

# Arizona State University

## Academic Catalog Archive

### 2008-2009

This document provides an archival record of the academic programs offered during the 2008-09 academic year. It is a printable option of the online catalog for accreditation organizations, agencies and university offices for data collection, evaluation purposes and referencing. Academic advisors, faculty and students should refer to the online version of the academic catalog.

To navigate this document version of the 2008-09 Academic Catalog, refer to the Table of Contents and the bookmarks provided. Most undergraduate degrees have a corresponding major map that includes the critical requirements, order of courses and grade requirements for that degree. The major maps are provided in the final sections of this document. For inquiries or questions please contact [academic.catalog@asu.edu](mailto:academic.catalog@asu.edu).



# Contents

<b>ACCREDITATIONS</b> .....	<b>18</b>
<b>ACADEMIC CALENDAR</b> .....	<b>22</b>
<b>UNIVERSITY POLICIES</b> .....	<b>28</b>
<b>UNDERGRADUATE</b> .....	28
<i>Admission Requirements</i> .....	28
<i>Attendance</i> .....	43
<i>Arizona General Education Curriculum (AGEC)</i> .....	43
<i>Course Load and Concurrent Enrollment</i> .....	44
<i>Credit by Examination</i> .....	44
<i>Placement and Testing Requirements</i> .....	50
<i>Retention and Academic Standards</i> .....	51
<i>University Policy for Student Appeal Procedures on Grades</i> .....	53
<i>University Undergraduate General Studies Requirements</i> .....	54
<i>University Undergraduate Graduation Requirements</i> .....	57
<b>GRADUATE</b> .....	65
<i>Introduction</i> .....	67
<i>Admissions</i> .....	67
<i>Registration and Enrollment</i> .....	71
<i>Graduate Degree Requirements</i> .....	73
<i>Maintaining Academic Progress toward Degree Completion</i> .....	76
<i>Thesis and Dissertation Considerations</i> .....	77
<i>Completing the Degree</i> .....	78
<i>Master’s Degree Requirements</i> .....	79
<i>Doctoral Degree Requirements</i> .....	81
<i>Other Graduate Educational Opportunities</i> .....	84
<i>Withdrawals from Graduate Degree Programs or the University</i> .....	86
<i>Graduate Student Appeals</i> .....	87
<b>COLLEGE POLICIES</b> .....	<b>89</b>
SCHOOL OF APPLIED ARTS AND SCIENCES POLICIES .....	89
KATHERINE K. HERBERGER COLLEGE OF THE ARTS POLICIES .....	89
W. P. CAREY SCHOOL OF BUSINESS POLICIES .....	90
COLLEGE OF DESIGN POLICIES .....	91
MARY LOU FULTON COLLEGE OF EDUCATION POLICIES .....	94
SCHOOL OF EDUCATIONAL INNOVATION AND TEACHER PREPARATION.....	95
IRA A. FULTON SCHOOL OF ENGINEERING POLICIES.....	95
SCHOOL OF GLOBAL MANAGEMENT AND LEADERSHIP POLICIES .....	100
BARRETT, THE HONORS COLLEGE POLICIES .....	101
COLLEGE OF HUMAN SERVICES POLICIES .....	105
WALTER CRONKITE SCHOOL OF JOURNALISM AND MASS COMMUNICATION POLICIES .....	105
SANDRA DAY O’CONNOR COLLEGE OF LAW POLICIES .....	106
COLLEGE OF LIBERAL ARTS AND SCIENCES POLICIES .....	107
MORRISON SCHOOL OF MANAGEMENT AND AGRIBUSINESS POLICIES.....	113
NEW COLLEGE OF INTERDISCIPLINARY ARTS AND SCIENCES POLICIES .....	113
COLLEGE OF NURSING & HEALTHCARE INNOVATION POLICIES .....	114
COLLEGE OF PUBLIC PROGRAMS POLICIES .....	118
SCHOOL OF SUSTAINABILITY POLICIES .....	119
COLLEGE OF TEACHER EDUCATION AND LEADERSHIP POLICIES .....	122
COLLEGE OF TECHNOLOGY AND INNOVATION POLICIES .....	122
UNIVERSITY COLLEGE POLICIES .....	124

<b>ACADEMIC PROGRAMS .....</b>	<b>126</b>
<b>CONCURRENT AND DUAL DEGREES .....</b>	<b>126</b>
<b>ACCELERATED BACHELOR’S AND MASTER’S PROGRAMS.....</b>	<b>127</b>
<b>GRADUATE PROGRAMS .....</b>	<b>128</b>
<b>GRADUATE DEGREES AND CERTIFICATES (PROGRAM DESCRIPTIONS AND REQUIREMENTS) .....</b>	<b>128</b>
<b>APPLIED ARTS AND SCIENCES, SCHOOL OF .....</b>	<b>128</b>
<i>Applied Biological Sciences (MS) TSAPBIOSMS .....</i>	<i>128</i>
<i>Applied Psychology (Polytechnic Campus) (MS) ECAPSYCHMS.....</i>	<i>129</i>
<i>Exercise and Wellness (MS) ECEXERMS.....</i>	<i>130</i>
<i>Nutrition (Polytechnic Campus) (MS) ECHNUTMS.....</i>	<i>130</i>
<i>Physical Activity, Nutrition, and Wellness (PhD) ECNUTRIPHD.....</i>	<i>131</i>
<b>ARTS, KATHERINE K. HERBERGER COLLEGE OF THE.....</b>	<b>132</b>
<i>Art - Digital Technology (MFA) FADIGITMFA .....</i>	<i>132</i>
<i>Art Education (MA) FAARTEDMA.....</i>	<i>133</i>
<i>Art History (MA) FAARTHISMA .....</i>	<i>133</i>
<i>Ceramics (MFA) FACERAMMFA .....</i>	<i>134</i>
<i>Conducting (DMA) FACONDDMA .....</i>	<i>134</i>
<i>Dance (MFA) FADANCEMFA .....</i>	<i>135</i>
<i>Dance - Interdisciplinary Digital Media and Performance (MFA) FADANDIMFA.....</i>	<i>135</i>
<i>Drawing (MFA) FADRAWMFA.....</i>	<i>136</i>
<i>Ethnomusicology (MA) FAETHNMA.....</i>	<i>137</i>
<i>Fibers (MFA) FAFIBERMFA .....</i>	<i>137</i>
<i>History and Theory of Art (PhD) FAHIARTPHD .....</i>	<i>138</i>
<i>Intermedia (MFA) FAMEDIAMFA.....</i>	<i>139</i>
<i>Jazz Studies (MM) FAJAZZMM.....</i>	<i>139</i>
<i>Media Arts and Sciences (PhD) FAMASPHD.....</i>	<i>140</i>
<i>Metals (MFA) FAMETALSMF.....</i>	<i>140</i>
<i>Music - Interdisciplinary Digital Media and Performance (DMA) FAINTTDDMA.....</i>	<i>141</i>
<i>Music - Interdisciplinary Digital Media and Performance (MM) FADIGITMM.....</i>	<i>141</i>
<i>Music Composition (DMA) FACOMPDMA.....</i>	<i>142</i>
<i>Music Composition (MM) FAMCOMPMM .....</i>	<i>142</i>
<i>Music Education (DMA) FAMUSEDDMA.....</i>	<i>143</i>
<i>Music Education (MM) FAMUSEDMM .....</i>	<i>143</i>
<i>Music History and Literature (MA) FAMHISTMA .....</i>	<i>144</i>
<i>Music Performance (DMA) FAPERFDMA.....</i>	<i>144</i>
<i>Music Performance (MM) FAPERF3MM.....</i>	<i>145</i>
<i>Music Theatre/Opera Musical Direction (MM) FAMUSTHMM.....</i>	<i>145</i>
<i>Music Theatre/Opera Performance (MM) FAMUTPOMM .....</i>	<i>146</i>
<i>Music Theory (MA) FAMTHEOMA .....</i>	<i>146</i>
<i>Music Therapy (MM) FAMTHERMM.....</i>	<i>147</i>
<i>Painting (MFA) FAPAINTMFA.....</i>	<i>147</i>
<i>Performance Pedagogy (MM) FAPPEDMM .....</i>	<i>147</i>
<i>Photography (MFA) FAPHOTOMFA.....</i>	<i>148</i>
<i>Piano, Collaborative (MM) FACPIANOMM.....</i>	<i>148</i>
<i>Post Baccalaureate Artist Diploma (Grad Certificate) FAPBARTDCE .....</i>	<i>149</i>
<i>Printmaking (MFA) FAPRINTMFA.....</i>	<i>149</i>
<i>Sculpture (MFA) FASCULPMFA .....</i>	<i>150</i>
<i>Theatre (MA) FATHEAMA .....</i>	<i>150</i>
<i>Theatre (MFA) FATHEAMFA .....</i>	<i>151</i>
<i>Theatre - Interdisciplinary Digital Media (MFA) FATHEADMFA.....</i>	<i>151</i>
<i>Theatre Performance (MFA) FAPERFMFA.....</i>	<i>151</i>
<i>Theatre For Youth (MFA) FAYOUTHMFA .....</i>	<i>152</i>

