Numerical Analysis II.** F. Prerequisite: CS 156 or CS 160 or CS 253 or MATH 151; MATH 340 or MATH 345 or MATH 369 or MATH 530.
Interpolation, approximation, quadrature, initial and boundary value problems.

**MATH 652. Advanced Numerical Methods for PDEs.** F. Prerequisite: MATH 617 or MATH 456 or MATH 560.
Theory of numerical methods for solution of PDEs: convergence and stability properties; error estimation; approximation theory.

**MATH 666. Advanced Algebra I.** F. Prerequisite: MATH 567.
Theory of rings and algebras with applications.

**MATH 667. Advanced Algebra II.** S. Prerequisite: MATH 666.
Advanced topics from algebra: representation theory, Wedderburn theory, bilinear forms, multilinear and homological algebra.

**MATH 670. Introduction to Differential Manifolds.** S. Prerequisite: MATH 517 or MATH 570.
Finite-dimensional differential manifolds, submanifolds, vector fields and flows, Lie groups and algebras.

**MATH 672. Projective Geometry I.** F. Prerequisite: MATH 567.
Algebraic sets in projective space, the Nullstellensatz, rational maps and functions, coordinate rings, Hilbert functions, dimension, degree.

**MATH 673. Projective Geometry II.** S. Prerequisite: MATH 672.
Topics selected from curves and surfaces, sheaf theory, algebraic geometry, singularity theory, vector bundles.

**MATH 676. Topology.** F, S. SS. May be taken up to 5 times for credit.
Advanced study experiences which deal with established content areas in mathematics.

**MATH 687. Internship.**
A work-learn experience integrating classroom theory with practical experience.

**MATH 693. Seminar in Mathematics.**

**MATH 695. Independent Study.**

**MATH 699. Thesis.**

**MATH 717. Functional Analysis I.** F. Prerequisite: MATH 618.
Topological vector spaces; Banach and Hilbert spaces.

**MATH 718. Functional Analysis II.** S. Prerequisite: MATH 717.
Spectral theory, operator theory, semigroups of transformations, and distribution theory.

**MATH 750. Numerical Methods and Models I.** F. Prerequisite: MATH 561.
Derivation of model equations, introduction to solution techniques and computing.

**MATH 751. Numerical Methods and Models II.** S. Prerequisite: MATH 561.
Convergence, stability, error estimates and computing.

**MATH 793. Seminar in Mathematics.**

*Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
MATH 798 Var. Research.
MATH 799 Var. Dissertation.

*Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
MECHANICAL ENGINEERING COURSES

Department of Mechanical Engineering
College of Engineering

MECH 103 03(3-0-0). Introduction to Mechanical Engineering. F. Prerequisite: None. The discipline of Mechanical Engineering as described in problems and problem solving methods – energy, materials, motion, fluids.

MECH 105 03(3-0-0). Mechanical Engineering Problem Solving. F, S. Prerequisite: MECH 103 with a C or better; MATH 160; PH 141 or concurrent registration. Credit not allowed for both MECH 105 and MECH 102.

Programming and engineering problem solving techniques, algorithms and processes from physics and calculus first principles.

MECH 200 03(2-2-0). Introduction to Manufacturing Processes. F. Prerequisite: Mechanical engineering and engineering science majors only. Engineering drawings, materials, manufacturing, and safety. Hand tools, cutting, drilling, the lathe, mill and numerical control. ($)

MECH 201 02(1-2-0). Engineering Design I. F. Prerequisite: MECH 105 with a C or better.

Engineering design process and the roles of visual communication with emphasis on 3D physical solid modelers and Pro/ENGINEER.

MECH 202 03(2-2-0). Engineering Design II. S. Prerequisite: MECH 200 with a C or better or concurrent registration; MECH 201 with a C or better.

Engineering design process with emphasis on teamwork, ideation, decision-making, project planning applied to a group design project. ($)

MECH 231 03(2-2-0). Engineering Experimentation. F, S. Prerequisite: MECH 105 with a grade of C or better; PH 142 with a grade of C or better.

Measurement systems; experimental design; data acquisition and analysis techniques. ($)

MECH 237 03(3-0-0). Introduction to Thermal Sciences. F, S. Prerequisite: MATH 160; PH 141.

First and second laws of thermodynamics, properties of materials, energy conversion, statistical aspects, heat transfer.

MECH 262 04(4-0-0). Engineering Mechanics. F. Prerequisite: MATH 151; PH 141.

Forces, static equilibrium, mass center, moments of inertia, kinematics and kinetics of particles and rigid bodies.

