

Faculty*Chair*

AARON JOHNSON, PhD *University of Glasgow*; Associate Professor

Associate Chair

ANDREW RYDER, PhD *University of British Columbia*; Associate Professor

Distinguished Professors Emeriti

ZALMAN AMIT, PhD *McGill University*

TANNIS ARBUCKLE-MAAG, PhD *University of Toronto*

ANNA-BETH DOYLE, PhD *Stanford University*

PETER SHIZGAL, PhD *University of Pennsylvania*; Provost's Distinction

JANE STEWART, PhD *University of London*

BARBARA WOODSIDE, PhD *McMaster University*

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MICHAEL CONWAY, PhD *University of Waterloo*

ROBERTO DE ALMEIDA, PhD *Rutgers University*

MARK ELLENBOGEN, PhD *Concordia University*

RICK GURNSEY, PhD *Queen's University*

REX B. KLINE, PhD *Wayne State University*

KAREN Z. LI, PhD *University of Toronto*

JENNIFER McGRATH, PhD *Bowling Green State University*

ALEXANDRE MORIN, PhD *Université de Montréal*

DAVID MUMBY, PhD *University of British Columbia*

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ADAM RADOMSKY, PhD *University of British Columbia*

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ERIN T. BARKER, PhD *University of Alberta*

LINDA BOOIJ, PhD *Leiden University, Netherlands*

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NADIA CHAUDHRI, PhD *University of Pittsburgh*

KRISTEN DUNFIELD, PhD *Queen's University*

BENJAMIN EPPINGER, PhD *Saarland University*

JEAN-PHILIPPE GOUIN, PhD *Ohio State University*

MIHAELA D. IORDANOVA, PhD *University of New South Wales*

SYDNEY B. MILLER, PhD *McGill University*

ROISIN O'CONNOR, PhD *State University of New York at Buffalo*

Assistant Professors

EMILY B.J. COFFEY, PhD *McGill University*

MICKAEL DEROCHE, PhD *Cardiff University*

CHRISTOPHER J. STEELE, PhD *Concordia University*

Affiliate Professors

SIMON BACON, PhD *University of Birmingham*
YVES BEAULIEU, PhD *Queen's University*
RICHARD COURTEMANCHE, PhD *Université de Montréal*
THIEN THANH DANG-VU, PhD *Université de Liège*
PETER DARLINGTON, PhD *University of Western Ontario*
MICHEL DUGAS, PhD *Université Laval*
CLAUDINE GAUTHIER, PhD *Université de Montréal*
NINA HOWE, PhD *University of Waterloo*
LISA KAKINAMI, PhD *University of Rochester*
MELODY MOGRASS, PhD *Université de Montréal*
NAJMEH MOHANI, PhD *McGill University*
WALTER WITTICH, PhD *McGill University*

Senior Lecturers

THERESA BIANCO, PhD *University of Western Australia*
LUCIE BONNEVILLE, PhD *Concordia University*
CONSTANTINA GIANNOPOULOS, PhD *Concordia University*

For the complete list of faculty members, please consult the Department website.

Location

Loyola Campus

Psychology Building, Room: PY 146
514-848-2424, ext. 2222

Richard J. Renaud Science Complex, Room: SP 244

Department Objectives

Psychology is the scientific study of mental life, both its neurological bases and its manifestations in behaviour. Psychology also examines the factors that promote change in behaviour and mental activity. Through teaching and research, the Department serves the community by furthering such knowledge and applying it to promote human welfare. The commitment of faculty members to research assures that students keep up with current developments. Their involvement in community programs keeps students and faculty alike in close touch with the practical application of the discipline.

Programs

The Department of Psychology offers minor, major, specialization, and honours programs. Both BA and BSc degrees are offered, and students may also choose a Behavioural Neuroscience option for these degrees. Students planning a career or graduate studies in psychology are normally expected to follow the appropriate honours or specialization program. Students planning to pursue graduate studies in clinical psychology should ensure that the course electives they choose coincide with requirements of the licensing boards. The major program is designed for students who wish to concentrate their studies in psychology but at the same time wish to pursue general education in other disciplines. The major program can be combined with a major in another department.

Students registered in the Honours, Specialization, or Major in Psychology may select Psychology electives in various Content Areas in order to obtain a broad overview of the discipline. The five Content Areas within the Department are Social, Personality, and Culture; Developmental; Clinical and Health; Behavioural Neuroscience; and Cognitive Science. It is possible for students to pursue in-depth studies within these specific Content Areas by taking Tier 2 courses.

The minor program can be taken only by students registered in another degree program and provides the opportunity to gain basic exposure to the main sub-disciplines of psychology or to pursue one such area in some depth.

Students are strongly encouraged to take advantage of academic counselling services available in the Department of Psychology in order to select the program and courses that best meet their needs. Students are ultimately responsible for satisfying their particular degree requirements.

The superscript indicates credit value.

Students seeking admission to an honours program may apply either for direct entry on the University application form or, once in the program, to the departmental honours advisor normally following the completion of 30 credits. Students must have a GPA of 3.7 in Psychology courses to qualify for entry to the honours and must maintain this GPA to remain within the program.

To qualify for entry into a specialization program, students must have a GPA of 3.2 in Psychology courses and must maintain this GPA to remain within the program.

For additional information concerning programs and courses, students should consult the Department.

66 BA Honours in Psychology

- 30 Core Requirements (PSYC 305³, 310³, 311³, 315³, 316³, 355³, 490³, 491³, 495⁶)
- 15 Chosen from Tier 1 with at least:
 - 6 chosen from the Social, Personality, and Culture Content Area and/or the Developmental Content Area
 - 6 chosen from the Behavioural Neuroscience Content Area and/or the Cognitive Science Content Area
- 12 Chosen from at least two different Tier 2 Content Areas
- 9 Psychology elective credits at the 300 or 400 level

66 BSc Honours in Psychology

- 30 Core Requirements (PSYC 305³, 310³, 311³, 315³, 316³, 355³, 490³, 491³, 495⁶)
- 15 Chosen from Tier 1 with at least:
 - 6 chosen from the Social, Personality, and Culture Content Area and/or the Developmental Content Area
 - 6 chosen from the Behavioural Neuroscience Content Area and/or the Cognitive Science Content Area
- 12 Chosen from at least two different Tier 2 Content Areas
- 9 Psychology elective credits at the 300 or 400 level

NOTE: In addition, students must complete a minimum of 15 science credits outside the Department.

NOTE: Students must have completed an appropriate program of science prerequisites in order to be admitted to BSc programs.

