M E M O R A N D U M

TO: Deans and Chairs

FROM: Becky Bitter, Sr. Assistant Registrar

DATE: February 14, 2017

SUBJECT: Minor Change Bulletin No. 8

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
ANTH	**203**	**Revise**	**[DIVR]** ~~**Peoples of the World**~~ 3 ~~Principles~~ of cultural anthropology ~~through study of various ethnic groups from different parts of the world~~. Typically offered Fall, Spring, and Summer.	**[DIVR]** **Global Cultural Diversity** 3 Introduction to the field of cultural anthropology; examination of how cultures vary and are similar. Typically offered Fall, Spring, and Summer.	**8-17**
ANTH	**230**	**Revise**	~~**Introduction to Archaeology**~~ 3 ~~Development of a dynamic picture of past human behavior from archaeological evidence~~. Typically offered Fall.	**Archaeological Methods and Interpretation** 3 Archaeological fieldwork methods; lab-based analysis of archaeological materials as applied to reconstructing past human lifeways. Typically offered Fall.	**8-17**
ANTH	**331**	**Revise**	**[SSCI]** ~~**America Before Columbus**~~ 3 Cultures and environments of ~~North/Middle America~~ from the arrival of the earliest hunter-gatherers to the ~~complex Mayan and Aztec civilizations~~. Recommended preparation: ANTH 101. Typically offered Fall, Spring, and Summer.	**[SSCI]** **Archaeology of the Americas** 3 Cultures and environments of the Americas from the arrival of the earliest hunter-gatherers to the development of complex civilizations. Recommended preparation: ANTH 101. Typically offered Fall, Spring, and Summer.	**8-17**
ANTH	**380**	**Revise**	~~**Introduction to**~~ **Osteology** 3 Introduction to the field of osteology including molecular analysis, paleopathology, taphonomy and forensic analysis. Typically offered Fall.	**Human Osteology** 3 Introduction to the field of osteology including molecular analysis, paleopathology, taphonomy and forensic analysis. Typically offered Fall.	**8-17**

ANTH	**430**	**Revise**	**[M]** ~~**Introduction to Archaeological Method and Theory**~~ 3 Archaeological theory ~~in anthropological perspective; current trends in method and theory in American archaeology~~. Recommended preparation: ANTH 230; 330 or 331.	**[M]** **Archaeological Theory and Explanation** 3 Archaeological theory and the role of theories of culture change in crafting explanations for the human past. Recommended preparation: ANTH 230; ANTH 330 or 331. Typically offered Spring.	**8-17**
ANTH / FOR LANG	**450 / 550**	**Revise**	~~**Descriptive Linguistics**~~ 3 ~~Introduction to analysis and description of natural languages; phonological, syntactic, and semantic analysis of data from a variety of languages~~. (Crosslisted course offered as ANTH 450, FOR LANG 450). ~~Offered at 400 and 500 level.~~ Typically offered Spring. Cooperative: Open to UI degree-seeking students.	**Ethnolinguistics** 3 Anthropological theory and methods applied to the study of cognitive linguistics, or the interrelation of language, mind, and culture. (Crosslisted course offered as ANTH 450, FOR LANG 450). Credit not granted for more than one of ANTH 450, FOR LANG 450, or ANTH 550. Typically offered Spring. Cooperative: Open to UI degree-seeking students.	**8-17**
ANTH	**530**	**Revise**	~~**Archaeological Method and Theory**~~ 3 History of archaeological method and theory; analysis of current literature. Typically offered Spring.	**Theory in Archaeology** 3 History of archaeological method and theory; analysis of current literature. Typically offered Spring.	**8-17**
ANTH / BIOLOGY	**596 / 598**	**Drop**	**IPEM Seminar** 1 May be repeated for credit; cumulative maximum 6 hours. Course Prerequisite: By permission only. Symposia and project work sessions for the WSU/UW IGERT: Program in Evolutionary Modeling. (Crosslisted course offered as ANTH 596, BIOLOGY 598). S, F grading.	**--N/A--**	**5-17**
CE	**322**	**Revise**	**Transportation Engineering** 3 Course Prerequisite: STAT 360 or concurrent enrollment or STAT 370 or concurrent enrollment; ~~CE 302 or concurrent enrollment;~~ certified major in Civil Engineering. Road-vehicle interaction, geometric design, traffic flow	**Transportation Engineering** 3 Course Prerequisite: STAT 360 or concurrent enrollment or STAT 370 or concurrent enrollment; certified major in Civil Engineering. Road-vehicle interaction, geometric design, traffic flow and queuing theory, highway capacity and level of	**8-17**

