

GAM 385 INTRODUCTION TO GAME PROGRAMMING IN JAVA

Java as a programming language is an important alternative to C++. Especially, games for wireless mobile devices are increasingly written in Java. This course discusses Java2 API and graphics development with Java 2D and 3D. Such topics like animation techniques and scene management, creating client server architectures will be implemented in the context of game programming. PREREQUISITE(S): GAM 374

GAM 386 GAME DEVELOPMENT FOR MOBILE DEVICES

Mobile devices are becoming one of the most important hardware for game players. In this course we introduce major mobile hardware platforms and their operating systems. Issues related to game design for handheld devices will be presented. The strong technical component of this course includes game programming for a handheld device with a wireless internet connection enabling multiplayer game architecture. Such concepts as: building a custom game library, multiplayer game programming, infrared, wireless and socket communication between devices will be discussed. PREREQUISITE(S): GAM 374

GAM 390 MULTIPLAYER GAME DEVELOPMENT

Multiplayer games were made possible by the advances in networking technology, increases in processor speed and data storage. Today, the majority of successful game titles are equipped with a multiplayer capability. This technical course discusses the fundamental aspects of multiplayer game development such as: design techniques, architectures, client and server side implementation, databases. PREREQUISITE(S): GAM 374

GAM 394 GAME DEVELOPMENT PROJECT I

One of the most important characteristics of a game programmer is the ability to work on complex game development projects. An ethical dimension of games development will be covered. Issues related to ethical decision making and ethical responsibility of game developers will be a central theme of this course. Educational aspects of game playing will be emphasized. This course gives students an opportunity to utilize knowledge obtained in this degree program. An outcome of this class will be a computer game design and implementation. This work will constitute a major part of the project portfolio that students have developed during their study. Majority of the course work will be conducted in a games development and graphics labs. Lectures on special topics will be given. The course is designed to span two quarters. PREREQUISITE(S): GAM 374 (Senior standing)

GAM 395 GAME DEVELOPMENT PROJECT II

Continuation of GAM 394. PREREQUISITE(S): GAM 394

GEOGRAPHY**GEO 100 THE NATURE OF GEOGRAPHY**

An introduction to the epistemology of geographic thought, and the methodologies of the discipline of geography.

GEO 101 EARTH'S PHYSICAL LANDSCAPE: LITHOSPHERE, HYDROSPHERE, BIOSPHERE

An introduction to the spatial aspects of the three related systems of the Lithosphere (solid earth), Hydrosphere (water), and Biosphere (living organisms).

GEO 102 EARTH'S PHYSICAL LANDSCAPE: INTRODUCTION TO WEATHER AND CLIMATE

An introduction to the dynamic spatial aspects of the atmosphere. Lab component included.

GEO 105 ELEMENTS OF GEOLOGY

A description of the earth's materials and structures and an analysis of the mechanisms responsible for shaping them.

GEO 120 JUSTICE, INEQUITY AND THE URBAN ENVIRONMENT

A theoretical and applied investigation of issues of justice and inequity in the urban environment, with particular focus on the role of urban environmental justice struggles in shaping the politics

and landscape of local communities.

GEO 124 NORTH AMERICA

The United States, Mexico, and Canada serve as the focus of this survey course. Special topics include pre-European North America, European ideology in the new world, "manifest destiny" and U.S. hegemony in the 20th century, and NAFTA.

GEO 133 URBAN GEOGRAPHY

An introduction to the Metropolitan Land-Use and Planning Concentration, and an exploration of the function, form and appearance of cities and systems of cities. The course explores the connections between social and material changes in cities in a variety of geographical scales. The course is rich in theory, it focuses on the American urban experience, and teaches research skills through archival and field work.

GEO 160 REGIONAL INEQUITY

An exploration of the meanings and mechanisms of development and its impacts from a spatial perspective. Comparisons are drawn between developmental experiences and cultural impacts in Africa, Asia, Latin America, and Oceania.

GEO 170 EARTH'S CULTURAL LANDSCAPE (SELF, SOCIETY AND THE MODERN WORLD)

A survey of the global patterns and processes which create our world's cultures. Several cultural realms such as language, religion, folk and popular culture, ethnicity, and the built environment serve as foci for a deepened understanding of the world and its people.

GEO 200 CITIES AND THE ENVIRONMENT

This course focuses on the interactions between urban areas and the environment. It is a discussion of the physical setting of cities: the water, energy, air and waste disposal needs of urban areas; and the effects of urban areas on the air, water and land environment.

GEO 201 GEOPOLITICS (SELF, SOCIETY AND THE MODERN WORLD)

A survey of theories of international relations and geopolitics, the course explores the security dilemmas and types of collective action that mold international affairs in the Post-Cold War era. Cases from Western Europe, the Balkans, the Middle East and the Trans-Caucasus region provide opportunities to assess theoretical approaches and profile the United States' security landscape for the new millennium.

GEO 206 BOUNDARIES AND IDENTITIES

A critical survey of the manner in which social, political, ethnic, gender and racial identities are being constructed by modernity and post-modernity.