66 BSc Honours in Psychology (Behavioural Neuroscience Option)

- 30 Core Requirements (PSYC 305³, 310³, 311³, 315³, 316³, 355³, 490³, 491³, 495⁶)
- 15 Chosen from Tier 1 with at least:
 - 6 chosen from the Social, Personality, and Culture Content Area and/or the Developmental Content Area
 - 6 chosen from the Behavioural Neuroscience Content Area and/or the Cognitive Science Content Area
- 12 Chosen from the Tier 2 Behavioural Neuroscience Content Area and PSYC 445³
- 9 Psychology elective credits at the 300 or 400 level

An additional 21 Science credits as specified below:

- 6 CHEM 221³, 271³
- 3 BIOL 225³ or 226³
- 12 Chosen from BIOL 225³, 226³, 227³, 261³, 266³, 321³, 364³, 367³, 462³, 480³; CHEM 222³, 375³, 472³, 476³, 478³; PHYS 443³, 445³

60 BA Specialization in Psychology

- 15 Core Requirements (PSYC 305³, 310³, 315³, 316³, 355³)
- 15 Chosen from Tier 1 with at least:
 - 6 chosen from the Social, Personality, and Culture Content Area and/or the Developmental Content Area
 - 6 chosen from the Behavioural Neuroscience Content Area and/or the Cognitive Science Content Area
- 12 Chosen from at least two different Tier 2 Content Areas
- 18 Psychology elective credits at the 300 or 400 level

60 BSc Specialization in Psychology (Behavioural Neuroscience Option)

- 15 Core Requirements (PSYC 305³, 310³, 315³, 316³, 355³)
- 15 Chosen from Tier 1 with at least:
 - 6 chosen from the Social, Personality, and Culture Content Area and/or the Developmental Content Area
 - 6 chosen from the Behavioural Neuroscience Content Area and/or the Cognitive Science Content Area
- 12 Chosen from the Tier 2 Behavioural Neuroscience Content Area and PSYC 445³
- 18 Psychology elective credits at the 300 or 400 level

An additional 21 Science credits as specified below:

- 6 CHEM 221³, 271³
- 3 BIOL 225³ or 226³
- 12 Chosen from BIOL 225³, 226³, 227³, 261³, 266³, 321³, 364³, 367³, 382³, 462³, 480³; CHEM 222³, 375³, 472³, 476³, 478³; PHYS 443³, 445³

60 BSc Specialization in Psychology

- 15 Core Requirements (PSYC 305³, 310³, 315³, 316³, 355³)
- 15 Chosen from Tier 1 with at least:
 - 6 chosen from the Social, Personality, and Culture Content Area and/or the Developmental Content Area
 - 6 chosen from the Behavioural Neuroscience Content Area and/or the Cognitive Science Content Area
- 12 Chosen from at least two different Tier 2 Content Areas
- 18 Psychology elective credits at the 300 or 400 level

NOTE: In addition, students must complete a minimum of 15 science credits outside the Department.

NOTE: Students must have completed an appropriate program of science prerequisites in order to be admitted to BSc programs.

42 BA Major in Psychology

12 Core Requirements (PSYC 305³, 310³, 315³, 355³)

15 Chosen from Tier 1 with at least:

6 chosen from the Social, Personality, and Culture Content Area and/or the Developmental Content Area

6 chosen from the Behavioural Neuroscience Content Area and/or the Cognitive Science Content Area

15 Psychology elective credits at the 300 or 400 level

42 BSc Major in Psychology

12 Core Requirements (PSYC 305³, 310³, 315³, 355³)

15 Chosen from Tier 1 with at least:

6 chosen from the Social, Personality, and Culture Content Area and/or the Developmental Content Area

6 chosen from the Behavioural Neuroscience Content Area and/or the Cognitive Science Content Area

15 Psychology elective credits at the 300 or 400 level

NOTE: Students must have completed an appropriate program of science prerequisites in order to be admitted to BSc programs.

24 Minor in Psychology

6* PSYC 200

6 Core Requirements (PSYC 310³, 315³)

12 Psychology elective credits with a minimum of nine credits at the 300 and/or 400 level

**Students exempted from PSYC 200 will replace the credits with 300- or 400-level PSYC credits.*

Core Requirements

FOR MINOR

PSYC 310 Research Methods and Designs I (3 credits)

PSYC 315 Statistical Analysis I (3 credits)

PLUS FOR MAJOR

PSYC 305 History and Systems (3 credits)

PSYC 355 Fundamentals of Behavioural Neurobiology (3 credits)

PLUS FOR SPECIALIZATION

PSYC 316 Statistical Analysis II (3 credits)

PLUS FOR HONOURS

PSYC 311 Research Methods and Designs II (3 credits)

PSYC 490 Honours Seminar Topics (3 credits)

PSYC 491 Honours Seminar Issues (3 credits)

PSYC 495 Honours Thesis (6 credits)

TIER 1

Social, Personality, and Culture Content Area

PSYC 321 Fundamentals of Personality (3 credits)

PSYC 325 Fundamentals of Social Psychology (3 credits)

Developmental Content Area

PSYC 333 Fundamentals of Lifespan Development (3 credits)

Clinical and Health Content Area

PSYC 340 Fundamentals of Psychopathology (3 credits)

PSYC 341 Fundamentals of Health Psychology (3 credits)

PSYC 342 Forensic Psychology (3 credits)

Behavioural Neuroscience Content Area

PSYC 351 Fundamentals of Learning (3 credits)

PSYC 354 Evolutionary Foundations of Psychology (3 credits)

Cognitive Science Content Area

PSYC 363 Fundamentals of Sensation and Perception (3 credits)

PSYC 364 Fundamentals of Cognition (3 credits)

TIER 2

Social, Personality, and Culture Content Area

- PSYC 420 The Self in Social Context (3 credits)
- PSYC 423 Emotion (3 credits)
- PSYC 424 Cultural Psychology (3 credits)
- PSYC 425 Culture, Development, and the Self (3 credits)
- PSYC 426 Psychometrics and Individual Differences (3 credits)
- PSYC 427 Current Issues in Personality (3 credits)
- PSYC 428 Social and Cultural Advanced Issues (3 credits)

Developmental Content Area

- PSYC 431 Infancy (3 credits)
- PSYC 432 Childhood Development (3 credits)
- PSYC 433 Adolescent Development (3 credits)
- PSYC 434 Aging (3 credits)
- PSYC 435 Developmental Psychopathology (3 credits)
- PSYC 438 Developmental Advanced Issues (3 credits)

Clinical and Health Content Area

- PSYC 440 Psychopathology: Mood, Anxiety, and Personality Disorders (3 credits)
- PSYC 441 Psychopathology: Schizophrenia and Neurocognitive Disorders (3 credits)
- PSYC 442 Psychopathology: Behaviour Regulation Disorders (3 credits)
- PSYC 443 Psychological Intervention Models (3 credits)
- PSYC 444 Hypnosis and Dissociation (3 credits)
- PSYC 445 Human Neuropsychology (3 credits)
- PSYC 446 Stress (3 credits)
- PSYC 447 Current Issues in Health Psychology (3 credits)
- PSYC 448 Clinical Advanced Issues (3 credits)

Behavioural Neuroscience Content Area

- PSYC 450 Neurobiology of Drug Abuse and Addiction (3 credits)
- PSYC 451 Neurobiology of Learning and Memory (3 credits)
- PSYC 452 Neurobiology of Sensation and Perception (3 credits)
- PSYC 453 Neurobiology of Motivated Behaviour (3 credits)
- PSYC 454 Hormones and Behaviour (3 credits)
- PSYC 455 Neuropharmacology (3 credits)
- PSYC 456 Functional Neuroanatomy (3 credits)
- PSYC 457 Foundations of Animal Behaviour (3 credits)
- PSYC 458 Behavioural Neuroscience Advanced Issues (3 credits)