			and queuing theory, highway capacity and level of service, and introduction to pavement design and materials. Typically offered Fall and Spring.	service, and introduction to pavement design and materials. Typically offered Fall and Spring. Cooperative: Open to UI degree-seeking students.	
CE	**341**	**Revise**	**Introduction to Environmental Engineering** 3 Course Prerequisite: CHEM 105. Impact of pollutants on the environment; pollution sources and sinks; engineering aspects of air and water quality; introduction to pollution control. Typically offered Fall, Spring, and Summer.	**Introduction to Environmental Engineering** 3 Course Prerequisite: CHEM 105; certified major in Civil Engineering. Impact of pollutants on the environment; pollution sources and sinks; engineering aspects of air and water quality; introduction to pollution control. Typically offered Fall, Spring, and Summer.	**5-17**
CE	**400**	**Revise**	**Highway Materials Engineering** 3 (2-3) Course Prerequisite: STAT 360 or concurrent enrollment or STAT 370 or concurrent enrollment; senior standing; certified major in Civil Engineering. Basic properties and mix designs of aggregates, asphalt, concrete and recycled materials; quality assurance, quality control. Typically offered Fall.	**Highway Materials Engineering** 3 (2-3) Course Prerequisite: STAT 360 or concurrent enrollment or STAT 370 or concurrent enrollment; ME 220; senior standing; certified major in Civil Engineering. Basic properties and mix designs of aggregates, asphalt, concrete and recycled materials; quality assurance, quality control. Typically offered Fall. Cooperative: Open to UI degree-seeking students.	**8-17**
CE	**401**	**Revise**	**Climate Change Science and Engineering** 3 Course Prerequisite: CHEM 105; MATH 172; PHYSICS 201. Engineering solutions for climate change problems; basic science of climate change, engineering for mitigation and adaptation, and climate change policy. Typically offered Spring.	**Climate Change Science and Engineering** 3 Course Prerequisite: CHEM 105; MATH 172; PHYSICS 201; certified in any major. Engineering solutions for climate change problems; basic science of climate change, engineering for mitigation and adaptation, and climate change policy. Typically offered Spring. Cooperative: Open to UI degree-seeking students.	**8-17**
CE	**402**	**Revise**	**Applied Meteorology** 3 Course Prerequisite: MATH 172 or 182; PHYSICS 201. Atmospheric physical behavior across spatial	**Applied Meteorology** 3 Course Prerequisite: MATH 172 or 182; PHYSICS 201; certified in any major. Atmospheric physical	**8-17**

			scales linking concepts of meteorological phenomena to engineering design principles. Credit not granted for both CE 402 and CE 502. ~~Offered at 400 and 500 level.~~ Typically offered Fall. Cooperative: Open to UI degree-seeking students.	behavior across spatial scales linking concepts of meteorological phenomena to engineering design principles. Credit not granted for both CE 402 and CE 502. Typically offered Fall. Cooperative: Open to UI degree-seeking students.	
CE	**403**	**Revise**	**Air Quality Management** 3 Air pollution from the perspective of an environmental manager; regulatory framework, management strategies, monitoring, modeling tools, and control technologies. Credit not granted for both CE 403 and CE 503. ~~Offered at 400 and 500 level.~~ Typically offered Spring. Cooperative: Open to UI degree-seeking students.	**Air Quality Management** 3 Course Prerequisite: Certified in any major. Air pollution from the perspective of an environmental manager; regulatory framework, management strategies, monitoring, modeling tools, and control technologies. Credit not granted for both CE 403 and CE 503. Typically offered Spring. Cooperative: Open to UI degree-seeking students.	**8-17**
CE	**414**	**Revise**	**Structural Design Laboratory** 3 (2-3) Course Prerequisite: CE 330; STAT 360 or concurrent enrollment, or STAT 370 or concurrent enrollment; certified major in Civil Engineering. Senior lab requiring integration of previous course work into the execution of design projects and the assessment of experimental test data; design codes and standards, load determination, load path, influence lines; applications in concrete, masonry, steel, and wood. Typically offered Spring.	**Structural Design Laboratory** 3 (2-3) Course Prerequisite: CE 330 with a C or better; STAT 360 or concurrent enrollment, or STAT 370 or concurrent enrollment; certified major in Civil Engineering. Senior lab requiring integration of previous course work into the execution of design projects and the assessment of experimental test data; design codes and standards, load determination, load path, influence lines; applications in concrete, masonry, steel, and wood. Typically offered Spring. Cooperative: Open to UI degree-seeking students.	**5-17**
CE	**416**	**Revise**	**Hydraulic Engineering Laboratory** 3 (1-6) Course Prerequisite: CE 315; STAT 360 or concurrent enrollment or STAT 370 or concurrent enrollment; certified major in Civil Engineering. Experiments related to fluid flow principles	**Hydraulic Engineering Laboratory** 3 (1-6) Course Prerequisite: CE 315; STAT 360 or concurrent enrollment or STAT 370 or concurrent enrollment; certified major in Civil Engineering. Experiments related to fluid flow principles	**8-17**

