Course Descriptions
## Course Index by Subject

<table>
<thead>
<tr>
<th>Subject</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAA –</td>
<td>Advancing Academic Achievement</td>
<td>219</td>
</tr>
<tr>
<td>ACC –</td>
<td>Accounting</td>
<td>219</td>
</tr>
<tr>
<td>AES –</td>
<td>Aerospace Studies</td>
<td>220</td>
</tr>
<tr>
<td>AFR –</td>
<td>African American Studies</td>
<td>220</td>
</tr>
<tr>
<td>AHU –</td>
<td>Arabic Humanities</td>
<td>220</td>
</tr>
<tr>
<td>AIS –</td>
<td>American Indian Studies</td>
<td>220</td>
</tr>
<tr>
<td>AJS –</td>
<td>Administration of Justice Studies</td>
<td>221</td>
</tr>
<tr>
<td>ARC –</td>
<td>Architecture</td>
<td>223</td>
</tr>
<tr>
<td>ARH –</td>
<td>Art Humanities</td>
<td>223</td>
</tr>
<tr>
<td>ART –</td>
<td>Art (Studio)</td>
<td>224</td>
</tr>
<tr>
<td>ART –</td>
<td>Art (Photography)</td>
<td>228</td>
</tr>
<tr>
<td>ASB, ASM – Anthropology</td>
<td>228</td>
<td></td>
</tr>
<tr>
<td>AST –</td>
<td>Astronomy</td>
<td>229</td>
</tr>
<tr>
<td>BIO –</td>
<td>Biology</td>
<td>230</td>
</tr>
<tr>
<td>BPC –</td>
<td>Business-Personal Computers</td>
<td>231</td>
</tr>
<tr>
<td>CAD –</td>
<td>Computer-Aided Drafting</td>
<td>231</td>
</tr>
<tr>
<td>CCS –</td>
<td>Chicana and Chicano Studies</td>
<td>231</td>
</tr>
<tr>
<td>CFS –</td>
<td>Child/Family Studies</td>
<td>232</td>
</tr>
<tr>
<td>CHM –</td>
<td>Chemistry</td>
<td>233</td>
</tr>
<tr>
<td>CIS –</td>
<td>Computer Information Systems</td>
<td>235</td>
</tr>
<tr>
<td>COM –</td>
<td>Communication</td>
<td>237</td>
</tr>
<tr>
<td>CON –</td>
<td>Construction</td>
<td>238</td>
</tr>
<tr>
<td>CPD –</td>
<td>Counseling and Personal Development</td>
<td>238</td>
</tr>
<tr>
<td>CRE –</td>
<td>Critical Reading</td>
<td>239</td>
</tr>
<tr>
<td>CRW –</td>
<td>Creative Writing</td>
<td>239</td>
</tr>
<tr>
<td>CWE –</td>
<td>Career Work Experience</td>
<td>241</td>
</tr>
<tr>
<td>DAE –</td>
<td>Dental Assisting Education</td>
<td>241</td>
</tr>
<tr>
<td>DAH –</td>
<td>Dance Humanities</td>
<td>242</td>
</tr>
<tr>
<td>DHE –</td>
<td>Dental Hygiene Education</td>
<td>243</td>
</tr>
<tr>
<td>DPR –</td>
<td>Disaster Preparedness and Emergency Response</td>
<td>243</td>
</tr>
<tr>
<td>ECE –</td>
<td>Engineering Science</td>
<td>244</td>
</tr>
<tr>
<td>ECH –</td>
<td>Early Childhood Education</td>
<td>244</td>
</tr>
<tr>
<td>ECN –</td>
<td>Economics</td>
<td>245</td>
</tr>
<tr>
<td>EDU –</td>
<td>Education</td>
<td>245</td>
</tr>
<tr>
<td>EED –</td>
<td>Early Education</td>
<td>246</td>
</tr>
<tr>
<td>EEE –</td>
<td>Electrical Engineering</td>
<td>246</td>
</tr>
<tr>
<td>ELE –</td>
<td>Electronic</td>
<td>246</td>
</tr>
<tr>
<td>EMT –</td>
<td>Emergency Medical Technology</td>
<td>246</td>
</tr>
<tr>
<td>ENG –</td>
<td>English</td>
<td>250</td>
</tr>
<tr>
<td>ENH –</td>
<td>English Humanities</td>
<td>251</td>
</tr>
<tr>
<td>ESL –</td>
<td>English As a Second Language</td>
<td>252</td>
</tr>
<tr>
<td>FON –</td>
<td>Food and Nutrition</td>
<td>254</td>
</tr>
<tr>
<td>FRE –</td>
<td>French</td>
<td>254</td>
</tr>
<tr>
<td>FSC –</td>
<td>Fire Science Technology</td>
<td>254</td>
</tr>
<tr>
<td>GBS –</td>
<td>General Business</td>
<td>257</td>
</tr>
<tr>
<td>GCU –</td>
<td>Cultural Geography</td>
<td>257</td>
</tr>
<tr>
<td>GIS –</td>
<td>Geographic Information Science</td>
<td>258</td>
</tr>
<tr>
<td>GLG –</td>
<td>Geology</td>
<td>258</td>
</tr>
<tr>
<td>GPH –</td>
<td>Physical Geography</td>
<td>258</td>
</tr>
<tr>
<td>HCC –</td>
<td>Health Core Curriculum</td>
<td>259</td>
</tr>
<tr>
<td>HCR –</td>
<td>Health Care Related</td>
<td>259</td>
</tr>
<tr>
<td>HES –</td>
<td>Health Science</td>
<td>260</td>
</tr>
<tr>
<td>HIM –</td>
<td>Health Information Management</td>
<td>260</td>
</tr>
<tr>
<td>HIS –</td>
<td>History</td>
<td>263</td>
</tr>
<tr>
<td>HST –</td>
<td>Histologic Technology</td>
<td>264</td>
</tr>
<tr>
<td>HUM –</td>
<td>Humanities</td>
<td>264</td>
</tr>
<tr>
<td>IBS –</td>
<td>International Business</td>
<td>265</td>
</tr>
<tr>
<td>INT –</td>
<td>Interior Design</td>
<td>265</td>
</tr>
<tr>
<td>IPP –</td>
<td>Interpreter Preparation Program</td>
<td>267</td>
</tr>
<tr>
<td>LAS –</td>
<td>Paralegal Studies</td>
<td>268</td>
</tr>
<tr>
<td>LBA –</td>
<td>Laboratory Assisting</td>
<td>270</td>
</tr>
<tr>
<td>LDR –</td>
<td>Leadership</td>
<td>270</td>
</tr>
<tr>
<td>MAS –</td>
<td>Medical Assisting</td>
<td>270</td>
</tr>
<tr>
<td>MAT –</td>
<td>Mathematics</td>
<td>272</td>
</tr>
<tr>
<td>MDL –</td>
<td>Medical Laboratory Science</td>
<td>275</td>
</tr>
<tr>
<td>MGT –</td>
<td>Management</td>
<td>277</td>
</tr>
<tr>
<td>MHL –</td>
<td>Music: History/Literature</td>
<td>277</td>
</tr>
<tr>
<td>MIS –</td>
<td>Military Science</td>
<td>278</td>
</tr>
<tr>
<td>MKT –</td>
<td>Marketing</td>
<td>278</td>
</tr>
<tr>
<td>MMT –</td>
<td>Multimedia Technology</td>
<td>279</td>
</tr>
<tr>
<td>MNT –</td>
<td>Micro and Nano Technology</td>
<td>280</td>
</tr>
<tr>
<td>MTC –</td>
<td>Music: Theory/Composition</td>
<td>280</td>
</tr>
<tr>
<td>MUC –</td>
<td>Music: Commercial/Business</td>
<td>281</td>
</tr>
<tr>
<td>MUE –</td>
<td>Music Education</td>
<td>282</td>
</tr>
<tr>
<td>MUP –</td>
<td>Music: Performance</td>
<td>282</td>
</tr>
<tr>
<td>NAV –</td>
<td>Navajo</td>
<td>284</td>
</tr>
<tr>
<td>NUR –</td>
<td>Nursing Science: Basic</td>
<td>284</td>
</tr>
<tr>
<td>NVH –</td>
<td>Navajo Humanities</td>
<td>284</td>
</tr>
<tr>
<td>PAD –</td>
<td>Public Administration</td>
<td>284</td>
</tr>
<tr>
<td>PED –</td>
<td>Physical Education</td>
<td>284</td>
</tr>
<tr>
<td>PHI –</td>
<td>Philosophy</td>
<td>285</td>
</tr>
<tr>
<td>PHS –</td>
<td>Physical Science</td>
<td>285</td>
</tr>
<tr>
<td>PHY –</td>
<td>Physics</td>
<td>285</td>
</tr>
<tr>
<td>PLB –</td>
<td>Phlebotomy</td>
<td>286</td>
</tr>
<tr>
<td>POS –</td>
<td>Political Science</td>
<td>286</td>
</tr>
<tr>
<td>PSY –</td>
<td>Psychology</td>
<td>287</td>
</tr>
<tr>
<td>RDG –</td>
<td>Reading</td>
<td>288</td>
</tr>
<tr>
<td>REA –</td>
<td>Real Estate</td>
<td>289</td>
</tr>
<tr>
<td>REC –</td>
<td>Recreation</td>
<td>289</td>
</tr>
<tr>
<td>REL –</td>
<td>Religious Studies</td>
<td>289</td>
</tr>
<tr>
<td>SBS –</td>
<td>Small Business Management</td>
<td>290</td>
</tr>
<tr>
<td>SBU –</td>
<td>Society and Business</td>
<td>290</td>
</tr>
<tr>
<td>SLG –</td>
<td>Sign Language</td>
<td>290</td>
</tr>
<tr>
<td>SOC –</td>
<td>Sociology</td>
<td>291</td>
</tr>
<tr>
<td>SPA –</td>
<td>Spanish</td>
<td>292</td>
</tr>
<tr>
<td>SPH –</td>
<td>Spanish Humanities</td>
<td>293</td>
</tr>
<tr>
<td>SSH –</td>
<td>Sustainability/Social Sciences and Humanities</td>
<td>293</td>
</tr>
<tr>
<td>SWU –</td>
<td>Social Work</td>
<td>293</td>
</tr>
<tr>
<td>TCM –</td>
<td>Telecommunications</td>
<td>293</td>
</tr>
<tr>
<td>TEC –</td>
<td>Textiles and Clothing</td>
<td>294</td>
</tr>
<tr>
<td>THE –</td>
<td>Theatre</td>
<td>296</td>
</tr>
<tr>
<td>THF –</td>
<td>Theatre and Film</td>
<td>296</td>
</tr>
<tr>
<td>THP –</td>
<td>Theatre Performance/Production</td>
<td>297</td>
</tr>
<tr>
<td>VPT –</td>
<td>Video Production Technology</td>
<td>298</td>
</tr>
<tr>
<td>WED –</td>
<td>Wellness Education</td>
<td>298</td>
</tr>
<tr>
<td>WST –</td>
<td>Women’s Studies</td>
<td>300</td>
</tr>
</tbody>
</table>

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For additional information on **PC program competencies**, visit: [https://curriculum.maricopa.edu](https://curriculum.maricopa.edu)

For additional information on **MCCCD course competencies**, visit: [https://curriculum.maricopa.edu](https://curriculum.maricopa.edu)

All courses listed in this catalog are not offered every semester. Check in the Class Schedule for current course offerings. On the web, go to www.phoenixcollege.edu>Class Search> Class Schedule.
### AAA – Advancing Academic Achievement

**AAA/CPD115**  
Creating College Success  
1 credit(s) 1 period(s) lecture  
Strategies to create success in college. Methods for selecting and developing effective academic strategies, increasing self-awareness and developing self-management strategies. Elements of college resources and relationships with others explored in support of students' educational experience. **Prerequisites:** None.

**AAA/CPD150**  
Strategies for College Success  
3 credit(s) 3 period(s) lecture  
Focus on increasing student success through college orientation and personal growth, study skills development, and educational and career planning. **Prerequisites:** None.

**AAA/CPD150AA**  
College Orientation/Personal Growth  
1 credit(s) 1 period(s) lecture  
Emphasis on increasing student success through college orientation, identification of learning style and the use of time management, goal-setting, and interpersonal communication strategies. **Prerequisites:** None.

