

MEMORANDUM

TO: Deans and Chairs
 FROM: Becky Bitter, Sr. Assistant Registrar
 DATE: November 5, 2019
 SUBJECT: Minor Change Bulletin No. 5

The courses listed below reflect the minor curricular changes approved by the catalog editor since approval of the last Minor Change Bulletin. The column to the far right indicates the date each change becomes effective.

Subject	Course Number	Revise Drop	Current	Proposed	Effective Date
CPT S / E E	302	Revise	Professional Skills in Computing and Engineering 3 Course Prerequisite: Certified major or minor in Computer Science, Computer Engineering, Electrical Engineering, Software Engineering, or Data Analytics; junior standing. Foundation in computing and engineering professional development. (Crosslisted course offered as CPT S 302, E E 302). Credit not granted for both CPT S/E E 302 and CPT S 401. Typically offered Fall and Spring.	Professional Skills in Computing and Engineering 3 Course Prerequisite: <u>CPT S 122 with a C or better or CPT S 123 with a C or better</u> ; admitted to a major or minor in Computer Science, Computer Engineering, Electrical Engineering, Software Engineering, or Data Analytics; junior standing. Foundation in computing and engineering professional development. (Crosslisted course offered as CPT S 302, E E 302). Credit not granted for both CPT S/E E 302 and CPT S 401. Typically offered Fall and Spring.	8-20
CPT S	443 / 543	Revise	Human-Computer Interaction 3 Course Prerequisite: Certified major or minor in Computer Science, Computer Engineering, Electrical Engineering, Software Engineering, or Data Analytics; junior standing. Concepts and methodologies of engineering, social and behavioral sciences to address ergonomic, cognitive, social and cultural factors in the design and evaluation of	Human-Computer Interaction 3 Course Prerequisite: <u>CPT S 223 with a C or better or CPT S 233 with a C or better</u> ; admitted to a major or minor in Computer Science, Computer Engineering, Electrical Engineering, Software Engineering, or Data Analytics; junior standing. Concepts and methodologies of engineering, social and behavioral sciences to address ergonomic, cognitive, social and cultural factors in the design and evaluation of human-	8-20

			human-computer systems. Credit not granted for both CPT S 443 and CPT S 543. Offered at 400 and 500 level. Typically offered Spring.	computer systems. Credit not granted for both CPT S 443 and CPT S 543. Offered at 400 and 500 level. Typically offered Spring.	
ENGLISH	545	Revise	ESL Graduate Student Writing Workshop 3 May be repeated for credit; cumulative maximum 6 hours. Workshop for graduate students in any discipline to improve proficiency in writing academic genres such as dissertations, abstracts, articles, and grant proposals. For non-native speakers of English. Typically offered Summer Session.	Graduate Student Writing Workshop 3 May be repeated for credit; cumulative maximum 6 hours. Workshop for graduate students in any discipline to improve proficiency in writing academic genres such as dissertations, abstracts, articles, and grant proposals. Typically offered Summer Session.	1-20
NURS	523	Revise	Nursing Education: Curriculum and Accreditation 3 Course prerequisite: NURS 521 ; admission to Nursing graduate program. Exploration of curriculum and accreditation history, development, future predictions; leadership, and policy development in academic and service settings.	Nursing Education: Curriculum and Accreditation 3 Course prerequisite: Admission to Nursing graduate program. Exploration of curriculum and accreditation history, development, future predictions; leadership, and policy development in academic and service settings.	1-20
PHARMACY	575	Drop	HIV Prevention and Advocacy 2 Course Prerequisite: Admission to Pharmacy program. Knowledge, skills, and attitudes that improve health outcomes related to HIV and AIDS. Recommended preparation: Completion of one year in the Pharmacy program. Typically offered Fall. S, F grading.	--N/A--	1-20
PHARMACY	576	Drop	Survey of Organ Transplant and Immunosuppressive Drugs 1 Course Prerequisite: Admission to Pharmacy program. An overview of human transplantation by systems and the immunosuppressive regimes employed to prevent organ	--N/A--	1-20