Cognitive Science Content Area

- PSYC 460 Vision (3 credits)
- PSYC 461 Computational Modelling of Human Cognition (3 credits)
- PSYC 462 Memory and Attention (3 credits)
- PSYC 463 Concepts and Categories (3 credits)
- PSYC 464 Judgment and Decision Making (3 credits)
- PSYC 465 Language (3 credits)
- PSYC 466 Cognitive Development (3 credits)
- PSYC 467 Learning (3 credits)
- PSYC 468 Cognitive Science Advanced Issues (3 credits)

ADVANCED EXPERIENCE COURSES

- PSYC 387 Directed Research in Psychology (3 credits)
- PSYC 483 Directed Readings in Psychology (3 credits)
- PSYC 485 Specialization Project (6 credits)
- PSYC 487 Advanced Directed Research in Psychology (3 credits)

Courses

PSYC 200 *Introductory Psychology* (6 credits)

This comprehensive survey course introduces the student to a wide variety of topics in scientific psychology. Topics include the foundations of modern psychology, neural mechanisms, learning and memory, sensation and perception, motivation and emotion, cognitive processes, social influences, personality, disorders of cognition and behaviour, and therapy.

NOTE: Students who have received credit for or exemption from Introductory Psychology at Cegep or other post-secondary

institutions may not take this course for credit.

NOTE: Students entering all Psychology programs except the minor who have not received credit for or exemption from Introductory Psychology at Cegep or other post-secondary institutions must take this course, but not for Psychology program credit.

PSYC 210 Critical Thinking in Psychology (3 credits)

This course provides an innovative approach to understanding how psychologists think about the mind and behaviour, ask and answer questions, and collect and interpret evidence to clarify ideas and test hypotheses. Students learn the difference between critical thinking and gullibility. Students also develop skills to identify errors and misrepresentations in information presented in the media and in viewpoints driven by agendas rather than evidence.

NOTE: Students registered in a Psychology program may not take this course for credit.

PSYC 221 Foundations of Personality (3 credits)

The organization, functioning, and development of personality are discussed from the point of view of the major current theories. Evidence from empirical studies is introduced to illustrate various influences on personality. Socio-economic, cultural, and biological factors may also be considered.

NOTE: Students registered in a Psychology program may not take this course for credit.

PSYC 222 Person and Society (3 credits)

This course considers current personality and social psychology research as it relates to people's everyday lives. The focus is on blending these two research areas. The study of personality concerns itself with the psychology of the individual, individual differences, and the role of individual-level factors in explaining behaviour. In contrast, social psychology focuses on how behaviour may be influenced by social and contextual factors. Topics may include the many ways of describing the self and others, persuasion, group processes, close relationships, aggression, and prosocial behaviour.

NOTE: Students registered in a Psychology program may not take this course for credit.

PSYC 223 Motivation and Emotion in Daily Life (3 credits)

Why do individuals do the things they do? Why don't individuals do the things they don't do? When confronted with challenges, what determines whether individuals persist in the face of difficulty or decide to invest their energy elsewhere? This course presents models that address the question of why individuals do the things they do. These models are related to specific topics such as appetitive behaviour, love and sexual behaviour, arousal and attention, peak performance, aggression and anger, conflict, stress, curiosity, creativity, goal-setting, and achievement.

NOTE: Students registered in a Psychology program may not take this course for credit.

PSYC 230 Womb to Tomb: Psychological Transitions Across the Lifespan (3 credits)

This course studies the cognitive, socio-emotional, and physical changes and continuities that occur across the lifespan. Major theories of development are discussed and related to each of the life stages. Students also gain insight into the developmental processes that influence themselves and others.

NOTE: Students who have received credit for AHSC 220 may not take this course for credit.

NOTE: Students registered in a Psychology program may not take this course for credit.

PSYC 233 Adolescence (3 credits)

This course is an introduction to the study of adolescence. Topics are considered from cross-disciplinary and cross-cultural perspectives. Topics may include physical change, family relationships, friends and peers, sexual and sex-related behaviours, cognitive growth, and lifestyles.

NOTE: Students registered in a Psychology program may not take this course for credit.

NOTE: Students who have received credit for PSYC 280 may not take this course for credit.

PSYC 235 When Good Kids Go Bad (3 credits)

This course examines the social, emotional, and behavioural problems encountered by children, youth, and parents. Manifestations of these issues range from day-to-day "normal" concerns to maladaptive and dangerous behaviours. Potential contributing biological, familial, peer, cultural, and economic factors are considered, as well as the uniquely different ways in which individuals react to what seem to be "similar" backgrounds.

NOTE: Students registered in a Psychology program may not take this course for credit.

PSYC 240 Foundations of Psychopathology (3 credits)

This course deals with major concepts and issues concerning psychopathology in humans. It considers current scientific models of diagnosis, etiology, assessment, and therapy. It reviews the major disorders of the DSM system, and explores social, learning, cognitive, biomedical, and psychodynamic approaches to major clinical disorders.

NOTE: Students registered in a Psychology program may not take this course for credit.

PSYC 241 Stress, Health, and Coping (3 credits)

Coping skills are directly related to health and to the amount of stress a person experiences. This course introduces students to research that explains how and why stress affects health. The ways in which coping skills and other recourses can effectively reduce stress are also considered. The course examines what psychologists know about stress in a research-oriented manner, giving equal attention to the physiological, psychological, and cognitive underpinnings of coping and health.

NOTE: Students registered in a Psychology program may not take this course for credit.

PSYC 242 Psychology and the Law (3 credits)

Psychology and the law interact in myriad ways. The criminal justice system, from its code to its enforcement, is based on implicit psychological assumptions about human behaviour and how it should be controlled. Those in the justice system make decisions based on evidence from observations and testimony, both of which are assumed to be gathered in an objective, unbiased manner. Those in psychological professions assume they can influence decisions made in the legal system by providing experimental evidence. This course examines the roles psychologists play in the legal system, the assumptions of both legal and psychological professional groups, and how these groups can complement one another.

NOTE: Students registered in a Psychology program may not take this course for credit.

NOTE: Students who have received credit for PSYC 263 or for this topic under a PSYC 298 number may not take this course for credit.

PSYC 243 Learning Disabilities (3 credits)

This course deals with selected aspects of theory and practice related to learning disabilities including perceptual and motor disabilities, language disabilities, and methods of diagnosis and remediation. Issues of accurate assessment and differentiation from other forms of disability are also considered.

NOTE: Students registered in a Psychology program may not take this course for credit.

NOTE: Students who have received credit for PSYC 281 may not take this course for credit.