MECH 301 02(1-2-0). Engineering Design III. S. Prerequisite: CIVE 360; MECH 202 with a C or better or concurrent registration; MECH 342 with a C or better.

Computer-aided engineering tools FEA and CFD for analysis and prediction of robustness and performance of mechanical components and assemblies.

MECH 302 03(3-0-0). Engineering Design III. S. Prerequisite: CIVE 360 with a C or better; MECH 202 with a C or better; MECH 324 with a C or better; MECH 337 with a C or better; MECH 342 with a C or better.

Design fundamentals, including design processes, project planning, creativity, manufacturing, and human factors.

MECH 303 03(3-0-0). Energy Engineering. F. Prerequisite: CBE 310 or ECE 341 or MECH 237 or MECH 339 or PH 361.

Energy generation (coal, oil, natural gas, solar, wind, geothermal, hydropower, tidal, biofuel, nuclear), conversion, distribution, storage, efficiency.

MECH 307 04(3-3-0). Mechatronics and Measurement Systems. F. S. Prerequisite: CIVE 261 with a C or better; ECE 204 with a C or better; MATH 340 with a C or better; MECH 231 with a C or better.

Mechatronic and measurement system analysis and design; applied electronics; data acquisition; microcontroller interfacing and programming. ($)

MECH 324 04(3-2-0). Dynamics of Machines. F. Prerequisite: CIVE 261; MATH 340 with a C or better or concurrent registration.

Analysis and synthesis of moving machinery. ($)

MECH 325 03(3-0-0). Machine Design. S. Prerequisite: CIVE 360 with a C or better.

Design of mechanical components to avoid failure during operation. Stress analysis, failure theories, and specific mechanical components in design context.

MECH 331 04(3-2-0). Introduction to Engineering Materials. F, S. Prerequisite: CHEM 111 with a C or better; CHEM 112 with a C or better; MECH 231 with a C or better.

Characteristics of metallic, plastic, and ceramic material; basic principles which relate properties of materials to their atomic and microstructure. ($)

MECH 337 04(3-0-1). Thermodynamics. F. Prerequisite: MATH 261 with a C or better; PH 141 with a C or better.

First and second laws, property relationships, characteristic functions, thermodynamics solver, various thermodynamics applications.

MECH 338 01(0-3-0). Thermosciences Laboratory. F, S. Prerequisite: MECH 337 with a C or better; MECH 342 with a C or better.

Experimental methods in heat transfer, fluid flow, and thermodynamics. ($)

MECH 342 03(3-0-0). Mechanics and Thermodynamics of Flow Processes. F. Prerequisite: MATH 340 with a C or better; MECH 337 with a C or better or concurrent registration; PH 141 with a C or better.

Engineering details of viscous flow with losses, measurements, compressibility, turbomachinery, convective heat transfer.

MECH 344 03(3-0-0). Heat and Mass Transfer. S. Prerequisite: MECH 342 with a C or better.

Transport and rate processes, conduction, convection, and radiation.

MECH 402 03(2-2-0). Mechanical Engineering Experimental Analysis. F. Prerequisite: MECH 307 with a C or better; MECH 324 with a C or better; MECH 331 with a C or better; MECH 338 with a C or better.

Analysis of large data sets associated with mechanical engineering experimentation; optimization, variability; design of experiments.

MECH 407 03(3-0-0). Laser Applications in Mechanical Engineering. F. Prerequisite: PH 142.

Review of electromagnetic waves; applications of lasers and optics in engineering, e.g. position sensing, flowfield measurement, cutting and welding.

MECH 408 03(2-0-1). Applied Engineering Economy. F. Prerequisite: MATH 161. Credit not allowed for both MECH 408 and MECH 410.

The basic principles and calculations of engineering economy with application to real problems, including energy and the environment.

MECH 410 01(0-0-1). Engineering Economy Principles/Calculations. F, S. SS. Prerequisite: MATH 161. Offered as an online course only.

Basic principles and calculation of engineering economy. (NT-O)

MECH 411 03(3-0-0). Manufacturing Engineering. S. Prerequisite: CIVE 360; MECH 331.

Casting, forming, machining, and welding processes used in manufacturing operations. (NT-V)

Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B blended, C correspondence, O online, T telecourse, V videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
Feedback and forward loop control design and simulation; discrete time and frequency domain methods with implementation considerations. ($)

MECH 424 03(3-0-0). Advanced Dynamics. S. Prerequisite: MECH 324.
Kinematics and dynamics of rigid bodies. Hamilton’s principle and Lagrange’s equations for lumped parameter extended bodies and distributed systems.