**AAA/CPD150AB**  
Study Skills Development  
1 credit(s) 1 period(s) lecture  
Emphasis on increasing student success through the use of study strategies including materials organization, note-taking, reading, test-taking, memory and critical and creative thinking. **Prerequisites:** None.

**AAA/CPD150AC**  
Educational and Career Planning  
1 credit(s) 1 period(s) lecture  
Emphasis on increasing student success through educational and career planning. **Prerequisites:** None.

### ACC – Accounting

**ACC105**  
Payroll, Sales and Property Taxes  
3 credit(s) 3 period(s) lecture  
Tax reporting for payroll, sales, and personal property. **Prerequisites:** None.

**ACC111**  
Accounting Principles I  
3 credit(s) 3 period(s) lecture  
Fundamental theory of accounting principles and procedures. **Prerequisites:** None.

**ACC112**  
Accounting Principles II  
3 credit(s) 3 period(s) lecture  
Continuation of the fundamental theory of accounting principles and procedures, including interpretation of general purpose financial statements. **Prerequisites:** ACC111 with a grade of C or better or permission of Department or Division.

**ACC115**  
Computerized Accounting  
2 credit(s) 3 period(s) lecture + lab  
Mastery of a microcomputer accounting system including the general ledger, accounts receivable, accounts payable and payroll. **Prerequisites:** A grade of C or better in ACC107 or ACC111 or ACC211 or ACC230, or permission of Instructor.

**ACC121**  
Income Tax Preparation  
3 credit(s) 3 period(s) lecture + lab  
Preparation of and practical experience in preparing individual federal income tax returns using computer software. **Prerequisites:** None.

**ACC211**  
Financial Accounting  
3 credit(s) 3 period(s) lecture  
Introduction to theory and practice in the preparation and interpretation of general purpose financial statements. **Prerequisites:** None.

**ACC212**  
Managerial Accounting  
3 credit(s) 3 period(s) lecture  
Development and analysis of accounting information for managerial planning and control. **Prerequisites:** A grade of C or better in (ACC111 and ACC112) or ACC211 and (CIS105 or permission of Department or Division).

**ACC216**  
Fraud Examination  
3 credit(s) 3 period(s) lecture  
Fundamental theory of fraud examination methodology to detect and prevent accounting fraud. **Prerequisites:** A grade of C or better in (ACC230 or ACC112 or ACC211) or permission of Department or Division.

**ACC219**  
Intermediate Accounting I  
3 credit(s) 3 period(s) lecture  
Theory and practice applicable to determination of asset values, liabilities, and related problems of income determination. **Prerequisites:** ACC212 or ACC240 with a grade of C or better or permission of Department or Division.

**ACC220**  
Intermediate Accounting II  
3 credit(s) 3 period(s) lecture  
Continuation of the theory and practice applicable to liabilities and owner’s equity; special problems and financial reporting. **Prerequisites:** ACC219 with a grade of C or better or permission of Department or Division.

**ACC221**  
Tax Accounting  
3 credit(s) 3 period(s) lecture  
Preparation of and accounting procedures for individuals; introduction to partnerships and corporate tax structures. **Prerequisites:** A grade of C or better in ACC111 or ACC211 or permission of Department or Division.

**ACC260**  
Certified Bookkeeper (CB) Preparation  
3 credit(s) 3 period(s) lecture  
Fundamental accounting practices including accrual and deferral adjustments, correcting common transaction recording errors, bank reconciliations and adjusting entries. Includes payroll accounting and related Federal and State payroll law requirements. Accounting for depreciation for financial and tax accounting purposes covered. Inventory valuation methods. Includes calculating, recording, and reporting under generally accepted accounting principles (GAAP). Preventive internal control procedures to detect organizational fraud, theft, and embezzlement covered. **Prerequisites:** A grade of C or better in ACC111, or ACC211, or (bookkeeping experience and permission of Instructor).

**ACC270AA**  
Accounting Internship  
1 credit(s) 1 period(s) lab  
Accounting work experience in a business or industry. Eighty hours of designated work per credit per semester. **Prerequisites:** Permission of Department or Division. **Course Notes:** ACC270AA may be repeated for a total of four (4) credits.

**ACC270AB**  
Accounting Internship  
2 credit(s) 2 period(s) lab  
Accounting work experience in a business or industry. Eighty hours of designated work per credit totaling 160 hours per semester. **Prerequisites:** Permission of Department or Division. **Course Notes:** ACC270AB may be repeated for a total of four (4) credits.

**ACC270AC**  
Accounting Internship  
3 credit(s) 3 period(s) lab  
Accounting work experience in a business or industry. Eighty hours of designated work per credit totaling 240 hours per semester. **Prerequisites:** Permission of Department or Division. **Course Notes:** ACC270AC may be repeated for a total of six (6) credits.
ACC298AA-AC
Special Projects
1-3 credit(s) 1-3 period(s) lab
Organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment are made available for student use. Allows the best aspects of independent study and individualized learning to be combined to maximize student development. Prerequisites: None.

AES101
Air Force Today I
2 credit(s) 2 period(s) lecture and lab
Introduction to U.S. Air Force and AFROTC. Topics include: the Air Force mission and organization, customs and courtesies, officer opportunities, officerism and professionalism. Prerequisites: None.

AES103
Air Force Today II
2 credit(s) 2 period(s) lecture and lab
Introduction to U.S. Air Force and AFROTC. Topics include: the Air Force mission and organization, customs and courtesies, officer opportunities, officerism, and professionalism. Prerequisites: None.

AES201
Evolution of USAF Air and Space Power I
2 credit(s) 2 period(s) lecture and lab
Further preparation of AFROTC candidate. Topics include: Air Force heritage and leaders, communication skills, ethics, leadership, quality Air Force, and values. Prerequisites: None.

AES203
Evolution of USAF Air and Space Power II
2 credit(s) 2 period(s) lecture and lab
Topics include: The Air Force mission and organization, customs and courtesies, officer opportunities, officerism, and professionalism. Prerequisites: None.

AES294
Air Force Physical Fitness
1 credit(s) 3 period(s) lecture + lab
Beginning instruction in adapted physical activities and a variety of sports and sports activities to include calisthenics, sit-ups, push-ups, running, basketball, volleyball, and other physical events. Prerequisites: None. Course Note: AES294 may be repeated for credit.

AFR – African American Studies

AFR/ASB/CCS202
Ethnic Relations in the United States
3 credit(s) 3 period(s) lecture
Basic concepts and processes, including historic overview, of interethic relations in the United States: culture, race, ethnicity, ethnocentrism, prejudice, discrimination, racism, assimilation, acculturation, and individual and group responses to interethnic contact. Cultural knowledge and intercultural communication skills and perspectives as fundamental tools for successful management of social relations in a multicultural world. Prerequisites: None.

AHU – Arabic Humanities

AHU245
Arabic Culture and Islam
3 credit(s) 3 period(s) lecture
A survey of Arab heritage in the Arab world (Middle East). Cultural and social institutions and their contribution to the development of the region and its heritage. Prerequisites: None.

AIS – American Indian Studies

AIS101
Survey of American Indian Issues
3 credit(s) 3 period(s) lecture
Introduction to critical issues related to American Indian peoples. Examines cultural, political, economic, educational, social, and environmental issues. Focuses on contemporary issues and factors influencing American Indian communities. Prerequisites: None.

AIS110
Navajo Government
3 credit(s) 3 period(s) lecture
Addresses and examines major historical developments of the Navajo People with a focus on government, law, society, livelihood, tradition, and culture. Includes the major components and operation of Navajo government and related tribal laws, such as Title II and Title VII of the Navajo Nation Code, as well as the significance of the Treaty of 1868. Federal Indian policies and their impact on Navajo society and government, the importance of federal and tribal citizenship and related federal and tribal laws, and the role of the Navajo clanship system and other relevant cultural concepts addressed. Prerequisites: None.

AIS/SOC112
American Indian Policy
3 credit(s) 3 period(s) lecture
Reviews United States government policies and their impact on American Indian sovereignty. Examines historic, legal, economic, and social issues regarding Indian policies and how they impact Indian Nations and individual Indians. Studies historical as well as contemporary policies created by the Federal Government that define the trust relationship between the United States government and Indian Nations. Prerequisites: None.

AIS/HIS140
American Indian History
3 credit(s) 3 period(s) lecture
Survey of American Indian history with emphasis on the last 200 years including developments in the 20th century. Focuses on selected groups such as the Cherokee, Iroquois Confederation, Navajo, Sioux and Indians of the Southwest in relation to cultural, economic, political and social continuity and changes. Topics include development and influence of federal policies, past and present issues confronting Native Americans and how Native American individuals and communities maintain their identities as they confront social changes. Prerequisites: None.

AIS/SOC141
Sovereign Indian Nations
3 credit(s) 3 period(s) lecture
Explores the sovereign status of American Indians as it relates to social relationships, traditions and culture of American Indians. Reviews historic relations with non-Indian societies, the development of federal Indian law, tribal government, other current issues, and contemporary social problems. Prerequisites: None.

See pages 126-128 for Instructional Department details.
Indian peoples in these areas, and current United States' policies and their impact on implementation of Spanish-Mexican and historical events, the development and

None.

maximize student development.

individualized learning to be combined to the best aspects of independent study and are made available for student use. Allows professional-type facilities and equipment individualized research and study paralleled Structured to provide an atmosphere of organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of diverse lifeways and worldviews belonging to the peoples indigenous to the North American continent over time, including a study of modern day American Indian beliefs and practices.

Prerequisites: A grade of C or better in ENG101 or ENG107 or equivalent.

AIS213 / REL203 American Indian Religions

3 credit(s) 3 period(s) lecture

An examination of the historical and cultural background of diverse lifeways and worldviews belonging to the peoples indigenous to the North American continent over time, including a study of modern day American Indian beliefs and practices.

Prerequisites: None.

AJS124 Correctional Institutions

3 credit(s) 3 period(s) lecture

An examination of correctional institutions with an emphasis on personnel and security measures, care and treatment programs and institutional planning. The criminal justice system and matters of custody and treatment. Inmate subcultures, and organized crime in correctional institutions and jails.

Prerequisites: None.

AJS1119 Computer Applications in Justice Studies

3 credit(s) 4 period(s) lecture + lab

Provides literacy in microcomputer applications in major areas of the criminal justice system. Examines availability and uses of current software packages in criminal justice work. Provides hands-on experience with appropriate integrated software packages pertaining to justice studies. Prerequisites: None.

AJS123 Ethics and the Administration of Justice

3 credit(s) 3 period(s) lecture

Introduces and explores ethical issues and the justice system. Focuses on ethics and the law, the police, courts and corrections. Reviews ethical theory, concepts and practices as they relate to administration of justice. Explores issues of how media/social media shape ethics. Encourages critical thinking and value decision making in criminal justice system situations. Prerequisites: None.

AJS110 Introduction to Criminal Justice

3 credit(s) 3 period(s) lecture

An introduction to crime and society's responses to it. Examines the nature and causes of crime, the criminal law, constitutional safeguards, and the organization and operation of the criminal justice system including the police, courts, jails, prisons, probation and parole departments, and community corrections agencies. Covers the history of the criminal justice system, terminology and career opportunities. Prerequisites: None.

AJS107 Patrol Procedures

3 credit(s) 3 period(s) lecture

Specialized areas of the patrol function, including responding to crowds, riots, bomb threats, intoxication, hazardous materials, fires, and domestic disputes. Partially fulfills Arizona POST requirements for proficiency skills academy attendance. Prerequisites: None.

AJS109 Substantive Criminal Law

3 credit(s) 3 period(s) lecture

Covers philosophy of legal sanctions and historical development from the common law to modern American criminal law, classifications of crimes, elements of and parties to crimes, general definitions of crime, common defenses utilized. Includes specific offenses and the essential elements of each offense. Required in AJS curriculum. Prerequisites: None.

AJS110 Law and Legal Review I

3 credit(s) 3 period(s) lecture

In-depth study of the Arizona laws governing arrest by peace officers, as well as an intensive study of the Arizona substantive criminal law code (ARS Title 13). Focuses on specific sections of ARS Title 4 and ARS Title 8, as they apply to peace officers in Arizona. Partially fulfills the Arizona POST Board requirements for Proficiency Skills Academy attendance. Prerequisites: None.