<i>Theatre For Youth (PhD) FAYOUTHPHD</i> .....	152
<i>Theatre: Directing (MFA) FADIRMFA</i> .....	153
<i>Theatre: Performance America (PhD) FAPERAMPHD</i> .....	154
<i>Theatre: Performance Design (MFA) FAPERDMFA</i> .....	155
<i>Wood (MFA) FAWOODMFA</i> .....	155
BUSINESS, W. P. CAREY SCHOOL OF.....	156
<i>Accountancy (MACC) BAACCMACC</i> .....	156
<i>Accountancy (PhD) BAACCTPHD</i> .....	156
<i>Agribusiness (PhD) BAAGRIPHD</i> .....	158
<i>Computer Information Systems (PhD) BAINFSYPHD</i> .....	159
<i>Economics (PhD) BAECONPHD</i> .....	160
<i>Finance (PhD) BAFINANPHD</i> .....	161
<i>Health Sector Management - Evening Program (MHSM) BAEVENMHSM</i> .....	162
<i>Information Management (MS) BAINFOMS</i> .....	163
<i>Management (PhD) BAMGMTPHD</i> .....	163
<i>Marketing (PhD) BAMARKPHD</i> .....	165
<i>Supply Chain Management (PhD) BASCMPHD</i> .....	166
<i>Taxation (MTax) BATAMTAX</i> .....	167
<i>W. P. Carey MBA - Custom Corporate Program BACORPMBA</i> .....	167
<i>W. P. Carey MBA - Evening Accelerated Program BAEVEAMBA</i> .....	168
<i>W. P. Carey MBA - Evening Program BAEVENMBA</i> .....	169
<i>W. P. Carey MBA - Executive Program BAEXECMBA</i> .....	170
<i>W. P. Carey MBA - Full-Time Program BAFULLMBA</i> .....	171
<i>W. P. Carey MBA - Online Program BAONLINMBA</i> .....	172
<i>W. P. Carey MBA - Shanghai Program BASHANGMBA</i> .....	173
DESIGN, COLLEGE OF .....	174
<i>Architecture (MArch) ARARCMARCH</i> .....	174
<i>Building Design: Energy Performance/Climate Responsive Architecture (MS) AREENERGYMS</i> .....	177
<i>Design (Arts, Media and Engineering) (MSD) ARDESAMMSD</i> .....	179
<i>Design (Interaction Design) (MSD) ARDSCIMSD</i> .....	181
<i>Design (New Product Innovation) (MSD) ARDSCNMSD</i> .....	183
<i>Design (Visual Communication Design) (MSD) ARVCDMSD</i> .....	185
<i>Environmental Design/Planning (PhD) ARENVDEPHD</i> .....	187
<i>Healthcare and Healing Environments (MSD) ARHHEMSD</i> .....	188
<i>Industrial Design (MSD) ARINDDMSD</i> .....	190
<i>Interior Design (MSD) ARINTDEMSD</i> .....	192
<i>Landscape Architecture (MLA) ARLDEMLA</i> .....	194
<i>Real Estate Development (MRED) ARREMREDEV</i> .....	198
<i>Urban and Environmental Planning (MUEP) ARURBMUEP</i> .....	199
<i>Urban Design (MUD) ARMUDMUD</i> .....	200
EDUCATION, MARY LOU FULTON COLLEGE OF .....	203
<i>An Overview of Autism Spectrum Disorders (Grad Certificate) EDSPEGRCA</i> .....	203
<i>Applied Linguistics (PhD) EDAPLPHD</i> .....	203
<i>Art Education (PhD) EDARTEDPHD</i> .....	204
<i>Bilingual Education (MA) EDBILINMA</i> .....	205
<i>Bilingual Education (MEd) EDBILINMED</i> .....	206
<i>Counseling Psychology (PhD) EDCPSYPHD</i> .....	207
<i>Counselor Education (MEd) EDCOUNEMED</i> .....	208
<i>Curriculum Studies (EdD) EDCURSTEDD</i> .....	209
<i>Curriculum Studies (PhD) EDCURSTPHD</i> .....	209
<i>Early Childhood Education (EdD) EDCHILDEDD</i> .....	211
<i>Early Childhood Education (MA) EDCHILDMA</i> .....	213
<i>Early Childhood Education (PhD) EDCHILDPHD</i> .....	213
<i>Early Childhood Education - Tempe Campus (MEd) EDCHILDMED</i> .....	215

<i>Educational Administration and Supervision (EdD) EDSUPVEDD</i> .....	215
<i>Educational Administration and Supervision (MEd) EDSUPVMED</i> .....	216
<i>Educational Leadership/Policy Studies (PhD) EDLDRSHPHD</i> .....	217
<i>Educational Psychology (MA) EDPSYCHMA</i> .....	218
<i>Educational Technology (Art, Media and Engineering) (PhD) EDAMEPHD</i> .....	218
<i>Educational Psychology (MEd) EDPSYCHMED</i> .....	218
<i>Educational Technology (Grad Certificate) EDEDTGRCT</i> .....	219
<i>Educational Technology (MEd) EDTECHMED</i> .....	220
<i>Educational Technology (PhD) EDTECHPHD</i> .....	220
<i>Elementary Education (MA) EDELEMMMA</i> .....	221
<i>Elementary Education (MEd) EDELEMMED</i> .....	222
<i>English Education (PhD) EDENGLPHD</i> .....	222
<i>English as a Second Language - Tempe Campus (MA) EDESLMA</i> .....	224
<i>English as a Second Language - Tempe Campus (MEd) EDESLMED</i> .....	224
<i>Higher and Postsecondary Education (EdD) EDPOSTEDD</i> .....	225
<i>Higher and Postsecondary Education (MEd) EDPOSTMED</i> .....	225
<i>Indian Education (EdD) EDINDEDD</i> .....	226
<i>Indian Education (MA) EDINDMA</i> .....	226
<i>Indian Education (MEd) EDINDMED</i> .....	227
<i>Language and Literacy (EdD) EDLANGEDD</i> .....	227
<i>Language and Literacy (MA) EDLANGMA</i> .....	229
<i>Language and Literacy (MEd) EDLANGMED</i> .....	229
<i>Language and Literacy (PhD) EDLANGPHD</i> .....	230
<i>Learning (PhD) EDPSYLEPHD</i> .....	230
<i>Life Span Developmental Psychology (PhD) EDPSYLDPHD</i> .....	231
<i>Mathematics Education (EdD) EDMATHEDD</i> .....	232
<i>Mathematics Education (MA) EDMATHMA</i> .....	233
<i>Mathematics Education (MEd) EDMATHMED</i> .....	233
<i>Mathematics Education (PhD) (Curriculum and Instruction - Grades K-12) EDMATHPHD</i> .....	234
<i>Measurement Statistics Methodological Study (PhD) EDPSYMSPHD</i> .....	235
<i>Physical Education (PhD) EDPHYEDPHD</i> .....	236
<i>School Psychology (PhD) EDPSYSPPHD</i> .....	237
<i>Science Education (EdD) EDSCIEDD</i> .....	237
<i>Science Education (MA) EDSCIMA</i> .....	238
<i>Science Education (MEd) EDSCIMED</i> .....	239
<i>Science Education (PhD) EDSCIPHD</i> .....	239
<i>Secondary Education (EdD) EDSECONEDD</i> .....	240
<i>Secondary Education (MA) EDSECONMA</i> .....	241
<i>Secondary Education (MEd) EDSECONMED</i> .....	242
<i>Severe/Multiply Disabled (MEd) EDDISMED</i> .....	242
<i>Social Studies Education (MA) EDSOCSTMA</i> .....	243
<i>Social Studies Education (MEd) EDSOCSTMED</i> .....	243
<i>Social and Philosophical Foundations of Education (MA) EDSPFMA</i> .....	244
<i>Special Education (EdD) EDSPEDEDD</i> .....	244
<i>Special Education (MA) EDSPEDMA</i> .....	246
<i>Special Education (MEd) EDSPE2MED</i> .....	247
<i>Special Education (PhD) EDSPECPHD</i> .....	247
<i>Teacher Leadership and Development (EdD) EDTLDEDD</i> .....	249
<i>Teaching and Learning (MEd) EDDCIMED</i> .....	250
<i>Technology for Teaching and Learning (Grad Certificate) EDEDTTGRCT</i> .....	251
EDUCATIONAL INNOVATION AND TEACHER PREPARATION, SCHOOL OF.....	251
<i>Early Childhood Education – Polytechnic Campus (MEd) EIEDCMED</i> .....	251
<i>Instructional Media K-12 - Polytechnic Campus (MEd) ECMEDIAMED</i> .....	251
<i>Mathematics Education - Polytechnic Campus (MEd) EIMATHMED</i> .....	252