MECH 425 04(3-2-0). Mechanical Engineering Vibrations. S. Prerequisite: MECH 324.
Vibrations applied to rotating machinery and structures. SDOF and MDOF systems, mode shapes, vibration measurements and control. Hands-on lab.

MECH 431 03(3-0-0). Metals and Alloys. F. Prerequisite: MECH 331.
Engineering metals and alloys, modification of properties by alloying, plastic deformation, and heat treatment. Fundamentals of physical metallurgy. (NT-V)

*MECH 432 03(3-0-0). Engineering of Nanomaterials. F. Prerequisite: MECH 331.
Structure, properties and processing of extremely small (10^-9 m) synthetic and natural materials.

MECH 437 03(2-0-1). Internal Combustion Engines. F. Prerequisite: MECH 344.
Application of thermodynamics, heat transfer, and fluid mechanics to internal combustion engines.

MECH 460 03(3-0-0). Aeronautics. S. Prerequisite: MECH 342.
Thermodynamics and fluid mechanics principles applied to the mechanics, aerodynamics, performance, stability, and control of airplanes.

MECH 463 03(3-0-0). Building Energy Systems. S. Prerequisite: MECH 344.
Comfort, psychrometrics, loads, solar radiation, heating and cooling system design, transport, solar system design, economics.

MECH 468 03(3-0-0). Space Propulsion and Power Engineering. F. Prerequisite: ECE 204; MECH 337; MECH 342.
Orbital mechanics and space missions; chemical, nuclear, and electric rockets; nuclear heat sources; thermoelectric and photovoltaic devices.

MECH 470/BIOM 470 03(3-0-0). Biomedical Engineering. F. Prerequisite: MATH 155 or MATH 160; PH 141. Credit not allowed for both MECH 470 and BIOM 470.
Engineering application in human/animal physiology, diagnosis of disease, treatment, rehabilitation, human genome manipulation.

MECH 486A-B 04(1-12-0). Engineering Design Practicum.
Capstone engineering design project; transition experience to the mechanical engineering profession in industry and graduate education.
A) Practicum I. F. Prerequisite: MECH 301 with a C or better; MECH 325 with a C or better; MECH 344 with a C or better; MECH 402 with a C or better or concurrent registration. (S) B) Practicum II. S. Prerequisite: CIVE 363 with a C or better; MECH 338 with a C or better; MECH 486A with a C or better. (S)

MECH 495 Var. Independent Study.

MECH 498A-B 04(1-12-0). Engineering Research Practicum.
Capstone engineering research project; transition experience to graduate research and education. A) Fall. Prerequisite: MECH 301 with a C or better; MECH 325 with a C or better; MECH 402 with a C or better or concurrent registration. B) Spring. Prerequisite: MECH 338 with a C or better; MECH 498A with a C or better.

MECH 501 03(0-0-3). Engineering Project and Program Management. SS. Prerequisite: Admission to the M.E. program.
Offered only as an online course through Division of Continuing Education.
Engineering program management fundamentals, program planning and control strategies, risk assessment, work breakdown structures and costing options. (NT-O)

MECH 502 03(3-0-0). Advanced/Additive Manufacturing Engineering. S. Prerequisite: MECH 202; MECH 331.
Materials, controls, and mechanics applied to additive manufacturing; rapid prototyping; direct digital manufacturing.

MECH 503 03(0-0-3). Engineering Maintenance Process. SS. Prerequisite: Admission to the M.E. program. Offered only as an online course through Division of Continuing Education.
Design for engineering maintainability development and management of effective maintenance programs applicable to typical industrial environments. (NT-O)

MECH 504 03(0-0-3). Specification and Procurement of Engr Systems. SS. Prerequisite: Admission to the M.E. program. Offered only as an online course through Division of Continuing Education.
Specification and procurement of engineering systems, including contracts, legal, ethics and Statement of Work development. (NT-O)

*MECH 507 03(3-0-0). Laser Diagnostics for Thermosciences. S. Prerequisite: PH 142.
Basics of optics, spectroscopy, and lasers. Physics and applications of laser diagnostic techniques used in thermosciences. (NT-O)

MECH 508 03(0-0-3). Design and Analysis in Engineering Research. S. Prerequisite: MATH 340; STAT 315.
Design, model building, analysis and reporting in engineering and manufacturing research and experimentation. (NT-O/V)

MECH 511 03(3-0-0). Engineering Decision Making under Uncertainty. S. Prerequisite: MECH 410; STAT 315.
Systems engineering and engineering economic methodologies for evaluating interdependent capital expenditure proposals under incomplete information. (NT-O)

MECH 512 03(3-0-0). Reliability Engineering. F. Prerequisite: MECH 513; STAT 315.
Models to predict time to failure of mechanical or electronic devices, reliability data analysis and case studies. (NT-O/V)

MECH 513 03(3-0-0) Simulation Modeling and Experimentation. S. Prerequisite: STAT 315.
Logic/analytic modeling in simulations. Event and transient entity-based simulation languages. Simulation design, experimentation and analysis. (NT-O)

*MECH 514 03(2-2-0). Manufacturing and Robotic Systems. S. Prerequisite: MECH 417.
Examination of electromechanical systems of manufacturing applications and robotics.

