Code	Field	Old	New
ACE 327	Course Number	427	327
ACE 327 ACE 327	Catalog Description Course Code	Designed to provide in-depth study of normal and abnormal biomechanics of the lower extremity and spine.  ACE 427	Fundamentals of kinematics and kinetics related to human movement. Basics of biomechanics applied to the concepts of injury prevention and performance improvement. Overview of various biomechanical data collection and analysis.  ACE 327
BCOR 299	Catalog Description	Students will develop facility with business communication genres, such as professional emails, memos, letters, proposals, reports, interviews, and oral presentations. Includes research and real-world business projects and/or cases.	This course is designed to prepare you to participate effectively in workplace communication. Professionals compose for practical purposes: to solve problems, to develop proposals to increase business, and to communicate to others both inside and outside the organization. Throughout the semester, you will increase your familiarity with common business communication genres, and you will prepare materials within these genres.
BCOR 299	Catalog Prerequisites	WVU sections require (ENGL 101 and ENGL 102) or ENGL 103 each with a minimum grade of C-, PSC and WVUIT sections require (ENGL 101 and ENGL 102).	WVU sections require (ENGL 101 or ENGL 1C1) and (ENGL 102 or ENGL 1C2) or ENGL 103 each with a minimum grade of C-, PSC and WVUIT sections require (ENGL 101 and ENGL 102).
BIOC 339 BIOC 339	Catalog Description  Catalog Prerequisites	(For undergraduate biochemistry majors, and undergraduate students in other relevant programs.) A general introduction to biochemistry with emphasis on human biochemistry.  General chemistry, organic chemistry.	This course emphasizes human biochemistry and closely follows the format and content of biochemistry courses that are required for the MD, DDS, and other professional degree programs in Health Sciences. It provides an introduction to biochemistry for undergraduate pre-professional students, and students in the Molecular Medicine minor, Biochemistry major, Exercise Physiology major, and Immunology and Medical Microbiology major.  CHEM 231 or CHEM 233.
BIOL 339	Catalog Prerequisites	BIOL 221 or BIOL 348 or instructor consent.	BIOL 348 with a minimum grade of C- or BIOL 221.

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BIOL 476	Catalog Prerequisites	BIOL 348 and Coreq: BIOL 476L.	BIOL 348 with a minimum grade of C- and Coreq: BIOL 476L.
BIOL 476L	Catalog Prerequisites	BIOL 348 and Coreq: BIOL 476.	BIOL 348 with a minimum grade of C- and Coreq: BIOL 476.
BIOL 479	Catalog Prerequisites	BIOL 348.	BIOL 348 with a minimum grade of C
BUDA 452	Catalog Description	This course enables students to design computational experiments to compare alternatives and arrive at the best business decision. In order to fit models to business cases, students have to identify the relevant variables, sources of uncertainty and probability distributions.	This course introduces basic concepts and approaches to business simulation modeling using computer software. Students define business problems with variables and constraints, develop computer programs to simulate the situations, and analyze the results for decision making, comparing with analytical models.
BUDA 452	Catalog Prerequisites	BUDA 450 with a minimum grade of C	ECON 225 or STAT 211 with a minimum grade of B- or STAT 215 with a minimum grade of C
CHE 366	Catalog Prerequisites	CHEM 116 and junior standing in engineering and mineral resources or chemistry.	CHEM 115 with a minimum grade of C
CHE 475	Catalog Prerequisites	CHE 202 and CHE 310.	(CHE 202 or CHE 221) and (CHE 310 or CHE 322).
CPE 310	Catalog Prerequisites	CPE 271 and CPE 271L and PR or CONC: CPE 310L.	CPE 271 and CPE 271L and CS 110 and PR or CONC: CPE 310L.
CPE 435	Catalog Prerequisites	CPE 310 and CPE 310L and CS 350.	CPE 310 and CPE 310L.
CS 330	Course Number	230	
CS 330	Catalog Prerequisites	CS 111 and CS 111L with a minimum grade of C- and PR or CONC: CS 230L.	CS 111 and CS 111L with a minimum grade of C- and PR or CONC: CS 330L.