<i>Physical Education - Polytechnic Campus (MPE) ECPHYEDMPE</i> .....	252
<i>Professional Studies - Polytechnic Campus (MEd) ECPROSTMED</i> .....	252
<i>Science Education (MEd) EISCIMED</i> .....	253
<i>Special Education (MEd) ECSPEDMED</i> .....	253
ENGINEERING, IRA A. FULTON SCHOOL OF .....	253
<i>Aerospace Engineering (MS) ESAEROSPMS</i> .....	253
<i>Aerospace Engineering (MSE) ESAERSPMSE</i> .....	254
<i>Aerospace Engineering (PhD) ESAERSPPHD</i> .....	255
<i>Bioengineering (MS) ES BIOENMS</i> .....	256
<i>Bioengineering (PhD) ES BIOENPHD</i> .....	257
<i>Biomedical Informatics (MS) ES BIOINFMS</i> .....	259
<i>Biomedical Informatics (PhD) ES BMIPHD</i> .....	259
<i>Chemical Engineering (MS) ES CHEMEMS</i> .....	260
<i>Chemical Engineering (PhD) ES CHEMEPHD</i> .....	263
<i>Civil/Environmental Engineering (MS) ES CIVILMS</i> .....	264
<i>Civil/Environmental Engineering (MSE) ES CIVILMSE</i> .....	265
<i>Civil/Environmental Engineering (PhD) ES CIVILPHD</i> .....	266
<i>Computer Science (Biomedical Informatics)(MS) ES CSBIOIMS</i> .....	267
<i>Computer Science (MCS) ES COMSC MCS</i> .....	267
<i>Computer Science (MS) ES COMSCMS</i> .....	267
<i>Computer Science (PhD) ES COMSCPHD</i> .....	268
<i>Computer Science - Art, Media and Engineering (MS) ES AMECSMS</i> .....	269
<i>Computer Science - Art, Media and Engineering (PhD) ES AMECSPHD</i> .....	270
<i>Computer Science - Information Assurance (MCS) ES CSEI MCS</i> .....	271
<i>Computer Science - Information Assurance (MS) ES CSEIAMS</i> .....	272
<i>Computer Science - Information Assurance (PhD) ES CSEIAPHD</i> .....	272
<i>Construction (MS) ES CONSTMS</i> .....	273
<i>Construction (PhD) ES CONPHD</i> .....	273
<i>Electrical Engineering (MSE) ES EEMSE</i> .....	274
<i>Electrical Engineering (PhD) ES EEPHD</i> .....	275
<i>Electrical Engineering - Art, Media and Engineering (MS) ES AMEMS</i> .....	276
<i>Electrical Engineering - Art, Media and Engineering (PhD) ES AMEPHD</i> .....	277
<i>Engineering Science (Enterprise Systems Innovation and Management) (MSE) ES IEEMSE</i> .....	277
<i>Engineering Science (Software Engineering) (MSE) ES IEEMSE</i> .....	278
<i>Industrial Engineering (MSE) ES INDENMSE</i> .....	279
<i>Industrial Engineering (PhD) ES INDENPHD</i> .....	280
<i>Master of Engineering (MEng) ES ENGRMENG</i> .....	281
<i>Materials Science and Engineering (MS) ES MATEMS</i> .....	282
<i>Materials Science and Engineering (MSE) ES MATEMSE</i> .....	283
<i>Materials Science and Engineering (PhD) ES ENMATPHD</i> .....	285
<i>Mechanical Engineering (MS) ES MEMS</i> .....	287
<i>Mechanical Engineering (MSE) ES MEMMSE</i> .....	288
<i>Mechanical Engineering (PhD) ES MEMPHD</i> .....	288
<i>Nuclear Power Generation (Grad Certificate) ES NPGGRCT</i> .....	289
GRADUATE COLLEGE .....	290
<i>Biological Design (PhD) GCBDSPHD</i> .....	290
<i>Human and Social Dimensions of Science and Technology (PhD) GCHSDSTPHD</i> .....	291
<i>Neuroscience (PhD) GCBMENPHD</i> .....	293
<i>Statistics (Grad Certificate) GCSTATCE</i> .....	293
<i>Statistics (MS) GCSTATMS</i> .....	294
JOURNALISM AND MASS COMMUNICATION, WALTER CRONKITE SCHOOL OF .....	295
<i>Master of Mass Communication (MMC) CSMCOMMMC</i> .....	295
LAW, SANDRA DAY O'CONNOR COLLEGE OF .....	295
<i>Juris Doctor (JD) LWJDJD</i> .....	295

<i>Law - Biotechnology and Genomics (LLM) LWGENOMLLM</i> .....	297
<i>Law - Legal Studies (MLS) LWLGSMLEGS</i> .....	298
<i>Law - Tribal Policy, Law, and Government (LLM) LWTBLMLAWS</i> .....	299
<i>Law, Science, and Technology Certificate LWLAWSTCE</i> .....	301
LIBERAL ARTS AND SCIENCES, COLLEGE OF .....	301
<i>African Studies (Grad Certificate) LAAFRICACE</i> .....	301
<i>Anthropology (Museum Studies) (MA) LAMUSEUMMA</i> .....	302
<i>Anthropology (PhD) LAANTHRPHD</i> .....	303
<i>Applied Mathematics (PhD) LAAPMPHD</i> .....	304
<i>Applied Mathematics for the Life and Social Sciences (PhD) LAAMPLPHD</i> .....	304
<i>Asian Languages/Civilizations: Chinese (MA) LACHINAMA</i> .....	306
<i>Asian Languages/Civilizations: Japanese (MA) LAJAPANMA</i> .....	307
<i>Asian Studies (Grad Certificate) LAASIANCE</i> .....	307
<i>Astrophysics (MS) LAASTPHMS</i> .....	308
<i>Astrophysics (PhD) LAASTPHPHD</i> .....	308
<i>Atmospheric Science (Grad Certificate) LAATMOSCE</i> .....	309
<i>Audiology (AuD) LAAUDAUDD</i> .....	309
<i>Biochemistry (MS) LABIOCHMS</i> .....	310
<i>Biochemistry (Medicinal Chemistry) (MS) LABCHMCMS</i> .....	310
<i>Biochemistry (PhD) LABIOCHPHD</i> .....	311
<i>Biology (Biology and Society) (MS) LABIOSMS</i> .....	311
<i>Biology (Biology and Society) (PhD) LABIOSPHD</i> .....	312
<i>Biology (MNS) LALIFE2MNS</i> .....	313
<i>Biology (MS) LABIOMS</i> .....	313
<i>Biology (PhD) LABIOPHD</i> .....	314
<i>Chemistry (MNS) LACHEMMNS</i> .....	314
<i>Chemistry (MS) LACHEMMS</i> .....	314
<i>Chemistry (PhD) LACHEMPHD</i> .....	315
<i>Communication (MA) LACOMMOMA</i> .....	316
<i>Communication (PhD) LACOMMOPHD</i> .....	316
<i>Communication Disorders (MS) LACOMDISMS</i> .....	317
<i>Computational Biosciences (PSM) LACOMBIPSM</i> .....	318
<i>Computational Biosciences - Mathematics Department (PhD) LACOMPBPHD</i> .....	319
<i>Creative Writing (MFA) LACWRITMFA</i> .....	319
<i>English (MA) LAENGLMA</i> .....	320
<i>English Literature (PhD) LAENLITPHD</i> .....	321
<i>Environmental Life Sciences (PhD) LAELSPHD</i> .....	322
<i>Environmental Social Science (PhD) LAESSPHD</i> .....	322
<i>Family and Human Development (MS) LAFAMHDMS</i> .....	323
<i>Family and Human Development (PhD) LAFAMSCPHD</i> .....	324
<i>French Comparative Literature (MA) LAFRECLMA</i> .....	325
<i>French Linguistics (MA) LAFRELINMA</i> .....	325
<i>French Literature (MA) LAFRELITMA</i> .....	326
<i>Gender Studies (PhD) LAGSTPHD</i> .....	326
<i>Geographic Education (MAS) LAGEOEDMAS</i> .....	327
<i>Geographic Information Systems (Grad Certificate) LAGEOGISCE</i> .....	327
<i>Geographic Information Systems (MAS) LAGISMAS</i> .....	328
<i>Geographical Sciences (Urbanism) (PhD) LAGCUUPHD</i> .....	328
<i>Geography (MA) LAGEOGMA</i> .....	329
<i>Geography (PhD) LAGEOGPHD</i> .....	329
<i>Geological Sciences (MNS) LANATSCIMN</i> .....	330
<i>Geological Sciences (MS) LAGEOSCMS</i> .....	330
<i>Geological Sciences (PhD) LAGEOSCPHD</i> .....	331
<i>German (MA) LAGERMMA</i> .....	331