PSYC 250 Drugs and Behaviour (3 credits)

This course examines various factors related to the use and abuse of licit and illicit drugs including alcohol and nicotine, depressants and stimulants, tranquilizers, opium derivatives, and hallucinogenic compounds. One of the main themes emphasized is why some people lose their ability to socially and physiologically regulate their intake. The course material focuses on the prevalent concepts in the field, theoretical models guiding researchers and clinicians, and approaches to intervention.

NOTE: Students registered in a Psychology program may not take this course for credit.

NOTE: Students who have received credit for PSYC 261 or for this topic under a PSYC 298 number may not take this course for credit.

PSYC 251 Learning and Memory in Daily Life (3 credits)

This course examines current research on learning and memory and introduces students to a variety of topics in this area. Theories of learning and memory are related to examples from everyday life. Specific topics may include memory accuracy, techniques for improving study skills and school performance, animal training, sports training, strategies for memory improvement, strategies for changing bad habits, and child discipline.

NOTE: Students registered in a Psychology program may not take this course for credit.

PSYC 255 Brain and Behaviour (3 credits)

This course is an introduction to the biological bases of behaviour. The structural and functional anatomy of the central nervous system is presented, with particular emphasis on the neural pathways involved in behaviours relating to motivation, mood, learning and memory, and sensation and perception. This course explores how recent research helps in understanding how normal and abnormal brain functioning affect human behaviour.

NOTE: Students registered in a Psychology program may not take this course for credit.

PSYC 264 Perception and Cognition in Daily Life (3 credits)

This course introduces topics related to perception and cognition. The emphasis of the course is on how humans acquire, store, and use information in real-world contexts. Topics covered include reading, object perception, art and motion pictures, language processing, music, problem solving, and planning.

NOTE: Students registered in a Psychology program may not take this course for credit.

NOTE: Students who have received credit for PSYC 249 or for this topic under a PSYC 298 number may not take this course for credit.

SELECTED TOPICS IN PSYCHOLOGY

The 200-level Selected Topics courses (PSYC 297; PSYC 298; PSYC 299) are designed as elective courses for students who are not registered in a Psychology program. These courses cover a wide variety of areas of contemporary interest. The particular topic varies from one term to the next and the material is dealt with in a manner appropriate for students who have minimal formal background in psychology.

NOTE: Students registered in a Psychology program may not take these courses for credit.

The Department also offers 400-level topics courses for students registered in Psychology programs. (See below.)

PSYC 297 Selected Topics in Psychology (3 credits)

PSYC 298 Selected Topics in Psychology (3 credits)

PSYC 299 Selected Topics in Psychology (6 credits)

PSYC 305 History and Systems (3 credits)

Prerequisite: PSYC 200 or equivalent. This introductory course examines the historical background of psychology beginning with ancient Greece, the Middle Ages, and the Renaissance, through the William James era. Early contributions to psychology from

the fields of philosophy, religion, physics, physiology, and psychophysics are presented and related to the various psychological schools of thought of the 19th century. Students gain an understanding of how cultural and social forces and various scientific paradigms shaped psychological theory and how psychological perspectives contribute to social life.

NOTE: Students who have received credit for PSYC 320 may not take this course for credit.

PSYC 310 *Research Methods and Designs I* (3 credits)

Prerequisite: PSYC 200 or equivalent; PSYC 315 previously or concurrently. This course describes the methods used by psychology researchers to obtain information and understand psychological phenomena and processes. Students learn how research studies are conceptualized and conducted, and how data are analyzed and interpreted within specific areas of psychology. Observational, experimental, and correlational techniques are presented in the context of ongoing research, to enable students to develop a conceptual understanding of the procedures used to develop and evaluate hypotheses and theories in psychology.

PSYC 311 *Research Methods and Designs II* (3 credits)

Prerequisite: PSYC 310, 315; PSYC 316 previously or concurrently; and permission of the Department. Advanced methodological issues in psychological research are introduced. Students gain experience in the critical evaluation of research design and methodology by conducting several experiments in different research areas, by analyzing and interpreting data from these experiments, and writing and presenting their research findings. This course is primarily intended for students who are preparing for graduate school. Lectures and laboratory.

PSYC 315 *Statistical Analysis I* (3 credits)

Prerequisite: PSYC 200 or equivalent; or permission of the Department. This course is an introduction to statistics that are used in the context of psychology research. Topics dealt with include frequency distributions, measures of central tendency and dispersion, the normal curve, correlation, linear regression, elementary probability theory, an introduction to hypothesis testing, and the t test. These topics are covered in lectures and in weekly laboratory sessions where students learn how to perform statistical tests both manually and with specialized software.

NOTE: Students who have received credit for BIOL 322, COMM 215, DESC 244, ECON 221 and 222, GEOG 362, MAST 333, SOCI 212 and 213, or STAT 249 and 250 may not take this course for credit.

NOTE: Students who have completed Cegep QM 360-300 (Quantitative Methods) and MATH 201-300 (Complementary Topics in Mathematics) with 75% or better grades can be exempt from PSYC 315. Exemptions may be granted on the basis of other courses. Application for exemption should be made to the Arts and Science Student Academic Services.

PSYC 316 *Statistical Analysis II* (3 credits)

Prerequisite: PSYC 310, 315. This course is an extension of PSYC 315. It is designed to advance students' understanding of hypothesis testing and statistical inferences. The course presents the general linear model, which subsumes multiple regression, analysis of variance (ANOVA), and analysis of covariance (ANCOVA). As well, the course deals in detail with the limits of null-hypothesis significance testing (NHST) and reviews alternatives to NHST including confidence intervals, measures of effect size, and meta-analysis. Lectures and weekly laboratory.

NOTE: Students who have received credit for ECON 221 and 222, MAST 221 and 333, or STAT 249 and 250 may not take this course for credit.

PSYC 321 *Fundamentals of Personality* (3 credits)

Prerequisite: PSYC 310, 315, previously or concurrently. This course is an introduction to theories of personality. The development, structure, and correlates of personality are presented from the viewpoint of major classical and current theories. Theories may include trait, biological, learning, and cognitive perspectives, as well as psychodynamic, humanistic, and existential perspectives. Through the examination of specific studies and the discussion of general methodological principles of personality research, emphasis is placed on the role of research in shaping and validating theories of personality.

NOTE: Students who have received credit for PSYC 326 may not take this course for credit.

PSYC 325 *Fundamentals of Social Psychology* (3 credits)

Prerequisite: PSYC 310, 315, previously or concurrently. This course is an introduction to social psychology. It covers the scientific study of how people's thoughts, feelings, and behaviours are influenced by the presence of others. Topics discussed may include social and self perception; attitudes and attitude change; and conformity, group processes, interpersonal attraction, prosocial behaviour, aggression, and prejudice.

NOTE: Students who have received credit for PSYC 331 may not take this course for credit.

PSYC 333 *Fundamentals of Lifespan Development* (3 credits)

Prerequisite: PSYC 310, 315, previously or concurrently. This course is an introduction to developmental psychology. It provides a broad survey of psychological research and theories about human development across the lifespan. It emphasizes the interaction of physical, cognitive, and socio-emotional domains in development from infancy to old age. Although the main focus of the course is on normative development, aspects of abnormal development may be covered. Specific methodological challenges and procedures relevant to developmental research are also discussed.