CS 330	Course Code	CS 230	CS 330
CS 330L	Course Number	230L	330L
CS 330L	Catalog Description	Laboratory for CS 230.	Laboratory for CS 330.
CS 330L	Catalog Prerequisites	CS 111 and CS 111L with a minimum grade of C- and PR or CONC: CS 230.	CS 111 and CS 111L with a minimum grade of C- and PR or CONC: CS 330.
CS 330L	Course Code	CS 230L	CS 330L
CS 365	Catalog Description	An accelerated study of a programming language (such as C/C++, C#, JAVA, Visual Basic, Perl, ASP, HTML, Delphi, Ada, etc.) for students who have met the core curriculum courses in computer science.	Python, C/C++, C#, Java, Visual Basic, Perl, ASP, HTML/CSS, Delphi, Ada, etc.) for students who have met the core curriculum courses in computer science.
CS 365	Catalog Prerequisites	CS 221.	CS 122

CS 472	Catalog Prerequisites	WVU sections require CS 220 and CS 320 with a minimum grade of C-, WVUIT sections require CS 222.	WVU sections require CS 220 or (MATH 303 and MATH 378), WVUIT sections require CS 222.
DANC 310S	Full Title	Advanced Ballet	Intermediate/Advanced Ballet
DANC 310S	Catalog Description	Topics covered include advanced ballet dance technique, dance vocabulary, dance literacy, proper alignment, musicality, and sound anatomical practices. (May be repeated for a maximum of 6 credit hours.)	Topics covered include advanced classical and contemporary ballet dance techniques, dance vocabulary, dance literacy, proper alignment, musicality, and sound anatomical practices. (May be repeated for a maximum of 8 credit hours.)
EXPH 101	Credit Hours	1	2
EXPH 240	Credit Hours	1	2
FIN 461	Full Title	Advanced Bank Management	Applied Bank Management
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FIN 461	Catalog Description	An advanced course in commercial banking involving problems of management of the money position, loan and investment portfolio and capital adequacy. The student simulates actual bank operation, conducts case studies, and analyzes bank performance.	An applied course in commercial banking involving problems of management of the money position, loan and investment portfolio, and capital adequacy. The student simulates actual bank operations, conducts case studies, and analyzes bank performance.
FIN 461	Catalog Prerequisites	FIN 460.	FIN 330 with a minimum grade of C
FIN 465	Catalog Prerequisites	FIN 310 with a minimum grade of A	Successful performance on a professional interview, a competitive score on a formal assessment of investment knowledge, and FIN 310 as a pre-requisite/co-requisite.
HMBA 612	Credit Hours	2	3
LAW 719	Catalog Description	Gross income, deductions, exclusions, and gains and losses from dealing in property.	Gross income, deductions, exclusions, and gains and losses from dealing in property; the four credit version of the class includes administrative law concepts
LAW 719	Credit Hours	3	3 to 4
LAW 719	Course is Variable Credit	No	Yes
MATH 124	Course is Variable Credit	No	Yes
MATH 124	Credit Hours	3	0 or 3
MATH 124	Catalog Prerequisites	MATH 104 or satisfy the minimum ACT/SAT math score, or satisfactory performance on departmental placement examination, (prerequisites may vary on regional campuses).	Minimum ACT/SAT math score, or satisfactory performance on departmental placement examination, or Math 122 with a minimum grade of C-, (prerequisites may vary on regional campuses).

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MATH 126	Catalog Prerequisites	Satisfy the minimum ACT/SAT math score, or satisfactory performance on departmental placement examination, (prerequisites may vary on regional campuses).	Satisfy the minimum ACT/SAT math score, or satisfactory performance on departmental placement examination, or MATH 122 with a minimum grade of C-, (prerequisites may vary on regional campuses).
MATH 129	Catalog Description	A treatment of algebra, analytic geometry, and trigonometry.  Not open to students who have credit for the equivalent of either MATH 126 or 128. Pre-requisite(s) and/or co-requisite(s) may differ on regional campuses.	A treatment of algebra, analytic geometry, and trigonometry. Prerequisites may vary on regional campuses.