MECH 520 03(3-0-0). Finite Element Analysis in Mechanical Engr. S. Prerequisite: CIVE 360; MATH 340.
Application of FEA as a tool to analyze mechanical engineering problems.

MECH 523 03(3-0-0). Vehicle Energy Storage System Design. S. Prerequisite: MECH 331.
Develop vehicle system designs utilizing electrochemical energy storage systems such as batteries and capacitors.

MECH 524 03(3-0-0). Principles of Dynamics. F. Prerequisite: MECH 324.
Kinematics and dynamics of rigid body motion; Lagrangian and Hamiltonian formulations of mechanics; applications to engineering problems. (NT-V)

*MECH 525/BIOM 525 03(3-0-0). Cell and Tissue Engineering. S. Prerequisite: BC 351 or BMS 300 or BMS 500/NB 501 or BZ 310.

°Alternate year offering (odd); * Alternate year offering (even); $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCCSubcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
Credit allowed for only one of the following: BIOM 525, CBE 525, and MECH 525.

Cell and tissue engineering concepts and techniques with emphasis on cellular response, cell adhesion kinetics, and tissue engineering design. (S, NT-O)

MECH 526 03(3-0-0). Fundamentals of Vehicle Dynamics. S. Prerequisite: MECH 324.
Kinetics of vehicle suspensions, steady-state and transient stability and control, tires, wheel and suspension geometry and loads, dampers, steering.

MECH 527 03(3-0-0). Hybrid Electric Vehicle Powertrains. F. Prerequisite: MECH 307.
Hybrid powertrains and modeling including vehicle dynamics, internal combustion engine, electric motor, energy storage, and control.

°MECH 529 03(3-0-0). Advanced Mechanical Systems. S. Prerequisite: MECH 307.
Modeling, analysis, and synthesis of practical mechanical devices in which dynamic response is dominant consideration.

MECH 530 03(3-0-0). Advanced Composite Materials. F. Prerequisite: CIVE 360; MECH 331.
Materials aspects of advanced composite constituents and how their combination yields synergistic results. (NT-V)

MECH 531/BIOM 531 03(3-0-0). Materials Engineering. S. Prerequisite: MECH 331 or MECH 431. Credit not allowed for both MECH 531 and BIOM 531.
Selection of structural engineering materials by properties, processing, and economics; materials for biomedical and biotechnology applications. (NT-O)

MECH 532/BIOM 532 03(3-0-0). Materials Issues in Mechanical Design. F. Prerequisite: MECH 331. Credit not allowed for both MECH 532 and BIOM 532.
Failure mechanisms from materials viewpoint with emphasis on use in design. Fracture, creep, fatigue, and corrosion. (NT-V/O)

+MECH 536 03(3-0-0). Materials Applications in Renewable Energy. F. Prerequisite: MECH 331. Required field trips.
Materials science applied to renewable energy; transmission and storage; study of solar cells, fuel cells, Li-ion batteries and related technologies.

MECH 538 03(3-0-0). Mechanical Engineering Thermodynamics. F. Prerequisite: MECH 337.
First and second laws of thermodynamics applied to engineering devices and systems. Introduction to availability, energy, and lost work analysis.

MECH 539 03(3-0-0). Advanced Fluid Mechanics. F. Prerequisite: MECH 342 or CIVE 300.
Properties, kinematics; vorticity; exact solutions; instability; boundary layers; turbulence; wakes; compressible flow; supersonic flow; shockwaves.

°MECH 543 03(3-0-0). Biofluid Mechanics. S. Prerequisite: (BMS 300 and PH 121) or (BMS 300 and PH 141) or BMS 420 or CIVE 300 or MECH 342.
Fluid dynamic concepts for understanding fluid motion in living organs/organisms; advanced research applications.

MECH 544 03(3-0-0). Advanced Heat Transfer. S. Prerequisite: MECH 344.
Fundamentals and engineering applications of heat transfer including conduction, convection, and radiation.