<i>History (MA) LAHISTMA</i> .....	332
<i>History (PhD) LAHISTPHD</i> .....	333
<i>Immigration Studies (CE) LAIMMSTUCE</i> .....	334
<i>Infant - Family Practice (MAS) LACDEMASE</i> .....	334
<i>Justice Studies (MS) LAJUSSTMS</i> .....	335
<i>Justice Studies (PhD) LAJUSSTPHD</i> .....	336
<i>Kinesiology (PhD) LAKINEPHD</i> .....	337
<i>Liberal Studies (MLSt) LAMLSMLS</i> .....	337
<i>Liberal Studies - Film and Media Studies (MLSt) LAFMSMLS</i> .....	338
<i>Linguistics (Grad Certificate) LALINGUICE</i> .....	339
<i>Marriage and Family Therapy (MAS) LAMFTMAS</i> .....	339
<i>Mathematics (MA) LAMATHMA</i> .....	340
<i>Mathematics (MNS) LAMATHMNS</i> .....	340
<i>Mathematics (PhD) LAMATHPHD</i> .....	341
<i>Mathematics Education (PhD) (Mathematics and Statistics Dept - Grades 9-20) LAMTEPHD</i> .....	341
<i>Medieval Studies (Grad Certificate) LAMEDSTCE</i> .....	341
<i>Microbiology (MS) LAMICROMS</i> .....	342
<i>Microbiology (PhD) LAMICROPHD</i> .....	342
<i>Molecular/Cellular Biology (MS) LACELLSMS</i> .....	343
<i>Molecular/Cellular Biology (PhD) LACELLPHD</i> .....	343
<i>Museum Studies (Grad Certificate) LAMUSEUMCE</i> .....	344
<i>Nanoscience (PSM) LANANPSM</i> .....	344
<i>Philosophy (History and Philosophy of Science) MA LAHPSMA</i> .....	345
<i>Philosophy (History and Philosophy of Science) PHD LAHPSPHD</i> .....	345
<i>Philosophy (MA) LAPHILMA</i> .....	346
<i>Philosophy (PhD) LAPHILPHD</i> .....	349
<i>Physics (MNS) LAPHYSMNS</i> .....	350
<i>Physics (MS) LAPHYSIMS</i> .....	350
<i>Physics (PhD) LAPHYSIPHD</i> .....	351
<i>Plant Biology (MNS) LALIFESMNS</i> .....	352
<i>Plant Biology (MS) LAPLBIOMS</i> .....	353
<i>Plant Biology (PhD) LAPLBIOPHD</i> .....	353
<i>Political Science (MA) LAPOLSCMA</i> .....	354
<i>Political Science (PhD) LAPOLSCPHD</i> .....	354
<i>Psychology (PhD) LAPSYCHPHD</i> .....	355
<i>Psychology - Cogn, Act, and Perc (Arts, Media, and Engineering) (PhD) LAPSYCPHD</i> .....	356
<i>Quantitative Research Methods (PhD) LAPSYPHD</i> .....	356
<i>Religious Studies (MA) LARELIGMA</i> .....	357
<i>Religious Studies (PhD) LARELIGPHD</i> .....	358
<i>Renaissance Studies (Grad Certificate) LARENAISCE</i> .....	359
<i>Rhetoric/Composition/Linguistics (PhD) LAENRHTPHD</i> .....	360
<i>Scholarly Publishing (Grad Certificate) LASCHPUBCE</i> .....	360
<i>Social Science and Health (PhD) LASSHPHD</i> .....	361
<i>Sociology (MA) LASOCMA</i> .....	362
<i>Sociology (PhD) LASOCPHD</i> .....	362
<i>Spanish (MA) LASPANMA</i> .....	363
<i>Spanish (PhD) LASPANPHD</i> .....	363
<i>Speech and Hearing Science (PhD) LAHEARPHD</i> .....	363
<i>Statistics (PhD) LASTPPHD</i> .....	364
<i>Teaching English to Speakers of Other Languages (MTESOL) LAENGMTESL</i> .....	365
<i>Women and Gender Studies (Grad Certificate) LAWSTGRCT</i> .....	365
MANAGEMENT AND AGRIBUSINESS, MORRISON SCHOOL OF .....	366
<i>Agribusiness (Polytechnic Campus) (MS) AGAGRIBMS</i> .....	366
NEW COLLEGE OF INTERDISCIPLINARY ARTS AND SCIENCES.....	367



<i>Communication Studies (MA) ASCOMSTMA</i> .....	367
<i>Interdisciplinary Studies (MA) ASINTERMA</i> .....	369
<i>Social Justice and Human Rights (MA) ASJHRMA</i> .....	370
NURSING AND HEALTHCARE INNOVATION, COLLEGE OF .....	371
<i>Adult Nurse Practitioner (DNP) NUANPADDNP</i> .....	371
<i>Adult Psychiatric Mental Health Nurse Practitioner (DNP) NUANPPMDNP</i> .....	372
<i>Advanced Nursing Practice - DNP NUANPDNP</i> .....	373
<i>Advanced Nursing Practice: Geriatric Nurse Practitioner - DNP NUGNPDNP</i> .....	374
<i>Assessment of Integrative Health Modalities (Grad Certificate) PPSWGGRCH</i> .....	374
<i>Child and Adolescent Mental Health Intervention Specialist (Grad Certificate) NUCAMHICE</i> .....	375
<i>Child/Family Psychiatric Mental Health Nurse Practitioner - DNP NUANPCFDNP</i> .....	375
<i>Clinical Research Management (Grad Certificate) NUHCRGRCC</i> .....	376
<i>Community Health Nursing (MS) NUCHNDTMS</i> .....	377
<i>Community and Public Health Practice (Grad Certificate) NUCHPGRCH</i> .....	377
<i>Evidence-Based Practice Nursing Science (Grad Certificate) NUEVIDNSCE</i> .....	377
<i>Family Nurse Practitioner - DNP NUANPFNDNP</i> .....	378
<i>Healthcare Innovation (MHI) NUHCINMHI</i> .....	379
<i>International Health For Healthcare Professionals (Grad Certificate) NUHCRGRCI</i> .....	379
<i>Neonatal Nurse Practitioner - DNP NUANPNDNP</i> .....	380
<i>Nurse Education in Academic and Practice Settings (Grad Certificate) NUNURSEDCE</i> .....	381
<i>Nursing Education (MS) NUNURSEDMS</i> .....	381
<i>Nursing and Healthcare Innovation (PhD) NUNHIPHD</i> .....	382
<i>Pediatric Nurse Practitioner - DNP NUANPPDNP</i> .....	382
<i>Women's Health Nurse Practitioner - DNP NUANPWHDNP</i> .....	383
PUBLIC PROGRAMS, COLLEGE OF.....	383
<i>Community Resources and Development PhD PPCRDPHD</i> .....	383
<i>Criminal Justice (MA) PPCRIMJMA</i> .....	384
<i>Criminology and Criminal Justice (MS) PPCRJMS</i> .....	385
<i>Criminology and Criminal Justice (PhD) PPCRJPHD</i> .....	385
<i>Downtown Phoenix - Social Work (PhD) PPSW2PHD</i> .....	386
<i>Downtown Phoenix - Social Work - Adv Standing - Adv Direct Practice (MSW) PPAPDTMSW</i> .....	389
<i>Downtown Phoenix - Social Work - Adv Standing-Plan, Admin and Comm Practice (MSW) PPCPDTMSW</i> .....	390
<i>Latino Cultural Competency in Social Work (Grad Certificate) PPSWGGRCL</i> .....	392
<i>Nonprofit Leadership and Management (Grad Certificate) PPNONPROCE</i> .....	393
<i>Nonprofit Studies (MNP) PPNPSMNS</i> .....	393
<i>Public Administration (MPA) - Downtown Phoenix PPPADTMPA</i> .....	394
<i>Public Administration (Nonprofit Administration) (MPA) PPNONPRMPA</i> .....	395
<i>Public Administration (PhD) PPPUBADPHD</i> .....	396
<i>Public Administration (Urban Management) (MPA) PPPAFUMPA</i> .....	397
<i>Public Administration (Urbanism) PHD PPPAURBPHD</i> .....	397
<i>Public Policy (MPP) PPPUBPMPP</i> .....	399
<i>Recreation and Tourism Studies (MS) PPRECDTMS</i> .....	399
<i>Trauma and Bereavement (ct) HSCTBGRCT</i> .....	400
<i>Tucson / Downtown Phoenix / West Campus - Social Work - Standard Program (MSW) PPSWDMSW</i> .....	401
<i>West Campus - Social Work - Advanced Standing (MSW) PPASWMSW</i> .....	405
SUSTAINABILITY, SCHOOL OF .....	405
<i>Sustainability (MA) SUSUSTMA</i> .....	405
<i>Sustainability (MS) SUSUSTMS</i> .....	406
<i>Sustainability (PhD) SUSUSTPHD</i> .....	407
TEACHER EDUCATION AND LEADERSHIP, COLLEGE OF.....	408
<i>Early Childhood Education - West Campus (MEd) TEECDMED</i> .....	408
<i>Educational Administration and Supervision - Principalship (MEd) TEPRINMED</i> .....	409
<i>Educational Administration and Supervision - Supervision (MEd) TESPRVIMED</i> .....	409
<i>Educational Ldrship and Innovation - Policy/Admin (EdD) TEINNAEADD</i> .....	409