AJS113 Criminal Justice Crime Control Policies and Practices

3 credit(s) 3 period(s) lecture

Focus on changing the distribution of crime opportunities rather than offender motivation. Topics include application of situational crime prevention strategies, problem-oriented crime control approaches, hot spots policing, defensible space, and crime prevention through defensible space. Prerequisites: None.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Type</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>AJS162</td>
<td>Domestic Violence</td>
<td>3</td>
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<tr>
<td>AJS192</td>
<td>Serial Killers and Mass Murderers</td>
<td>3</td>
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<tr>
<td>AJS198AB</td>
<td>Special Topics in the Administration of Justice</td>
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<td>AJS200</td>
<td>Current Issues in Criminal Justice</td>
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<tr>
<td>AJS201</td>
<td>Rules of Evidence</td>
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<td>3</td>
<td>None</td>
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<tr>
<td>AJS205</td>
<td>Criminal Justice Report Writing</td>
<td>3</td>
<td>3</td>
<td>None</td>
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<tr>
<td>AJS210</td>
<td>Constitutional Law</td>
<td>3</td>
<td>3</td>
<td>None</td>
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<tr>
<td>AJS212</td>
<td>Juvenile Justice Procedures</td>
<td>3</td>
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<td>None</td>
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<tr>
<td>AJS213</td>
<td>Evidence Technology/Fingerprints</td>
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<td>AJS214</td>
<td>Evidence Technology/Photography</td>
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<td>AJS215</td>
<td>Criminalistics: Physical Evidence</td>
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<tr>
<td>AJS216</td>
<td>Criminalistics: Biological Evidence</td>
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<td>AJS219</td>
<td>Organized Crime</td>
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<td>AJS223</td>
<td>Forensic Pathology: Death Investigation</td>
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<td>AJS225</td>
<td>Criminology</td>
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<td>AJS230</td>
<td>The Police Function</td>
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<td>AJS240</td>
<td>The Correction Function</td>
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<tr>
<td>AJS241</td>
<td>Police Photography</td>
<td>3</td>
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</tbody>
</table>
**Certified officer or specifically in the western United States.**

Introduction to street gang identification, history, culture, and current trends.

**Prerequisites:** A grade of C or better in AJS213 and (AJS214 or AJS241) or permission of Instructor.

**AJS/EMT/FSC/SWU258**

Victimology and Crisis Management
3 credit(s) 3 period(s) lecture

Victimology, the criminal justice system, techniques of crisis intervention, and the importance of a multicultural and global perspective. Includes sexual assault, family violence, post-traumatic stress disorder, the role of substance abuse, effective coping skills, appropriate community resources and the responsiveness of the justice system. **Prerequisites:** None.

**AJS260**

Procedural Criminal Law
3 credit(s) 3 period(s) lecture

Concerned with the understanding of procedural criminal law. Examines the rationale underlying major court holdings, the procedural requirements that stem from these holdings, and their effect on the daily operations of the criminal justice system. **Prerequisites:** None.

**AJS270**

Community Relations
3 credit(s) 3 period(s) lecture

Examination, recognition and understanding of community problems; community action programs; methods of coping with human behavior, victimology, conflict, and communication; ethnic and minority cultures and environments; the community and relationships with the criminal justice system. **Prerequisites:** None.

**AJS275**

Criminal Investigation I
3 credit(s) 3 period(s) lecture

Introduction to the theory of criminal investigation. Examines crime scene procedures, case preparation, interviewing, and basic investigative techniques. **Prerequisites:** None.

**AJS289AJ**

Street Gangs I
1 credit(s) 1 period(s) lecture

Introduction to street gang identification, history, culture, and current trends, specifically in the western United States. **Prerequisites:** Certified officer or permission of Instructor.

**AJS290 Courses**

Course topics presented are selected from a variety of subjects designed to meet the needs and interests of persons desiring in-service education and training. AJS290 courses may be repeated for credit provided it is not a repeat of the same topic. Courses may not transfer to other colleges and universities.

**AJS290AU**

Child Abuse Investigation
1 credit(s) 1 period(s) lecture

Definition and investigation of the causes and effects of child abuse. **Prerequisites:** None.

**AJS290AW**

Narcotics and Dangerous Drugs
1 credit(s) 1 period(s) lecture

Pharmacological effects of the use and abuse of drugs, including a description of common abuse patterns and investigative techniques used in the enforcement of drug laws. **Prerequisites:** None.

**AJS290AZ**

Police Interrogation Techniques
1 credit(s) 1 period(s) lecture

Proper interview and interrogation techniques, including a discussion of the constitutional rights of the defendant and applicable court decisions. **Prerequisites:** None.

**AJS290BN**

Courtroom Testimony Seminar
1 credit(s) 1 period(s) lecture

Courtroom demeanor and protocol. Role and primary functions of witness and legal counsels. **Prerequisites:** None.

**AJS290BU**

Family Violence
1 credit(s) 1 period(s) lecture

Family violence issues as they relate to the criminal justice response. **Prerequisites:** None.

**AJS290BV**

Victim Assistance
1 credit(s) 1 period(s) lecture

An overview of victim issues emphasizing strategies used to reduce the trauma associated with crime. Includes description of counseling methods, referral procedures, intervention techniques, and community resources. **Prerequisites:** None.

**ARC – Architecture**

**ARC121**

Introduction to Architectural Drafting: Manual
3 credit(s) 6 period(s) lecture and lab

Emphasis on basic techniques and principles of manual architectural drafting. Includes hand lettering, line work, dimensioning, multi-view projection, work in plan, section, and elevation views, design standards, wall details, office procedures, and portfolio development. **Prerequisites:** None.

**ARH – Art Humanities**

**ARH100**

Introduction to Art
3 credit(s) 3 period(s) lecture

Understanding and enjoyment of art and visual culture through study of two-dimensional and three-dimensional works of art, design elements, media and processes, and cultural contexts. Emphasis on contemporary topics and cultural diversity in the arts. **Prerequisites:** None.

**ARH101**

Prehistoric Through Gothic Art
3 credit(s) 3 period(s) lecture

History of art from prehistoric through medieval period. **Prerequisites:** None.

**ARH102**

Renaissance Through Contemporary Art
3 credit(s) 3 period(s) lecture

History of art from around the world from the Renaissance through contemporary period. **Prerequisites:** None.

**ARH109**

History of American Art
3 credit(s) 3 period(s) lecture

Development and variety of American art. Presentation of architecture, sculpture, painting and decorative objects. **Prerequisites:** None.

**ARH112**

History of Modern Art
3 credit(s) 3 period(s) lecture

Development of and significant aspects of modern art since the mid-nineteenth century. Emphasis on modern art’s relationship to socio-political and aesthetic developments, new media and the rise of mass culture. **Prerequisites:** None.

**ARH115**

History of Photography
3 credit(s) 3 period(s) lecture

Survey of history of photography from beginning to present. Emphasizes medium’s impact upon society and other visual arts. Technical developments, aesthetic concerns, and individual photographers studied. **Prerequisites:** None.
ARH118  
Introduction to Chinese Art  
3 credit(s) 3 period(s) lecture + lab  
Explores Chinese philosophy, symbolism, history and religions that underlie the choice of subject matter and life forms in Chinese art. Uses Chinese bamboo brush, ink and rice paper to study Chinese calligraphy and traditional subjects for painting. 
Prerequisites: None.

ARH217  
Mexican Art History  
3 credit(s) 3 period(s) lecture  
Art of Mexico and related cultures, from the prehistoric to the contemporary period. 
Prerequisites: None.

ART  – (Studio)  

ART100  
Introduction to Computer Graphic Art  
1 credit(s) 2 period(s) lecture + lab  
Conceptualization, visualization, and production of art using the computer. 
Prerequisites: None.

ART110  
Experimental Chinese Painting  
1 credit(s) 2 period(s) lecture + lab  
Explores ancient Chinese techniques with rice paper and Chinese ink to create traditional and nontraditional designs. Emphasis on use of Chinese techniques in mixed media works. 
Prerequisites: None.

ART111  
Drawing I  
3 credit(s) 6 period(s) lecture + lab  
Fundamental principles of drawing. Emphasis on composition and facility in objective and expressive representation, using variety of drawing media. 
Prerequisites: None.

ART113  
Color  
3 credit(s) 6 period(s) lecture + lab  
Investigation seeking visual solutions to a variety of problems concerning color in two and three dimensions and modes of color appearances, including light and effects in design and theory of design. 
Prerequisites: None.

ART115  
Three-Dimensional Design  
3 credit(s) 6 period(s) lecture + lab  
Fundamental principles of three-dimensional design. 
Prerequisites: None.

ART116  
Life Drawing I  
3 credit(s) 6 period(s) lecture + lab  
Use of form, structure and anatomy of draped and undraped human figure to develop basic principles of sound draftsmanship. 
Prerequisites: None.

ART117  
Life Drawing II  
3 credit(s) 6 period(s) lecture + lab  
Further study of form, structure, and anatomy of the draped and undraped human figure with emphasis on composition. 
Prerequisites: A grade of C or better in ART116.

ART119  
Penciling for Comic and Sequential Art  
3 credit(s) 3 period(s) lecture + lab  
Development of observational skills as they apply to sequential art. Emphasis on techniques that showcase how characters interact with their environment and manipulate props and cartooning anatomy. Includes techniques on composing page layouts, adapting scripts and reference gathering. 
Prerequisites: None.

ART120  
Drawing and Composition II  
3 credit(s) 6 period(s) lecture + lab  
Emphasis on composition and exploration of drawing media. 
Prerequisites: A grade of C or better in ART111.

ART122  
Digital Storytelling  
3 credit(s) 6 period(s) lecture + lab  
Enables students to find and develop their personal stories. Emphasis on the use of digital technology to create, edit, produce and archive a digital story. 
Prerequisites: None.

ART150  
Sculpture I  
3 credit(s) 6 period(s) lecture + lab  
Exploration of sculptural form and expression in clay, plaster, stone, wood and metal. 
Prerequisites: A grade of C or better in ART115 or permission of instructor.

ART152  
Sculpture II  
3 credit(s) 6 period(s) lecture + lab  
Continuation of ART151 with emphasis on control of sculptural media. 
Prerequisites: A grade of C or better in ART151.
ART155
Glass Fusing and Slumping I
3 credit(s) 6 period(s) lecture + lab
Introduction to the basics involved in glass fusing and slumping. The concepts of glass, glass fusing, and glass slumping will be covered with hands-on experience using a variety of techniques to create finished glass projects such as jewelry, dishes, frames, and door bells. Prerequisites: None. Course Notes: ART155 may be repeated for a total of twelve (12) credits.

ART156
Glass Fusing and Slumping II
3 credit(s) 6 period(s) lecture + lab
Further study in the area of glass fusing and slumping. Advanced techniques including Pate-de-Verre, Pattern Bars, watchbands, bracelets, and patterned dishes. Prerequisites: A grade of C or better in ART155. Course Notes: ART156 may be repeated for a total of twelve (12) credits.

ART161
Ceramics I
3 credit(s) 6 period(s) lecture + lab
Introduction to ceramic materials and techniques of hand construction, decorating, glazing and throwing on potters’ wheel. Prerequisites: None.

ART162
Ceramics II
3 credit(s) 6 period(s) lecture + lab
Major emphasis on wheel throwing, glaze making and decorating techniques. Prerequisites: A grade of C or better in ART161.

ART165
Watercolor Painting I
3 credit(s) 6 period(s) lecture + lab
Transparent and Gouache watercolor painting. Prerequisites: A grade of C or better in ART111 and ART112) or permission of Instructor.

ART166
Watercolor Painting II
3 credit(s) 6 period(s) lecture + lab
Painting in water soluble media. Emphasis on individual techniques and design. Prerequisites: A grade of C or better in ART165.

ART167
Painting I
3 credit(s) 6 period(s) lecture + lab
Exploration of technical and expressive possibilities of various painting media in easel painting. Prerequisites: A grade of C or better in (ART111 and ART112) or permission of Instructor.

ART168
Painting II
3 credit(s) 6 period(s) lecture + lab
Continued refinement of painting skills and investigation of new possibilities in painting. Prerequisites: A grade of C or better in ART167 or permission of Instructor.