			and their application to hydraulic engineering. Typically offered Spring.	and their application to hydraulic engineering. Typically offered Spring. Cooperative: Open to UI degree-seeking students.	
CE	**430**	**Revise**	**Analysis of Indeterminate Structures** 3 Course Prerequisite: CE 330 with a C or better; MATH 220; E E 221; certified major in Civil Engineering. Stiffness methods for the analysis of trusses, beams, and frames; matrix models; and computer applications. Typically offered Fall.	**Analysis of Indeterminate Structures** 3 Course Prerequisite: CE 330 with a C or better; MATH 220; E E 221; certified major in Civil Engineering. Stiffness methods for the analysis of trusses, beams, and frames; matrix models; and computer applications. Typically offered Fall. Cooperative: Open to UI degree-seeking students.	**8-17**
CE	**431**	**Revise**	**Structural Steel Design** 3 Course Prerequisite: CE 330 with a C or better; CE 414 ~~or concurrent enrollment~~; certified major in Civil Engineering. Design of steel structures by load and resistance factor design (LRFD); behavior and design of beams, columns, tension members and connections. Typically offered Spring. Cooperative: Open to UI degree-seeking students.	**Structural Steel Design** 3 Course Prerequisite: CE 330 with a C or better; CE 414; certified major in Civil Engineering. Design of steel structures by load and resistance factor design (LRFD); behavior and design of beams, columns, tension members and connections. Typically offered Spring. Cooperative: Open to UI degree-seeking students.	**8-17**
CE	**433**	**Revise**	**Reinforced Concrete Design** 3 Course Prerequisite: CE 330 with a C or better; CE 414 ~~or concurrent enrollment~~; certified major in Civil Engineering. Behavior, analysis, and design of reinforced concrete structures; flexure; shear; bond; serviceability requirements; design of beams, columns, and slabs. Typically offered Fall and Summer.	**Reinforced Concrete Design** 3 Course Prerequisite: CE 330 with a C or better; CE 414; certified major in Civil Engineering. Behavior, analysis, and design of reinforced concrete structures; flexure; shear; bond; serviceability requirements; design of beams, columns, and slabs. Typically offered Fall and Summer. Cooperative: Open to UI degree-seeking students.	**5-17**
CE	**435**	**Revise**	**Foundations** 3 Course Prerequisite: CE 317 with a C or better; certified major in Civil Engineering. Site investigation; bearing capacity, settlement and	**Foundations** 3 Course Prerequisite: CE 317 with a C or better; certified major in Civil Engineering. Site investigation; bearing capacity, settlement and	**8-17**

			design of shallow foundations, piles and piers; design of retaining walls. Typically offered Spring.	design of shallow foundations, piles and piers; design of retaining walls. Typically offered Spring.	
CE	**436**	**Revise**	**Design of Timber Structures** 3 Course Prerequisite: CE 330 with a C or better; CE 414 ~~or concurrent enrollment~~; certified major in Civil Engineering. Engineering properties of wood materials; analysis and design of members, connections, trusses, shearwalls and structural diaphragms; durability and moisture effects on engineered wood products. Typically offered Fall. Cooperative: Open to UI degree-seeking students.	**Design of Timber Structures** 3 Course Prerequisite: CE 330 with a C or better; CE 414; certified major in Civil Engineering. Engineering properties of wood materials; analysis and design of members, connections, trusses, shearwalls and structural diaphragms; durability and moisture effects on engineered wood products. Typically offered Fall. Cooperative: Open to UI degree-seeking students.	**8-17**
CE	**442**	**Revise**	**Water and Wastewater Treatment Design** 3 Course Prerequisite: CE 341 with a C or better; certified major in Civil Engineering or Environmental Science. Water and wastewater treatment processes and design. Typically offered Spring.	**Water and Wastewater Treatment Design** 3 Course Prerequisite: CE 341 with a C or better; certified major in Civil Engineering or Environmental Science. Water and wastewater treatment processes and design. Typically offered Spring. <u>Cooperative: Open to UI degree-seeking students.</u>	**8-17**
CE	**465**	**Revise**	**[CAPS] [M] Integrated Civil Engineering Design** 3 (1-6) Course Prerequisite: Certified major in Civil Engineering; senior standing. Civil engineering applications to planning and design; problem synthesis, data analysis, decision making and reporting; design of complete projects that include local and world-wide problems through interdisciplinary teams. Typically offered Fall and Spring.	**[CAPS] [M] Integrated Civil Engineering Design** 3 (1-6) Course Prerequisite: <u>CE 303;</u> certified major in Civil Engineering; senior standing. Civil engineering applications to planning and design; problem synthesis, data analysis, decision making and reporting; design of complete projects that include local and world-wide problems through interdisciplinary teams. Typically offered Fall and Spring.	**8-17**
CE	**472**	**Revise**	**Durable and Sustainable Pavements and Bridges** 3 Course Prerequisite: CE 215 with a C or better; certified major in Civil Engineering.	**Durable and Sustainable Pavements and Bridges** 3 Course Prerequisite: CE 215 with a C or better; certified major in Civil Engineering.	**8-17**