MATH 129	Catalog Prerequisites	Satisfy the minimum ACT/SAT math score, or satisfactory performance on departmental placement test.	Satisfy the minimum ACT/SAT math score, or satisfactory performance on departmental placement test, (prerequisites may vary on regional campuses).
MATH 155	Catalog Description	Introduction to limits, continuity, derivatives, antiderivatives, definite integrals, and applications of the derivative. Not open to students who have earned credit in MATH 153 and/or MATH 154.	Introduction to limits, continuity, derivatives, antiderivatives, definite integrals, and applications of the derivative.
MATH 155	Catalog Prerequisites	Satisfy the minimum ACT/SAT math score, or satisfactory performance on departmental placement examination, or C- in MATH 129, For PSC and WVUIT sections, students may instead satisfy minimum grade of C- in MATH 126 and MATH 128.	Satisfy the minimum ACT/SAT math score, or satisfactory performance on departmental placement examination, or minimum grade of C- in MATH 129, or minimum grade of C- in MATH 126 and MATH 128.
MDIA 361	Subject Code	JRL - Journalism	MDIA - Media Studies Technology
MDIA 361	Course Code	JRL 361	MDIA 361
MDIA 438	Subject Code	ADPR - Advertising and Public Relations	MDIA - Media Studies Technology
MDIA 438	Course Code	ADPR 438	MDIA 438
MINE 531	Course Code	MINE 632	MINE 531
MINE 531	Course Number	632	531
MUSC 380	Catalog Prerequisites	For music education majors, successful completion of all preprofessional requirements.	MUSC 280 and MUSC 281 and MUSC 284 with a minimum grade of C- (and associated proficiency examinations) and for music education majors, successful completion of all pre-professional requirements.
MUSC 382	Course Number	382S	382
MUSC 382	Course is Variable Credit	Yes	No
MUSC 382	Credit Hours	0 or 3	

MUSC 382	Catalog Prerequisites	For music education majors, successful completion of all preprofessional requirements.	MUSC 280 and MUSC 281 and MUSC 284 with a minimum grade of C- (and associated proficiency examinations) and for music education majors, successful completion of all pre-professional requirements.
MUSC 382	Course Code	MUSC 382S	MUSC 382
MUSC 671	Full Title	Music History Pedagogy	Music History Pedagogy 1
MUSC 671	Catalog Description	Current and best practices in the teaching of undergraduate music history courses, including courses for non-majors and music majors (so-called survey courses). Topics include: Development of learning objectives; syllabus design; textbooks/other teaching resources; undergraduate writing; assessment design and implementation; pedagogical models; classroom technologies; performance and composition in music history courses.	Current and best practices in the teaching of undergraduate music history courses, including courses for non-majors and music majors (so-called survey courses). Topics include: Development of pedagogical models; learning objectives; syllabus design; textbooks/other teaching resources; and classroom technologies.
PET 228	Full Title	Curriculum in Physical Education	Instructional Models and Curriculum in Physical Education
PET 228	Catalog Description	Examination of curriculum and curriculum development; discussion of hidden curriculum issues in physical education.	Students completing this course will examine physical education instructional models, curriculum, and curriculum development.
PET 228	Catalog Prerequisites	PET 101 and PET 124 and PET 125 and PET 167 and PET 175 and PET 244 and PET 276 and PR or CONC: PET 233 and PET 349 with a minimum grade of C- in all.	PEK majors must earn C- or higher.
PET 233	Course is Variable Credit	Yes	No
PET 233	Credit Hours	0 or 4	3
PET 233	Catalog Prerequisites	PET 101 and PET 124 and PET 125 and PET 167 and PET 175 and PET 244 and PET 276 and PR or CONC: PET 228 and PET 349 with a minimum grade of C- in all.	Corequisite of PET 233L and PEK majors must earn C- or higher.