ART169
Two-Dimensional Computer Design
3 credit(s) 6 period(s) lecture + lab
Introduction to the multiple elements of microcomputer-graphic presentation materials using the microcomputer and other advanced technologies. Basic foundation in the use of electronic techniques including color paint programs for the production of computer images. Use of electronic input and output devices. Prerequisites: A grade of C or better in ART100, ART169 or permission of Instructor.

ART171
Jewelry I
3 credit(s) 6 period(s) lecture + lab
Fundamentals of jewelry making. Covers hand formed methods, including cutting, shaping, forging, soldering, and lost wax technique. Prerequisites: None.

ART172
Jewelry II
3 credit(s) 6 period(s) lecture + lab
Further refinement of personal expression using techniques and design concepts of ART171. Prerequisites: A grade of C or better in ART171.

ART173
Computer Art
3 credit(s) 6 period(s) lecture + lab
Introduction to the multiple elements of paint software programs using the microcomputer. Basic foundation in the use of computer techniques including color paint programs for the production of computer images. Use of electronic input and output devices. Prerequisites: A grade of C or better in ART100, or permission of Instructor.

ART177
Computer-Photographic Imaging
3 credit(s) 6 period(s) lecture + lab
Introduction to the multiple elements of microcomputer-photographic imaging. Basic foundation in the use of the photographic manipulation of images using software programs. Special attention to aesthetic foundations underlying photographic composition. Prerequisites or Corequisites: A grade of C or better in ART100 or permission of Instructor.
ART182
Graphic Design II
3 credit(s) 6 period(s) lecture + lab
Utilizing graphic design essentials of typography, contrast and layout to develop design solutions to problems in consumer advertising, typography and structure. **Prerequisites:** A grade of C or better in ART181 or permission of Instructor.

ART183
Computer Aided Graphic Arts I
3 credit(s) 6 period(s) lecture + lab
Graphic design use in microcomputer; black and white graphics, standard and color brushes, lines, shapes, area fills and fonts. Application to illustration, advertising graphics, typography and video interaction. **Prerequisites or Corequisites:** A grade of C or better in ART100 or permission of Instructor.

ART/MMT184
Computer Animation
3 credit(s) 6 period(s) lecture + lab
The art of animation (animated sequences, special effects, titles, etc.) using the computer. Construction characters, background graphics, color, scaling, storyboard, cells, timing, editing, and surface rendering. Screening and discussion of selected animated short films and videos. **Prerequisites:** A grade of C or better in ART100, or ART111, or ART116, or permission of Instructor.

ART/MMT185
3-D Modeling for Animation
3 credit(s) 6 period(s) lecture + lab
Basic concepts of 3-D modeling. Anatomy of computer geometry; basic elements that make computer models-curves, surfaces, nurbss, and polygons. 3-D translation, shading, materials, and rendering. **Prerequisites:** A grade of C or better in ADA/ART175, or ART184AC, or permission of the Instructor.

ART/MMT190
Art of Web Site Design
3 credit(s) 6 period(s) lecture + lab
Introduction to design production for websites. Layout, typography and presentation style for HTML (Hyper Text Markup Language). Design of mock-ups using digital design software to produce artistic form and content for the Web using Hyper Text Markup Language, digital text, and graphics. Discussion of color, proportion, typography and Web-specific design principles. Emphasizes design of cross-browser compatible interfaces that optimize usability, accessibility and browser interoperability. **Prerequisites:** A grade of C or better in ART190 or ART190A suggested but not required.

ART190AA
Art of Website Design I
1 credit(s) 2 period(s) lecture + lab
Introduction to design production for websites. Layout, typography and presentation style for HTML (Hyper Text Markup Language). Design of mock-ups using digital design software to produce artistic form and content for the Web using Hyper Text Markup Language, digital text, and graphics. **Prerequisites:** A grade of C or better in ART100, or permission of Instructor. CIST133DA recommended.

ART190AB
Art of Website Design II
1 credit(s) 2 period(s) lecture + lab
Producing Web site pages, using design and Hyper Text digital text and graphics. Discussion of color, proportion, typography and Web-specific design principles. **Prerequisites:** A grade of C or better in ART100 and ART190AA, or permission of Instructor. CIST133DA recommended.

ART190AC
Art of Website Design III
1 credit(s) 2 period(s) lecture + lab
Producing Web sites using artistic form and content. Emphasizes design of cross-browser compatible interfaces that optimize usability, accessibility and browser interoperability. **Prerequisites:** A grade of C or better in ART100 and ART190AB, or permission of Instructor. CIST133DA recommended.

ART/MMT191
Storyboarding and Layout
2 credit(s) 4 period(s) lecture + lab
Introduction to storyboarding including film storytelling and scene presentation. **Prerequisites:** A grade of C or better in ART111 or ART187 or MMT188.

ART192
Advanced Web Presentation Design
3 credit(s) 6 period(s) lecture + lab
Advanced interactive application and training for Web designers and graphic artists using Quark, Illustrator, Photoshop, HTML, Flash, Dreamweaver and Digital Video site optimization techniques. Development of design concepts for web pages that communicate and deliver Web content creatively. **Prerequisites:** A grade of C or better in ART190 or permission of Instructor. ART180AM and ART180AN suggested but not required.

ART190AD
Advanced Web Design I
3 credit(s) 6 period(s) lecture + lab
Introduction to design production for websites. Layout, typography and presentation style for HTML (Hyper Text Markup Language). Design of mock-ups using digital design software to produce artistic form and content for the Web using Hyper Text Markup Language, digital text, and graphics. **Prerequisites:** A grade of C or better in ART100, or permission of Instructor. CIST133DA recommended.

ART190AE
Advanced Web Design II
3 credit(s) 6 period(s) lecture + lab
Producing Web site pages, using design and Hyper Text digital text and graphics. Discussion of color, proportion, typography and Web-specific design principles. **Prerequisites:** A grade of C or better in ART100 and ART190AA, or permission of Instructor. CIST133DA recommended.

ART190AF
Advanced Web Design III
3 credit(s) 6 period(s) lecture + lab
Producing Web sites using artistic form and content. Emphasizes design of cross-browser compatible interfaces that optimize usability, accessibility and browser interoperability. **Prerequisites:** A grade of C or better in ART100 and ART190AB, or permission of Instructor. CIST133DA recommended.

ART201
Advanced Web Design IV
3 credit(s) 6 period(s) lecture + lab
Advanced interactive application and training for Web designers and graphic artists using Quark, Illustrator, Photoshop, HTML, Flash, Dreamweaver and Digital Video site optimization techniques. Development of design concepts for web pages that communicate and deliver Web content creatively. **Prerequisites:** A grade of C or better in ART190 or permission of Instructor. ART180AM and ART180AN suggested but not required.

ART202
Advanced Web Design V
3 credit(s) 6 period(s) lecture + lab
Advanced interactive application and training for Web designers and graphic artists using Quark, Illustrator, Photoshop, HTML, Flash, Dreamweaver and Digital Video site optimization techniques. Development of design concepts for web pages that communicate and deliver Web content creatively. **Prerequisites:** A grade of C or better in ART190 or permission of Instructor. ART180AM and ART180AN suggested but not required.

ART203
Advanced Web Design VI
3 credit(s) 6 period(s) lecture + lab
Advanced interactive application and training for Web designers and graphic artists using Quark, Illustrator, Photoshop, HTML, Flash, Dreamweaver and Digital Video site optimization techniques. Development of design concepts for web pages that communicate and deliver Web content creatively. **Prerequisites:** A grade of C or better in ART190 or permission of Instructor. ART180AM and ART180AN suggested but not required.

ART204
Advanced Web Design VII
3 credit(s) 6 period(s) lecture + lab
Advanced interactive application and training for Web designers and graphic artists using Quark, Illustrator, Photoshop, HTML, Flash, Dreamweaver and Digital Video site optimization techniques. Development of design concepts for web pages that communicate and deliver Web content creatively. **Prerequisites:** A grade of C or better in ART190 or permission of Instructor. ART180AM and ART180AN suggested but not required.

ART205
Advanced Web Design VIII
3 credit(s) 6 period(s) lecture + lab
Advanced interactive application and training for Web designers and graphic artists using Quark, Illustrator, Photoshop, HTML, Flash, Dreamweaver and Digital Video site optimization techniques. Development of design concepts for web pages that communicate and deliver Web content creatively. **Prerequisites:** A grade of C or better in ART190 or permission of Instructor. ART180AM and ART180AN suggested but not required.

ART206
Advanced Web Design IX
3 credit(s) 6 period(s) lecture + lab
Advanced interactive application and training for Web designers and graphic artists using Quark, Illustrator, Photoshop, HTML, Flash, Dreamweaver and Digital Video site optimization techniques. Development of design concepts for web pages that communicate and deliver Web content creatively. **Prerequisites:** A grade of C or better in ART190 or permission of Instructor. ART180AM and ART180AN suggested but not required.

ART207
Advanced Web Design X
3 credit(s) 6 period(s) lecture + lab
Advanced interactive application and training for Web designers and graphic artists using Quark, Illustrator, Photoshop, HTML, Flash, Dreamweaver and Digital Video site optimization techniques. Development of design concepts for web pages that communicate and deliver Web content creatively. **Prerequisites:** A grade of C or better in ART190 or permission of Instructor. ART180AM and ART180AN suggested but not required.

ART208
Advanced Web Design XI
3 credit(s) 6 period(s) lecture + lab
Advanced interactive application and training for Web designers and graphic artists using Quark, Illustrator, Photoshop, HTML, Flash, Dreamweaver and Digital Video site optimization techniques. Development of design concepts for web pages that communicate and deliver Web content creatively. **Prerequisites:** A grade of C or better in ART190 or permission of Instructor. ART180AM and ART180AN suggested but not required.

ART209
Advanced Web Design XII
3 credit(s) 6 period(s) lecture + lab
Advanced interactive application and training for Web designers and graphic artists using Quark, Illustrator, Photoshop, HTML, Flash, Dreamweaver and Digital Video site optimization techniques. Development of design concepts for web pages that communicate and deliver Web content creatively. **Prerequisites:** A grade of C or better in ART190 or permission of Instructor. ART180AM and ART180AN suggested but not required.

ART210
Design Tools for Imagery, Production, and Publishing
3 credit(s) 6 period(s) lecture + lab
Industry standard development of image manipulation, digital production, digital negatives, typography, and desktop publishing. New techniques using integrated software with multiple platform applications. Emphasis on alternative processes including: technique, aesthetics and creative imagery. **Prerequisites:** A grade of C or better in ART100 and [ADA/ART169 or (ADA/ART180AD, ADA/ART180AE, and ART180AS)] and ART181, or permission of Instructor.

ART215
Advanced Electronic Publishing
3 credit(s) 6 period(s) lecture + lab
Advanced use of electronic page layout techniques including in-depth styles; typography; technical documents and digital publishing interactivity. **Prerequisites:** A grade of C or better in ADA/ART175.

ART219
Coloring, Toning and Lettering for Comic and Sequential Art
3 credit(s) 3 period(s) lecture + lab
Understanding of the digital rules and programs used in coloring, toning and lettering comics, and the problems presented therein within the sequential narrative. Emphasis on rules and guidelines within the industry, and digital coloring and lettering. **Prerequisites:** None.

ART220
Publishing for the Comic Industry
3 credit(s) 3 period(s) lecture
Understanding of the comics industry. Includes researching, marketing, packaging, and distributing comics. Emphasis on selling and submitting to comics’ publishers and understanding contracts and copyrights involved in the process of publishing comics. **Prerequisites:** None.

ART221
Comics Creation
3 credit(s) 3 period(s) lecture + lab
Development of a complete sequential comic, using all comics skills from beginning to end. Process includes scripting, penciling, inking, coloring or toning, lettering, and printing for publication. **Prerequisites:** None.

ART245
Advanced 3D Modeling and Animation
4 credit(s) 8 period(s) lecture + lab
Advanced techniques for 3D modeling and computer animation. Creating and applying 2D background and 3D model textures, creating and applying special effects to models and animation, designing, modeling, and animating a digital 3D character from a character study. **Prerequisites:** A grade of C or better in ART/MMT185.
ART/THP246
Introduction to Digital 3D Fabrication Tools
3 credit(s) 6 period(s) lecture + lab
Introduction to concepts and application of computer visualization, modeling, and rapid prototyping for interdisciplinary arts. Students will design sculptures applying 3D computer modeling techniques, rapid prototyping, and other available digital output devices to produce solid models. Prerequisites: None.