<i>Educational Leadership and Innovation - Teaching (EdD) TEINNTEEDD</i> .....	410
<i>Elementary Education (Content Academy) (MEd) TECONTMED</i> .....	410
<i>Elementary Education (Ed Technology) (MEd) TEEDTECMED</i> .....	411
<i>Elementary Education (Reading) (MEd) TERDGMED</i> .....	411
<i>Elementary Education (General) (MEd) TEELEMMED</i> .....	411
<i>Elementary Education (Teacher Certification Accelerated) (MEd) TEEEACLMED</i> .....	412
<i>Secondary Education (Educational Technology) (MEd) TESEDTCMED</i> .....	412
<i>Secondary Education (Teacher Certification) (MEd) TESCERTMED</i> .....	412
<i>Secondary Education (Reading) (MEd) TESERDGMED</i> .....	413
<i>Secondary Education (Tailored) (MEd) TESECEMED</i> .....	413
<i>Special Education (Teacher Certification) (MEd) TESECRTMED</i> .....	414
<b>TECHNOLOGY AND INNOVATION, COLLEGE OF</b> .....	415
<i>Aeronautical Engineering Technology (MSTech) TSARMSTECH</i> .....	415
<i>Aviation Management/Human Factors (MSTech) TSHFMSTECH</i> .....	416
<i>Computer Systems (MSTech) TSCOMSTECH</i> .....	418
<i>Computing Studies - Polytechnic Campus (MCST) TSCOMPMCST</i> .....	419
<i>Electronic Engineering Technology (Alt Energy Tech) (MSTech) TSATMSTECH</i> .....	420
<i>Electronic Engineering Technology (Integrated Electronic Sys) (MSTech) TSESMSTECH</i> .....	421
<i>Electronic Systems Engineering Technology (MSTech) TSSYMSTECH</i> .....	423
<i>Environmental Technology Management (Polytechnic Campus) (MSTech) TSMGMSTECH</i> .....	425
<i>Fire Service Administration (MSTech) TSFSMSTECH</i> .....	425
<i>Global Technology and Development (MSTech) TSGTMSTECH</i> .....	426
<i>Graphic Information Technology (MSTech) TSGIMSTECH</i> .....	427
<i>Instrumentation and Measurement Technology (MSTech) TSINMSTECH</i> .....	428
<i>Management of Technology (MSTech) TSMRMSTECH</i> .....	429
<i>Manufacturing Engineering Technology (MSTech) TSMFMSTECH</i> .....	430
<i>Mechanical Engineering Technology (MSTech) TSMHMSTECH</i> .....	432
<b>UNDERGRADUATE PROGRAMS</b> .....	<b>434</b>
<b>MINORS (PROGRAM DESCRIPTIONS AND REQUIREMENTS)</b> .....	<b>434</b>
<i>African and African American Studies Minor LAAFRMIN</i> .....	434
<i>Aging and Lifespan Development Minor HSALDMIN</i> .....	434
<i>American Indian Studies Minor LAAISMIN</i> .....	435
<i>American Studies Minor ASAMSMIN</i> .....	436
<i>Anthropology Minor LAASBMIN</i> .....	436
<i>Applied Biological Sciences Minor TSABSMIN</i> .....	437
<i>Applied Psychology Minor ECPSYMIN</i> .....	438
<i>Architectural Studies Minor ARSTDMIN</i> .....	438
<i>Art History Minor FAARTHMIN</i> .....	440
<i>Asian Languages (Chinese/Japanese) Minor MINOR47</i> .....	440
<i>Astronomy Minor LAASTMIN</i> .....	441
<i>Biochemistry Minor LABCHMIN</i> .....	442
<i>Biological Sciences Minor LABIOMIN</i> .....	443
<i>Business Minor BABUSMIN</i> .....	443
<i>Chemistry Minor LACHMMIN</i> .....	444
<i>Communication Minor LNACOMMI</i> .....	445
<i>Communication Studies Minor HSCMNMIN</i> .....	446
<i>Computational Mathematical Sciences Minor LACMSMIN</i> .....	446
<i>Dance Minor FADANMIN</i> .....	447
<i>Design Studies Minor ARDSNMIN</i> .....	448
<i>Economics for Students Planning a Career in Law Minor LAECNLMIN</i> .....	450
<i>Economics Minor LAECNMIN</i> .....	450
<i>English Minor AENGMIN</i> .....	450
<i>English Minor with a Concentration in Linguistics LAENGMINN</i> .....	451

<i>English Minor with a Concentration in Literature LAENGMINT</i> .....	452
<i>Ethnic Studies Minor ASETHMIN</i> .....	452
<i>Family and Human Development Minor LAFASMIN</i> .....	453
<i>Film and Media Production Minor FAFMPMIN</i> .....	454
<i>Film and Media Studies LAFMSMIN</i> .....	454
<i>Food and Nutrition Management Minor ECFNTMIN</i> .....	455
<i>French Minor LAFREMIN</i> .....	455
<i>Geography Minor LAGCUMIN</i> .....	456
<i>Geological Sciences Minor LAGLGMIN</i> .....	456
<i>German Minor LAGERMIN</i> .....	457
<i>Global Studies LASGSMIN</i> .....	457
<i>History Minor LAHISMIN</i> .....	458
<i>History Minor ASHISMIN</i> .....	458
<i>Human Nutrition Minor ECNTRMIN</i> .....	459
<i>Interdisciplinary Organizational Studies Minor ASIOSMIN</i> .....	459
<i>Interior Design Minor ARINTMIN</i> .....	461
<i>Italian Minor LAITAMIN</i> .....	461
<i>Justice Studies Minor LAJUSMIN</i> .....	462
<i>Kinesiology Minor LAKINMIN</i> .....	462
<i>Landscape Architecture Studies Minor MINORI1</i> .....	463
<i>Landscape Studies Minor ARLNDMIN</i> .....	464
<i>Life Sciences Minor ASLSCMIN</i> .....	465
<i>Materials Science and Engineering ESMSEMIN</i> .....	466
<i>Mathematics Minor LAMATMIN</i> .....	466
<i>Mathematics Minor ASMATHMIN</i> .....	467
<i>Media Analysis Minor CSCMOMINA</i> .....	468
<i>Music Minor FAMUSMIN</i> .....	469
<i>Nonprofit Administration Minor PPNLMMIN</i> .....	470
<i>Parks and Protected Area Management Minor PPPRMMINT</i> .....	471
<i>Philosophy Minor LAPHIMIN</i> .....	472
<i>Philosophy Minor ASPHIMIN</i> .....	472
<i>Physics Minor LAPHYMIN</i> .....	473
<i>Political Science Minor LAPOSMIN</i> .....	474
<i>Political Science Minor ASPOSMIN</i> .....	474
<i>Prelaw Minor HSLAWMIN</i> .....	475
<i>Psychology Minor LAPGSMIN</i> .....	476
<i>Psychology Minor ASPGSMIN</i> .....	477
<i>Public Relations and Strategic Communications Minor HSPRSMIN</i> .....	478
<i>Recreation Management Minor PPRECMIN</i> .....	478
<i>Religious Studies Minor LARELMIN</i> .....	479
<i>Religious Studies Minor ASRELMIN</i> .....	479
<i>Russian Minor LARUSMIN</i> .....	480
<i>Small Business Minor AGSMBMIN</i> .....	481
<i>Social and Behavioral Sciences Minor ASSBSMIN</i> .....	481
<i>Social Welfare Minor LASSWMIN</i> .....	482
<i>Sociocultural Anthropology Minor ASASBMIN</i> .....	482
<i>Sociology Minor LASOCMIN</i> .....	484
<i>Sociology Minor ASSOCMIN</i> .....	484
<i>Spanish Minor LASPAMIN</i> .....	485
<i>Spanish Minor ASSPAMIN</i> .....	485
<i>Special Events Management Minor HSEVNMIN</i> .....	486
<i>Speech and Hearing Science Minor LASHSMIN</i> .....	487
<i>Statistics Minor LASTAMIN</i> .....	488
<i>Theatre Minor FATHEMIN</i> .....	488