			Introduction to durability and sustainability concepts and practices related to pavements and bridges; deterioration mechanisms of Portland cement concrete and asphalt concrete; holistic perspectives for infrastructure management; effective materials and techniques for pavement and bridge preservation. Typically offered Spring.	Introduction to durability and sustainability concepts and practices related to pavements and bridges; deterioration mechanisms of Portland cement concrete and asphalt concrete; holistic perspectives for infrastructure management; effective materials and techniques for pavement and bridge preservation. Typically offered Spring. Cooperative: Open to UI degree-seeking students.	
CE	**473**	**Revise**	**Pavement Design** 3 Course Prerequisite: CE 317; ECONS 101 or ~~ECONS~~ 102; CE 322 or concurrent enrollment. Pavement performance evaluation, material characterization, traffic analysis, pavement structural response analysis, transfer function application, and pavement design procedures for both flexible and rigid pavements. Typically offered Spring.	**Pavement Design** 3 Course Prerequisite: CE 317; ECONS 101 or 102; CE 322 or concurrent enrollment; certified major in Civil Engineering. Pavement performance evaluation, material characterization, traffic analysis, pavement structural response analysis, transfer function application, and pavement design procedures for both flexible and rigid pavements. Typically offered Spring. Cooperative: Open to UI degree-seeking students.	**8-17**
CE	**475**	**Revise**	**Groundwater** 3 (2-3) Course Prerequisite: CE 317 or GEOLOGY 315; MATH 140 or concurrent enrollment, or MATH 172 or 182 or concurrent enrollment. Introduction to groundwater occurrence, movement, quality, and resource management, emphasizing physical and biogeochemical principles. Field trip required. (Crosslisted course offered as GEOLOGY 475, CE 475). Typically offered Fall.	**Groundwater** 3 (2-3) Course Prerequisite: CE 317 or GEOLOGY 315; MATH 140 or concurrent enrollment, or MATH 172 or 182 or concurrent enrollment. Introduction to groundwater occurrence, movement, quality, and resource management, emphasizing physical and biogeochemical principles. Field trip required. (Crosslisted course offered as GEOLOGY 475, CE 475). Typically offered Fall. Cooperative: Open to UI degree-seeking students.	**8-17**
CE	**476**	**Revise**	**Pavement Evaluation and**	**Pavement Evaluation and**	**8-17**