PET 276	Full Title	Special Physical Education	Adapted Physical Education
PET 276	Course is Variable Credit	Yes	No
PET 276	Credit Hours	0 or 2	2

PET 276 PET 346	Catalog Description Full Title	Examines motor developmental characteristics of various handicapped groups and emphasizes physical education role in remediating possible developmental deficiencies.  Teaching Physical Activities 1	Examines legal issues and current trends in adapted physical education, and develops differential instruction strategies for designing, implementing and evaluating instructional programs for students' individual needs in schools and specialized settings, emphasizing disability characteristics, definitions, functions, and behaviors.  Teaching of Invasion Games
PET 346	Course is Variable Credit	Yes	No
PET 346	Credit Hours	0 to 3	3
PET 346	Catalog Description	Basic concepts and instructional techniques for teaching softball, floor hockey and flag football in public schools.	Basic concepts and instructional techniques for teaching invasion games in public schools.
PET 346 PET 347	Catalog Prerequisites Full Title	PET 350 and PET 369 and PET 379 and PR or CONC: PET 347 and PET 441 with a minimum grade of C- in all.  Teaching Physical Activities 2	PEK majors must earn C- or higher.  Teaching of Net and Wall Games
PET 347	Catalog Description	Basic concepts and instructional techniques for teaching soccer, basketball and volleyball in public schools.	Basic concepts and instructional techniques for teaching net and wall games in public schools.
PET 347	Catalog Prerequisites	PET 350 and PET 369 and PET 379 and PR or CONC: PET 346 and PET 441 with a minimum grade of C- in all.	PEK majors must earn C- or higher.
PET 369	Full Title	Teaching K-2 Physical Education	Residency 1 Teaching Elementary Physical Education
PET 369	Catalog Description	This course enables teacher candidates to plan, organize and conduct physical education instruction for children in K-2.  Special emphasis placed on interacting with developmentally appropriate lesson content, learning how to teach and assess student learning.	This Residency 1 course prepares teacher candidates to plan, organize, and deliver physical education lessons to elementaryaged students. Special emphasis is placed on interacting with developmentally appropriate lesson content, learning how to teach, and assessing student learning.
PET 369	Catalog Prerequisites	PET 228 and PET 233 and PET 349 and PR or CONC: PET 350 and PET 379 with a minimum grade of C- in all.	PEK majors must earn C- or higher.
PET 441	Catalog Prerequisites	PET 124 and PET 125 and PET 167 and PET 175 and PET 244 with a minimum grade of C- in all.	
PET 449	Full Title	Teaching Physical Activities 4	Teaching of Lifetime, Fitness, and Rhythmic Activities

PET 449	Catalog Description	Basic concepts and instructional techniques for teaching aquatics, fitness, and dance in public schools.	Basic concepts and instructional techniques for teaching lifetime, fitness, and rhythmic activities in public schools.
PET 449	Catalog Prerequisites	PET 124 and PET 125 and PET 167 and PET 175 and PET 244 and PR or CONC: PET 447 with a minimum grade of C- in all.	PEK majors must earn C- or higher.
PET 477	Course is Variable Credit	Yes	No
PET 477	Credit Hours	0 or 3	3
PET 477	Catalog Prerequisites	PET 346 and PET 347 and PET 441 and PR or CONC: PET 447 and PET 449 with a minimum grade of C- in all.	PET 276 with a minimum grade of C
PET 489	Full Title	Student Teaching Seminar	Residency 2 Seminar
PET 489	Catalog Description	Discussions to enhance communication concerning the program's student teaching and stimulate critical thinking about the student teaching experience. (Seminar.)	Discussions to enhance communication concerning the program's Residency 2, stimulate critical thinking about the Residency 2 experience, and assist with the edTPA submission process.
PET 489	Catalog Prerequisites	Corequisite of PET 487 and PET 488.	Co-requisite of PET 488.
SEP 425	Full Title	Psychological Aspects of Sport Injury	Psychology of Injury and Rehabilitation
SEP 425	Catalog Description	This upper level course involves the study of various topics related to the psychological aspects of sport injury. In general this course will examine issues associated with the onset, treatment and rehabilitation of sport injury.	This upper-level course involves the study of psychological factors associated with the onset, treatment, and rehabilitation of injury, particularly injury sustained in sport and other performance contexts.