NOTE: Students who have received credit for PSYC 371 may not take this course for credit.

PSYC 340 *Fundamentals of Psychopathology* (3 credits)

Prerequisite: PSYC 310, 315, previously or concurrently. This course is an introduction to psychopathology. The course deals with major concepts and issues in the study of psychopathology. It focuses on the major models of etiology, diagnosis, prognosis,

assessment, and treatment, and presents the major disorders and five axes of the DSM system. Behavioural, cognitive, social learning, neurobiological, sociocultural, evolutionary, and psychodynamic approaches to psychopathology are covered, with an emphasis on research and methodology throughout.

NOTE: Students who have received credit for PSYC 322 may not take this course for credit.

PSYC 341 Fundamentals of Health Psychology (3 credits)

Prerequisite: PSYC 310, 315, previously or concurrently. This course is an introduction to the multidisciplinary field of health psychology. Issues relating to health and illness across the lifespan, including health promotion and maintenance, prevention and treatment of illness, etiology and correlates of health, illness and dysfunction, and the health care system are covered from a biopsychosocial perspective. Topics such as social support, smoking, stress, cardiovascular disease, pain, and cancer are also presented.

NOTE: Students who have received credit for PSYC 392 may not take this course for credit.

PSYC 342 Forensic Psychology (3 credits)

Prerequisite: PSYC 310, 315, 340. This course critically examines research and theory relating to a number of selected issues of contemporary interest in forensic psychology. Topics such as the admissibility of scientific evidence, eye-witness testimony, trauma and memory, jury selection, clinical and actuarial profiling, psychopathy, serial offenders, the validity of psychiatric examinations and lie detectors, the insanity defence, and expert testimony are presented in light of recent Canadian and American legal decisions.

NOTE: Students who have received credit for PSYC 328 or for this topic under a PSYC 398 number may not take this course for credit.

PSYC 351 Fundamentals of Learning (3 credits)

Prerequisite: PSYC 310, 315, previously or concurrently. This course is an introduction to theories and empirical findings concerning basic mechanisms of learning and memory in humans and non-human animals. Topics covered may include the study of learning in historical perspective, Pavlovian conditioning, operant conditioning, reinforcement, stimulus control of behaviour, types of memory, self-control and observational learning, and behavioural paradigms used in contemporary research on learning and memory.

NOTE: Students who have received credit for PSYC 346 may not take this course for credit.

PSYC 354 Evolutionary Foundations of Psychology (3 credits)

Prerequisite: PSYC 310, 315, previously or concurrently. This course examines the ways that evolutionary thought has influenced the study of behaviour. Fundamental evolutionary processes are introduced, and ideas about how those processes may have shaped human and animal behaviour are considered. Additional topics include biological and cognitive continuity among species, sources of individual differences in behavioural traits, evolutionarily stable strategies and states, methods of testing evolutionary hypotheses about behaviour, and the comparative method in psychology.

PSYC 355 Fundamentals of Behavioural Neurobiology (3 credits)

Prerequisite: BIOL 200, BIOL 201, BIOL 202, Cegep Biology 301, Cegep Biology 101-NYA, or Cegep Biology 921. This course provides an introduction to the neural mechanisms that underlie behaviour. Topics include the structure and function of neurons, neural communication, an introduction to neuroanatomy and endocrinology, and the processing of sensory information. Students also learn how complex systems, such as the sensory and motor systems, interact to produce behaviour.

NOTE: Students who have received credit for BIOL 383 or PSYC 358 may not take this course for credit.

PSYC 363 Fundamentals of Sensation and Perception (3 credits)

Prerequisite: PSYC 310, 315, previously or concurrently. This course introduces the physiological and psychological mechanisms of sensation and perception. Thorough treatment is given to questions of how information about the world is acquired through visual and auditory systems, and other modalities, that together is used with stored information to create an ongoing mental representation of the world. Topics such as pitch perception, colour vision, perception of movement, size and space perception, illusions, and distance are covered.

NOTE: Students who have received credit for PSYC 349 may not take this course for credit.

PSYC 364 Fundamentals of Cognition (3 credits)

Prerequisite: PSYC 310, 315, previously or concurrently. This course introduces cognitive psychology. Theoretical perspectives and experimental findings that inform the current understanding of how humans acquire, represent, and use knowledge are presented and discussed. Topics include attention, memory, categorization, language, and thinking. This course allows students to gain familiarity with topics and concepts necessary to pursue advanced studies in cognition.

NOTE: Students who have received credit for PSYC 352 may not take this course for credit.

PSYC 372 Personnel Psychology (3 credits)

Prerequisite: PSYC 310, 315, previously or concurrently. This course focuses on the contributions of psychology to several human resource considerations in organizations. Topics include personnel selection, training methods, personnel appraisal, and career development. This is an applied area of psychology, and therefore the interplay between theory, research, and application is emphasized.

NOTE: Students who have received credit for PSYC 385 may not take this course for credit.

PSYC 374 Organizational Psychology (3 credits)

Prerequisite: PSYC 310, 315, previously or concurrently. Understanding psychology can help organizations reach their goals, retain their workforce, and make themselves attractive to future employees and investors. This applied psychology course focuses on research and theories relevant to the behaviour of managers and employees. Topics include the history of Industrial/

Organizational(I/O) psychology; organizational development and communication; motivation, personality, and leadership; employee satisfaction and commitment; group behaviour; negotiation and conflict resolution; and job stress.

NOTE: Students who have received credit for PSYC 386 may not take this course for credit.

PSYC 387 Directed Research in Psychology (3 credits)

Prerequisite: PSYC 311, 316; permission of the Department. Under the supervision of a faculty member, typically from within the Department, the student carries out an independent research project and completes a written report. The area of study is decided upon through consultation with the faculty member.

NOTE: Students who have received credit for PSYC 439 may not take this course for credit.

PSYC 420 The Self in Social Context (3 credits)

Prerequisite: PSYC 310, 315, 325. This course addresses a wide range of theoretical and empirical approaches to the self in contemporary social psychology. Self-esteem and self-concept are addressed in terms of social context, personal and social norms, affective experience, and interpersonal behaviour. Other topics covered may include narcissism, self-presentation, self-regulation, egocentrism, and limits to self-knowledge. Issues relating to gender, gender identity, and the development of gender roles and gender differences in the social context may also be discussed.

NOTE: Students who have received credit for PSYC 332 may not take this course for credit.

PSYC 423 Emotion (3 credits)

Prerequisite: PSYC 310, 315; 321 or 325. This course addresses models of emotion and individual differences in emotion and mood. The subject of how emotion influences attention, memory, evaluation, and behaviour in the social domain is also considered. In addition, particular attention is paid to a number of specific emotions.

NOTE: Students who have received credit for PSYC 334 may not take this course for credit.