<i>Tourism Development &amp; Management Minor PPTDMMIN</i> .....	489
<i>Tourism Management Minor HSTOUMIN</i> .....	490
<i>Transborder Chicana/o and Latina/o Studies Minor LACCSMIN</i> .....	491
<i>Urban and Metropolitan Studies Minor ARPUPMIN</i> .....	492
<i>Urban Planning Minor ARPPUPMIN</i> .....	493
<i>Wellness Foundations Minor ECWFNDMIN</i> .....	494
<i>Women and Gender Studies Minor LAWSTMIN</i> .....	494
<i>Women’s Studies Minor ASWSTMIN</i> .....	495
<i>Youth Services Leadership Minor HSYSLMIN</i> .....	496
<b>UNDERGRADUATE CERTIFICATES (PROGRAM DESCRIPTIONS AND REQUIREMENTS)</b> .....	<b>498</b>
<i>African and African American Studies Certificate LAAFRCERT</i> .....	498
<i>Arabic Studies Certificate LAARBCERT</i> .....	498
<i>Asian Pacific American Studies Certificate LAAPACERT</i> .....	499
<i>Asian Studies Certificate LAASNCERT</i> .....	499
<i>Automotive Entrepreneurs and Leaders Certificate BADMGCERT</i> .....	500
<i>Child Nutrition Certificate ECNTRCERC</i> .....	500
<i>Civic Education Certificate LACVECERT</i> .....	501
<i>Classical Studies Certificate LACLGCERT</i> .....	502
<i>Computer Gaming Certificate ESSCIGERT</i> .....	502
<i>Convention Sales and Meeting Planning Certificate PPTDMCERT</i> .....	503
<i>Creative City Certificate PPURBCERC</i> .....	504
<i>Dietetics Certificate ECNTRCERD</i> .....	505
<i>East Asian Studies Certificate LAEASC</i> .....	506
<i>Entertainment and Technology LAFMSUERE</i> .....	506
<i>Ethics Certificate LAETHCERT</i> .....	507
<i>Ethnic Studies Certificate ASETHCERT</i> .....	507
<i>Film and Video Studies Certificate ASVIDCERT</i> .....	508
<i>Fire Service Management Certificate TSIMFCERT</i> .....	508
<i>Geographic Information Science Certificate LAGISCERT</i> .....	509
<i>Hazardous Materials and Waste Management Certificate TSETMCERT</i> .....	509
<i>History and Culture ECHTYCERT</i> .....	510
<i>History and Philosophy of Science Certificate LAHPSCERT</i> .....	510
<i>Honors Business Modeling and Analysis BAECNCERT</i> .....	511
<i>Informatics ESCIPCERT</i> .....	512
<i>International Business Certificate BAIBSCERT</i> .....	512
<i>International Studies Certificate LAINSCERT</i> .....	513
<i>Islamic Studies Certificate LAISLCERT</i> .....	514
<i>Jewish Studies Certificate LAJUDCERT</i> .....	514
<i>Latin American Studies Certificate LALASCERT</i> .....	515
<i>Leadership and Ethics Certificate PPLDECERT</i> .....	515
<i>Lesbian, Gay, Bisexual, and Transgender Certificate PPLGBTCERT</i> .....	516
<i>Literature, Writing, and Film ECLWFCERT</i> .....	516
<i>Medieval and Renaissance Studies Certificate LAMRSCERT</i> .....	517
<i>Multimedia Writing and Technical Communication ECTWCCERT</i> .....	517
<i>Nonprofit Leadership and Management: American Humanities Certificate PPNPYCERT</i> .....	517
<i>Philosophy, Politics, and Law Certificate HOPPLCERT</i> .....	518
<i>Public Administration and Public Management Certificate PPPAFCERT</i> .....	519
<i>Religion and Conflict Certificate LARELCERT</i> .....	519
<i>Russian and East European Studies Certificate LAREECERT</i> .....	521
<i>Small Business and Entrepreneurship Certificate BASMBCERT</i> .....	522
<i>Southeast Asian Studies Certificate LASALCERT</i> .....	522
<i>Spa Management Certificate ECEXWCERT</i> .....	523
<i>Special Events Management HSRTMCERT</i> .....	524
<i>Symbolic Systems Certificate LAPHICERT</i> .....	524

<i>Technology Entrepreneurship ESTNECERT</i> .....	525
<i>Translation Certificate LASPACERT</i> .....	526
<i>Women and Gender Studies Certificate LAWSTCERT</i> .....	527
<i>Women's Studies Certificate ASWSTCERT</i> .....	527
<i>Writing Certificate (Liberal Arts &amp; Sciences) LAENGCERT</i> .....	528
<i>Writing Certificate (New College) ASWRTCERT</i> .....	529
<b>UNDERGRADUATE DEGREES (PROGRAM DESCRIPTIONS)</b> .....	<b>530</b>
APPLIED ARTS AND SCIENCES, SCHOOL OF .....	530
<i>Applied Biological Sciences (Applied Biological Sciences) (BS) TSABSABS</i> .....	530
<i>Applied Biological Sciences (Secondary Education in Biology) (BS) TSABSSBS</i> .....	530
<i>Applied Biological Sciences (Urban Horticulture) (BS) TSABSUBS</i> .....	530
<i>Applied Biological Sciences (Wildlife and Restoration Ecology) (BS) TSABSRBS</i> .....	531
<i>Applied Psychology (BS) ECPSYBS</i> .....	531
<i>Exercise and Wellness (Exercise and Wellness) (BS) ECEXWBS</i> .....	531
<i>Exercise and Wellness (Health Promotion) (BS) ECEXWHBS</i> .....	532
<i>History and Culture (BA) ECHSTCULBA</i> .....	532
<i>Literature, Writing and Film (BA) ECLWFBA</i> .....	532
<i>Multimedia Writing and Technical Communication (BS) ECTWCBS</i> .....	533
<i>Nutrition (Dietetics) (BS) ECNTRDBS</i> .....	533
<i>Nutrition (Food and Nutrition Management) (BS) ECNTRMBS</i> .....	533
<i>Nutrition (Human Nutrition) (BS) ECNTRHBS</i> .....	534
<i>Nutrition (Nutrition Communication) (BS) ECNTRCBS</i> .....	534
<i>Science, Technology and Society (BS) ECSTSBS</i> .....	534
ARTS, KATHERINE K. HERBERGER COLLEGE OF THE.....	535
<i>Art (Art Education) (BFA) FAARTEBFA</i> .....	535
<i>Art (Art History) (BA) FAARTHBA</i> .....	536
<i>Art (Art Studies) (BA) FAARTSTDBA</i> .....	536
<i>Art (Ceramics) (BFA) FAARTCBFA</i> .....	537
<i>Art (Drawing) (BFA) FAARTDBFA</i> .....	538
<i>Art (Fibers) (BFA) FAARTFBFA</i> .....	538
<i>Art (Intermedia) (BFA) FAARTIBFA</i> .....	539
<i>Art (Metals) (BFA) FAARTMBFA</i> .....	540
<i>Art (Museum Studies) (BA) FAARTMSBA</i> .....	541
<i>Art (Painting) (BFA) FAARTPABFA</i> .....	541
<i>Art (Photography) (BFA) FAARTPHBFA</i> .....	542
<i>Art (Printmaking) (BFA) FAARTPMBFA</i> .....	543
<i>Art (Sculpture) (BFA) FAARTSBFA</i> .....	544
<i>Dance (BFA) FADANBFA</i> .....	544
<i>Dance (Dance Education) (BFA) FADANEBFA</i> .....	545
<i>Film (Film and Media Production) (BA) FAFLMBA</i> .....	546
<i>Music (BA) FAMUSBA</i> .....	546
<i>Music Education (Choral-General) (BMUS) FAMUSCBMUS</i> .....	547
<i>Music Education (Instrumental) (BMUS) FAMUSIIBM</i> .....	547
<i>Music Education (String) (BMUS) FAMUSISBM</i> .....	548
<i>Music Therapy (BMUS) FAMUSTHBM</i> .....	548
<i>Performance (Collaborative Piano) (BMUS) FAMUSPPBM</i> .....	549
<i>Performance (Guitar) (BMUS) FAMUSPGBM</i> .....	550
<i>Performance (Jazz) (BMUS) FAMUSPJBM</i> .....	550
<i>Performance (Keyboard) (BMUS) FAMUSPKBM</i> .....	551
<i>Performance (Music Theatre) (BMUS) FAMUSPMBM</i> .....	551
<i>Performance (Orchestral Instrument) (BMUS) FAMUSPOBM</i> .....	552
<i>Performance (Voice) (BMUS) FAMUSPVBM</i> .....	552
<i>Theatre (BA) FATHEBA</i> .....	553
<i>Theatre (Acting) (BA) FATHEABA</i> .....	553