CED 425	6	PSYC 101 or SEP 272 with a minimum grade of C- and Junior or	
SEP 425	Catalog Prerequisites	Senior standing.	Applied Descarch in Chart Management
SM 516	Full Title	Application of the scientific method to sport marketing; emphasis on evaluating and conducting survey research in sport marketing; marketing project includes consumer behavior	importance of research as a tool to inform decision-making in
SM 516	Catalog Description	research in sport settings.	sport.
SM 527	Full Title	Legal Issues in Sport Administration	Navigating Legal Issues in Sport Management
SM 535	Full Title	Sport Management Processes	Management of Human Resources in Sport Organizations

SM 535 SM 540	Catalog Description Full Title	Analysis of management processes utilized in sport businesses. A focus is on the planning, organization, leading, and evaluation processes that are unique to the sport industry. Discussion, debate, and position papers on these four management processes.  International Sport Governance	This course takes a broad look at the way sport organizations are managed. Most of the course content is drawn from the literature and resources on both organizational theory and organizational behavior as this course aims to provide students with a solid theoretical background on how sport organizations work.  Sport Policy and Governance
SM 540 SM 546	Catalog Description Full Title	This course is focused on ways in which sport is organized and managed internationally; it aims to foster critical thinking, research, exchange of ideas, and writing about governance.  Sport Marketing	This course examines the issues and the stakeholders in the governance of sport and sport organizations at the local, national, and international levels. This course provides an indepth study of the history, development, and organizational structures of the organizations that govern amateur and professional sports.  Sport Consumer Behavior and Marketing
SM 546 SM 570	Catalog Description Full Title	Advanced analysis of marketing sport enterprises, the marketing planning process, and marketing information systems.  Sport Finance	This course aims to facilitate an understanding of marketing by bringing theories and concepts to bear upon issues in sport marketing. Students will be asked to analyze how sport is marketed from a systems perspective. This class will teach students how to incorporate the perspectives and models relevant to marketing sport organizations and how external companies market through sport entities.  Financial Decision-Making in Sport
SM 570 SM 575	Catalog Description Full Title	Financial operations and economic impact of scholastic, intercollegiate, and professional sport administration; concepts of budgeting, auditing, reporting, and computer use; current developments in the field.  Fund-Raising and Development	Examines the financial tools used by sports managers. It explores traditional and innovative methods of revenue acquisition and financial management, the financial business structure of sports organizations, and the financial planning and forecasting processes that make organizations effective. Other aspects of finance are discussed as they relate to sports organizations with a special focus on strategy.  Sport Development and Fundraising

SM 575	Catalog Description	This course is designed to provide a comprehensive overview for fundraising, development, and donor relations with the understanding of different needs in various sport organizations. Students will learn basic principles and techniques to raise money through sales and other financial means.	Blend of fundraising theory and practice. Covers the administrative aspects of conceptualizing, developing, and implementing athletic program fundraising through the actual operation of an assortment of straightforward and complex fundraisers. Numerous practical applications provided to stimulate student learning through the delineation of 'real world' athletic program fundraising activities.
SM 580	Full Title	Sociocultural and Ethical Dimensions of Sport	Social and Ethical Responsibility in Sport
SM 580	Catalog Description	This course is designed to foster critical thinking, writing and discussion about the historical, cultural and ethical dimensions of sport and their impact upon modern society.	This course is designed to foster critical thinking, writing, and discussion about the sociological, cultural and ethical dimensions of sport and their impact upon modern society. Social theories and ethical concepts covered and its application to key social issues that affects the development of sport. Students examine specific cases from a sociological and ethical angle.
SM 586	Full Title	Facility Planning and Management	Sport Facility Operations
SM 586	Catalog Description	Acquaint students with the basic concepts in the areas of sport facilities: planning, design and construction, management, marketing, advertising and public relations and event operations.	In-depth study of sport facilities, including planning, design, liability and facility management concepts and evaluation. To fulfill course and module learning outcomes, you will actively participate in learning modules. Each module will contain readings, commentary, and media - each of which will contribute to advancing your knowledge.