PSYC 424 Cultural Psychology (3 credits)

Prerequisite: PSYC 310, 315; 321 or 325. This course introduces cultural and cross-cultural perspectives in psychology. It focuses on theoretical assumptions and research methods specific to these perspectives, and covers research on the ways in which culture both emerges from, and shapes basic psychological processes. Specific topics include evolution and culture; cultural differences in self-concept and value systems; acculturation, cultural contact, and adaptation; culture and cognition; and cultural variation in psychopathology, health, and therapy.

NOTE: Students who have received credit for this topic under a PSYC 398 number may not take this course for credit.

PSYC 425 Culture, Development, and the Self (3 credits)

Prerequisite: PSYC 310, 315; 325 or 333. This course examines cultural variations in developmental processes and outcomes, especially as they are related to the self-concept. Following a presentation of the basic concepts in the understanding of development and of culture, particular domains of development are examined according to how they vary across cultural contexts. Examples of domains include moral development, parent-child interaction, education, and suicide. The overarching goal is to describe human development as taking place within a cultural milieu, the consequences of this perspective for fundamental issues in psychology and the social sciences, and the implications for the challenges of pluralism, globalization, and public policy.

NOTE: Students who have received credit for this topic under a PSYC 398 number may not take this course for credit.

PSYC 426 Psychometrics and Individual Differences (3 credits)

Prerequisite: PSYC 310, 315. In this course, consideration is given to the general theory of psychological measurement and its application in the development and use of various psychometric instruments such as achievement, intelligence, aptitude, personality, and interest tests. Derived scores, norms, reliability, and validity of these instruments are discussed in the context of general measurement problems in psychology. Item analysis, signal-detection theory, diagnostics, and non-questionnaire methods may also be discussed.

NOTE: Students who have received credit for PSYC 318 may not take this course for credit.

PSYC 427 Current Issues in Personality (3 credits)

Prerequisite: PSYC 310, 315, 321. This course critically examines selected contemporary issues in personality psychology with a focus on recent research findings. The importance of personality in explaining behaviours, personal beliefs, developmental outcomes, and quality of life is considered.

NOTE: Students who have received credit for PSYC 327 may not take this course for credit.

PSYC 428 Social and Cultural Advanced Issues (3 credits)

Prerequisite: PSYC 310, 315; and permission of the Department. This course addresses the most recent advanced issues of contemporary interest in social and cultural psychology. The main topic of the course changes from one term to the next. Potential topics include social cognition, aggression and violence, experimental-existential psychology, social-cultural neuroscience, or culture and evolution. Students should consult with the Psychology Department for information on the central course topic for the current year.

NOTE: Students who have received credit for this topic under a PSYC 398 number may not take this course for credit.

PSYC 431 Infancy (3 credits)

Prerequisite: PSYC 310, 315, 333. This course provides a comprehensive account of psychological development in infancy. Aspects of infant development such as physical, perceptual, cognitive, verbal, emotional, and social development are covered. Theoretical perspectives and research methods specific to the study of infant development are emphasized.

NOTE: Students who have received credit for PSYC 373 may not take this course for credit.

PSYC 432 Childhood Development (3 credits)

Prerequisite: PSYC 310, 315, 333. This course provides an analysis of theories pertaining to the basic processes of development during early childhood and school-age periods. A broad range of theoretical positions and methodological strategies are presented. Emphasis is on physical, cognitive, emotional, social, and personality development and the origins of individual differences in adjustment and well-being. Particular attention is given to cultural variability in development and to developmental differences between girls and boys.

NOTE: Students who have received credit for PSYC 375 may not take this course for credit.

PSYC 433 Adolescent Development (3 credits)

Prerequisite: PSYC 310, 315, 333. This course provides an overview of theory and research relating to multiple domains of development during adolescence. Topics include hormonal processes, physical and cognitive development, peer and parent-adolescent relations, family processes, gender roles, identity formation, sexuality, delinquency, drug abuse, suicide, and psychological disorders in adolescents. When possible, topics are considered from cross-cultural and historical perspectives.

NOTE: Students who have received credit for PSYC 379 may not take this course for credit.

PSYC 434 Aging (3 credits)

Prerequisite: PSYC 310, 315, 333. This course covers recent developments in the psychology of aging. Topics include age-related changes in physiology, biology, and in sensory and cognitive functioning. Particular attention is given to the effects of these age-related changes on behaviour, personality, interpersonal functioning, gender roles, coping, and adjustment. Methodological considerations in aging research are also discussed.

NOTE: Students who have received credit for PSYC 380 may not take this course for credit.

PSYC 435 Developmental Psychopathology (3 credits)

Prerequisite: PSYC 310, 315; 333 or 340. Using principles of developmental and clinical psychology, this survey course focuses primarily on understanding the pathways to abnormal adjustment in childhood and adolescence. The origins of deviant and competent behaviour are examined, with special attention to the multiplicity of possible risk factors and causal processes, assessment of problems and diagnoses, and the efficacy of interventions. Students are also introduced to a number of behavioural problems such as attention-deficit and hyperactivity disorder; aggression, externalizing problems, and disruptive behaviour disorders; internalizing problems, anxiety, and mood disorders; learning disabilities; mental retardation; and autism.

NOTE: Students who have received credit for PSYC 377 may not take this course for credit.

PSYC 438 Developmental Advanced Issues (3 credits)

Prerequisite: PSYC 310, 315; and permission of the Department. This course addresses the most recent advanced issues of contemporary interest in developmental psychology. The main topic of the course changes from one term to the next. Potential topics include social, cognitive, language, or personality development. Students should consult with the Psychology Department for information on the central course topic for the current year.

NOTE: Students who have received credit for this topic under a PSYC 398 number may not take this course for credit.

PSYC 440 Psychopathology: Mood, Anxiety, and Personality Disorders (3 credits)

Prerequisite: PSYC 310, 315, 340. This course presents a focused and thorough investigation of mood and anxiety disorders. Problems studied include depressive, bipolar, and anxiety disorders. Relevant somatoform (e.g. hypochondriasis) and personality (e.g. avoidant, dependent) disorders may also be discussed. Topics include contemporary theory, classification issues, and ongoing controversies, with an emphasis on current research.

NOTE: Students who have received credit for PSYC 323 may not take this course for credit.

PSYC 441 Psychopathology: Schizophrenia and Neurocognitive Disorders (3 credits)

Prerequisite: PSYC 310, 315, 340. This course presents a focused and thorough investigation of schizophrenia and the neurocognitive disorders. Problems studied include schizophrenia and related psychotic disorders (e.g. delusional disorder, schizoaffective disorder), as well as dementia and other disorders of aging. Relevant personality (e.g. paranoid, schizotypal) disorders may also be discussed. Topics include contemporary theory, classification issues, and ongoing controversies, with an emphasis on current research.

NOTE: Students who have received credit for PSYC 324 may not take this course for credit.

PSYC 442 Psychopathology: Behaviour Regulation Disorders (3 credits)

Prerequisite: PSYC 310, 315, 340. This course presents a focused and thorough investigation of psychopathology resulting from disorders of behaviour regulation. Problems studied include eating, substance use, and impulse-control disorders. Relevant sexual, gambling, and personality (e.g. borderline, antisocial) disorders may also be discussed. Topics include contemporary theory, classification issues, and current controversies, with an emphasis on current research.