°MECH 551 03(3-0-0). Physical Gas Dynamics I. F. Prerequisite: MECH 342.
Characteristics of real gases in reacting and nonequilibrium systems; equilibrium air; statistical mechanics; chemical thermodynamics.

°MECH 552 03(3-0-0). Applied Computational Fluid Dynamics. F. Prerequisites: CBE 331 or CIVE 300 or MECH 342.
Introductory theory of CFD, formulation of engineering problems for CFD analyses, mesh generation, solver settings, and postprocessing.

MECH 555 03(3-0-0). Ceramic Materials Engineering. S. Prerequisite: MECH 331.
Ceramic materials engineering and its application to materials technologies.

MECH 557 03(3-0-0). Turbomachinery. S. Prerequisite: MECH 337; MECH 342.
Application of fundamental principles of thermodynamics and fluid mechanics to turbomachinery.

°MECH 558 03(3-0-0). Combustion. F. Prerequisite: MECH 342.
Combustion processes: explosions, detonations, flame propagation, ignition, generation of pollutants in moving and stationary energy conversion systems. (NT-O)

°MECH 561 04(4-0-0). Space Propulsion and Mission Analysis. S. Prerequisite: MATH 340.
Analysis of space flight missions and propulsion systems.

°MECH 564 03(3-0-0). Fundamentals of Robot Mechanics and Controls. S. Prerequisite: MECH 417.
Kinematics of robots, controls for robots.

°MECH 567 03(3-0-0). Broad-Beam Ion Sources. S. Prerequisite: MATH 340.
Physical processes in broad-beam electron-bombardment ion sources for space propulsion and ion machining applications.

°MECH 569/*ECE 569 03(3-0-0). Micro-Electro-Mechanical Devices. S. Prerequisite: ECE 331 with a C- or better or MECH 344. Credit not allowed for both MECH 569 and ECE 569.
Micro-electro-mechanical processes and applications in sensors, optics, and structures. (NT-O)

MECH 570/BIOM 570 03(3-0-0). Bioengineering. S. Prerequisite: MECH 307; MECH 324. Credit not allowed for both MECH 570 and BIOM 570.
Physiological and medical systems analysis using engineering methods including mechanics, fluid dynamics, control, electronics, and signal processing. (NT-O)

MECH 573/BIOM 573 03(3-0-0). Structure and Function of Biomaterials. S. Prerequisite: MECH 351. Credit not allowed for both MECH 573 and BIOM 573.
Structure-function relationships of natural biomaterials; application to analysis of biomimetic materials and biomaterials used in medical devices. (NT-V/O)

MECH 575 03(3-0-0). Solar and Alternative Energies. F. Prerequisite: MECH 337; MECH 342; MECH 344.
Solar radiation, flat-plate collectors, energy storage, space heating and cooling, power generation, applications, simulation.

°MECH 609 03(1-0-2). Experimental Optimization. S, SS. Prerequisite: STAT 315.
Application of design of experiments, response surface and optimization methods to experimental investigations. (NT-O)

MECH 626 03(3-0-0). Race Car Vehicle Dynamics. F. Prerequisites: CIVE 562; MECH 524; MECH 526.
Quasi-static, steady-state and transient analyses of racing suspensions including modal analysis in roll, pitch, heave, yaw and warp.

°MECH 628 03(3-0-0). Applied Fracture Mechanics. S. Prerequisite: CIVE 560.
Stress distribution near cracks; energy criteria for fracture; design criteria; fracture toughness testing. (NT-T)

Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
°MECH 644 03(3-0-0). Conduction Heat Transfer. F. Prerequisite: MECH 344.
Linear and nonlinear, isotropic and nonisotropic conduction; analytical, numerical techniques; inverse methods.

*MECH 645 03(3-0-0). Radiation Heat Transfer. S. Prerequisite: MECH 344.
Radiation fundamentals; properties; spectral, directional variations; transfer between surfaces; participating media; numerical, Monte Carlo methods. (NT-V)

°MECH 646 03(3-0-0). Convection Heat Transfer. S. Prerequisite: MECH 344.
Fundamentals; conservation, constitutive equations; second law; forced, free convection; internal, external flows; laminar, turbulent flows. (NT-V)

MECH 650 03(3-0-0). Computational Materials from First Principles. F. Prerequisite: CHEM 461 or MECH 331; CHEM 474 or MECH 337 or PH 361; MATH 340.
Ab initio calculations for molecules, clusters, solutions and solid state materials. Ab initio and classical molecular dynamics simulations.

MECH 651 03(3-0-0). Computational Gas Dynamics. F., Prerequisite: MATH 530; written consent of instructor.
Numerical methods for inviscid and viscous compressible flow.