SOWK 656	Catalog Description	Focus is on financial management and grant development in social service settings from an integrated practice perspective. Topics include accountability, budgeting, cost measurement, grant writing, and nonprofit management within the context of professional social work values and ethics, social justice, and affirmation of the human rights of diverse groups of people.	Focus is on grant development and financial management in nonprofit settings from an integrated practice perspective.  Topics include grant seeking, proposal development, budgeting, and nonprofit management within the context of professional social work values and ethics, social justice, and affirmation of the human rights of diverse groups of people.

STAT 511 Catalog Prerequisites MATH 126.    Methods for analyzing data primarily with a continuous response variable collected from a completely random, randomized complete block, Latin square, and split-plot experimental designs. Unplanned and planned multiple and orthogonal comparisons for qualitative and quantitative treatments and factorial arrangements. Multiple linear regression and covariance analysis. (Equivalent to EDP 614 and PSYC 512.)  STAT 512 Catalog Description and PSYC 512.)  STAT 512 Catalog Prerequisites STAT 511 or equivalent.  STAT 511 Catalog Prerequisites STAT 511 or equivalent.  STAT 512 Catalog Prerequisites STAT 511 or equivalent.  STAT 513 Catalog Description and covariance and relative efficiency for various experimental designs. Fixed, random, and mixed linear models for analyzing data from designed experiments including the complete and fractional factorial experiment, and the completely random, randomized complete block, balanced incomplete block, Latin square, central composite, nested, and split-plot experimental designs. Fixed, random, and mixed models. Use of sub-sampling, covariance, and confounding to increase gower and efficiency.  STAT 513 Catalog Description increase power and efficiency.  STAT 513 Credit Hours 0 or 3		1	1	
Methods for analyzing data primarily with a continuous response variable collected from a completely random, randomized complete block, Latin square, and split-plot experimental designs. Unplanned and planned multiple and orthogonal comparisons for qualitative and quantitative treatments and factorial arrangements. Multiple linear regression and covariance analysis. (Equivalent to EDP 614 and PSYC 512.)  STAT 512 Catalog Description STAT 511 or equivalent.  STAT 512 Catalog Prerequisites STAT 511 or equivalent.  STAT 513 Catalog Description STAT 513 Catalog Description Catalog STAT 513 Credit Hours O or 3  Methods for analyzing data primarily with a continuous response variable collected from a completely random, randomized complete block, or factorial experimental design with or without subsampling. Unplanned and planned multiple and orthogonal comparisons for qualitative treatments and factorial arrangements. Experimental data versus observational studies. Simple and multiple linear regression analysis. (Equivalent to EDP 614 and PSYC 512.)  STAT 511.  Fixed, random, and mixed linear models for analyzing data from designed experiments including the complete and fractional factorial experiment, and the completely random, randomized complete block, balanced incomplete block, Latin square, central composite, nested, and split-plot experimental designs. Expected mean squares and power of tests. Use of blocking and increase power and efficiency.  STAT 513 Credit Hours O or 3	STAT 511		tests of hypotheses, confidence intervals, regression, correlation, transformations, F and Chi-square distributions, analysis of variance and multiple comparisons. (Equivalent to EDP 613 and PSYC 511.)	statistics; probability and random variables including normal, t, F, and chi-square distributions; one- and two-sample tests of hypotheses and confidence intervals; simple linear regression and correlation; one-way analysis of variance with multiple comparisons protection; and contingency table chi-square tests.