PSYC 443 Psychological Intervention Models (3 credits)

Prerequisite: PSYC 310, 315, 340. This course presents a focused and thorough investigation of major approaches to psychological intervention. It focuses on general principles of therapy, research methods for the study of process and outcome, and the contrasts between various theories and modalities. Topics include cognitive behavioural therapy, psychodynamic psychotherapy, humanistic-existential therapy, couples and family therapy, group therapy, and motivational interviewing. Professional and ethical issues pertaining to clinical psychologists and clinical psychology research may also be discussed.

NOTE: Students who have received credit for this topic under a PSYC 398 number may not take this course for credit.

PSYC 444 Hypnosis and Dissociation (3 credits)

Prerequisite: PSYC 310, 315, 340. This course critically examines research, theory, and methodological approaches relating to a number of selected issues of contemporary interest in the area of hypnosis and dissociative phenomena. Experimental and applied research on selected topics such as recovered memory, dissociation, pain and psychosomatic disorders, social and cognitive correlates of hypnotic responses, and the issue of coercion is reviewed. The forensic and clinical uses and abuses of hypnosis are surveyed and contrasted to experimental findings.

NOTE: Students who have received credit for PSYC 330 or for this topic under a PSYC 398 number may not take this course for credit.

PSYC 445 Human Neuropsychology (3 credits)

Prerequisite: PSYC 310, 315, 355. This course is a general introduction to human neuropsychology. Topics discussed include principles of brain organizations and function, human neuroimaging and recording techniques, the contribution of clinical patients and single case studies, selected neurological disorders, and cognitive neuroscience. Emphasis is on how these issues can be meaningfully related to human behaviour, emotion, sensory perception, and higher cognitive processes.

NOTE: Students who have received credit for PSYC 359 may not take this course for credit.

PSYC 446 Stress (3 credits)

Prerequisite: PSYC 310, 315, 355; 340 or 341. This course examines how the evolutionary and adaptive stress response has come to contribute to health and pathology in modern society. The major endocrine, neurobiological, and cognitive underpinnings of the stress response are covered, and current stress research is discussed. Topics include the role of stress in aging, memory, depression, drug abuse, post-traumatic stress disorder, and the consequences of exposure to stress and adversity.

PSYC 447 Current Issues in Health Psychology (3 credits)

Prerequisite: PSYC 310, 315, 341. This course offers a focused treatment of selected advanced topics in health psychology. Potential topics include psychosocial and environmental antecedents of disease, adaptation to medical illness, approaches to improve health and manage disease, pediatric psychology, and mechanisms by which psychosocial and environmental characteristics get inside the body to influence health.

NOTE: Students who have received credit for PSYC 393 may not take this course for credit.

PSYC 448 Clinical Advanced Issues (3 credits)

Prerequisite: PSYC 310, 315; and permission of the Department. This course addresses the most recent advanced issues of contemporary interest in clinical psychology. The main topic of the course changes from one term to the next. Potential topics include neurobiology of psychopathology, functional somatic syndromes, personality and psychopathology, psychotherapy process research, or epidemiology of psychological disorders. Students should consult with the Psychology Department for information on the central course topic for the current year.

NOTE: Students who have received credit for this topic under a PSYC 398 number may not take this course for credit.

PSYC 450 Neurobiology of Drug Abuse and Addiction (3 credits)

Prerequisite: PSYC 310, 315, 355. This course focuses on the behavioural and neuronal mechanisms involved in drug abuse and addiction. It provides students with a solid conceptual foundation of how drugs of abuse affect the brain and behaviour. Topics such as the pharmacology of drugs of abuse, drug-induced neuronal plasticity in brain regions related to motivation and reward, and the interaction between biological factors and environmental events in addiction are discussed.

NOTE: Students who have received credit for PSYC 361 may not take this course for credit.

PSYC 451 Neurobiology of Learning and Memory (3 credits)

Prerequisite: PSYC 310, 315, 351, 355. This course deals with some of the major questions about the neural bases of learning and memory. A number of mechanisms subserving learning and memory are investigated, including models based on relatively simple nervous systems (e.g. conditioning in Aplysia), as well as more complex systems (e.g. the neuronal mechanisms mediating eyeblink conditioning in the rabbit and the neuronal pathways that mediate reinforcement). Other topics may include the anatomical bases of memory, including the role of the hippocampus in spatial memory, and the role of the NMDA receptor in learning and memory.

NOTE: Students who have received credit for PSYC 362 may not take this course for credit.

PSYC 452 Neurobiology of Sensation and Perception (3 credits)

Prerequisite: PSYC 310, 315, 355, 363. This course examines the relationship between the structures of the sensory systems and perception. Topics include how the structure of the eye and ear determine how and what is seen and heard, the modularity of cortical organization, segregation and integration of visual information, PDP and other models, bottom-up and top-down processing, and the reconstruction of the perceptual world.

NOTE: Students who have received credit for PSYC 365 may not take this course for credit.

PSYC 453 Neurobiology of Motivated Behaviour (3 credits)

Prerequisite: PSYC 310, 315, 355. This course examines the neural mechanisms that mediate motivated behaviour, and provides an introduction to concepts such as goal-directed behaviour and incentive motivation. Other topics include pleasure and pain; ingestive behaviour; sexual and reproductive behaviour; aggression; temperature regulation; and sleep, arousal, and biological rhythms.

NOTE: Students who have received credit for PSYC 367 may not take this course for credit.

PSYC 454 *Hormones and Behaviour* (3 credits)

Prerequisite: PSYC 310, 315, 355. This course deals with the role of hormones in integrating the activity of various neural, endocrine, and sensory systems to bring about organized, purposeful behaviour. Topics include reproductive, sexual, or environmentally adaptive systems. Treatment of material ranges from the molecular to the behavioural level.

NOTE: Students who have received credit for PSYC 369 may not take this course for credit.

PSYC 455 *Neuropharmacology* (3 credits)

Prerequisite: PSYC 310, 315, 355. This course focuses on neurochemistry and neuropharmacology relating to synaptic transmission. The chemistry and pharmacology of each major class of neurotransmitters is discussed. The pharmacological and psychological bases of drug actions are also explored, to provide an understanding of pharmacokinetics, pharmacodynamics, and pharmacotherapeutics, as they relate to issues such as CNS disease, affective disorders, and the treatment of pain. This course is primarily intended for students wishing to pursue advanced graduate work in neuroscience or clinical psychology, or for those who are seeking to enter the health professions.

PSYC 456 *Functional Neuroanatomy* (3 credits)

Prerequisite: PSYC 310, 315, 355. This course focuses on the structural and functional anatomy of brain systems underlying important cognitive functions such as motor behaviour, sensory perception, learning, and memory. Emphasis is on how comparative anatomy and different experimental techniques contribute to the understanding of brain function. Through discussion of the results of anatomical, physiological, and neuroimaging studies, students develop an in-depth knowledge of the structure and function of the human brain.

