

Degree Description

The objective of these criminal justice courses is to prepare students for careers in criminal justice with an understanding of the criminal justice system in state, county and municipal law enforcement; corrections; courts; security; and other criminal justice-related agencies. Curricula in law enforcement and corrections are available to meet the different needs of the student by teaching workplace competencies.

NOTE: This degree is available completely online.

Ask your advisor or visit www.mclennan.edu/online for more details.

A grade of C or higher is required in all Criminal Justice classes for graduation.

Marketable Skills

1. Demonstrate Critical Thinking skills to assess and evaluate information in stressful situations.
2. Self-management to plan and organize task in a demanding corrections environment without close supervision.
3. Effectively communicate verbally and in writing.
4. Function in a team setting to accomplish goals and tasks.
5. Make appropriate ethical decisions using stated policy and procedures.
6. Skill to overcome negative situations and adversity to accomplish goals while maintaining a professional demeanor.

Semester I	Hours
CRIJ 1301 Introduction to Criminal Justice ¹	3 hours
CRIJ 1307 Crime In America	3 hours
CRIJ 1313 Juvenile Justice System	3 hours
PSYC 2301 General Psychology	3 hours
ENGL 1301 Composition I	3 hours
	15 hours

Semester II	Hours
CRIJ 1306 Court Systems and Practices	3 hours
CRIJ 1310 Fundamentals Criminal Law ¹	3 hours
CJSA 1308 Criminalistics I	3 hours
SOC1 1301 Introduction to Sociology	3 hours
SPCH 1318 Interpersonal Communication <i>or</i> SPCH 1315 Public Speaking	3 hours
ENGL 1302 Composition II <i>or</i> ENGL 2311 Technical & Business Writing	3 hours
	18 hours

Semester III	Hours
CRIJ 2314 Criminal Investigation	3 hours
CRIJ 2328 Police Systems & Practices	3 hours
GOVT 2305 Federal Government <i>or</i> GOVT 2306 Texas Government	3 hours
COSC 1301 Introduction to Computing	3 hours
Mathematics (college-level)	3 hours
	15 hours

Semester IV	Hours
CRIJ 2323 Legal Aspects of Law Enforcement	3 hours
DAAC 1317 Basic Counseling Skills	3 hours
Criminal Justice (college-level)	3 hours
Language, Philosophy, & Culture elective <i>or</i> Creative Arts elective	3 hours
	12 hours

Total hours: 60 hours

¹ May be eligible for articulation with a high school that has a current articulation agreement with McLennan. See the high school counselor for information.

Electives/General Education Courses

Creative Arts

ARTS 1301 Art Appreciation	3 hours
ARTS 1303 Art History I (Prehistoric to the 14th Century)	3 hours
ARTS 1304 Art History II (14th Century to the Present)	3 hours
DRAM 1310 Introduction to Theater	3 hours
DRAM 2361 History of Theater I	3 hours
DRAM 2362 History of Theater II	3 hours
HUMA 1315 Fine Arts Appreciation	3 hours
MUSI 1306 Music Appreciation	3 hours
MUSI 1308 Music Literature I	3 hours
MUSI 1309 Music Literature II	3 hours
MUSI 1310 American Music	3 hours

Criminal Justice

CRIJ 1301 Introduction to Criminal Justice	3 hours
CRIJ 1306 Court Systems and Practices	3 hours
CRIJ 1307 Crime In America	3 hours
CRIJ 1310 Fundamentals Criminal Law	3 hours
CRIJ 1313 Juvenile Justice System	3 hours
CRIJ 2301 Community Resources in Corrections	3 hours
CRIJ 2313 Correctional Systems and Practices	3 hours
CRIJ 2314 Criminal Investigation	3 hours
CRIJ 2323 Legal Aspects of Law Enforcement	3 hours
CRIJ 2328 Police Systems & Practices	3 hours