<i>Theatre (Design and Production) (BA) FADSNPRBA</i> .....	554
<i>Theory and Composition (Composition) (BMUS) FAMUSTCBM</i> .....	555
<i>Theory and Composition (Theory) (BMUS) FAMUSTTBM</i> .....	555
BUSINESS, W. P. CAREY SCHOOL OF .....	556
<i>Accountancy (BS) BAACCBS</i> .....	556
<i>Business (Communication) (BA) BABUSCBA</i> .....	557
<i>Business (Sustainability) (BA) BABUSSBA</i> .....	557
<i>Business (Tourism) (BA) BABUSTBA</i> .....	558
<i>Business (Urban Policy) (BA) BABUSUBA</i> .....	558
<i>Computer Information Systems (BS) BACISBS</i> .....	559
<i>Economics (BS) BAECNBS</i> .....	560
<i>Finance (BS) BAFINBS</i> .....	560
<i>Management (BS) BAMGTBS</i> .....	561
<i>Management (Entrepreneurship) (BS) BAMGTEBS</i> .....	562
<i>Marketing (BS) BAMKTBS</i> .....	563
<i>Supply Chain Management (BS) BASCMBS</i> .....	563
DESIGN, COLLEGE OF .....	564
<i>Architectural Studies (BSD) ARSTDBSD</i> .....	564
<i>Design Studies (BA) ARDSNBA</i> .....	565
<i>Design Studies (Design History) (BA) ARDSNHBA</i> .....	565
<i>Design Studies (Design Management) (BA) ARDSNMBA</i> .....	565
<i>Graphic Design (BSD) ARGRABSD</i> .....	566
<i>Housing and Community Development (BSD) ARHCDBSD</i> .....	566
<i>Industrial Design (BSD) ARINDBSD</i> .....	566
<i>Interior Design (BSD) ARINTBSD</i> .....	567
<i>Landscape Architecture (BSLA) ARPLABSLA</i> .....	567
<i>Urban Planning (BSP) ARPUPBSP</i> .....	567
EDUCATION, MARY LOU FULTON COLLEGE OF .....	568
<i>Early Childhood Education (BAE) EDECDBAE</i> .....	568
<i>Elementary Education (BAE) EDEEDBAE</i> .....	568
<i>Elementary Education (Indigenous Teacher Preparation) (BAE) EDIEDBAE</i> .....	568
<i>Elementary Education (Multilingual/Multicultural) (BAE) EDMLMCBAE</i> .....	569
<i>Secondary Education (Biological Sciences) (BAE) EDBIOBAE</i> .....	569
<i>Secondary Education (Business) (BAE) EDBUSBAE</i> .....	569
<i>Secondary Education (Chemistry) (BAE) EDCHMBAE</i> .....	570
<i>Secondary Education (Earth and Space Sciences) (BAE) EDESSBAE</i> .....	570
<i>Secondary Education (Economics) (BAE) EDECNBAE</i> .....	570
<i>Secondary Education (English) (BAE) EDENGBAE</i> .....	571
<i>Secondary Education (French) (BAE) EDFREBAE</i> .....	571
<i>Secondary Education (Geography) (BAE) EDGCUBAE</i> .....	571
<i>Secondary Education (German) (BAE) EDGERBAE</i> .....	572
<i>Secondary Education (History) (BAE) EDHISBAE</i> .....	572
<i>Secondary Education (Japanese) (BAE) EDJPNBAE</i> .....	572
<i>Secondary Education (Mathematics) (BAE) EDMATBAE</i> .....	573
<i>Secondary Education (Physics) (BAE) EDPHYBAE</i> .....	573
<i>Secondary Education (Political Science) (BAE) EDPOSBAE</i> .....	573
<i>Secondary Education (Social Studies) (BAE) EDSSTBAE</i> .....	574
<i>Secondary Education (Spanish) (BAE) EDSPABAE</i> .....	574
<i>Special Education (BAE) EDSPEBAE</i> .....	574
EDUCATIONAL INNOVATION AND TEACHER PREPARATION, SCHOOL OF .....	575
<i>Early Childhood Education (BAE) ECEDCBAE</i> .....	575
<i>Elementary Education (BAE) ECEEDBAE</i> .....	575
<i>Secondary Education (Physical Education) (BAE) ECPPEBAE</i> .....	576
<i>Special Education (BAE) ECSPEBAE</i> .....	576

ENGINEERING, IRA A. FULTON SCHOOL OF .....	576
<i>Aerospace Engineering (Aeronautics) (BSE) ESAEROBSE</i> .....	577
<i>Aerospace Engineering (Astronautics) (BSE) ESAEASBSE</i> .....	578
<i>Bioengineering (BSE) ESBMEBSE</i> .....	579
<i>Chemical Engineering (BSE) ESCHEBSE</i> .....	580
<i>Civil Engineering (BSE) ESCEEBSE</i> .....	580
<i>Civil Engineering (Construction Engineering) (BSE) ESCEECBSE</i> .....	581
<i>Civil Engineering (Environmental Engineering) (BSE) ESCEEBBSE</i> .....	582
<i>Computer Science (BS) ESCSEBS</i> .....	583
<i>Computer Systems Engineering (BSE) ESCSEBSE</i> .....	584
<i>Construction (Concrete Industry Management) (BS) ESCONIMBS</i> .....	585
<i>Construction (General Building Construction) (BS) ESCONGBS</i> .....	586
<i>Construction (Heavy Construction) (BS) ESCONHBS</i> .....	587
<i>Construction (Residential Construction) (BS) ESCONRBS</i> .....	588
<i>Construction (Specialty Construction) (BS) ESCONSBS</i> .....	588
<i>Electrical Engineering (BSE) ESEEBBSE</i> .....	589
<i>Electrical Engineering (Electric Power and Energy Systems) (BSE) ESEEEPSE</i> .....	590
<i>Engineering Special Studies (Premedical Engineering) (BSE) ESESPBSE</i> .....	591
<i>Industrial Engineering (BSE) ESIEEBSE</i> .....	592
<i>Materials Science and Engineering (BSE) ESMSEBSE</i> .....	593
<i>Mechanical Engineering (BSE) ESMAEMBSE</i> .....	594
<i>Mechanical Engineering (Computational and Mathematical Mechanics) (BSE) ESMAECBSE</i> .....	595
<i>Mechanical Engineering (Energy and Environment) (BSE) ESMAEEBSE</i> .....	596
HONORS – BARRETT, THE HONORS COLLEGE .....	597
<i>Honors College</i> .....	597
JOURNALISM AND MASS COMMUNICATION, WALTER CRONKITE SCHOOL OF .....	598
<i>Journalism and Mass Communication (BA) CSJMCBA</i> .....	598
LETTERS AND SCIENCES, SCHOOL OF .....	599
<i>Interdisciplinary Studies (BIS) LSBISBIS</i> .....	599
<i>Interdisciplinary Studies (Organizational Studies) (BIS) LSORGBIS</i> .....	599
LIBERAL ARTS AND SCIENCES, COLLEGE OF .....	600
<i>African and African American Studies (BA) LAAFRBA</i> .....	600
<i>American Indian Studies (BS) LAAISBS</i> .....	600
<i>Anthropology (BA) LAASBBA</i> .....	601
<i>Asian Languages - Chinese (BA) LACHIBA</i> .....	601
<i>Asian Languages - Japanese (BA) LAJPNBA</i> .....	601
<i>Biochemistry (BA) LABCHBA</i> .....	602
<i>Biochemistry (BS) LABCHBS</i> .....	602
<i>Biochemistry (Medicinal Chemistry) (BS) LABCHMBS</i> .....	602
<i>Biological Sciences (BS) LABSCBS</i> .....	603
<i>Biological Sciences (Animal Physiology and Behavior) (BS) LABSCABS</i> .....	603
<i>Biological Sciences (Biology and Society) (BS) LABSCSBS</i> .....	603
<i>Biological Sciences (Conservation Biology and Ecological Sustainability) (BS) LABSCCBS</i> .....	604
<i>Biological Sciences (Ecology and Evolution) (BS) LABSCEBS</i> .....	604
<i>Biological Sciences (Genetics, Cell and Developmental Biology) (BS) LABSCGBS</i> .....	604
<i>Biological Sciences (Genomics and Bioinformatics) (BS) LABSCBBS</i> .....	604
<i>Biological Sciences (Plant Biology) (BS) LABSCPBS</i> .....	605
<i>Chemistry (BA) LACHMBA</i> .....	605
<i>Chemistry (BS) LACHMBS</i> .....	605
<i>Chemistry (Environmental Chemistry) (BS) LACHMEBS</i> .....	606
<i>Communication (BA) LACOMBA</i> .....	606
<i>Communication (BS) LACOMBS</i> .....	606
<i>Computational Mathematical Sciences (BS) LACMSBS</i> .....	607
<i>Earth and Space Exploration (BS) LASESBS</i> .....	607

<i>Economics (BS) LAECNBS</i> .....	607
<i>English (Creative Writing) (BA) LAENGCB</i> .....	608
<i>English (Linguistics) (BA) LAENGNBA</i> .....	608
<i>English (Literature) (BA) LAENGTBA</i> .....	609
<i>Family and Human Development (BS) LAFASBS</i> .....	609
<i>Film (Film and Media Studies) (BA) LAFMSBA</i> .....	609
<i>French (BA) LAFREBA</i> .....	610
<i>Geography (BA) LAGCUBA</i> .....	610
<i>Geography (BS) LAGCUBS</i> .....	610
<i>Geography (Meteorology-Climatology) (BS) LAGCUMBS</i> .....	611
<i>Geography (Urban Studies) (BS) LAGCUUBS</i> .....	611
<i>Geological Sciences (BS) LAGLGBS</i> .....	611
<i>German (BA) LAGERBA</i> .....	612
<i>Global Health (BA) LASSHBA</i> .....	612
<i>Global Studies (BA) LASGSBA</i> .....	612
<i>History (BA) LAHISBA</i> .....	613
<i>Integrated Studies (BA) LAISTBA</i> .....	613
<i>Integrated Studies (BS) LAISTBS</i> .....	613
<i>International Letters and Cultures (BA) LASLCBA</i> .....	614
<i>Italian (BA) LAITABA</i> .....	614
<i>Justice Studies (BS) LAJUSBS</i> .....	614
<i>Kinesiology (BS) LAKINBS</i> .....	615
<i>Liberal Studies (BLS) LABLSBLS</i> .....	615
<i>Mathematics (BA) LAMATBA</i> .....	616
<i>Mathematics (BS) LAMATBS</i> .....	616
<i>Mathematics (Statistics) (BS) LAMATTBS</i> .....	616
<i>Microbiology (BS) LAMICBS</i> .....	617
<i>Molecular Biosciences/Biotechnology (BS) LAMBBBS</i> .....	617
<i>Philosophy (BA) LAPHIBA</i> .....	617
<i>Physics (BS) LAPHYBS</i> .....	618
<i>Political Science (BA) LAPOSBA</i> .....	618
<i>Political Science (BS) LAPOSBS</i> .....	618
<i>Pre-Health/Pre-Med Professions (BNODEG) LAMEDPRE</i> .....	619
<i>Pre-Law (BNODEG) LALAWPRE</i> .....	619
<i>Psychology (BA) LAPGSBA</i> .....	619
<i>Psychology (BS) LAPGSBS</i> .....	620
<i>Religious Studies (BA) LARELBA</i> .....	620
<i>Russian (BA) LARUSBA</i> .....	620
<i>Sociology (BA) LASOCBA</i> .....	621
<i>Spanish (BA) LASPABA</i> .....	621
<i>Speech and Hearing Science (BS) LASHSBS</i> .....	621
<i>Transborder Chicana/o and Latina/o Studies (Media, Literature and Arts) (BA) LATCLMBA</i> .....	622
<i>Transborder Chicana/o and Latina/o Studies (Transborder Community Development and Health) (BA) LATCLTBA</i> .....	622
<i>Transborder Chicana/o and Latina/o Studies (US and Mexican Regional Immigration Policy and Economy) (BA) LATCLUBA</i> .....	623
<i>Women and Gender Studies (BA) LAWSTBA</i> .....	623
<b>MANAGEMENT AND AGRIBUSINESS, MORRISON SCHOOL OF</b> .....	624
<i>Agribusiness (Agribusiness Finance) (BS) AGAGBNBS</i> .....	624
<i>Agribusiness (Food Science) (BS) AGAGBFBS</i> .....	624
<i>Agribusiness (Food/Agribusiness and Consumer Product Marketing) (BS) AGAGBDBS</i> .....	624
<i>Agribusiness (General Agribusiness) (BS) AGAGBGBS</i> .....	625
<i>Agribusiness (Golf and Facilities Management) (BS) AGAGBCBS</i> .....	625
<i>Agribusiness (International Agribusiness) (BS) AGAGBIBS</i> .....	625
<i>Agribusiness (Management of Agribusiness) (BS) AGAGBTBS</i> .....	625