ART250
Introduction to Printmaking
3 credit(s) 6 period(s) lecture + lab
Introduction to concepts and techniques involved in Fine Art field of Printmaking. Deals with three most basic Printmaking modes of Serigraphy, Woodcut, and Monoprinting in first part of course. Overview of Etching, Lithography and Papermaking in second part of course. Prerequisites: A grade of C or better in ART111 and ART113.

ART255
Art Marketing
3 credit(s) 3 period(s) lecture
Career goals, presentation of artist and art work (portfolio, resume, business cards, catalog), pricing and selling works, networking, establishing a studio, promotion and publicity, writing press releases, proposal writing, business ethics, artist rights, copyright law, contracts and agreements, royalties, record keeping, and communication skills. Prerequisites: None.

ART255AA
Self Promotion
1 credit(s) 1 period(s) lecture
Career goals, presentation of artist, communication skills, keeping files and records, developing self-promotional materials. Prerequisites: None.

ART255AB
The Portfolio
1 credit(s) 1 period(s) lecture
Choosing the right pieces to include, presenting art work, developing the portfolio. Prerequisites: None.

ART256
Glass Fusing and Slumping III
3 credit(s) 6 period(s) lecture + lab
Further study in the area of glass fusing and slumping with emphasis on advanced techniques and design considerations, such as, plates designed using different techniques, weaving or strip glass, and combining previous techniques to create projects. Prerequisites: A grade of C or better in ART156. Course Notes: ART256 may be repeated for a total of fifteen (15) credits.

ART257
Glass Fusing and Slumping IV
3 credit(s) 6 period(s) lecture + lab
Further study of advanced glass fusing and slumping including problems, professional practices, personal expression and experimental research into various techniques. Prerequisites: A grade of C or better in ART256. Course Notes: ART257 may be repeated for a total of fifteen (15) credits.

ART270
Intermediate Computer
Photographic Imaging
3 credit(s) 6 period(s) lecture + lab
Intermediate microcomputer-based photographic imaging techniques. Refinement of aesthetic awareness and personal expression. Prerequisites: A grade of C or better in ART100 or permission of Instructor.

ART273AC
Special Topics: Multimedia Arts
3 credit(s) 6 period(s) lecture + lab
Multimedia art studio course examining new and/or current topics in media and/or multimedia arts. Prerequisites: Permission of Instructor. Course Note: ART273AC is designed to offer special topics and/or specialized training for students in multimedia arts. Activities may also be appropriate for portfolio enhancement.

ART275
Lost Wax Casting I
3 credit(s) 6 period(s) lecture + lab
Introduction to lost wax casting techniques for jewelry and small sculptures. Emphasis on design concepts as related to three-dimensional forms. Prerequisites: None.

ART276
Lost Wax Casting II
3 credit(s) 6 period(s) lecture + lab
Advanced course in lost wax casting techniques for jewelry and small sculptures. Emphasis on the continuation of individual expression using the lost wax method. Prerequisites: A grade of C or better in ART275.

ART277
Lost Wax Casting III
3 credit(s) 6 period(s) lecture + lab
Advanced course in lost wax casting techniques for larger objects. Emphasis on the continuation of individual expression using the lost wax method. Prerequisites: A grade of C or better in ART276.

ART280
3D Design
3 credit(s) 6 period(s) lecture + lab
Introduction to the multiple elements of commercial illustration using the microcomputer. Basic foundation in the use of computer techniques including color paint and draw programs for the production of commercial illustrations for publications and printed matter. Use of input and output devices. Prerequisites or Corequisites: A grade of C or better in ART100 or permission of Instructor.

ART285
Multipresentation Graphics
3 credit(s) 6 period(s) lecture + lab
Computer aided design and development of a company identity program; development of a videotape demonstrating market impact; preparation of a portfolio of completed art and graphics. Prerequisites: A grade of C or better in ART100 or ART109 or permission of Instructor.

ART/ADA289
Computer Illustration
3 credit(s) 6 period(s) lecture + lab
Introduction to the multiple elements of commercial illustration using the microcomputer. Basic foundation in the use of computer techniques including color paint and draw programs for the production of commercial illustrations for publications and printed matter. Use of input and output devices. Prerequisites or Corequisites: A grade of C or better in ART100 or permission of Instructor.

ART290AC
Studio Art
3 credit(s) 6 period(s) lecture + lab
Studio course for art majors allowing continuation in a subject field. Prerequisites: Permission of Instructor. Course Note: ART290AC may be repeated for credit.

ART291
Digital Prepress
3 credit(s) 6 period(s) lecture + lab
Introduction to multiple elements of digital prepress concepts and techniques using the microcomputer. Basic foundation in the use of trapping and stripping software for the desktop. Use of electronic page layout techniques including color separations, registration, spot colors, impositions, signatures, and output production devices. Emphasis on prepress concepts. Prerequisites: A grade of C or better in ART100 or permission of Instructor.

ART297AB
Commercial Art Internship
2 credit(s) 2 period(s) lecture + lab
Digital design, development, and photographic imaging work experience in a business or industry. 160 hours of designated work. Prerequisites: Permission of Department or Division.

ART298AA-AC
Special Projects
1-3 credit(s) 1-3 period(s) lab
Organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment are made available for student use. Allows the best aspects of independent study and individualized learning to be combined to maximize student development. Prerequisites: None.
ART – (Photography)

ART131
Photography I
3 credit(s) 6 period(s) lecture + lab
Basic photographic principles and techniques. Basic camera functions and controls. Experience in the image-making process by creating and editing photographs for various display environments. Introduction to the photographic aesthetic and photography’s role in society. Prerequisites: None. Course Note: Camera required.

ART132
Photography II
3 credit(s) 6 period(s) lecture + lab
Advanced camera and darkroom techniques. Aesthetic awareness with personal expression. Prerequisites: A grade of C or better in ART131, or permission of Instructor.

ART133
Photography III
3 credit(s) 6 period(s) lecture + lab
Refinement of aesthetic and technical aspects producing convincing images of highest quality. Prerequisites: A grade of C or better in ART132 or permission of Instructor.

ART134
Photography IV
3 credit(s) 6 period(s) lecture + lab
Emphasis on personal statement and style. Related graphic art forms explored. Development of portfolio. Prerequisites: A grade of C or better in ART133 or permission of Instructor.

ART135
Photography Journalism I
3 credit(s) 6 period(s) lecture + lab
Basic technical knowledge of photographic process as applied by mass media. Prerequisites: A grade of C or better in ART131 or permission of Instructor.

ART137
Alternative Photographic Processes
3 credit(s) 6 period(s) lecture + lab
Emphasis on development of alternative photographic processes including technique, aesthetics, and creative imagery. Exploration of various types of non-silver photographic processes including cyanotype, Van Dyke, Polaroid imaging, and others. Prerequisites: None.

ART138
Commercial Photography I
3 credit(s) 6 period(s) lecture + lab
Basic techniques of lighting, camera work, and reproduction of commercial photography. Cooperation with commercial art community. Prerequisites: A grade of C or better in (ART131 or ART142) or permission of Instructor.

ART139
Commercial Photography II
3 credit(s) 6 period(s) lecture + lab
Continuation of ART138. Advanced techniques with portfolio organization and presentation. Prerequisites: A grade of C or better in ART138.

ART140
Portrait Photography
3 credit(s) 6 period(s) lecture + lab
Fundamentals of portrait photography. Basic techniques of lighting, posing, design, and digital workflows applicable to the industry. Theory and practices of a portrait photography business. Prerequisites: A grade of C or better in ART131 or ART142 or permission of Instructor. Course Note: Digital camera with manual settings required.

ART142
Introduction to Digital Photography
3 credit(s) 6 period(s) lecture + lab
Fundamentals of digital photography. Includes camera operations, exposure techniques, introduction to digital output, and theory of digital photography. Prerequisites: None. Course Note: Digital camera required.

ART143
Intermediate Digital Photography
3 credit(s) 6 period(s) lecture + lab
Intermediate theory and techniques of digital photography. Aesthetic awareness and personal expression from image capture through intermediate techniques in the digital darkroom. Introduction to high-resolution digital output. Prerequisites: A grade of C or better in ART142 or permission of Instructor. Course Note: Digital camera required.

ART147
Computer-Photographic Imaging
3 credit(s) 6 period(s) lecture + lab
Basic foundation in the use of the photographic manipulation of images using software programs. Special attention to aesthetic foundations underlying photographic composition. Prerequisites or Corequisites: A grade of C or better in ART100 or permission of Instructor.

ART234
Color Photography I
3 credit(s) 6 period(s) lecture + lab
Basic principles of color theory, camera and input and output techniques using slide film or digital photography. Prerequisites: A grade of C or better in ART131 or ART142 or permission of Instructor. Course Note: Film or digital camera required.

ART235
Color Photography II
3 credit(s) 6 period(s) lecture + lab
Basic theories and techniques of color negative materials. Prerequisites: A grade of C or better in ART234 or permission of Instructor.

ART237
Fashion Photography
3 credit(s) 6 period(s) lecture + lab
Practical application of photographic techniques within the fashion industry. Includes the photographing of models, garments, and accessories. Prerequisites: A grade of C or better in (ART131 or ART142) or permission of Instructor. Course Notes: ART237 may be repeated for credit. Digital Single Lens Reflex (DSLR) camera required.

ART290AC
Studio Art
3 credit(s) 6 period(s) lecture + lab
Studio course for art majors allowing continuation in a subject field. Prerequisites: Permission of Instructor. Course Note: ART290AC may be repeated for credit.

ART295DA, DB, and DC
Art Workshop/Seminar: Photography
1, 2, and 3 credit(s) 2, 4, and 6 period(s) lecture + lab
Advanced level workshop seminar in art disciplines. Prerequisites: Minimum of three (3) credits introductory and three (3) credits intermediate level courses in specific field or permission of Department/Division Chair.

ASB, ASM – Anthropology

ASB102
Introduction to Cultural Anthropology
3 credit(s) 3 period(s) lecture
Principles of cultural anthropology, with illustrative materials from a variety of cultures. The nature of culture; social, political, and economic systems; religion, aesthetics and language. Prerequisites: None.

For additional information on PC program competencies, visit: https://maricopa.edu
For additional information on MCCCD course competencies, visit: https://maricopa.edu
ASB/AFR/CCS202
Ethnic Relations in the United States
3 credit(s) 3 period(s) lecture
Basic concepts and processes, including historic overview, of interethnic relations in the United States: culture, race, ethnicity, ethnocentrism, prejudice, discrimination, racism, assimilation, acculturation, and individual and group responses to interethnic contact. Cultural knowledge and intercultural communication skills and perspectives as fundamental tools for successful management of social relations in a multicultural world. Prerequisites: None.

ASB211
Women in Other Cultures
3 credit(s) 3 period(s) lecture
Cross-cultural analysis of the economic, social, political, and religious factors that affect women’s status in traditional and modern societies. Prerequisites: None.

ASB214
Magic, Witchcraft and Healing: An Introduction to Comparative Religion
3 credit(s) 3 period(s) lecture
Origins, elements, and forms of religion; a comparative survey of religious beliefs, myths, rituals and symbolism including magic, witchcraft and healing as practiced in selected regions of the world; the place of religion in the total culture. Prerequisites: None.

ASB222
Buried Cities and Lost Tribes: New World
3 credit(s) 3 period(s) lecture
Introduction to archaeology through discoveries and the researchers who made them. Emphasis on methods of archaeological fieldwork and what these discoveries reveal about humanity, including the nature of archaeological inquiry, the development of human social groups, the changing role of religion in evolving societies, the origins of agriculture, the origins of settled lifeways, the rise of cities and complex societies, political strife across different cultures and the forces which fragment societies. Examples drawn from North American, Central America, and South America. Prerequisites: None.

ASB235
Southwest Archaeology
3 credit(s) 3 period(s) lecture
Anthropological perspective and comparative study of the cultures of prehistoric native peoples of the North American southwest. Prerequisites: None.

ASB245
Indians of the Southwest
3 credit(s) 3 period(s) lecture
Comparative study of the cultures, including the histories and present status, of Indians of the Southwest. Prerequisites: None.