Language, Philosophy, & Culture

ENGL 2321 British Literature	3 hours
ENGL 2322 British Literature I	3 hours
ENGL 2323 British Literature II	3 hours
ENGL 2326 American Literature	3 hours
ENGL 2327 American Literature I: Up to the Civil War	3 hours
ENGL 2328 American Literature II: Civil War to the Present	3 hours
ENGL 2331 World Literature	3 hours
ENGL 2332 World Literature I: Up to the 17th Century	3 hours
ENGL 2333 World Literature II: 17th Century to the Present	3 hours
ENGL 2341 Forms of Literature	3 hours
FREN 2311 Intermediate French I	3 hours
GERM 2311 Intermediate German I	3 hours
HUMA 1301 Introduction to Humanities I	3 hours
HUMA 1302 Introduction to Humanities II	3 hours
PHIL 1301 Introduction to Philosophy	3 hours
PHIL 1304 Introduction to World Religions	3 hours
PHIL 2306 Introduction to Ethics	3 hours
SPAN 2311 Intermediate Spanish I	3 hours
SGNL 2301 Intermediate ASL I	3 hours

Math

MATH 1314 College Algebra	3 hours
MATH 1316 Plane Trigonometry	3 hours
MATH 1324 Mathematics for Business & Social Sciences	3 hours
MATH 1325 Calculus for Business & Social Sciences	3 hours
MATH 1332 Contemporary Mathematics (Quantitative Reasoning)	3 hours
MATH 1342 Elementary Statistical Methods	3 hours
MATH 1350 Mathematics for Teachers I (Fundamentals of Mathematics I)	3 hours
MATH 1351 Mathematics for Teachers II (Fundamentals of Mathematics II)	3 hours
MATH 1442 Elementary Statistical Methods	4 hours
MATH 2305 Discrete Mathematics	3 hours
MATH 2318 Linear Algebra	3 hours
MATH 2320 Differential Equations	3 hours
MATH 2412 Pre-Calculus Mathematics	4 hours
MATH 2413 Calculus I	4 hours
MATH 2414 Calculus II	4 hours
MATH 2415 Calculus III	4 hours

Course Descriptions

CRIJ 1301 Introduction to Criminal Justice

History, philosophy, and ethical considerations of criminal justice; the nature and impact of crime; and an overview of the criminal justice system, including law enforcement and court procedures. Semester Hours 3 (3 lec)

CRIJ 1307 Crime In America

American crime problems in historic perspective, social and public policy factors affecting crime, impact and crime trends, social characteristics of specific crimes, and prevention of crime. Semester Hours 3 (3 lec)

CRIJ 1313 Juvenile Justice System

A study of the juvenile justice process to include specialized juvenile law, role of the juvenile law, role of the juvenile courts, role of police agencies, role of correctional agencies, and theories concerning delinquency. Semester Hours 3 (3 lec)

PSYC 2301 General Psychology

General Psychology is a survey of the major psychological topics, theories and approaches to the scientific study of behavior and mental processes. NOTE: Must have passed the reading portion of the TSI Assessment or have credit for INRW 0402. Semester Hours 3 (3 lec)

ENGL 1301 Composition I

Intensive study of and practice in writing processes, from invention and researching to drafting, revising, and editing, both individually and collaboratively. Emphasis is on effective rhetorical choices, including audience, purpose, arrangement, and style. Focus is on writing the academic essay as a vehicle for learning, communication, and critical analysis. Prerequisite: TSI complete in Reading and Writing or the equivalent. Semester Hours 3 (3 lec)

CRIJ 1306 Court Systems and Practices

Study of the judiciary in the American criminal justice system and the adjudication processes and procedures. Semester Hours 3 (3 lec)

CRIJ 1310 Fundamentals Criminal Law

Study of criminal law, its philosophical and historic development; major definitions and concepts, classification and elements of crime, penalties using Texas statutes as illustrations and criminal responsibility. Semester Hours 3 (3 lec)

CJSA 1308 Criminalistics I

Introduction to the field of criminalistics. Topics include the application of scientific and technical methods in the investigation of crime including location, identification, and handling of evidence for scientific analysis. Semester Hours 3 (3 lec)