			rejection. Typically offered Spring. H, S, F grading.		
PHARMACY	579	Drop	Diabetes Prevention 2 Course Prerequisite: PHARMACY 544. Preparation for educating patients in diabetes prevention and promoting health and wellness in the community. Typically offered Fall. H, S, F grading.	--N/A--	1-20
PHARMACY	598	Drop	Elementary Science Education Practicum 1 (0-2) Course Prerequisite: Admission to Pharmacy program. Communication with children in classroom environment to stimulate future practicing pharmacists to participate in outreach activities as part of science education. Typically offered Spring. H, S, F grading.	--N/A--	1-20
STAT / MATH	456 / 556	Revise	Introduction to Statistical Theory 3 Course Prerequisite: STAT 430 or 443. Sampling distributions; hypothesis testing and estimation; maximum likelihood; likelihood ratio tests; theory of least squares; nonparametrics. (Crosslisted course offered as STAT 456, MATH 456). Recommended preparation: One 3-hour 400-level STAT or probability course. Offered at 400 and 500 level. Typically offered Spring.	Introduction to Statistical Theory 3 Course Prerequisite: STAT 430 or 443. Sampling distributions; hypothesis testing and estimation; maximum likelihood; likelihood ratio tests; theory of least squares; nonparametrics. (Crosslisted course offered as STAT 456, MATH 456). <u>Credit not granted for more than one of STAT/MATH 456 or STAT 556.</u> <u>Required</u> preparation: One 3-hour 400-level probability course. Offered at 400 and 500 level. Typically offered Spring.	5-20
STAT	512	Revise	Analysis of Variance of Designed Experiments 3 (2-2) Principles of experimental design and analysis and interpretation of data. Recommended preparation: One 3-hour 300 -level STAT course. Typically offered Fall, Spring, and Summer.	Analysis of Variance of Designed Experiments 3 (2-2) Principles of experimental design and analysis and interpretation of data. <u>Required</u> preparation: One 3-hour <u>400</u> -level STAT course. Typically offered Fall <u>and</u> Spring.	5-20
STAT	520	Revise	Statistical Analysis of Qualitative Data 3 Binomial,	Statistical Analysis of Qualitative Data 3 Binomial,	5-20

			Poisson, multinomial distribution; contingency tables, Fisher's tests, log-linear models; ordinal data; applications in biology, business, psychology, and sociology. Recommended preparation: Linear Algebra or Calculus I and one 3-hour 300-level STAT course. Typically offered Odd Years - Fall. Cooperative: Open to UI degree-seeking students.	Poisson, multinomial distribution; contingency tables, Fisher's tests, log-linear models; ordinal data; applications in biology, business, psychology, and sociology. <u>Required</u> preparation: Linear Algebra or Calculus I; one 3-hour 400-level STAT course. Typically offered <u>Even</u> Years - Fall. Cooperative: Open to UI degree-seeking students.	
STAT	522	Revise	Biostatistics and Statistical Epidemiology 3 Rigorous approach to biostatistical and epidemiological methods including relative risk, odds ratio, cross-over designs, survival analysis and generalized linear models. Recommended preparation: Linear Algebra or Calculus I and one 3-hour 300-level STAT course. Typically offered Odd Years - Spring. Cooperative: Open to UI degree-seeking students.	Biostatistics and Statistical Epidemiology 3 Rigorous approach to biostatistical and epidemiological methods including relative risk, odds ratio, cross-over designs, survival analysis and generalized linear models. <u>Required</u> preparation: Linear Algebra or Calculus I; one 3-hour 400-level STAT course. Typically offered Odd Years - Spring. Cooperative: Open to UI degree-seeking students.	5-20
STAT	530	Revise	Applied Linear Models 3 (2-2) The design and analysis of experiments by linear models. Recommended preparation: One 3-hour 300-level STAT course. Typically offered Spring.	Applied Linear Models 3 (2-2) The design and analysis of experiments by linear models. <u>Required</u> preparation: One 3-hour 400-level STAT course. Typically offered Spring.	5-20
STAT	533	Revise	Theory of Linear Models 3 Theoretical basis of linear regression and analysis of variance models; a unified approach based upon the generalized inverse. Recommended preparation: Linear Algebra and one 3-hour 400-level STAT theory course. Typically offered Fall . Cooperative: Open to UI degree-seeking students.	Theory of Linear Models 3 Theoretical basis of linear regression and analysis of variance models; a unified approach based upon the generalized inverse. <u>Required</u> preparation: Linear Algebra and one 3-hour 400-level <u>statistics</u> theory course. Cooperative: Open to UI degree-seeking students.	5-20