			Rehabilitation 3 Course Prerequisite: CE 317. Engineering concept and information needed to maintain, evaluate, repair and rehabilitate pavements and design of flexible and rigid overlays. Typically offered Fall.	**Rehabilitation** 3 Course Prerequisite: CE 317; certified major in Civil Engineering. Engineering concept and information needed to maintain, evaluate, repair and rehabilitate pavements and design of flexible and rigid overlays. Typically offered Fall. Cooperative: Open to UI degree-seeking students.	
ENVR SCI	**444 / 544**	**Revise**	**Environmental Assessment** ~~4~~ Environmental impact statements and their national and state policy frameworks, methods of assessment, and team preparation of an impact statement. Credit not granted for both ENVR SCI 444 and ENVR SCI 544. ~~Offered at 400 and 500 level~~. Typically offered Fall and Spring. Cooperative: Open to UI degree-seeking students.	**Environmental Assessment** 3 Environmental impact statements and their national and state policy frameworks, methods of assessment, and team preparation of an impact statement. Credit not granted for both ENVR SCI 444 and ENVR SCI 544. Typically offered Fall and Spring. Cooperative: Open to UI degree-seeking students.	**5-18**
GEOLOGY	**315**	**Revise**	**Water and the Earth** 3 (2-3) Course Prerequisite: CHEM 102 or 106; one of MATH 108, 140, 171, 172, 182, 201, 202, ENGR 107, or a minimum ALEKS math placement score of 70%; and one of GEOLOGY 101, GEOLOGY 102, PHYSICS 101, or PHYSICS 201. Global hydrologic cycle, including rivers and weathering, groundwater, rainwater and the atmosphere, oceans, human impacts. Field research required. Typically offered Spring.	**Water and the Earth** 3 (2-3) Course Prerequisite: CHEM 102 or 106; ENVR SCI 102; one of MATH 108, 140, 171, 172, 182, 201, 202, ENGR 107, or a minimum ALEKS math placement score of 70%; one of GEOLOGY 101, 102, PHYSICS 101, or 201. Global hydrologic cycle, including rivers and weathering, groundwater, rainwater and the atmosphere, oceans, human impacts. Field research required. Typically offered Spring.	**1-18**
MUS	**433 / 533**	**Revise**	**[ARTS]** ~~**Vocal Ensembles**~~ 1 (0-4) May be repeated for credit. Course Prerequisite: By audition only; see http://libarts.wsu.edu/music/audition/index.htm for details. Study, rehearse, perform, and review original works and transcriptions for symphony orchestra; public performance	**[ARTS] Madrigal/Chamber Singers** 1 (0-4) May be repeated for credit. Course Prerequisite: By audition only; see http://libarts.wsu.edu/music/audition/index.htm for details. Study, rehearse, perform, and review original works and transcriptions for symphony orchestra; public performance	**8-17**

			each semester. Credit not granted for both MUS 433 and MUS 533. Offered at 400 and 500 level. Typically offered Fall and Spring.	each semester. Credit not granted for both MUS 433 and MUS 533. Offered at 400 and 500 level. Typically offered Fall and Spring.	
NEUROSCI	**333**	**Revise**	**Techniques and Experimental Design in Neuroscience Research** 4 (3-3) Course Prerequisite: NEUROSCI 301; MATH 140 ~~or~~ 171; PSYCH 311 ~~or concurrent enrollment~~, STAT 212 ~~or concurrent enrollment~~, STAT 360 ~~or concurrent enrollment~~, STAT 370 ~~or concurrent enrollment~~, or STAT 412 ~~or concurrent enrollment~~. Representative modern neuroscience experiments are explored from a conceptual, technical, and design perspective. Typically offered Spring.	**Techniques and Experimental Design in Neuroscience Research** 4 (3-3) Course Prerequisite: NEUROSCI 301 or PSYCH 372; MATH 140, 171, PSYCH 311, STAT 212, 360, 370, or 412. Representative modern neuroscience experiments are explored from a conceptual, technical, and design perspective. Typically offered Spring.	**8-17**
SPMGT	**489**	**Revise**	**Theory and Application in Sports Event Management** 3 Course Prerequisite: ~~C~~ertified major in Sport Management; SPMGT 468 or concurrent enrollment; senior standing. Investigation and application of the components of the sport management profession. Typically offered Fall and Spring.	**Theory and Application in Sports Event Management** 3 Course Prerequisite: SPMGT 374, SPMGT 377, SPMGT 464; SPMGT 468 or concurrent enrollment; certified major in Sport Management; senior standing. Investigation and application of the components of the sport management profession; examination of fundamental principles used in event and facility management. Typically offered Fall and Spring.	**8-17**
TCH LRN	**469**	**Revise**	**Advanced Practicum** 2 Course Prerequisite: TCH LRN 317. Field experience with classroom observation and teaching prior to student teaching; weekly seminar included. Typically offered Fall and Spring. S, F grading.	**Advanced Practicum for Secondary Teachers** 2 Course Prerequisite: TCH LRN 317. Field experience with classroom observation and teaching prior to student teaching; weekly seminar included. Typically offered Fall and Spring. S, F grading.	**1-18**
TCH LRN	**490**	**Revise**	**[CAPS] Advanced Practicum**	**[CAPS] Advanced Practicum**	**1-18**

			3 (0-9) Course Prerequisite: TCH LRN 401 or 405; senior standing. Intensive practicum integrating educational theory with teaching in classroom contexts. Typically offered Fall and Spring. S, F grading.	**for Elementary Teachers** 3 (0-9) Course Prerequisite: TCH LRN 401 or 405; senior standing. Intensive practicum integrating educational theory with teaching in classroom contexts. Typically offered Fall and Spring. S, F grading.	