GEO 210 ENVIRONMENTAL CONSERVATION

This course explores society-environment relations in case studies drawn from around the world. The course focuses on forces destructive to habitat and biospheres, species loss, global warming, and the tension between "modernization" and environmental sustainability.

GEO 211 BIOGEOGRAPHY

Biogeography is the study of the distribution of plants and animals on the earth's surface, and the historical and ecological factors and human activities responsible. It asks questions such as: Why were placental mammals absent from (pre-European) Australia, while marsupials were abundant? How are current plant species' distributions different from those of the past, and what implications does this have for their ability to respond to global changes? Why have islands sustained so many extinctions compared to mainlands? Why are there so many insect species in the tropics and so few at high latitudes? How are humans changing the distribution and abundances of plant and animals? This course explores these and other such questions. The goal is to understand biodiversity patterns and processes across earth, and how this knowledge can help maintain biological communities in human-dominated, 21st century landscapes.

GEO 218 SPAIN AND PORTUGAL: THE IBERIAN IMPACT (UP: EUROPE)

(Formerly GEO 318) An historical-geographical analysis of the Iberian nations with an interdisciplinary focus on global geopolitics, trade, settlement, and cultural characteristics (art, architecture, language and literature, music and religion). This is the only course of its kind

offered in U.S. universities.

GEO 220 THE DYNAMIC OCEAN

Develops the concepts of physical oceanography. Topics include the chemical and physical properties of seawater, the dynamics of ocean currents and circulations, the physics of water waves and tides, the interaction of the ocean with the atmosphere, the formation of coastlines, and the effects of pollution on the ocean.

GEO 225 WEATHER AND CLIMATE

The dynamic atmospheric processes which control day-to-day weather and the longer term processes which determine prevailing climatic conditions are the two principal foci of this course. Special topics include weather systems, climate change, global warming, and human impacts on climate.

GEO 230 TRANSPORTATION ISSUES AND DEVELOPMENT (SELF, SOCIETY AND THE MODERN WORLD)

An overview of the development of transportation systems with major emphasis on current transportation problems on local, national, and transnational scales.

GEO 233 COMPARATIVE URBANISM (UP: INTERCONTINENT/COMPAR)

An investigation of the origins and bases of non-American urban traditions, through the study of the genesis, form, functions, and social-cultural forces that shaped cities such as Paris, St. Petersburg, Istanbul, Calcutta, and Mexico City.

GEO 240 MAPS

The map is the principal tool of the geographer. This course, intended for map-lovers and users alike, explores the history of map-making, map reading and interpretation, image maps, online cartographic resources, and the creation of interactive cartographic texts using the worldwide web. Short field trip required.

GEO 241 GEOGRAPHIC INFORMATION SYSTEMS I (PREREQ(S): ISP 120)

An introduction to the fundamentals of geospatial information processing. Special topics include spatial data types, map design, and animation. Instruction is accomplished through lectures and hands-on computer lab exercises. PREREQUISITE(S): ISP 120.

GEO 242 GEOGRAPHIC INFORMATION SYSTEMS (FORMERLY GEO 342)(SI: QUANTITATIVE) (PREREQ(S): ISP 120)

An introduction to the fundamentals of GIS. Special topics include the capture, processing, manipulation, analysis, and output of geographically referenced information. Instruction is accomplished through lectures and hands-on lab exercises using Arcview GIS. A small lab fee will be charged. PREREQUISITE(S): ISP 120.

GEO 243 REMOTE SENSING (FORMERLY GEO 343) (SI:QUANTITATIVE) (PREREQ(S): ISP 120)

An introduction to the fundamentals of remote sensing, the analysis of the earth through air or space borne sensors. Special topics include image interpretation, image processing, change analysis, environmental monitoring, and photogrammetry. Instruction is accomplished through lectures and hands-on lab exercises using IDRISI. A small lab fee will be charged. PREREQUISITE(S): ISP 120.

GEO 244 ADVANCED GEOGRAPHIC INFORMATION SYSTEMS (PREREQUISITE: GEO 242 OR CONSENT)

Project-driven course requiring a sophisticated understanding of GIS. Urban and environmental applications PREREQUISITE(S): GEO 242 or consent of instructor.

GEO 266 THE WORLD ECONOMY (FORMERLY GEO 366) (SELF, SOCIETY AND THE MODERN WORLD)

A study of the spatial organization of economic activities. Special topics include static and dynamic models of the space economy, the geography of industrialization, spatial divisions of labor, global commodity chains, and industrial development in peripheral economies.

GEO 300 GEOGRAPHICAL INQUIRY

Several perspectives on geographical questioning are presented in seminar format. Geographical researchers present their work with particular emphases on the relations between theoretical frameworks and methodological paradigms.

GEO 310 LAND-USE ETHICS

Through a case study approach, this course examines the ethical dimensions of human use of the land. The ethical foundations of "green" ideological positions are examined, and strategies are proposed for fostering constructive dialogue between individuals or groups holding conflicting positions regarding existing or proposed land uses.