Completely random, randomized complete block, Latin square, and split-plot experimental designs. Unplanned and planned multiple and orthogonal comparisons for qualitative and quantitative treatments and factorial arrangements. Multiple linear regression and covariance analysis. (Equivalent to EDP 614 and PSYC 512.)  STAT 512 Catalog Description and PSYC 512.)  STAT 512 Catalog Prerequisites STAT 511 or equivalent.  STAT 512 Catalog Prerequisites STAT 511 or equivalent.  STAT 513 Catalog Description and possible collected from a completely random, randomized complete block, or factorial experimental design with or without subsampling. Unplanned and planned multiple and orthogonal comparisons for qualitative and quantitative treatments and factorial arrangements. Experimental data versus observational studies. Simple and multiple linear regression analysis. (Equivalent to EDP 614 and PSYC 512.)  STAT 511.  Fixed, random, and mixed linear models for analyzing data from designed experiments including the complete and fractional factorial experiment, and the completely random, randomized complete block, balanced incomplete block, latin square, central composite, nested, and split-plot experimental designs. Expected mean squares and power of tests. Use of blocking and confounding to increase design testing power and efficiency.	STAT 511	Catalog Prerequisites	MATH 126.	
Fixed, random, and mixed linear models for analyzing data from designed experiments including the complete and fractional factorial experiment, and the completely random, randomized complete block, balanced incomplete block, Latin square, for various experimental designs. Fixed, random, and mixed models. Use of sub-sampling, covariance, and confounding to increase and power of tests. Use of blocking and confounding to increase design testing power and efficiency.  STAT 513 Credit Hours 0 or 3	STAT 512 STAT 512	-	and split-plot experimental designs. Unplanned and planned multiple and orthogonal comparisons for qualitative and quantitative treatments and factorial arrangements. Multiple linear regression and covariance analysis. (Equivalent to EDP 614 and PSYC 512.)	response variable collected from a completely random, randomized complete block, or factorial experimental design with or without subsampling. Unplanned and planned multiple and orthogonal comparisons for qualitative and quantitative treatments and factorial arrangements. Experimental data versus observational studies. Simple and multiple linear regression analysis. (Equivalent to EDP 614 and PSYC 512.)
designed experiments including the complete and fractional factorial experiment, and the completely random, randomized complete block, balanced incomplete block, Latin square, central composite, nested, and split-plot experimental designs. Expected mean squares and power of tests. Use of blocking and confounding to increase power and efficiency.  STAT 513 Credit Hours 0 or 3				
CTAT 512 Catalag Drawawishtes CTAT 512 or a with plant	STAT 513 STAT 513		for various experimental designs. Fixed, random, and mixed models. Use of sub-sampling, covariance, and confounding to increase power and efficiency.	designed experiments including the complete and fractional factorial experiment, and the completely random, randomized complete block, balanced incomplete block, Latin square, central composite, nested, and split-plot experimental designs. Expected mean squares and power of tests. Use of blocking and
STAT 513   Catalog Prerequisites   STAT 512 or equivalent.   STAT 512.	STAT 513	Catalog Prerequisites	STAT 512 or equivalent.	STAT 512.

STAT 545	Catalog Description	Matrix approach to linear and multiple regression, selecting the best regression equation, model building, and the linear models approach to analysis of variance and analysis of covariance.	Matrix approach to linear and multiple regression, selecting the best regression equation, model building, and the linear model approach to analysis of variance. Use of diagnostic measures to assess and improve model adequacy leading to practical model-based inferences or predictions.
STAT 545	Credit Hours	0 or 3	3
STAT 545	Catalog Prerequisites	STAT 512 or equivalent.	STAT 512.
STAT 561	Full Title	Theory of Statistics 1	Theory of Probability and Statistics 1
STAT 561	Catalog Prerequisites	MATH 251.	
STAT 562	Full Title	Theory of Statistics 2	Theory of Probability and Statistics 2
STAT 562	Catalog Description	Techniques of point and interval estimation; properties of estimates including bias, consistency, efficiency, and sufficiency; hypothesis testing including likelihood ratio tests and Neyman-Pearson Lemma; Bayesian procedures; analysis of variance and nonparametrics.	Bayesian and frequentist techniques of point and interval estimation. Properties of estimators including bias, consistency, efficiency, and sufficiency. Hypothesis testing including the Neyman-Pearson Lemma and likelihood ratio tests. Regression, correlation, and nonparametric statistical procedures.