Asymptotic structure of flames, limit phenomena and multi-phase combustion.

°MECH 661 03(3-0-0). Theory/Control of Internal Combustion Engines. S. Prerequisite: MECH 437.
Theory and applications of internal combustion engines. Alternative fuels, engine control, and pollution prevention.

°MECH 671/BIOM 671 03(3-0-0). Orthopedic Tissue Biomechanics. F. Prerequisite: CIVE 560. Credit not allowed for both MECH 671 and BIOM 671 or for MECH 671/BIOM 671 and MECH 571/BIOM 571.
Linear elastic, finite deformation, and viscoelastic theories applied to the mechanical behavior of orthopedic tissues (bone, tendon, cartilage).

MECH 676 03(2-2-0). Building Energy Design. S. Prerequisite: MECH 575. Credit not allowed for both MECH 676 and MECH 463.
Design of space heating and cooling systems. Solar thermal electric power systems, industrial and agricultural process heat.

MECH 684 Var. Supervised College Teaching.

MECH 692 Var. Seminar. F, S.

MECH 695A-M Var. Independent Study.


°MECH 721 Var. Special Topics in Design and Manufacturing. S. Prerequisite: MECH 514 or MECH 620.
Special topics in engineering design and manufacturing.

*MECH 727 03(3-0-0). Continuum Mechanics. S. Prerequisite: CIVE 562.

Mechanics of continuous media; cartesian tensors, vector analysis, kinematics of deformation, balance of momentum, mass and energy, constitutive equations.

MECH 729 03(3-0-0). Special Topics in Mechanics and Materials. S. Prerequisite: MECH 524 or MECH 530.
Advanced topics in discipline of engineering mechanics and materials; associated analysis and manufacturing techniques.

MECH 784 Var. Supervised College Teaching.


°Alternate year offering (odd); * Alternate year offering (even); + Field trips; S Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
### MANAGEMENT COURSES