ASM104
Bones, Stones, and Human Evolution
4 credit(s) 5 period(s) lecture + lab
Study of human evolution and variation; including fossil hominids and their tools, primate anatomy and behavior, human genetics, and the environment and human biology. Prerequisites: None.

ASM/FOR275
Forensic Anthropology
4 credit(s) 5 period(s) lecture + lab
Survey of the role of forensic anthropologists, from the crime scene to the courtroom. Course focuses on how skeletal analysis can aid in medicolegal investigations, especially by identifying aspects of the life history of unknown individuals and by reconstructing events that took place at crime scenes. Covers both the legal aspects of forensic practice and the underlying biological basis for evidence obtained from skeletal remains. Examines applications of forensic anthropology in mass disasters, human rights investigations, and the deciphering of historic cases. Lab activities designed to illustrate techniques and principles central to the discipline. Prerequisites: None.

AST101
Survey of Astronomy
4 credit(s) 6 period(s) lecture and lab
Survey of astronomy for the non-technical student. The history, contents, and evolution of the solar system and the universe in general. Astronomical principles and instrumentation. The planets, moons, sun, comets, stars and star formation, galaxies, and cosmology. Prerequisites: None.

AST102
Survey of Astronomy Laboratory
1 credit(s) 3 period(s) lab
Astronomical observations and exercises designed to familiarize students with the sky, telescopes, and methods used in astronomy. Prerequisites: A grade of C or better in AST101 and permission of Instructor or Department or Division. Course Notes: AST102 is a legacy course intended for those students who have previously completed the corresponding lecture course. Current MCCC students should enroll in AST101 only.

AST/GLG106
Life in the Universe
4 credit(s) 6 period(s) lecture and lab
Introduction to the search for life in the universe for the non-science major. Earth’s location in space and time, nature of life, light and the spectrum, origin and history of the universe, origin of life on Earth and the possibility of life on other planets. Prerequisites: A grade of C or better in MAT090, MAT091, or MAT092, or completion of higher level mathematics course, or satisfactory score on placement exam.

AST/GLG107
Life in the Universe Laboratory
1 credit(s) 3 period(s) lab
Astronomy, Biology, and Planetary Science. Prerequisites: A grade of C or better in AST/GLG106 and permission of Instructor or Department or Division. Course Notes: AST107 is a legacy course intended for those students who have previously completed the corresponding lecture course. Current MCCC students should enroll in AST106 only.

AST111
Introduction to Solar System Astronomy
4 credit(s) 6 period(s) lecture and lab
Introduction to astronomy for the non-science major. The scientific method, properties of light, astronomical instruments, our Solar System and solar systems around other stars. Includes hands-on astronomical observations and laboratory exercises. Prerequisites: A grade of C or better in MAT092 or higher, or satisfactory score on district placement exam.
Course Descriptions

AST112
Introduction to Stars, Galaxies, and Cosmology
4 credit(s) 6 period(s) lecture and lab
Introduction to astronomy for the non-science major. Structure and evolution of stars; supernovae, black holes, and quasars; nebulae; star clusters; galaxies; cosmology, including the birth and death of the universe. Prerequisites: A grade of C or better in MAT092 or higher, or satisfactory score on district placement exam. Course Notes: Note that AST111 is not a prerequisite for this course.

AST113
Introduction to Solar System Astronomy Laboratory
1 credit(s) 3 period(s) lab
Hands-on astronomical observations and exercises to supplement AST111. Prerequisites: A grade of C or better in AST111 and permission of Instructor or Department or Division. Course Notes: AST113 is a legacy course intended for those students who have previously completed the corresponding lecture course. Current MCCC students should enroll in AST111 only.

AST114
Introduction to Stars, Galaxies, and Cosmology Laboratory
1 credit(s) 3 period(s) lab
Hands-on astronomical observations and exercises to supplement AST112. Prerequisites: A grade of C or better in AST112 and permission of Instructor or Department or Division. Course Notes: AST114 is a legacy course intended for those students who have previously completed the corresponding lecture course. Current MCCC students should enroll in AST112 only.

BIO – Biology

BIO100
Biology Concepts
4 credit(s) 6 period(s) lecture and lab
Introductory course covering basic principles and concepts of biology. Methods of scientific inquiry and behavior of matter and energy in biological systems are explored. Prerequisites: None. Course Notes: Field trips may be required at students’ expense.

BIO105
Environmental Biology
4 credit(s) 6 period(s) lecture and lab
Fundamentals of ecology and their relevance to human impact on natural ecosystems. Field trips may be required at students’ expense. Prerequisites: None.

BIO107
Introduction to Biotechnology
4 credit(s) 6 period(s) lecture and lab
Introduction to biotechnology and its global impact on society. Covers applications, laboratory techniques, limitations and the international economic benefits, risks, and legal and moral issues associated with biotechnology. Prerequisites: None.

BIO108
Plants and Society
4 credit(s) 6 period(s) lecture and lab
A global study of plants in relation to humans; as a source of food, fiber, drugs, and other products; for aesthetic value, survival, and energy. Prerequisites: None.

BIO109
Natural History of the Southwest
4 credit(s) 6 period(s) lecture and lab
Study of the common plants and animals of the Southwest including their distribution, adaptation, behavior, and ecology. Introduction to basic field and laboratory techniques used in the study of natural history. Specific field problems presented dealing with plant and animal analysis and ecological interrelationships. Prerequisites: None. Course Note: Field trips may be required.

BIO145
Marine Biology
4 credit(s) 6 period(s) lecture and lab
A survey of marine environments and their biotic communities with emphasis on the natural history of marine organisms. Prerequisites: None.

BIO156
Introductory Biology for Allied Health
4 credit(s) 6 period(s) lecture and lab
An introductory biology course for allied health majors with an emphasis on humans. Topics include fundamental concepts of cell biology, histology, microbiology, and genetics. Prerequisites: A grade of "C" or better in RDG100 or higher or eligibility for CRE101 as indicated by appropriate reading placement test score. One year of high school or one-semester of college-level biology and chemistry is strongly recommended.

BIO160
Introduction to Human Anatomy and Physiology
4 credit(s) 6 period(s) lecture and lab
Principles of scientific method. Structural organization, homeostasis and control mechanisms of the body. Specific chemistry concepts. Structure and function of the major systems of the body. Prerequisites: None.

BIO181
BIO 1181
General Biology (Majors) I
4 credit(s) 6 period(s) lecture and lab
The study and principles of structure and function of organisms at the molecular and cellular levels. A detailed explanation of the chemistry of life, the cell, and genetics. Prerequisites: Grade of C or better in RDG100 or higher or eligibility for CRE101 as indicated by appropriate reading placement test score. One year of high school or one semester of college-level biology and chemistry is strongly recommended.

BIO182
BIO 1182
General Biology (Majors) II
4 credit(s) 6 period(s) lecture and lab
The study and principles of structure and function of living things at cellular, organismic, and higher levels of organization. A detailed exploration of the mechanisms of evolution, biological diversity, biology of organisms, and ecology. Prerequisites: A grade of "C" or better in BIO181 or BIO181XT. Course Note: BIO182 may require field trips.

BIO201
BIO 2201
Human Anatomy and Physiology I
4 credit(s) 6 period(s) lecture and lab
Study of structure and function of the human body. Topics include cells, tissues, integumentary system, skeletal system, muscular system, and nervous system. Prerequisites: IA grade of "C" or better in BIO156 or BIO156XT or BIO181 or BIO181XT or one year of high school biology) and a grade of "C" or better in RDG100 or higher or eligibility for CRE101 as indicated by reading placement test score. CHM130 or higher or one year of high school chemistry suggested but not required.

BIO202
BIO 2202
Human Anatomy and Physiology II
4 credit(s) 6 period(s) lecture and lab
Continuation of structure and function of the human body. Topics include endocrine, circulatory, lymphatic, respiratory, digestive, urinary, and reproductive systems; and fluid and electrolyte balance. Prerequisites: A grade of "C" or better in BIO201 or BIO201XT.

BIO205
BIO 2205
Microbiology
4 credit(s) 6 period(s) lecture and lab
Study of microorganisms and their relationship to health, ecology, and related fields. Prerequisites: (A grade of "C" or better in BIO156 or BIO156XT or BIO181 or BIO181XT or one year of high school biology) and a grade of "C" or better in RDG100 or higher or eligibility for CRE101 as indicated by reading placement test score. CHM130 or higher or one year of high school chemistry suggested but not required.

BIO181
BIO 1181
General Biology (Majors) I
4 credit(s) 6 period(s) lecture and lab
The study and principles of structure and function of organisms at the molecular and cellular levels. A detailed explanation of the chemistry of life, the cell, and genetics. Prerequisites: Grade of C or better in RDG100 or higher or eligibility for CRE101 as indicated by appropriate reading placement test score. One year of high school or one semester of college-level biology and chemistry is strongly recommended.
BI0215
Biotechnology Internship
3 credit(s) 3 period(s) lab
Internship experience in a biotechnology laboratory. Setting, achieving, and evaluating goals for hands-on learning experience in a biotechnology laboratory. Development of skills and knowledge needed to work in a biotechnology laboratory. Prerequisites: A grade of C or better in BI0208 or BI0209 or BI0212AA or BI0212BA or BI0213 completed within the last year and permission of Program Director. Course Note: BI0215 requires 240 clock hours in the laboratory setting. BI0215 may be repeated for a total of six (6) credit hours.

BI0240
General Genetics
4 credit(s) 4 period(s) lecture
Intensive introduction to the field of genetics including historical perspective, Mendelian insights and patterns of inheritance, exceptions to expected Mendelian ratios, quantitative genetics, non-Mendelian inheritance, pedigree analysis, molecular levels of gene expression, genetic control of metabolic pathways, analytic dissection of molecular mechanisms behind DNA replication, transcription, translation, and gene regulation in both prokaryotes and eukaryotes, population genetics, genetics of behavior, and genetics of evolution and speciation. Prerequisites: A grade of C or better in BI0181.

BI0274
Introduction to Wildlife Management
4 credit(s) 6 period(s) lecture and lab
Introduction to the field of wildlife biology/management and the legal, cultural, ecological, and population dynamics of wildlife biology and management. Covers wildlife management objectives, management techniques, research techniques, and the organizational environment that wildlife biologists work in; provides an overview of careers in the field and guidance in planning a career. Prerequisites: High school biology with a grade of C or better, or a grade of C or better in BI0100, or BI0181, or permission of Instructor.

BI0286WA, WB, WC
Cooperative Education
1-3 credit(s) 5-15 period(s) lab
Work-college experiences that involve the combined efforts of educators and employers to accomplish an outcome related to the career objectives of the students. Prerequisites: Completion of at least twelve (12) college credits minimum 2.6 grade point average and be able to obtain a position related to student’s academic or career goals (students present job may qualify) or permission of Instructor. Corequisites: Must be concurrent in at least one class which is related to student’s major or career interest or with permission of the Instructor.

BI0289AA, AB, AC
Special Projects
1-3 credit(s) 1-3 period(s) lab
Organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment are made available for student use. Allows the best aspects of independent study and individualized learning to be combined to maximize student development. Prerequisites: None.

BPC – Business–Personal Computers

BPC101
Introduction to Computers
3 credit(s) 4 period(s) lecture + lab
Computer software applications for the personal computer, including electronic spreadsheet and word processing, keyboarding review, a desktop environment, database management, computer graphics and operating system commands. Individualized advanced applications of software selected to solve specific problems on the personal computer. Prerequisites: None.

BPC110
Computer Usage and Applications
3 credit(s) 4 period(s) lecture + lab
Introduction to business and personal computer operations and usage. Software applications for analyzing and solving business problems including word processing, spreadsheet, database, and presentation graphics. Prerequisites: None.

BPC/OAS111AA
Computer Keyboarding I
1 credit(s) 1.7 period(s) lecture + lab
Mastery of essential microcomputer keyboarding skills. Emphasis on touch typing of alphabetic and numeric keys and symbols. Prerequisites: None.

CAD – Computer-Aided Drafting

CAD100
Fundamentals of 2D AutoCAD
3 credit(s) 6 period(s) lecture + lab
Utilize AutoCAD software to generate two-dimensional (2-D) drawings and components in a generic installation. Apply basic AutoCAD commands and properties to format, draw, edit, layer, dimension, import/ export, and manage drawing files: Creation, manipulation, and hardcopy production of 2-D drawing files from major AutoCAD command and display environments and plot options. Prerequisites: None.