GEO 312 THE MIDDLE EAST AND NORTH AFRICA

A basic survey of the physical, cultural, economic, and political geography of the countries of northern Africa and Western Asia. The course traces the human geographical impacts of Arabic, Turkish, and Persian civilizations, as well as the manner in which Islam, nationalism, statehood, and global politics are shaping the region today.

GEO 313 AFRICA: A CONTINENT IN TRANSITION

A geographic survey of the fifty countries of Sub-Saharan Africa, with special emphasis on current aspects of their ethnic, economic, and geopolitical differences.

GEO 314 SOUTH AND SOUTHEAST ASIA

Key characteristics of the physical, cultural, economic and political geography, and international relations of India, Pakistan, Thailand, the Philippines, and other countries in the region.

GEO 315 ASIA'S PACIFIC RIM

A survey course focused upon key geographical factors contributing to the emergence of Japan as an international economic leader, and the rapid development of the People's Republic of China, Taiwan, Hong Kong, and South Korea, among others, as global economic players.

GEO 316 THE EUROPEAN UNION

An interdisciplinary study of European integration following WWII, with special emphases on the political philosophy, the geopolitical basis for the block formation, the institutional structure, the evolution of policies, and the future development of the European Union. The course nurtures research and presentation skills through simulations of the European Commission and Council.

GEO 317 POST SOVIET EASTERN EUROPE AND THE RUSSIAN REALM

A survey of the physical, political, economic and cultural geography of Central and Eastern Europe, Russia, and the other former republics of the Soviet Union. Special attention is given to the post-Cold War period.

GEO 321 CHICAGO: SPATIAL ANATOMY OF A METROPOLIS (TRANSPORTATION FEE)

Extensive field trips, site visits and discussions with technocrats, politicians, developers and business leaders of Chicago make possible the sophisticated exploration of Chicago as "world city" and the city of neighborhoods. (Transportation fee required.)

GEO 326 LATIN AMERICA AND THE CARIBBEAN

An analysis of the social, environmental, cultural, economic, and political factors affecting this vast region.

GEO 327 SOUTH AMERICA

An analysis of the physical, cultural, economic, and political factors affecting the geography of that continent's regions and countries.

GEO 333 CITY PROBLEMS AND PLANNING

An introduction to the development of urban design and futuristic models of cities, emphasizing the role of city planning in preventing or solving urban problems.

GEO 350 WORLD OF WINE (MATERIAL FEE) (NOTE: STUDENTS MUST BE 21 YRS. OLD)

An analysis of the geographical factors that influence the global production and distribution of wine. Students must be over 21 years of age. Material fee required, payable on the first day of class. PREREQUISITE(S): Consent of instructor.

GEO 376 POPULATION GEOGRAPHY

An introduction to the study of population demographics from the spatial perspective of human geography. Populations are studied in several contexts and at scales ranging from local to national. Geographic information systems (GIS) are used to analyze populations at the urban scale.

GEO 391 RESEARCH TECHNIQUES

An introduction to basic methods and analytical techniques in geography. Includes quantitative and qualitative field and lab techniques which can be applied to the analysis of spatial phenomena.

GEO 395 SEMINAR IN SELECTED TOPICS

Upper-division seminar exploring selected geographical issues.

GEO 398 INDEPENDENT READING AND RESEARCH

Independent reading and research.

GEO 399 INDEPENDENT STUDY (PREREQ(S): JUNIOR OR SENIOR STANDING AND CONSENT)

Intensive study of a topic of special interest. Private conferences with instructor of supervised reading and research. Variable credit. PREREQUISITE(S): Junior or Senior standing and consent of instructor.

GERMAN

GER 100 GERMAN PRACTICUM

Required intensive language practice to reinforce study in 101-103. Each practicum must be taken concurrently with its corresponding basic course. No practicum may be taken alone.

GER 101 BASIC GERMAN I (COREQ: GER 100)

Listening to, speaking, reading and writing German in a cultural context for the beginning student. Must be taken with German 100. COREQUISITE(S):GER 100

GER 102 BASIC GERMAN II (COREQ: GER 100)

Continued emphasis on the four skills in culturally authentic situations. Must be taken with German 100. COREQUISITE(S):GER 100

GER 103 BASIC GERMAN III (COREQ: GER 100)

Completion of the basic elements of the German language, spoken as well as written, with due regard to the cultural context of German expression. Must be taken with German 100. COREQUISITE(S):GER 100

GER 104 INTERMEDIATE GERMAN I

Intensive practice in the use of German through listening, speaking, reading and writing, and continued enhancement of the cultural awareness intrinsic to those skills.

GER 105 INTERMEDIATE GERMAN II

Continuing practice in spoken and written German and further development of reading and listening abilities in an authentic cultural context.

GER 106 INTERMEDIATE GERMAN III

Developing more fluency in speaking, understanding, reading and writing German with a concomitant heightened awareness of the cultural dimensions of the German language.