**Department of Management**  
**College of Business**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 301 03(3-0-0)</td>
<td>Supply Chain Management.</td>
<td>F, S, SS. Prerequisite: Sophomore standing.</td>
</tr>
<tr>
<td></td>
<td>Concept of value-driven supply chains; design and management of effective supply chains; emphasis on current practice and recent trends.</td>
<td></td>
</tr>
<tr>
<td>MGT 305 03(3-0-0)</td>
<td>Fundamentals of Management.</td>
<td>F, S, SS. Prerequisite: None. Credit not allowed for both MGT 305 and MGT 320.</td>
</tr>
<tr>
<td></td>
<td>Managerial process of planning, directing, and controlling inputs of an organization. Analysis, decision making, and survey of research literature. (NT-O)</td>
<td></td>
</tr>
<tr>
<td>MGT 310 03(3-0-0)</td>
<td>Human Resource Management.</td>
<td>F, S. Prerequisite: None. Principles and practices of employee management including hiring, development, compensation, and employee relations.</td>
</tr>
<tr>
<td>MGT 320 03(3-0-0)</td>
<td>Contemporary Management Principles/Practices.</td>
<td>F, S, SS. Prerequisite: BUS 300; AREC 202 or ECON 202; MATH 141 or MATH 153 or MATH 160. Credit not allowed for both MGT 320 and MGT 305. Principles of management in combination with practices of the new economy to achieve managerial goals. (NT-O)</td>
</tr>
<tr>
<td>MGT 325 03(3-0-0)</td>
<td>Leadership Communication.</td>
<td>F. Prerequisite: BUS 300. Interpersonal communication for leaders and managers in organizational settings.</td>
</tr>
<tr>
<td>MGT 330 03(3-0-0)</td>
<td>Corporate Innovation and Entrepreneurship.</td>
<td>F, S. Prerequisite: ACT 210. Business Administration, Mechanical Engineering, Agriculture Business, Apparel and Merchandising, Design and Merchandising, Apparel Design and Production, Biomedical Engineering, Computer Science majors; declared LEAP minors; and LEAP graduate students only. Process of creating new ventures and generating innovations within existing organizations.</td>
</tr>
<tr>
<td>MGT 340 03(3-0-0)</td>
<td>Entrepreneurship in the Contemporary World.</td>
<td>F, S. Prerequisite: None. Concepts of entrepreneurship and role of entrepreneurs in the economy.</td>
</tr>
<tr>
<td>MGT 350 03(3-0-0)</td>
<td>Employment Relations: The Legal Environment.</td>
<td>F, S. Prerequisite: None. Legal principle and policy issues arising from the employment relationship.</td>
</tr>
<tr>
<td>MGT 360 03(3-0-0)</td>
<td>Social and Sustainable Venturing.</td>
<td>S. Prerequisite: Junior standing or higher. Entrepreneurship and economic opportunities in the transition to a socially and ecologically sustainable global economy.</td>
</tr>
<tr>
<td>MGT 374 03(3-0-0)</td>
<td>Total Rewards and Performance Management.</td>
<td>F. Prerequisite: MGT 310. Principles and best practices for the strategic design and implementation of compensation and performance management systems.</td>
</tr>
<tr>
<td>MGT 375 03(3-0-0)</td>
<td>Advanced Supply Management.</td>
<td>F. Prerequisite: MGT 301. Advanced design of purchasing and supply management within global supply chains.</td>
</tr>
<tr>
<td>MGT 376 03(3-0-0)</td>
<td>Advanced Service and Manufacturing Operations.</td>
<td>S. Prerequisite: MGT 301. Advanced concepts for the management of operations in service and manufacturing companies.</td>
</tr>
<tr>
<td>MGT 377 03(3-0-0)</td>
<td>Advanced Logistics.</td>
<td>F, S. Prerequisite: MGT 301; junior standing. Advanced design and management of logistics and distribution operations within global supply chains.</td>
</tr>
<tr>
<td>MGT 410 03(3-0-0)</td>
<td>Leadership and Organizational Behavior.</td>
<td>F, S. Prerequisite: MGT 305 or MGT 320. Behavior of people and groups as members of organizations.</td>
</tr>
<tr>
<td>MGT 411 03(3-0-0)</td>
<td>Leading High Performance Teams.</td>
<td>F, S. Prerequisite: MGT 305 or MGT 320. Design, management, and leadership of teams in organizational settings.</td>
</tr>
<tr>
<td>MGT 425 03(3-0-0)</td>
<td>Organizational Communication Strategies.</td>
<td>S. Prerequisite: FIN 300 or FIN 305; MGT 305 or MGT 320; MKT 300 or MKT 305. Strategic communications in organizations; contribution that organizational members make whether acting as individual or group communicators.</td>
</tr>
<tr>
<td>MGT 430 03(3-0-0)</td>
<td>Leadership and Social Responsibility.</td>
<td>S. Prerequisite: None. Social responsiveness of managers as they face expectations in the firm's internal and external environment.</td>
</tr>
<tr>
<td>MGT 440 03(3-0-0)</td>
<td>New Venture Management.</td>
<td>S. Prerequisite: Written consent of instructor. Theories and skills necessary for managing startup and existing small firms.</td>
</tr>
<tr>
<td>MGT 450 02(2-0-0)</td>
<td>Biomedical Entrepreneurship I.</td>
<td>S. Prerequisite: BIOM 470/MECH 470 or MGT 340. Commercialization process for biomedical inventions; market and competitor analysis, regulations, patents; preliminary feasibility study.</td>
</tr>
<tr>
<td>MGT 468 03(3-0-0)</td>
<td>Negotiating Globally.</td>
<td>S. Prerequisite: MGT 305 or MGT 320 or International Studies majors. Characteristics and process of negotiation in a global context.</td>
</tr>
<tr>
<td>MGT 470 03(3-0-0)</td>
<td>Managerial Decisions-Issues and Analysis.</td>
<td>F, S. Prerequisite: MGT 301; MGT 305 or MGT 320. Investigation and application of managerial decision-making processes and methods to solve problems in business functions.</td>
</tr>
<tr>
<td>MGT 471 03(3-0-0)</td>
<td>Micro Issues in Supply Chain Management.</td>
<td>F. Prerequisite: MGT 301. Managing the supply function (locally or globally) and the productive flow of materials in goods and services-producing supply chains.</td>
</tr>
<tr>
<td>MGT 472 03(3-0-0)</td>
<td>Macro Issues in Supply Chain Management.</td>
<td>S. Prerequisite: MGT 301. Application of analytical and computer-based tools in the analysis and improvement of supply chains with variable demand and supply.</td>
</tr>
<tr>
<td>MGT 473 03(3-0-0)</td>
<td>Employment Relations: Labor and Manpower.</td>
<td>F, S. Prerequisite: None. Managerial decision making and action in labor-management relations as affected by labor legislation and administrative practices.</td>
</tr>
<tr>
<td>MGT 474 03(3-0-0)</td>
<td>Human Resource Planning and Development.</td>
<td>S. Prerequisite: MGT 310. Human resource planning, recruitment, selection, training, and development.</td>
</tr>
<tr>
<td>MGT 475 03(3-0-0)</td>
<td>International Business Management.</td>
<td>F, S. Prerequisite: FIN 300 or FIN 305; MGT 305 or MGT 320; MKT 300 or MKT 305.</td>
</tr>
</tbody>
</table>