PSYC 457 *Foundations of Animal Behaviour* (3 credits)

Prerequisite: PSYC 310, 315, 355. This course explores the bases underlying the study of animal behaviour as they relate to the study of psychobiology and evolutionary psychology. Topics may include reproductive strategies, communication, the effects of early experience, learning and cognition, and the mechanisms of orientation navigation and homing in animals. Behaviour genetics, theory of evolution, basic ethological concepts, and methodological issues are also discussed.

NOTE: Students who have received credit for PSYC 396 may not take this course for credit.

PSYC 458 *Behavioural Neuroscience Advanced Issues* (3 credits)

Prerequisite: PSYC 310, 315; and permission of the Department. This course addresses the most recent advanced issues of contemporary interest in behavioural neuroscience. The main topic of the course changes from one term to the next. Potential topics include examination of the current state of scientific study of motivation or a focused look at memory consolidation. Students should consult with the Psychology Department for information on the central course topic for the current year.

NOTE: Students who have received credit for this topic under a PSYC 398 number may not take this course for credit.

PSYC 460 *Vision* (3 credits)

Prerequisite: PSYC 310, 315, 363. This course builds on the introduction to the visual system developed in PSYC 363. Topics are examined from the psychophysical, computational, and physiological perspectives and may include advanced treatment of colour, motion, and texture perception; spatial vision; object, face, and scene recognition; eye movement control; flow fields; attention; and perception-in-action.

PSYC 461 *Computational Modelling of Human Cognition* (3 credits)

Prerequisite: PSYC 310, 315; 363 or 364. This course reviews the history of the view of mind as machine and the various computational metaphors that have helped in understanding the particular kind of computational device the brain is. The course explores the ways in which computational models of mind are implemented and can be tested against psychological theories and data. Students learn how to construct simplified representations of reality based on rule-based processes to recreate aspects of human cognition.

PSYC 462 *Memory and Attention* (3 credits)

Prerequisite: PSYC 310, 315, 364. This course provides an advanced introduction to theories and empirical research on memory and attention. Topics include various memory systems and mechanisms, including long- and short-term memory, working, episodic, and semantic memory. The course also addresses research on attentional processes such as switching, selective, and divided attention.

PSYC 463 *Concepts and Categories* (3 credits)

Prerequisite: PSYC 310, 315, 364. This course provides an advanced introduction to theories of conceptual representation and processes of categorization. It reviews the empirical research in these fields, including studies with normal and impaired populations.

PSYC 464 *Judgment and Decision Making* (3 credits)

Prerequisite: PSYC 310, 315, 364. This course is an introduction to the cognitive and affective processes involved in evaluating options and choosing between them. Major theories and empirical studies are reviewed from an interdisciplinary perspective that includes both cognitive science and neuroscience and that draws on research carried out on humans and on other animals.

PSYC 465 *Language* (3 credits)

Prerequisite: PSYC 310, 315, 364. This course covers the cognitive, developmental, and social aspects of language and human communication. Topics may include linguistic theory, language acquisition, language comprehension and production, the biological bases of language, reading, speech perception, and second-language development.

NOTE: Students who have received credit for PSYC 395 may not take this course for credit.

PSYC 466 Cognitive Development (3 credits)

Prerequisite: PSYC 310, 315; 333 or 364. This course provides an advanced introduction to the development of children's thinking, from infancy through the elementary-school years. The goal of the course is to familiarize students with recent theory and research on the cognitive development in children. Topics include the development of language, perception, concept, social cognition, and memory.

PSYC 467 Learning (3 credits)

Prerequisite: PSYC 310, 315, 351. This course is a continuation of PSYC 351; it presents a more focused and thorough treatment of more advanced topics in learning. These may include developmental aspects of learning, animal memory and cognition, human applications of conditioning principles, biological constraints on learning, and the physiology of learning and memory. Different sections of the course may cover different sets of topics.

NOTE: Students who have received credit for PSYC 347 may not take this course for credit.

PSYC 468 Cognitive Science Advanced Issues (3 credits)

Prerequisite: PSYC 310, 315; and permission of the Department. This course addresses the most recent advanced issues of contemporary interest in cognitive science. The main topic of the course changes from one term to the next. Possible topics include memory, attention, concept formation, category representation, decision-making, reasoning, language, intelligence, creativity, skill acquisition, cognitive and language development, or the neural bases of cognitive functioning. Students should consult with the Psychology Department for information on the central course topic for the current year.

NOTE: Students who have received credit for this topic under a PSYC 398 number may not take this course for credit.

PSYC 483 Directed Readings in Psychology (3 credits)

Prerequisite: PSYC 311, 316; permission of the Department. This course is designed for the advanced student wishing to do independent, individually supervised literature research on a specific topic in psychology. This research culminates in a written report. Students should have a well-defined topic and a faculty supervisor, typically selected from within the Psychology Department, before registering for this course.

NOTE: Students who have received credit for PSYC 436 may not take this course for credit.

PSYC 485 Specialization Project (6 credits)

Prerequisite: PSYC 311, 316; permission of the Department. This seminar provides students with experience in the design, conduct, analysis, and reporting of independent research in the major areas of psychology. The research is undertaken under the supervision of a faculty member.

NOTE: Students who have received credit for PSYC 400 may not take this course for credit.

PSYC 487 Advanced Directed Research in Psychology (3 credits)

Prerequisite: PSYC 310, 315; 485 or 495; and permission of the Department. This course is for students who have completed a specialization project or honours thesis and wish to conduct an additional research project. Under the supervision of a faculty member, typically from within the Department, the student carries out an independent research project and completes a written report. The area of study is decided upon through consultation with the faculty member.

PSYC 490 Honours Seminar Topics (3 credits)

Prerequisite: PSYC 311, 316; permission of the Department. The aim of this seminar is to provide a forum for the discussion of topics relating to current knowledge, theory, and methods in psychology, and to help students achieve a critical understanding of psychology. Topics may include learning, interpersonal relations, human development, perception, cognition, subjective well-being, or language. Emphasis is on current theory as it relates to selected topics within psychology.

NOTE: Students who have received credit for PSYC 421 may not take this course for credit.

PSYC 491 Honours Seminar Issues (3 credits)

Prerequisite: PSYC 311, 316; permission of the Department. The aim of this seminar is to provide a forum for the discussion of issues relating to current knowledge, theory, and methods in psychology, and to help students achieve a critical understanding of psychology. Issues may include social and developmental processes, motivation, emotion, or the biological bases of behaviour. Selected issues from these areas are discussed from theoretical perspectives specific to given phenomena.

NOTE: Students who have received credit for PSYC 422 may not take this course for credit.

PSYC 495 Honours Thesis (6 credits)

Prerequisite: PSYC 311, 316. Open to final-year honours students with permission of the Department. This course requires the student to propose and conduct a study, and submit a thesis written according to the APA format. Students are also required to give an oral presentation in class on their proposal and on their final thesis. The work is supervised by a faculty member selected by the student, typically from within the Psychology Department.

NOTE: Students who have received credit for PSYC 430 may not take this course for credit.