CCS – Chicana and Chicano Studies

CCS101
Chicana and Chicano Studies
3 credit(s) 3 period(s) lecture
Introduction to the wealth and diversity of Chicana and Chicano Studies research from a variety of disciplinary perspectives through the use of a series of historical and social scientific studies, novels, testimonios, and films. Prerequisites: A grade of C or better in ENG101, or ENG107, or equivalent.

CCS/ASB/AFR202
Ethnic Relations in the United States
3 credit(s) 3 period(s) lecture
Basic concepts and processes, including historic overview, of interethic relations in the United States: culture, race, ethnicity, ethnocentrism, prejudice, discrimination, racism, assimilation, acculturation, and individual and group responses to interethnic contact. Cultural knowledge and intercultural communication skills and perspectives as fundamental tools for successful management of social relations in a multicultural world. Prerequisites: None.

CCS282AA
Volunteerism for Chicana and Chicano Studies: A Service Learning Experience
1 credit(s) 1 period(s) lab
Service learning field experience within private/public agencies such as museums and libraries, and citizen volunteer groups. May be repeated for a total of six (6) CCS282 credit hours, may not repeat specific assignment for more than three (3) credit hours. Standard grading available according to procedures outlined in catalog. Prerequisites: Permission of Instructor.
CFS – Child/Family Studies

CFS101AH
Art Activities for the Young Child
1 credit(s) 1 period(s) lecture
(Not offered every semester)
The creative use of art media and techniques at appropriate developmental levels.
Prerequisites: None.

CFS101AP
Science Activities for the Young Child
1 credit(s) 1 period(s) lecture
(Not offered every semester)
Interpreting the study of science in early childhood education as a part of a dynamic growth process offered by the child's daily life experiences.
Prerequisites: None.

CFS106
Stress Management in the Family
1 credit(s) 1 period(s) lecture
(Not offered every semester)
The creative use of art media and techniques at appropriate developmental levels.
Prerequisites: None.

CFS109
Parent/Child Communication
1 credit(s) 1 period(s) lecture
(Not offered every semester)
Communication between parents and children. Developing self-esteem, responsibility, and empathetic listening.
Prerequisites: None.

CFS114
Working With the Hyperactive Child
1 credit(s) 1 period(s) lecture
(Not offered every semester)
Causes of hyperactivity in children; focus on the family's role in identification, treatment and school/community support.
Prerequisites: None.

CFS116
Discipline and Guidance
3 credit(s) 3 period(s) lecture
(Not offered every semester)
Age appropriate principles for disciplining and guiding young children's behavior in child care settings, including interpersonal and environmental strategies. Observational opportunities provided.
Prerequisites: None.

CFS121AA
Single Parent Family-Adjustment
1 credit(s) 1 period(s) lecture
(Not offered every semester)
Overview of issues facing single parent families. Examination of adjustment issues with emphasis on relationships. Methods of adapting family life to meet the needs and variations of one-parent families.
Prerequisites: None.

CFS125
Safety in Early Childhood Settings
1 credit(s) 1 period(s) lecture
(Not offered every semester)
Fundamental concepts of promoting a safe, but challenging learning environments. Establishing and maintaining safety procedures in the early childhood setting. Emphasis on indoor and outdoor equipment and activities, risk analysis, accident, evacuation, and emergency plans, regulations, regulatory agencies and resources, current topics, and innovative practices.
Prerequisites: None.

CFS130
Demystifying Adolescence
1 credit(s) 1 period(s) lecture
(Not offered every semester)
A holistic overview of the physical, social, and emotional development of adolescents. Emphasis on effective skills necessary for working with adolescents and their families.
Prerequisites: None.

CFS157
Marriage and Family Life
3 credit(s) 3 period(s) lecture
Study of marriage and the family as a social system, including models of family analysis, intra- and interpersonal relations, and cross-cultural and historical patterns.
Prerequisites: None.

CFS177
Parent-Child Interaction
3 credit(s) 3 period(s) lecture
(Not offered every semester)
Positive methods to strengthen relationships and resolve conflicts with children. Focus on effective interpersonal skills and guidance techniques.
Prerequisites: None.

CFS178
Survey of Early Childhood Education
3 credit(s) 3 period(s) lecture
(Not offered every semester)
Orientation to basic concepts of day care and nursery programs. History and philosophy of child care services including state regulations governing those services. Observation opportunities provided.
Prerequisites: None.

CFS182
Parenting the Early Adolescent: Ages Ten to Fourteen
1 credit(s) 1 period(s) lecture
(Not offered every semester)
Emphasis on the early adolescent developmental period, ages ten to fourteen, and the importance of the parent-child relationship, as well as strategies to ensure successful teen years.
Prerequisites: None.

CFS183
Contemporary Issues in Adolescence
3 credit(s) 3 period(s) lecture
(Not offered every semester)
Current issues that impact adolescent development and behavior explored. Comprehensive and specific strategies for addressing these issues as parents or professionals working with teens emphasized. Issues related to adolescent sexuality, abuse, mental health, violence, and risk behaviors included.
Prerequisites: None.

CFS205
Human Development
3 credit(s) 3 period(s) lecture
(Not offered every semester)
Explores the growth and development process over the human life span. Research and theoretical approaches; physical, cognitive, social, and personality development from birth through adulthood and death.
Prerequisites: None.

CFS242
Curriculum Planning for Diversity
3 credit(s) 3 period(s) lecture
(Not offered every semester)
Practical early childhood classroom applications for a diverse population, including integration of cultures, generations, genders, and races into the classroom, facilitation of second language acquisition, and practical teaching strategies which are also developmentally appropriate.
Prerequisites: A grade of C or better in CFS/ECH176.
CFS265
Management in the Family
3 credit(s) 3 period(s) lecture
(Not offered every semester)
Management as a means to the realization of individual and family values and goals; creation, allocation, and use of resources. Focus on decision making. Prerequisites: None.

CFS267
Working with Families with Diverse Needs
3 credit(s) 3 period(s) lecture
(Not offered every semester)
A collaborative approach to working with families with diverse needs. Examines the effect of specific challenges on the family system. Presents techniques for those working with families to facilitate stress management, conflict resolution, and utilization of community and personal resources to aid in the strengthening of the family unit. Prerequisites: None.

CFS263
Child and Family Studies Seminar
1 credit(s) 1 period(s) lecture
Classroom portion of Child and Family Studies Internship. Emphasizes the blend of job-related activities including career exploration, employment procedures, human relations, and on-the-job problems. Prerequisites: Departmental approval. Corequisites: CFS264AA or CFS264AB or CFS264AC, initial enrollment in CFS264AA or CFS264AB.

CFS264AA
Child and Family Studies Internship
1 credit(s) 5 period(s) lab
Laboratory portion of Child and Family Studies Internship. Five hours of work weekly. Supervision and evaluation by a coordinator. May be repeated for a total of six (6) credits. Prerequisites: Departmental approval. Corequisites: CFS263, when initially enrolled in CFS264AA or CFS264AB or CFS264AC module.

CFS264AB
Child and Family Studies Internship
2 credit(s) 10 period(s) lab
Laboratory portion of Child and Family Studies Internship. Ten hours of work weekly. Supervision and evaluation by a coordinator. May be repeated for a total of six (6) credits. Prerequisites: Departmental approval. Corequisites: CFS263, when initially enrolled in CFS264AA or CFS264AB or CFS264AC module.

CFS264AC
Child and Family Studies Internship
3 credit(s) 15 period(s) lab
Laboratory portion of Child and Family Studies Internship. Fifteen hours of work weekly. Supervision and evaluation by a coordinator. May be repeated for a total of six (6) credits. Prerequisites: Departmental approval. Corequisites: CFS263, when initially enrolled in CFS264AA or CFS264AB or CFS264AC module.

CFS/ECH271
Arranging the Environment
1 credit(s) 1 period(s) lecture
(Not offered every semester)
Exploration of the influence of the environment on the behavior of young children. Indoor and outdoor spaces considered and analysis of environments practiced. Prerequisites: None.

CFS/ECH275
Literacy Development and the Young Child
1 credit(s) 1 period(s) lecture
(Not offered every semester)
Focus on developmentally appropriate ways to encourage speaking, listening, writing, and reading in the home and classroom. Prerequisites: None.

CHM – Chemistry

CHM090
Preparation for Fundamental Chemistry
1 credit(s) 1 period(s) lecture
A developmental course designed to review basic math and chemistry principles for students deficient or insecure in these areas. Stresses individualized instruction and hands-on experience. Serves to prepare the student for CHM130. Prerequisites: None.

CHM107 and 107LL
Chemistry and Society and Lab
4 credit(s) 6 period(s) lecture and lab
LEC: A survey of chemistry and its impact on the environment. Serves to prepare the student for CHM130. Prerequisites: None. LAB: Laboratory experience in support of CHM107. Prerequisites or Corequisites: CHM107.
CHM130 and 130LL  CHM 1120
Fundamental Chemistry and Lab
LEC: A survey of the fundamentals of general chemistry. Emphasis on essential concepts and problem solving techniques. Basic principles of measurement, chemical bonding, structure and reactions, nomenclature, and the chemistry of acids and bases. Preparation for students taking more advanced courses in chemistry. Designed to meet needs of students in such diverse areas as agriculture, nursing, home economics, physical education and water technology. Prerequisites: A grade of C or better in CHM090 or MAT090 or MAT091 or MAT092 or (MAT103AA and MAT103AB) or higher level mathematics course or satisfactory score on math placement exam) and [RDG100 or higher or eligibility for CRE101 as indicated by appropriate reading placement test score], or permission of the Instructor, or Department or Division Chair.
LAB: Laboratory experience in support of CHM130. Prerequisites or Corequisites: A grade of "C" or better in CHM130.

CHM138 and 138LL
Chemistry For Allied Health and Lab
LEC: Elements of fundamental and organic chemistry. Includes the general chemical behavior of inorganic matter and the structure of organic and biochemical systems. This course is designed for specific allied health programs at MCCCD. It may not be applicable to other allied health programs or transferable. Prerequisites: A grade of C or better in [CHM090 or MAT090 or MAT091 or MAT092 (MAT103AA and MAT103AB) or higher or satisfactory score on math placement exam), or one year of high school chemistry taken within the last five years with a grade of C or better, or permission of the Instructor, or Department or Division Chair. LAB: Laboratory experience in support of CHM138. Prerequisites: None. Corequisites: CHM138.

CHM150
General Chemistry I
4 credit(s) 6 period(s) lecture
Detailed study of principles of chemistry for science majors and students in pre-professional curricula. Prerequisites: A grade of C or better in [ICHM130 and CHM130LL], or CHM130AA, or one year of high school chemistry taken within the last five years) and (a grade of C or better in MAT151 or higher level mathematics course, or satisfactory score on placement exam), or permission of the Instructor, or Department or Division Chair. Course Notes: Completion of all prerequisites within the last two years is recommended. Student may receive credit for only one of the following: CHM150 and CHM151LL, or CHM151 and CHM151LL, or CHM150AA, or CHM151AA.

CHM151 and 151LL  CHM 1151
General Chemistry I and Lab
4 credit(s) 6 period(s) lecture and lab
LEC: Detailed study of principles of chemistry for science majors and students in pre-professional curricula. Prerequisites: A grade of C or better in [(ICHM130 and CHM130LL), or CHM130AA, or one year of high school chemistry with a grade of C or better taken within the last five years] and [a grade of C or better in MAT151 or higher level mathematics course, or satisfactory score on placement exam], or permission of the Instructor, or Department or Division Chair. Course Notes: Completion of all prerequisites within the last two years is recommended. Student may receive credit for only one of the following: CHM150 and CHM151LL, or CHM151 and CHM151LL, or CHM150AA, or CHM151AA.

