



## COGNITIVE SCIENCE PROGRAM

INDIANA UNIVERSITY  
College of Arts and Sciences  
Bloomington

### COGNITIVE SCIENCE PROGRAM CROSS-LISTED COURSES

#### **ANIMAL BEHAVIOR**

A 501 Seminar in the Integrative Study of Animal Behavior

#### **ANTHROPOLOGY**

B 600 Seminar in Bioanthropology (when appropriate)

L 580 Semiotics and Human Ethnology

L 840 Ethnolinguistic Seminars

#### **Biology**

L567 Evolution

Z 620 Special Topics in Zoology (when appropriate)

#### **KELLEY SCHOOL OF BUSINESS**

S 600 Research Design and Methods in Management Information Systems

S 601 Management Information Systems Research Topics in Application Systems Development

S 602 Management Information Systems in Administration and Technology

#### **COMPUTER SCIENCE**

A 590 Topics in Programming

A 592 Introduction to Software Systems

A 593 Computer Structures

A594 Data Structures

B 501 Theory of Computing

B 502 Computational Complexity

B 510 Introduction to Applied Logic

B 521 Programming Language Principles

B 522 Programming Language Foundations

B 551 Elements of Artificial Intelligence

B 552 Knowledge-Based Computation

B 553 Biomorphing Computation

B 621 Advanced Concepts in Programming Languages

B 622 Programming Language Type Systems

B 651 Natural Language Processing

B 652 Computer Models of Symbolic Learning

B 657 Computer vision

B 659 Topics in Artificial Intelligence

B 656 Web data mining  
B 673 Advanced Scientific Computing  
P 515 Specification and Verification  
Y 890 Theses Readings and Research

### **EAST ASIAN STUDIES CENTER**

E 600 Seminar In East Asian Studies (when appropriate)

### **ECONOMICS**

E 626 Game Theory

### **SCHOOL OF EDUCATION**

H 650 Theory of Knowledge and the Educational Process  
P 530 Instructional Psychology  
P 540 Learning and Cognition in Education  
P 544 Applied Cognition and Learning Strategies  
P 550 Cognition and Semiotics  
P572 Theory and Method in Learning Science  
P574 Topical Seminar in Learning Science (when appropriate)  
P 591 Cognitive Assessment and Intervention  
P 600 Topical Seminar in Learning, Cognition, and Instruction  
P633 Capturing learning in context "Advanced Qualitative Methods!"  
P 640 Thinking and Learning in Social Contexts  
P674 Advanced Topical Seminar in Learning Sciences (when appropriate)  
Q 610 Science Education Curriculum (when appropriate)  
R 542 Instructional Graphics Design  
R 561 Evaluation & Change in the Instructional Development Process  
R 586 Practicum in Instructional Systems Technology  
R 611 Instructional Technology Foundations  
R 622 Learning Environments Design  
R 630 Learner Analysis in the Instructional Technology Process  
R 695 Topical Inquiry Seminar in Instructional Systems Technology  
Y 530 Topics in Computer Analysis of Educational Data

### **FOLKLORE & ETHNOMUSICOLOGY**

E 714 Paradigms of Ethnomusicology  
F 722 Colloquium in Theoretical Folklore/Ethnomusicology  
F 738 Psychological Issues in Folklore

### **FRENCH & ITALIAN**

F 576 Introduction to French Phonology  
F 577 Introduction to French Syntax  
F 579 Introduction to French Morphology  
F 580 Applied French Linguistics  
F 603-604 History of the French Language I-II  
F 670 Advanced French Phonology  
F 671 Advanced French Syntax  
F 672 French Dialectology  
F 673 Topics in the Learning and Teaching of French  
F 675 Studies in French Linguistics  
F 676 Structure and Sociolinguistics of Aspects of Haitian Creole and Haitian French

F 677 French Lexicology and Lexicography  
F 678 Advance French Morphology  
F 679 Pidgins and Creoles

### **GERMANIC LANGUAGES**

G 625 Lit and Culture: Special Topics  
G 505 Introduction to Cognitive Humanities

### **SCHOOL OF HPER - KINESIOLOGY**

K 542 Neuromuscular Control of Movement

### **HISTORY AND PHILOSOPHY OF SCIENCE**

X 551- Survey of the Philosophy of Science  
X 552- Modern Philosophy of Science  
X 755 Special Topics in the Philosophy of Science