SOCI 1301 Introduction to Sociology

The scientific study of human society, including ways in which groups, social institutions, and individuals affect each other. Causes of social stability and social change are explored through the application of various theoretical perspectives, key concepts, and related research methods of sociology. Analysis of social issues in their institutional context may include topics such as social stratification, gender, race/ethnicity, and deviance. Semester Hours 3 (3 lec)

SPCH 1318 Interpersonal Communication

Application of communication theory to interpersonal relationship development, maintenance, and termination in relationship contexts, including friendships, romantic partners, families, and relationships with co-workers and supervisors. Semester Hours 3 (3 lec)

SPCH 1315 Public Speaking

Application of communication theory and practice to the public speaking context, with emphasis on audience analysis, speaker delivery, ethics of communication, cultural diversity, and speech organizational techniques to develop students' speaking abilities, as well as ability to effectively evaluate oral presentations. Semester Hours 3 (3 lec)

ENGL 1302 Composition II

Intensive study of and practice in the strategies and techniques for developing research-based expository and persuasive texts. Emphasis is on effective and ethical rhetorical inquiry, including primary and secondary research methods; critical reading of verbal, visual and multimedia texts; systematic evaluation, synthesis, and documentation of information sources; and critical thinking about evidence and conclusions. Prerequisite: ENGL 1301 or its equivalent with a grade of C or better or consent of division chair. Semester Hours 3 (3 lec)

ENGL 2311 Technical & Business Writing

Intensive study of and practice in professional settings. Focus on the types of documents necessary to make decisions and take action on the job, such as proposals, reports, instructions, policies and procedures, e-mail messages, letters, and descriptions of products and services. Practice of individual and collaborative processes involved in the creation of ethical and efficient documents. Prerequisite: Passing score on writing portion of TSI Assessment or credit for ENGL 0301. Semester Hours 3 (3 lec)

CRIJ 2314 Criminal Investigation

Investigative theory, collection and preservation of evidence, sources of information, interview and interrogation, uses of forensic sciences, and case and trial preparation. Semester Hours 3 (3 lec)

CRIJ 2328 Police Systems & Practices

The police profession, organization of law enforcement systems, the police role, police discretion, ethics, police-community interaction, and current and future issues. Semester Hours 3 (3 lec)

GOVT 2305 Federal Government

Origin and development of the U.S. Constitution; structure and powers of the national government including the legislative, executive, and judicial branches; federalism; political participation; the national election process; public policy; civil liberties; and civil rights. NOTE: Must have passed the reading portion of the TSI Assessment or have credit for INRW 0402. Semester Hours 3 (3 lec)

GOVT 2306 Texas Government

Origin and development of the Texas constitution, structure and powers of state and local government, federalism and inter-governmental relations, political participation, the election process, public policy, and the political culture of Texas. NOTE: Must have passed the reading portion of the TSI Assessment or have credit for INRW 0402. Semester Hours 3 (3 lec)

COSC 1301 Introduction to Computing

Provides an overview of computer systems-hardware, operating systems, the Internet, and application software including word processing, spreadsheets, presentation graphics, and databases. Current topics such as the effect of computers on society, and the history and use of computers in business, educational, and other interdisciplinary settings are also studied. This course is not intended to count toward a student's major field of study in business or computer science. Semester Hours 3 (2 lec/2 lab)

CRIJ 2323 Legal Aspects of Law Enforcement

Police authority; responsibilities; constitutional constraints; laws of arrest, search, and seizure; and police liability. This course will serve as a Capstone for the AAS degree and Certificate in Law Enforcement. Semester Hours 3 (3 lec)

DAAC 1317 Basic Counseling Skills

An overview of basic counseling skills. Semester Hours 3 (3 lec)

ARTS 1301 Art Appreciation

A general introduction to the visual arts designed to create an appreciation of the vocabulary, media, techniques, and purposes of the creative process. Students will critically interpret and evaluate works of art within formal, cultural, and historical contexts. Semester Hours 3 (3 lec)

ARTS 1303 Art History I (Prehistoric to the 14th Century)