STAT	544	Revise	<p>Applied Stochastic Processes 3 Foundations of continuous time stochastic processes: Kolmogorov forward/backward equations, master equation; general introduction to stochastic calculus and stochastic differential equations; applications. Recommended preparation: One 3-hour 400-level STAT or Applied Probability course. Typically offered Odd Years - Spring. Cooperative: Open to UI degree-seeking students.</p>	<p>Applied Stochastic Processes 3 Foundations of continuous time stochastic processes: Kolmogorov forward/backward equations, master equation; general introduction to stochastic calculus and stochastic differential equations; applications. <u>Required</u> preparation: One 3- hour 400-level probability course. Typically offered Odd Years - Spring. Cooperative: Open to UI degree-seeking students.</p>	5-20
STAT / MATH	549 / 569	Revise	<p>Statistical Theory II 3 Continuation of STAT 548. Statistical inferences; estimation and testing hypotheses; regression analysis; sequential analysis and nonparametric methods. (Crosslisted course offered as STAT 549, MATH 569). Recommended preparation: STAT 548. Typically offered Spring. Cooperative: Open to UI degree-seeking students.</p>	<p>Statistical Theory II 3 Course <u>Prerequisite:</u> STAT 548. Statistical inferences; estimation and testing hypotheses; regression analysis; sequential analysis and nonparametric methods. (Crosslisted course offered as STAT 549, MATH 569). Typically offered Spring. Cooperative: Open to UI degree-seeking students.</p>	5-20
STAT	565	Revise	<p>Analyzing Microarray and Other Genomic Data 3 Statistical issues from pre-processing (transforming, normalizing) and analyzing genomic data (differential expression, pattern discovery and predictions). Recommended preparation: Linear Algebra and one 3-hour 300-level STAT course. Typically offered Even Years - Fall. Cooperative: Open to UI degree-seeking students.</p>	<p>Analyzing Microarray and Other Genomic Data 3 Statistical issues from pre-processing (transforming, normalizing) and analyzing genomic data (differential expression, pattern discovery and predictions). <u>Required</u> preparation: Linear Algebra. Typically offered <u>Odd</u> Years - Fall. Cooperative: Open to UI degree-seeking students.</p>	5-20
STAT	572	Revise	<p>Quality Control 3 Simple quality assurance tools; process monitoring; Shewhart control charts; process characterization and capability; sampling inspection; factorial</p>	<p>Quality Control 3 Simple quality assurance tools; process monitoring; Shewhart control charts; process characterization and capability; sampling inspection; factorial experiments.</p>	5-20

			experiments. Recommended preparation: One 3-hour 300-level STAT or probability course. Typically offered Spring .	Recommended preparation: One 3-hour 400-level <u>statistics</u> or probability course.	
STAT	573	Revise	Reliability 3 Probabilistic modeling and inference; product-limit estimator; probability plotting; maximum likelihood estimation with censored data; regression models for accelerated life testing. Recommended preparation: One 3-hour 300-level STAT or probability course. Typically offered Spring .	Reliability 3 Probabilistic modeling and inference; product-limit estimator; probability plotting; maximum likelihood estimation with censored data; regression models for accelerated life testing. Recommended preparation: One 3-hour 400-level <u>statistics</u> or probability course.	5-20
STAT	574	Revise	Linear and Nonlinear Mixed Models 3 Course Prerequisite: STAT 530; STAT 533 ; STAT 556. The theoretical development and application of linear and nonlinear mixed models covering the theory of linear, generalized linear, and nonlinear mixed models. Typically offered Spring.	Linear and Nonlinear Mixed Models 3 Course Prerequisite: STAT 530; STAT 556. The theoretical development and application of linear and nonlinear mixed models covering the theory of linear, generalized linear, and nonlinear mixed models. Typically offered Spring.	5-20
STAT	575	Revise	The Theory of Multivariate Analysis 3 Course Prerequisite: STAT 519 ; STAT 536 ; STAT 556. The theoretical development and application of multivariate statistical methods; topics include multivariate distributions, MANOVA, principal components, factor analysis and classification. Typically offered Spring .	The Theory of Multivariate Analysis 3 Course Prerequisite: STAT 556. The theoretical development and application of multivariate statistical methods; topics include multivariate distributions, MANOVA, principal components, factor analysis and classification. <u>Required preparation: one course in linear algebra.</u> Typically offered <u>Fall</u> .	5-20
STAT	576	Revise	Bayesian Analysis 3 Course Prerequisite: STAT 536 ; STAT 556. Statistical principle for combing new evidence with prior beliefs, inference and simulation procedures for accommodating complex data and producing interpretable	Bayesian Analysis 3 Course Prerequisite: STAT 556. Statistical principle for combing new evidence with prior beliefs, inference and simulation procedures for accommodating complex data and producing interpretable output. <u>Recommended preparation:</u>	5-20

			output. Typically offered Spring .	<u>STAT 536</u> . Typically offered <u>Even Years - Fall</u> .	
STAT	577	Revise	Statistical Learning Theory 3 Focus on learning and interpreting from data; both prediction and classification will be discussed for supervised and unsupervised learning. Recommended preparation: STAT 533; STAT 536; STAT 556. Typically offered Fall .	Statistical Learning Theory 3 <u>Course Prerequisite: STAT 536.</u> Focus on learning and interpreting from data; both prediction and classification will be discussed for supervised and unsupervised learning. Typically offered <u>Spring</u> .	5-20
STAT	590	Revise	Statistical Consulting Practicum V 1-2 May be repeated for credit; cumulative maximum 6 hours. Theory and practice of statistical consulting, participation in consulting session. Recommended preparation: STAT 512 and STAT 530. Typically offered Fall and Spring. S, F grading.	Statistical Consulting Practicum V 1-2 May be repeated for credit; cumulative maximum 6 hours. <u>Course Prerequisite: STAT 512.</u> Theory and practice of statistical consulting, participation in consulting session. Recommended preparation: STAT 530. Typically offered Spring. S, F grading.	5-20