### **INFORMATICS**

I 502 Prototyping  
I 590 Topics in Informatics (When Appropriate)  
I 540 Human Robot Interaction  
I 546 Music Information Processing: Symbolic  
I 548 Introduction To Music Informatics  
I 601: Intro to Complex Systems  
I 585 BIOINSPIRED COMPUTING  
I 609 ADVANCED SEMINAR I INFORMATICS (COMPLEX SYSTEMS)  
I 690 Cybernetics and Revolution: International Histories of Science, Technology and Political Change

### **INTELLIGENT SYSTEMS ENGINEERING**

E599 (Autonomous Robotics)

### **INFORMATION AND LIBRARY SCIENCE**

Z511 Database Design  
Z 516 Human-Computer Interaction  
Z533 Online Searching  
Z555 Strategic Intelligence  
Z561 User Interface Design for Information Systems  
Z637 Information Visualization  
Z604 Topics in Library and Information Science  
Z639 Social Media Mining  
Z661 Concepts & Contemporary Issues in Human Computer Interaction  
Z519: Information Analytics

### **LINGUISTICS**

L 503 Survey of Linguistics  
L 530 Introduction to Historical Linguistics  
L 541 Introductory Phonetics  
L 542 Phonological Analysis  
L 543 Syntactic Analysis  
L 544 Morphological Analysis  
L 545 Computation and Linguistic Analysis

L 546 Semantics  
L 555 Programming for Computational Linguistics  
L 611 Models of Linguistic Structure  
L 614 Alternative Syntactic Theories  
L 625 Bilingualism and Language Contact  
L 630 Lexicology  
L 641 Advanced Phonetics  
L 642 Advanced Phonological Description  
L 643 Advanced Syntax  
L 645 Advanced Natural Language Processing  
L 700 Seminar on current issues (when appropriate)  
L 710 Seminar in Acoustic Phonetics  
L 712 Seminar in Phonology  
L 714 Seminar in Syntax  
L 780 Seminar in Structural Semantics  
T 522 Survey of Applied Linguistics  
T 532 Second Language Acquisition  
T 632 Current Research in Second-Language Acquisition  
T 711 Seminar in Applied Linguistics

#### **MATHEMATICS**

M 403-M 404 Introduction to Modern Algebra I-II  
M 441-M 442 Introduction to Partial Differential Equations with Applications I-II  
M 447-M 448 Mathematical Models and Applications I-II  
M 463-M 464 Introduction to Probability Theory I-II  
M 540-M 541-M542 Partial Differential Equations I-II-III  
M 544-M 545 Ordinary Differential Equations I-II  
M 546 Control Theory  
M 548 Mathematical Methods for Biology  
M 560 Applied Stochastic Processes  
M 563-M 564 Theory of Probability I-II  
M 568 Time Series Analysis  
M 569 Statistical Decision Theory  
M 571-M572 Analysis of Numerical Methods I-II  
M 584 Recursion Theory  
M 682 Model Theory  
M781-782 Selected Topics in Mathematical Logic

#### **SCHOOL OF MUSIC**

E 519 Psychology of Music  
E 530 Learning Processes in Music  
T 561 Music Theory: Variable Topics (when appropriate)

#### **NEAR EASTERN LANGUAGES AND CULTURES**

N 524 Introduction to Arabic Linguistics

#### **NEURAL SCIENCES**

N 500 Neural Science I  
N501 Neural Science II  
N 510 Cellular and Molecular Neuroscience  
N 550 Seminar: Sensorimotor Neuroplasticity

N 611 Neural Basis of Sensory Function  
N 613 Neural Mechanisms of Hearing

**SCHOOL OF OPTOMETRY - DEPARTMENT OF VISUAL SCIENCES**

V 791 Quantitative Methods for Vision Research  
V 768 Special Topics in Vision Sci

**PHILOSOPHY**

P 505-P 506 Logical Theory I~II  
P 520 Philosophy of Language  
P 550 Systems of Modal Logic  
P 551 Philosophy and Foundations of Mathematics  
P 552 Philosophy of Logic  
P 560 Metaphysics  
P 561 Philosophy of Mind  
P 562 Theory of Knowledge  
P 570 Philosophical Psychology  
P 571 Philosophy of Nature  
P 720 Seminar: Philosophy of Language  
P 750 Seminar: Logical Theory  
P 751 Seminar: Logic  
P 760 Seminar: Metaphysics and Epistemology