A chronological analysis of the historical and cultural contexts of the visual arts from prehistoric times to the 14th century. Semester Hours 3 (3 lec)

ARTS 1304 Art History II (14th Century to the Present)

A chronological analysis of the historical and cultural contexts of the visual arts from the 14th century to the present day. Semester Hours 3 (3 lec)

DRAM 1310 Introduction to Theater

Survey of all phases of theater including its history, dramatic works, stage techniques, production procedures, and relation to the fine arts. Participation in major productions may be required. Applies as a required Humanities or Visual & Performing Arts course for all students. Semester Hours 3 (3 lec)

DRAM 2361 History of Theater I

Study of the history of the theater from primitive times through the Renaissance. Required of theatre majors; open to non-theatre majors. Semester Hours 3 (3 lec)

DRAM 2362 History of Theater II

Study of the history of the theater from the Renaissance through today. Required of theatre majors; open to non-theatre majors. Semester Hours 3 (3 lec)

HUMA 1315 Fine Arts Appreciation

This course is an exploration of the purposes and processes in the visual and performing arts (such as music, painting, architecture, drama, and dance) and the ways in which they express the values of cultures and human experience. Semester Hours 3 (3 lec)

MUSI 1306 Music Appreciation

Understanding music through the study of cultural periods, major composers, and musical elements. Illustrated with audio recordings and live performances. (Does not apply to a music major degree.) Applies as a required humanities or fine arts course for all students. Semester Hours 3 (3 lec)

MUSI 1308 Music Literature I

Survey of the principal musical forms and cultural periods as illustrated in the literature of major composers. Surveys music literature from Gregorian chant to the early classical period. Emphasis is on music materials and listening skills through recorded music and scores. Required for music majors and minors. Semester Hours 3 (3 lec)

MUSI 1309 Music Literature II

Survey of the principal musical forms and cultural periods as illustrated in the literature of major composers. Surveys music literature from the classical period to the present. Emphasis is on music materials and listening skills through recorded music and scores. Required for music majors and minors. Semester Hours 3 (3 lec)

MUSI 1310 American Music

General survey of various styles of music in America. Topics may include jazz, ragtime, folk, rock, and contemporary art music. Satisfies general humanities elective requirements. Semester Hours 3 (3 lec)

CRIJ 1301 Introduction to Criminal Justice

History, philosophy, and ethical considerations of criminal justice; the nature and impact of crime; and an overview of the criminal justice system, including law enforcement and court procedures. Semester Hours 3 (3 lec)

CRIJ 1306 Court Systems and Practices

Study of the judiciary in the American criminal justice system and the adjudication processes and procedures. Semester Hours 3 (3 lec)

CRIJ 1307 Crime In America

American crime problems in historic perspective, social and public policy factors affecting crime, impact and crime trends, social characteristics of specific crimes, and prevention of crime. Semester Hours 3 (3 lec)

CRIJ 1310 Fundamentals Criminal Law

Study of criminal law, its philosophical and historic development; major definitions and concepts, classification and elements of crime, penalties using Texas statutes as illustrations and criminal responsibility. Semester Hours 3 (3 lec)

CRIJ 1313 Juvenile Justice System

A study of the juvenile justice process to include specialized juvenile law, role of the juvenile law, role of the juvenile courts, role of police agencies, role of correctional agencies, and theories concerning delinquency. Semester Hours 3 (3 lec)

CRIJ 2301 Community Resources in Corrections

An introductory study of the role of the community in corrections, community programs for adults and juveniles, administration of community programs, legal issues, and future trends in community treatment. Semester Hours 3 (3 lec)

CRIJ 2313 Correctional Systems and Practices

Corrections in the criminal justice system, organization of correctional systems, correctional roles, institutional operations, alternatives to institutionalization, treatment and rehabilitation, and current and future issues. Semester Hours 3 (3 lec)

CRIJ 2314 Criminal Investigation

Investigative theory, collection and preservation of evidence, sources of information, interview and interrogation, uses of forensic sciences, and case and trial preparation. Semester Hours 3 (3 lec)