°Alternate year offering (odd); * Alternate year offering (even); + Field trips; $ Special course fee; NT Approved for nontraditional course offering (B = blended, C = correspondence, O = online, T = telecourse, V = videotape/DVD); GT-subcode = State Guarantee Transfer course and AUCC-subcode = All University Core Curriculum, where the subcode refers to the specific category the course fulfills. (See Introduction for more information.)
Multinational corporations: their scope, activities, managerial problems and decisions.

MGT 476 03(3-0-0). Negotiation and Conflict Management. F, S. Prerequisite: MGT 305 or MGT 320.
Principles and practice of negotiation and conflict management including bargaining as a social and managerial activity.

MGT 478 03(3-0-0). Global Supply Chain Management. S. Prerequisite: Select two courses from among MGT 375, MGT 376, MGT 377.
Principles and best practices for the strategic design and implementation of global supply chains.

MGT 486 03(1-4-0). Practicum in Supply Chain Management. S. Prerequisite: MGT 375; MGT 377; written consent of instructor.
Research and recommend solutions to “real world” supply chain management problems.

MGT 487 Var. Internship.

MGT 495 Var. Independent Study.

MGT 496 Var. Group Study.

MGT 498 Var[1-3]. Research.

MGT 600 03(3-0-0). Manufacturing Process and Systems Design. S. Prerequisite: BUS 620; BUS 625.
Strategic understanding of alternate manufacturing processes and systems design support needed to manage those processes.

MGT 601/CIS 601 03(3-0-0). Enterprise Computing and Systems Integration. F. Prerequisite: Admission to the M.B.A., M.C.I.S., M.S.B.A., or M.E. program. Credit not allowed for both MGT 601 and CIS 601.
Integrated extended enterprise planning and execution systems concepts including ERP, CRM, SCM, MRPII, business processes, front/back office systems. (NT-O)

MGT 610 03(3-0-0). Strategic Human Resource Management. S. Prerequisite: Admission to masters program.
Strategic issues associated with recruiting, staffing, evaluating, compensating, and developing employees; leadership issues associated therein.

MGT 611 03(3-0-0). Management of Organization Development. S. Prerequisite: MGT 305 or MGT 320.
Methods for managing organizational change.

MGT 612 03(3-0-0). Managing in a Global Context. F. Prerequisite: Admission to GSSE program.
Global management and HR development issues/practices. Cross-cultural issues in organization behavior, recruitment, selection, training, compensation.

MGT 620 03(3-0-0). Management. F, S. Prerequisite: None.
Practices, policies, philosophies, and behavior.

MGT 625 03(3-0-0). Managerial Communication Practices. F. Prerequisite: Admission to a masters program in business.
Internal, external, and managerial communication. Managerial speaking and writing skills enhancement.

MGT 640 02(2-0-0). Supply Chain Management Strategies. F. Prerequisite: MGT 600.
How to create an effective supply chain management system to establish an efficient network for supplying final consumption.

MGT 665 02(2-0-0). Supply Chain Development and Management. S. Prerequisite: Written consent of instructor.
This course teaches the development and management of the global supply chain that plans, sources, makes and delivers an organization’s products. (NT-O)

MGT 667 03(3-0-0). Global Social Sustainable Entrepreneurship. F, S. Prerequisite: Written consent of instructor.
Global challenges-poverty, environmental degradation, public health, agriculture. Role of entrepreneurial management in private and public sector. (NT-O)

MGT 668 03(3-0-0). New Venture Development for Social Enterprise. F. S. Prerequisite: Written consent of instructor.
Early stages of a new venture, including creation of business plan. Additional study of social entrepreneurship and sustainable business strategies. (NT-O)

MGT 671 03(3-0-0). Labor Management Relations. S. Prerequisite: None.
Collective bargaining process, administration of contract, and impact of public policy on industrial relations.

MGT 675 03(3-0-0). Service Operations/Supply Chain Management. S. Prerequisite: Admission to a master’s program in business.
Supply chain management (SCM) and operations function. Primary focus on service sector.

MGT 679 03(3-0-0). Principles of Strategic Management. S. Prerequisite: Admission to a master’s program in business.
Processes through which firms choose and implement strategies. Formulation and implementation of strategic management process in variety of industries.

MGT 695 Var. Independent Study.

MGT 696 Var. Group Study.