**POLITICAL SCIENCE**

Y 673 Empirical Theory and Methodology (when appropriate)

**PSYCHOLOGY**

P 417 Animal Behavior  
P 435 Laboratory in Human Learning and Cognition  
P 438 Language and Cognition  
P 502 Developmental Psychology  
P 503 Complex Cognitive Processes  
P 506 Sensory Psychology  
P 507 Theories of Learning  
P 510 Principles of Research in Psychology  
P 514 Methods in Biopsychology  
P 517 Methods in the Direct Observation of Behavior  
P 526 Neurobiology of Learning and Memory  
P 527 Developmental Psychobiology  
P 528 Experimental Analysis of Economic Behavior  
P 533 INTR BAYESIAN DATA ANALYSIS I  
P 553-P 554 Advanced Statistics in Psychology I-II  
P 555 Computer Applications in Psychological Research  
P557 Representation of Structure in Psychological Data  
P564 Psychophysics  
P565 Psychophysics of Vision  
P595 First-Year Research Seminar  
P605 Introduction to Mathematical Psychology  
P615 Developmental Psychology I  
P620 Attitudes and Attitude Change  
P623 Psychology of Language

P638 Experimental Psychology of Reading  
P644 Attention and Short-Term Memory  
P645 Learning and Long-Term Memory  
P647 Decision Making Under Uncertainty  
P648 Choice Behavior  
P651 Perception/Action  
P654 Multivariate Analysis  
P657 Topical Seminar (when appropriate)  
P658-P659 Mathematical Models in Psychology I-II  
P717 Evolutionary Bases of Learning  
P747 Seminar in Cognitive Psychology  
P820 Social Perception

### **SLAVIC LANGUAGE AND LITERATURES**

L599 Prague School Linguistics and Poetics

### **SOCIOLOGY**

S650 Statistical Techniques in Sociology  
S651 Topics in Quantitative Sociology  
S652 Topics in Qualitative Methods  
S656 Mathematical Applications in Sociology  
S660 Advanced Topics (when appropriate)  
S700 Topical Seminar (when appropriate)

### **SPANISH AND PORTUGUESE**

S508: Introduction to Hispanic Pragmatics  
S509: Spanish Phonology  
S511: Spanish Syntactic Analysis  
S513: Introduction to Hispanic Sociolinguistics  
S515: The Acquisition of Spanish as a Second Language  
S609: Spanish Phonology II  
S611: Advanced Spanish Syntax  
S612: Topics in Linguistic Variation and Language in Context (can be repeated for credit with changing topics)  
S614: Topics in the Acquisition of Spanish (can be repeated for credit with changing topics)  
S628: Topics in Early Modern Spanish Literature  
S712: Seminar: Themes in Spanish Linguistics  
S716: Seminar: Themes in Acquisition of Spanish as a Second Language

### **SPEECH AND HEARING SCIENCES**

S501 Neural Bases of Speech and Language  
S515 Topical Seminar in Speech Pathology  
S520 Theoretical Bases for Phonological Disorders  
S522 Digital Signal Processing  
S524 Survey of Children's Language Development  
S532 Early Communicative Development: Intervention Issues  
S534 Language Development in School Age Children

S537 Diagnosis and Management of Adult Aphasia  
S538 Language Development in Atypical Populations: Learning Disabilities, Autism, and  
Mental Retardation  
S545 Adult Cognitive-Communication Disorders  
S550 Stuttering  
S555 Motor Speech Disorders  
S578 Audiological Instrumentation and Calibration  
S674 Advanced Seminar in Audiology  
S696 Language Research in Speech, Language and Hearing Sciences  
S702 Acoustic Research in Speech, Language, and Hearing Sciences

## **STATISTICS**

S611 APPLIED STATISTICAL COMPUTING  
S682 Topics in Mathematical Statistics (when appropriate)  
S626 Bayesian Theory and Data Analysis  
S675 Statistical Learning and High-Dimensional Data Analysis  
S710 Statistical Computing

## **TELECOMMUNICATIONS**

T552 Cognitive Approaches to Media  
T571 Applied Cognitive & Emotional Psychology  
T602 Topical Seminar in Telecommunications Processes and Effects  
T641 Children and Media

Last update 04/10