CRIJ 2323 Legal Aspects of Law Enforcement

Police authority; responsibilities; constitutional constraints; laws of arrest, search, and seizure; and police liability. This course will serve as a Capstone for the AAS degree and Certificate in Law Enforcement. Semester Hours 3 (3 lec)

CRIJ 2328 Police Systems & Practices

The police profession, organization of law enforcement systems, the police role, police discretion, ethics, police-community interaction, and current and future issues. Semester Hours 3 (3 lec)

ENGL 2321 British Literature

A survey of the development of British literature from the Anglo-Saxon period to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical, linguistic, and cultural contexts. Texts will be selected from a diverse group of authors and traditions. Prerequisite: ENGL 1301 or ENGL 2311. Semester Hours 3 (3 lec)

ENGL 2322 British Literature I

A survey of the development of British literature from the Anglo-Saxon period to the Eighteenth Century. Students will study works of prose, poetry, drama, and fiction in relation to their historical, linguistic, and cultural contexts. Texts will be selected from a diverse group of authors and traditions. Prerequisite: ENGL 1301 or ENGL 2311. Semester Hours 3 (3 lec)

ENGL 2323 British Literature II

A survey of the development of British literature from the Romantic period to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions. Prerequisite: ENGL 1301 or ENGL 2311. Semester Hours 3 (3 lec)

ENGL 2326 American Literature

A survey of American literature from the period of exploration and settlement to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character. Prerequisite: ENGL 1301 or ENGL 2311. Semester Hours 3 (3 lec)

ENGL 2327 American Literature I: Up to the Civil War

A survey of American literature from the period of exploration and settlement through the Civil War. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character. Prerequisite: ENGL 1301 or ENGL 2311. Semester Hours 3 (3 lec)

ENGL 2328 American Literature II: Civil War to the Present

A survey of American literature from the Civil War to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from among a diverse group of authors for what they reflect and reveal about the evolving American experience and character. Prerequisite: ENGL 1301 or ENGL 2311. Semester Hours 3 (3 lec)

ENGL 2331 World Literature

A survey of world literature from the ancient world to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions. Prerequisite: ENGL 1301 or ENGL 2311. Semester Hours 3 (3 lec)

ENGL 2332 World Literature I: Up to the 17th Century

A survey of world literature from the ancient world through the 16th century. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions. Prerequisite: ENGL 1301 or ENGL 2311. Semester Hours 3 (3 lec)

ENGL 2333 World Literature II: 17th Century to the Present

A survey of world literature from the 17th century to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions. Prerequisite: ENGL 1301 or ENGL 2311. Semester Hours 3 (3 lec)

ENGL 2341 Forms of Literature

The study of one or more literary genres including, but not limited to, poetry, fiction, drama, and film. Prerequisite: ENGL 1301 or ENGL 2311. Semester Hours 3 (3 lec)

FREN 2311 Intermediate French I

Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture. Prerequisite: FREN 1412, three years of high school French, or consent of instructor or division chair. Students with three years of high school French are encouraged to see a French instructor prior to enrolling. Semester Hours 3 (3 lec)

GERM 2311 Intermediate German I

Review and application of skills in listening comprehension, speaking, reading, and writing. Emphasizes conversation, vocabulary acquisition, reading, composition, and culture. Prerequisite: GERM 1412, three years of high school German, or consent of instructor or division chair. Students with three years of high school German are encouraged to see a German instructor prior to enrolling. Semester Hours 3 (3 lec)

HUMA 1301 Introduction to Humanities I

This stand-alone course is an interdisciplinary survey of cultures focusing on the philosophical and aesthetic factors in human values with an emphasis on the historical development of the individual and society and the need to create. Team taught by faculty from diverse departments as a colloquium (academic seminar led by a different lecturer and on a different topic at each session). Works may include studies, journals, novels, poems, treatises, graphic novels, films, plays, paintings, musical compositions, etc. Semester Hours 3 (3 lec)