<i>Agribusiness (Preveterinary Medicine) (BS) AGAGBPBS</i> .....	626
<i>Agribusiness (Professional Golf Management) (BS) AGAGBMBS</i> .....	626
<i>Business Administration (BS) AGBUABS</i> .....	626
<i>Real Estate (BS) AGREABS</i> .....	627
NEW COLLEGE OF INTERDISCIPLINARY ARTS AND SCIENCES.....	627
<i>American Studies (BA) ASAMSBA</i> .....	627
<i>Applied Computing (BS) ASACOBS</i> .....	627
<i>Applied Mathematics (BS) ASMATBS</i> .....	628
<i>Applied Science (BAS) ASBASBAS</i> .....	628
<i>Communication Studies (BA) ASCOMBA</i> .....	629
<i>Communication Studies (BS) ASCOMBS</i> .....	629
<i>English (BA) ASENGBA</i> .....	629
<i>Ethnicity, Race, First Nation Studies (BA) ASETHBA</i> .....	630
<i>History (BA) ASHISBA</i> .....	630
<i>Integrative Studies (BA) ASIASBA</i> .....	630
<i>Interdisciplinary Arts and Performance (BA) ASIAPBA</i> .....	631
<i>Life Sciences (BS) ASLSCBS</i> .....	631
<i>Political Science (BA) ASPOLBA</i> .....	632
<i>Political Science (BS) ASPOLBS</i> .....	632
<i>Psychology (BA) ASPGSBA</i> .....	632
<i>Psychology (BS) ASPGSBS</i> .....	633
<i>Religion and Applied Ethics Studies (BA) ASRELBA</i> .....	633
<i>Social and Behavioral Sciences (Behavioral Sciences) (BA) ASSBSBBA</i> .....	634
<i>Social and Behavioral Sciences (Behavioral Sciences) (BS) ASSBSBBS</i> .....	634
<i>Social and Behavioral Sciences (Social Sciences) (BA) ASSBSSBA</i> .....	634
<i>Social and Behavioral Sciences (Social Sciences) (BS) ASSBSSBS</i> .....	635
<i>Sociology (BA) ASSOCBA</i> .....	635
<i>Sociology (BS) ASSOCBS</i> .....	635
<i>Spanish (BA) ASSPABA</i> .....	636
<i>Women's Studies (BA) ASWSTBA</i> .....	636
<i>Women's Studies (BS) ASWSTBS</i> .....	636
NURSING & HEALTHCARE INNOVATION, COLLEGE OF.....	637
<i>Nursing (BSN) NUNURDBSN</i> .....	637
PUBLIC PROGRAMS, COLLEGE OF.....	637
<i>Criminal Justice and Criminology (BS) PPCRIMJBS</i> .....	637
<i>Nonprofit Leadership and Management (BS) PPNLMBS</i> .....	638
<i>Parks and Recreation Management (BS) PPPRMBS</i> .....	638
<i>Social Work (BSW) PPSWUSWU</i> .....	639
<i>Tourism Development and Management (BS) PPTDMBS</i> .....	639
<i>Urban and Metropolitan Studies (BA) PPURBBA</i> .....	639
<i>Urban and Metropolitan Studies (BS) PPURBBS</i> .....	640
SUSTAINABILITY, SCHOOL OF.....	640
<i>Sustainability (BA) SUSUSTBA</i> .....	640
<i>Sustainability (BS) SUSUSTBS</i> .....	641
TEACHER EDUCATION AND LEADERSHIP, COLLEGE OF.....	641
<i>Early Childhood Teaching and Leadership (BAE) TEECTLBAE</i> .....	641
<i>Elementary Education (BAE) TEEEDBAE</i> .....	642
<i>Elementary Education (Bilingual Education) (BAE) TEBLEBAE</i> .....	642
<i>Elementary Education (English as a Second Language) (BAE) TEESLBAE</i> .....	642
<i>Secondary Education (English) (BAE) TEENGBAE</i> .....	643
<i>Secondary Education (History) (BAE) TEHISBAE</i> .....	643
<i>Secondary Education (Mathematics) (BAE) TEMATBAE</i> .....	644
<i>Secondary Education (Natural Sciences) (BAE) TENSCLBAE</i> .....	644
<i>Secondary Education (Social Studies) (BAE) TESSTBAE</i> .....	644

<i>Special Education (BAE) TESPEBAE</i> .....	645
TECHNOLOGY AND INNOVATION, COLLEGE OF.....	645
<i>Aeronautical Management Technology (Air Transportation Management) (BS) TSAMTMBS</i> .....	645
<i>Aeronautical Management Technology (Professional Flight) (BS) TSAMTFBS</i> .....	645
<i>Air Traffic Management (BS) TSATMBS</i> .....	646
<i>Applied Computer Science (BS) TSACSBAS</i> .....	646
<i>Applied Science (BAS) TSAPSBAS</i> .....	647
<i>Applied Science (Fire Service Management) (BAS) TSIMCFBAS</i> .....	647
<i>Applied Science (Internet and Web Development) (BAS) TSIWDBAS</i> .....	647
<i>Applied Science (Operations Management Technology) (BAS) TSIMCOBAS</i> .....	648
<i>Computer Systems (Computer Hardware Technology) (BS) TSCSTHBS</i> .....	648
<i>Computer Systems (Embedded Systems Technology) (BS) TSCSTMBS</i> .....	649
<i>Electronics Engineering Technology (Alternative Energy Technologies) (BS) TSEETABS</i> .....	649
<i>Electronics Engineering Technology (Electronic Systems) (BS) TSEETEBS</i> .....	649
<i>Electronics Engineering Technology (Integrated Systems) (BS) TSEETINBS</i> .....	650
<i>Electronics Engineering Technology (Telecommunications) (BS) TSEETTBS</i> .....	650
<i>Engineering (BSE) TSEGRBSE</i> .....	650
<i>Environmental Technology Management (BS) TSETMBS</i> .....	650
<i>Graphic Information Technology (BS) TSGITBS</i> .....	651
<i>Manufacturing Engineering Technology (Manufacturing Engineering Technology) (BS) TSMETBS</i> .....	651
<i>Manufacturing Engineering Technology (Mechanical Engineering Technology) (BS) TSMETMBS</i> .....	652
<i>Mechanical Engineering Technology (Aeronautical Engineering Technology) (BS) TSMECEBS</i> .....	652
<i>Mechanical Engineering Technology (Automation Engineering Technology) (BS) TSMECUBS</i> .....	653
<i>Mechanical Engineering Technology (Automotive Engineering Technology) (BS) TSMECTBS</i> .....	653
<i>Mechanical Engineering Technology (Mechanical Engineering Technology) (BS) TSMECBS</i> .....	653
<i>Operations Management Technology (BS) TSOMTBS</i> .....	654
UNIVERSITY COLLEGE.....	654
<i>Exploratory Health and Life Sciences UCHSCIEXPL</i> .....	654
<i>Exploratory Humanities, Fine Arts and Design UCHUFAEXPL</i> .....	654
<i>Exploratory Math, Physical Sciences, Engineering and Technology UCEMTPEXPL</i> .....	655
<i>Exploratory Social and Behavioral Sciences UCSBSEXPL</i> .....	655
<b>MAJOR MAPS (PROGRAM REQUIREMENTS)</b> .....	<b>656</b>