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Psychology of Human Behavior

Course Guidebook

Professor David W. Martin
North Carolina State University



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David W. Martin, Ph.D.

Professor of Psychology, North Carolina State University

David Martin received a B.A. in Psychology from Hanover College in Indiana, where he also finished the necessary coursework for a major in physics. He received an M.A. in Experimental Psychology and a Ph.D. in Engineering Psychology from The Ohio State University.

Professor Martin began his professional career in 1969 as an assistant professor at New Mexico State University. He progressed through the ranks, becoming a professor in 1983. During this time, Professor Martin contributed to developing a prominent Ph.D. program in engineering psychology. During his final 11 years at NMSU, he was also head of the department. At NMSU, Professor Martin taught courses in introductory psychology, perception, research methods, and human performance; was selected as an outstanding professor by graduating seniors; was named a master teacher; and received a Roush Award for Teaching Excellence. In 1992, Professor Martin assumed his current position as professor and head of the Psychology Department at North Carolina State University. In addition to his administrative duties, he regularly teaches a psychology survey course, an honors seminar, and an evolutionary psychology seminar. He was named to the Academy of Outstanding Teachers at NC State in 1997.

Professor Martin's areas of research in engineering psychology and ergonomics include attention in visual search, particularly in human-computer interaction; operator workload; and cognitive modeling, particularly of human decision making. He has written more than 75 publications and papers. He is the author of *Doing Psychology Experiments*, an experimental methods text currently adopted by more than 100 colleges and in its sixth edition. Dr. Martin has also engaged in considerable professional consulting.

Professor Martin is a member and fellow of the American Psychological Association and a member of the American Psychological Society, the Psychonomic Society, and the Human Factors and Ergonomics Society (HFES). He is a past president of the Rocky Mountain Psychological Association and past president of both the Rio Grande Chapter and the Carolina Chapter of HFES. He has also served for many years on the national committee that designates doctoral psychology programs.

Professor Martin lives in Cary, North Carolina, with his two teenage sons.

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Psychology of Human Behavior

Scope:

This course of 36 lectures examines the breadth of modern psychology from both clinical and experimental perspectives. After an introduction to the precursors and early history of psychology in Lecture One, we discuss the research methods used in scientific psychology in Lectures Two and Three. Particular emphasis is given to the logic and procedures of the quantitative methods of experimentation, as well as correlational and quasi-experimental design. Consideration is also given to the qualitative designs of ethnography, naturalistic observation, and case history. Following a brief introduction to the scientific theory of evolution in Lecture Four, we discuss a less scientific theory in Lecture Five, that is, psychoanalytic theory as introduced by Sigmund Freud.

In Lectures Seven through Eleven, the topic of abnormal psychology is introduced, and we make a comprehensive examination of the various classifications of mental illness with reference to the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR™). For each disorder, we look at the set of defining symptoms and, where known, the causes and prognosis of the illness. In Lectures Twelve through Seventeen, we explore three therapy classifications. For physical therapies, we discuss the various psychopharmacological approaches for each of the disorders, including discussion of electroconvulsive shock therapy and psychosurgeries. Psychotherapies are also covered, with an emphasis on psychoanalysis and humanistic and cognitive therapies. Behavior therapies are also examined, both those based on classical conditioning and those based on operant conditioning.

In Lectures Eighteen through Thirty-One, we examine the standard content areas of experimental scientific psychology. The lecture on motivation emphasizes the biologically based homeostatic model, in which the goal of behavior is the return to an optimal state, although a brief discussion of Abraham Maslow's self-actualization model is also included. The first lecture on motivation emphasizes the difficulty in measuring a private event, such as emotion, and examines the largely unsuccessful attempts of using facial expressions, self-report, and physiological measures, such as the polygraph, pupil size, and vocal tremors. In Lecture Twenty, we consider several theories of emotion, including the James-Lange theory, the Cannon-Bard theory, and Stanley Schachter's cognitive-labeling theory.

Lectures Twenty-One and Twenty-Two provide an overview of various psychoactive drugs, including their classifications and behavioral effects.

In Lectures Twenty-Three and Twenty-Four, we introduce the broad area of social psychology, then cover in detail the mechanisms that influence us to behave in automatic ways, as put forth by Robert Cialdini in his book *Influence*. In the next three lectures, Twenty-Five through Twenty-Seven, we examine two forms of simple learning. Classical conditioning involves the pairing of an unconditioned stimulus with a conditioned stimulus, which eventually causes the conditioned stimulus to bring about a conditioned response. Operant conditioning involves repeatedly reinforcing a voluntary response, which increases the probability of the response recurring. For both forms of learning, we detail the time course of learning and the conditions under which learning takes place. In the final learning lecture, we look at progressively more complex forms of learning, such as avoidance learning, probability learning, and concept formation, and consider whether these could be explained as combinations of classical and operant conditioning.

In Lectures Twenty-Eight and Twenty-Nine, we look at memory. First, we consider how the various ways of assessing memory influence how good our memories seem to be. Then, we use an exercise in illusory memory to demonstrate how the modern view of memory is that of constructing memories from cues rather than calling up detailed snapshots. Finally, we review some research that demonstrates how this constructive process can lead to false memories. In the second memory lecture, we learn about some memory aids that can help us improve our memories, and we discuss three theories of forgetting: decay, interference, and consolidation. Perception is covered in Lectures Thirty and Thirty-One. In the first lecture, we use a series of visual illusions to convince ourselves that we are not in direct contact with the external world but that we use cues to form one or more external models that are sometimes in error. In the second lecture, we discuss three schools of thought about how we use cues to form internal models, and we then use the process of depth perception to illustrate what kinds of cues we employ. Finally, we look at evidence supporting the proposition that perception is built in or learned.

Lectures Thirty-Two through Thirty-Four examine modern thought regarding evolutionary psychology. In Lecture Thirty-Two, we discuss the requirements for evolution to take place and some of the myths about evolution. Then, we give a rough timeline of human evolution and look at

evolved behavior from the perspective of Desmond Morris's historical book *The Naked Ape*, particularly with respect to why we are naked, why we are sexy, and why human aggression is such a problem. The second evolution lecture examines the topics of altruism and mating. Altruistic behavior includes our behavior toward our kin and reciprocal behavior toward non-kin. Our discussion of mating includes the different behavioral strategies used by men and women related to differences in parental investment in their offspring. In the third evolutionary lecture, aggression is considered, along with parenting and eating behaviors. Evolutionary theory makes specific predictions about the kinds of family conflicts found even in today's families. The reasons we overeat to the point of obesity are also understandable from evolution.

In Lecture Thirty-Five, we look at the applied field of engineering psychology and consider how this field, which is concerned with the design of human-machine-environment, is integrated with other disciplines, such as industrial engineering. We also examine the types of recommendations engineering psychologists can make in the design of displays and controls. In the final lecture, we review where we have been, then briefly discuss a few topics not previously covered, including neuropsychology, cognitive modeling, and developmental psychology. Finally, we consider the future of psychology, with particular emphasis on genetic therapies for mental illnesses and the application of scientific psychology to practical societal problems.