HUMA 1302 Introduction to Humanities II

This stand-alone course is an interdisciplinary survey of cultures focusing on the philosophical and aesthetic factors in human values with an emphasis on the historical development of the individual and society and the need to create. Team taught by faculty from diverse departments as a colloquium (academic seminar led by a different lecturer and on a different topic at each session). Works may include studies, journals, novels, poems, treatises, graphic novel films, plays, paintings, musical compositions, etc. Semester Hours 3 (3 lec)

PHIL 1301 Introduction to Philosophy

A study of major issues in philosophy and/or the work of major philosophical figures in philosophy. Topics in philosophy may include theories of reality, theories of knowledge, theories of value, and their practical applications. Semester Hours 3 (3 lec)

PHIL 1304 Introduction to World Religions

A comparative study of world religions, including but not limited to Hinduism, Buddhism, Judaism, Christianity, and Islam. Semester hours 3

PHIL 2306 Introduction to Ethics

The systematic evaluation of classical and/or contemporary ethical theories concerning the good life, human conduct in society, morals, and standards of value. Semester Hours 3 (3 lec)

SPAN 2311 Intermediate Spanish I

The consolidation of skills acquired at the introductory level. Further development of proficiency in listening, speaking, reading and writing. Emphasis is on comprehension, appreciation, and interpretation of the cultures of the Spanish-speaking world. Prerequisite: SPAN 1412, three years of high school Spanish, or consent of instructor or division chair. Students with three years of high school Spanish are encouraged to see a Spanish instructor prior to enrolling. Semester Hours 3 (3 lec)

SGNL 2301 Intermediate ASL I

Review and application of conversational skills in American Sign Language and interpreting from signing to voice as well as from voice to signing. Introduction to American Sign Language literature and folklore. Prerequisite: SGNL 1402 with a grade of C or better or consent of the program director. Semester Hours 3 (3 lec)

MATH 1314 College Algebra

In-depth study and applications of polynomial, rational, radical, exponential and logarithmic functions, and systems of equations using matrices. Additional topics such as sequences, series, probability, and conics may be included. Graphing calculator required. Recommended Prerequisite: TSI complete. Prerequisite: MATH 0311 or consent of division chair. Semester Hours 3 (3 lec)

MATH 1316 Plane Trigonometry

In-depth study and applications of trigonometry including definitions, identities, inverse functions, solutions of equations, graphing, and solving triangles. Additional topics such as vectors, polar coordinates and parametric equations may be included. Graphing calculator required. Prerequisite: MATH 1314 with a minimum grade of C, or passing score on non-credit equivalency exam for MATH 1314, or consent of division chair. Semester Hours 3 (3 lec)

MATH 1324 Mathematics for Business & Social Sciences

The application of common algebraic functions, including polynomial, exponential, logarithmic and rational, to problems in business, economics and the social sciences are addressed. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices, linear programming; and probability, including expected value. Prerequisite: MATH 0311 or consent of division chair. Semester Hours 3 (3 lec)

MATH 1325 Calculus for Business & Social Sciences

This course is the basic study of limits and continuity, differentiation, optimization and graphing, and integration of elementary functions, with emphasis on applications in business, economics and social sciences. This course is not a substitute for MATH 2413, Calculus I. Prerequisite: MATH 1324 or equivalent or consent of division chair. Semester Hours 3 (3 lec)

MATH 1332 Contemporary Mathematics (Quantitative Reasoning)

Intended for Non STEM (Science, Technology, Engineering, and Mathematics) majors. Topics include introductory treatments of sets and logic, financial mathematics, probability and statistics with appropriate applications. Number sense, proportional reasoning, estimation, technology, and communication should be embedded throughout the course. Additional topics may be covered. Graphing calculator required. Prerequisite: TSI math complete or MATH 0308 or consent of division chair. Semester Hours 3 (3 lec)

MATH 1342 Elementary Statistical Methods

Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Use of appropriate technology is recommended. Graphing calculator required. Prerequisite: TSI math complete or MATH 0308 or completion of college-level math course or consent of division chair. Semester Hours 3 (3 lec)

MATH 1350 Mathematics for Teachers I (Fundamentals of Mathematics I)

This course is intended to build or reinforce a foundation in fundamental mathematics concepts and skills. It includes the conceptual development of the following: sets, functions, numeration systems, number theory, and properties of the various number systems with an emphasis on problem solving and critical thinking. Prerequisite: MATH 1314/1414 College Algebra or the equivalent or consent of division chair. Semester Hours 3 (3 lec)

MATH 1351 Mathematics for Teachers II (Fundamentals of Mathematics II)

This course is intended to build or reinforce a foundation in fundamental mathematics concepts and skills. It includes the concepts of geometry, measurement, probability, and statistics with an emphasis on problem solving and critical thinking. Prerequisite: MATH 1314/1414 College Algebra Semester Hours 3 (3 lec)

MATH 1442 Elementary Statistical Methods

Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. The course will include application problems and projects using real world data. Use of appropriate technology is recommended. Prerequisites: MATH 1442 or consent of the division chair. Semester Hours 4 (3 lec/2 lab)

MATH 2305 Discrete Mathematics

A course designed to prepare math, computer science, and engineering majors for a background in abstraction, notation, and critical thinking for the mathematics most directly related to computer science. Topics include: logic, relations, functions, basic set theory, countability and counting arguments, proof techniques, mathematical induction, combinatorics, discrete probability, recursion, sequence and recurrence, elementary number theory, graph theory, and mathematical proof techniques. Prerequisite: MATH 2413 with a grade of C or better. Semester Hours 3 (3 lec)

MATH 2318 Linear Algebra

Introduces and provides models for application of the concepts of vector algebra. Topics include finite dimensional vector spaces and their geometric significance; representing and solving systems of linear equations using multiple methods, including Gaussian elimination and matrix inversion; matrices; determinants; linear transformations; quadratic forms; eigenvalues and eigenvector; and applications in science and engineering. Graphing calculator required. Prerequisite or corequisite: MATH 2414 or consent of division chair. Semester Hours 3 (3 lec)

MATH 2320 Differential Equations

Ordinary differential equations, including linear equations, systems of equations, equations with variable coefficients, existence and uniqueness of solutions, series solutions, singular points, transform methods, and boundary value problems; application of differential equations to real-world problems. Graphing calculator required. Prerequisite or corequisite: MATH 2415 or consent of division chair. Semester Hours 3 (3 lec)

MATH 2412 Pre-Calculus Mathematics

In-depth combined study of algebra, trigonometry, and other topics for calculus readiness. Prerequisite: MATH 1314 with a minimum grade of C, or passing score on non-credit equivalency exam for MATH 1314, or consent of division chair. Semester Hours 4 (4 lec)

MATH 2413 Calculus I

Limits and continuity; the Fundamental Theorem of Calculus; definition of the derivative of a function and techniques of differentiation; applications of the derivative to maximizing or minimizing a function; the chain rule, mean value theorem, and rate of change problems; curve sketching; definite and indefinite integration of algebraic, trigonometric, and transcendental functions, with an application to calculation of areas. Graphing calculator required. Prerequisite: MATH 2412 with a minimum grade of C, or both MATH 1314 and MATH 1316 with minimum grades of C, or passing score on non-credit equivalency exam for MATH 2412, or consent of division chair. Semester Hours 4 (4 lec)

MATH 2414 Calculus II

Differentiation and integration of transcendental functions; parametric equations and polar coordinates; techniques of integration; sequences and series; improper integrals. Graphing calculator required. Prerequisite: MATH 2413 with a grade of C or better or consent of division chair. Semester Hours 4 (4 lec)

MATH 2415 Calculus III

Advanced topics in calculus, including vectors and vector-valued functions, partial differentiation, Lagrange multipliers, multiple integrals, and Jacobians; application of the line integral, including Green's Theorem, the Divergence Theorem, and Stokes' Theorem. Graphing calculator required. Prerequisite: MATH 2414 with a grade of C or better or consent of division chair. Semester Hours 4 (4 lec)