CHM152 and 152LL  CHM 1152
General Chemistry II and Lab
4 credit(s) 6 period(s) lecture and lab
LEC: A study of the chemical properties of the major groups of elements, equilibrium theory, thermodynamics, electrochemistry, and other selected topics. Prerequisites: A grade of C or better in [(ICHM150 or CHM151) and CHM151LL], or CHM150AA, or CHM151AA, or permission of the Instructor, or Department or Division Chair. Course Notes: Completion of prerequisites within the last two years recommended. Completion of CHM152LL required to meet the Natural Science requirement. Student may receive credit for only one of the following: CHM152 and CHM152LL, or CHM152AA. LAB: Laboratory experience in support of CHM152. Prerequisites: A grade of C or better in CHM152 or Corequisites: CHM152. Course Notes: Student may receive credit for only one of the following: CHM152 and CHM152LL, or CHM152AA.

CHM230 and 230LL  CHM 2230
Fundamental Organic Chemistry and Lab
4 credit(s) 6 period(s) lecture and lab
LEC: Chemistry of representative groups of organic compounds, emphasizing biological applications. Prerequisites: A grade of C or better in [(ICHM130 and CHM130LL) or (CHM150 and CHM151 and CHM151LL), or permission of the Instructor, or Department or Division Chair. Course Notes: Completion of prerequisites within the last two years recommended. CHM230 course content is designed to meet the needs of students in such areas as agriculture, home economics, nursing, pre-physician assistant, and physical education among others. LAB: Laboratory experience in support of CHM230. Prerequisites: A grade of C or better in CHM130LL or CHM151LL or equivalent or Corequisites: CHM230.

CHM235 and 235LL  CHM 2235
General Organic Chemistry I and Lab
4 credit(s) 7 period(s) lecture and lab
LEC: Rigorous introduction to chemistry of carbon-containing compounds. Reaction mechanisms and recent methods of synthesis emphasized. Prerequisites: A grade of C or better in (ICHM152 and CHM152LL), or CHM152AA, or (CHM154 and CHM154LL), or permission of the Instructor, or Department or Division Chair.

LAB: Laboratory experience in support of CHM235. Prerequisites: A grade of C or better in CHM235 or Corequisite: CHM235. Completion of prerequisites within the last two years recommended.

CHM236 and 236LL  CHM 2236
General Organic Chemistry IIa and Lab
4 credit(s) 7 period(s) lecture and lab
LEC: Study of chemistry of carbon-containing compounds continued. Structural determination and additional reaction mechanisms and modern methods of synthesis emphasized. Prerequisites: A grade of C or better in CHM235 and CHM235LL, or permission of the Instructor, or Department or Division Chair. Course Notes: Completion of prerequisites within the last two years recommended. LAB: Laboratory experience in support of CHM236. Prerequisites: A grade of C or better in CHM236 or Corequisite: CHM236. Completion of prerequisites within the last two years recommended.
CHM238 and CHM235
General Organic Chemistry II and Lab
LEC: Alternate to CHM236. Study of chemistry of carbon-containing compounds continued. Structural determination and additional reaction mechanisms and modern methods of synthesis emphasized. Prerequisites: A grade of C or better in CHM235 and CHM235LL, or permission of the Instructor, or Department or Division Chair. Course Notes: Completion of prerequisites within the last two years recommended. Recommended for chemistry, chemical engineering and mining engineering majors. LAB: Laboratory experience in support of CHM238. Prerequisites: A grade of C or better in CHM235LL or equivalent or Corequisites: CHM238.

CHM298AA-AC
Special Projects
1-3 credit(s) 1-3 period(s) lab
Organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment are made available for student use. Allows the best aspects of independent study and individualized learning to be combined to maximize student development. Prerequisites: None.

CIS 103
Introduction to Social Media
3 credit(s) 4 period(s) lecture + lab
Identify and explain social media and Web 2.0 technologies for personal, academic, professional, and business applications. Create and maintain accounts on various sites to socialize, write, and share multimedia, while understanding the related ethics, privacy and security issues. Prerequisites: None.

CIS 1105
Survey of Computer Information Systems
5 credit(s) 9 period(s) lecture and lab
LEC: Alternate to CIS 1120. Overview of computer technology, concepts, terminology, and the role of computers in business and society. Discussion of social and ethical issues related to computers. Use of word processing, spreadsheet, database, and presentation software. Includes uses of application software and the Internet for efficient and effective problem solving. Exploration of relevant emerging technologies. Prerequisites: None.

CIS 1120
Microsoft Word: Word Processing
3 credit(s) 4 period(s) lecture
Using word processing software to create, name and manage files, edit text, format, apply themes and styles, create and modify tables, apply desktop publishing features, and print a variety of types of documents. Prerequisites: None.

CIS 114A
Excel: Level I
1 credit(s) 2 period(s) lecture + lab
Computer spreadsheet skills for solving business problems using Excel, including calculations, forecasting and projections. Prerequisites: None.

CIS 114B
Silverlight: Web Development
1 credit(s) 2 period(s) lecture + lab
Introduction to web development and Adobe Flash. Prerequisites: None.

CIS 114C
Java: Object-Oriented Programming
1 credit(s) 2 period(s) lecture + lab
Introduction to object-oriented programming and popular object-oriented languages. Prerequisites: None.

CIS 114D
Excel Spreadsheet
3 credit(s) 4 period(s) lecture + lab
Computer spreadsheet skills for solving business problems using Excel, including calculations, forecasting, projections, macro programming, database searching, extraction, linking, statistics, and matrix manipulation. Production of graphs and reports. Project design using multiple, integrated spreadsheets. Prerequisites: None. Course Notes: CIS114DE may be repeated for a total of nine (9) credit hours.

CIS 117A
Microsoft Access: Database Management
3 credit(s) 4 period(s) lecture + lab
Introduction to the basic elements, exploration of additional components and common database management problems related to the Microsoft Access program. Prerequisites: None. Course Notes: CIS117DM combines the contents of CIS117AM, CIS117BM and CIS117CM. CIS117DM may be repeated for a total of nine (9) credit hours.

CIS 118A
PowerPoint: Level I
1 credit(s) 2 period(s) lecture + lab
Use of Powerpoint software to produce professional-quality presentation visuals. Prerequisites: None.

CIS 120A
Adobe Animate: Digital Animation
3 credit(s) 4 period(s) lecture + lab
Focuses on entry-level skill expectations for digital animation using Adobe Animate. Covers basic animation techniques used in the creation, manipulation, and editing of animation graphics. Helps students prepare for the Adobe certifications related to Adobe Animate. Prerequisites: None.

CIS 121A
Windows Operating System: Level I
1 credit(s) 2 period(s) lecture + lab
Specific topics include Windows basics, navigating and customizing the desktop, maintaining hardware and software, improving performance, configurations, securing your computer, taskbar, organizing, searching and managing folders and files, installing and uninstalling applications, Internet Explorer fine tuning, security, and searching, including advanced search techniques, keyboard shortcuts, and current topics. Prerequisites: None.

CIS 122A
Windows Operating System: Level II
1 credit(s) 2 period(s) lecture + lab
Additional capabilities of the Windows program that configure devices and customize the presentation of the operating system. System tools, control panel utilities, the My Computer, Network Neighborhood, and Microsoft Exchange desktop icons. Other helpful utilities presented. Prerequisites: A grade of C or better in CIS121A or permission of Instructor.

CIS 126A
UNIX Operating System: Level I
1 credit(s) 2 period(s) lecture + lab
Use of the UNIX operating system: system components, built-in commands, files and directories, editors, and UNIX Shell and command lines. Prerequisites: None.
CIS125DA
UNIX Operating System
3 credit(s) 4 period(s) lecture + lab
Use of a UNIX operating system including system components, built-in commands, files, and directories, editors, and UNIX shell and command line. Installation, configuration, and maintenance of a UNIX operating system. Create scripts and batch files, and maintain system communications. Prerequisites: None.

CIS125DL
Linux Operating System
3 credit(s) 4 period(s) lecture + lab
Introduction to the Linux Operating system. Develop knowledge and skills required to install, configure and troubleshoot a Linux-based workstation including basic network functions. Learn basic command line and Graphical User Interface (GUI) desktop environment utilities and applications. Fundamental abilities to achieve the entry-level industry certification covered. Prerequisites: None.

CIS133AA
Internet/Web Development Level I-A
1 credit(s) 2 period(s) lecture + lab
Overview of the Internet and its resources. Hands-on experience with various Internet communication tools. Prerequisites: None.

CIS133DA
Internet/Web Development Level I
3 credit(s) 4 period(s) lecture + lab
Overview of the Internet/WWW and its resources. Hands-on experience with various Internet/WWW communication, resource discovery, and information retrieval tools. Web page development also included. Prerequisites: None.

CIS150
Programming Fundamentals
3 credit(s) 4 period(s) lecture + lab
Structured program design and logic tools. Use of computer problems to demonstrate and teach concepts using appropriate programming language. Prerequisites: A grade of C or better in CIS105, or permission of Instructor.

CIS150AB
Object-Oriented Programming Fundamentals
3 credit(s) 4 period(s) lecture + lab
Structured and Object-Oriented design and logic tools. Use of computer problems to demonstrate and teach concepts using an appropriate programming language. Prerequisites: A grade of C or better in CIS105 or permission of Instructor.

CIS159
Visual Basic Programming I
3 credit(s) 4 period(s) lecture + lab
Use of the Visual Basic programming language to solve problems using suitable examples from business or other disciplines. Prerequisites: A grade of C or better in CIS105, or permission of Instructor.

CIS162AC
Visual C++: Level I
3 credit(s) 4 period(s) lecture + lab
Introduction to Visual C++ programming including general concepts, program design, development, data types, operators, expressions, flow control, functions, classes, input and output operations, debugging, structured programming, and object-oriented programming. Prerequisites: A grade of C or better in CIS105 or permission of Instructor.

CIS166
Web Scripting/Programming
3 credit(s) 4 period(s) lecture + lab
Software development for Web sites, including client-side script and Common Gateway Interface (CGI) scripting. Covers Web-based transaction processing and use of databases in conjunction with the Web. Includes security issues. Prerequisites: A grade of C or better in CIS133CA or CIS133DA or permission of Instructor.

CIS166AA
Introduction to JavaScripting
3 credit(s) 4 period(s) lecture + lab
Introduction to basic JavaScript programming concepts including syntax. Covers Hypertext Markup Language (HTML), programming logic and debugging, as well as forms manipulation and animation. Prerequisites: A grade of C or better in CIS133CA or CIS133DA or permission of Instructor.

CIS166AC
Web Scripting with Active Server Pages (ASP).NET
3 credit(s) 4 period(s) lecture + lab
Introduction to web scripting using Microsoft’s ASP.Net (Active Server Pages). Web application development using Hypertext Markup Language (HTML), ASP, Net Web Forms, programming logic, and Structured Query Language (SQL). Prerequisites: A grade of C or better in CIS133CA or CIS133DA and (CIS159 or CIS162AD)) or permission of Instructor.

CIS166AE
Web Scripting with PHP: Hypertext Preprocessor (PHP)
3 credit(s) 4 period(s) lecture + lab
Introduction to web scripting with PHP (PHP: Hypertext Preprocessor). Web application development using Hypertext Markup Language (HTML), PHP, programming logic, and Structured Query Language (SQL). Prerequisites: A grade of C or better in CIS133CA or CIS133DA or permission of Instructor.

CIS190
Introduction to Local Area Networks
3 credit(s) 4 period(s) lecture + lab
Overview of local area networks. Emphasis on the elements of a local area network, current issues and products, and use of a local area network. Include terminology, hardware and software components, connectivity, resource monitoring and sharing, electronic mail and messaging, and security issues. Prerequisites: A grade of C or better in CIS105, or permission of Instructor.

CIS224
Project Management Microsoft Project for Windows
3 credit(s) 4 period(s) lecture + lab
Introduction to project management concepts while working with MS Project to solve complex project management networks, including creating Gantt and PERT charts, tracking project progress, planning for restrictions, and integrating MS Project with other software packages such as Excel, Word, Powerpoint, and cc Mail. Prerequisites: None.

CIS225
Business Systems Analysis and Design
3 credit(s) 4 period(s) lecture + lab
Investigation, analysis, design, implementation and evaluation of business computer systems. Prerequisites: Any programming language or permission of Instructor.

CIS225AB
Object-Oriented Analysis and Design
3 credit(s) 4 period(s) lecture + lab
Methodologies and notations for fundamental object-oriented analysis and design including use cases, objects, classes, stereotypes, and relationships. Object-oriented iterative process for system development. A continuous application development exercise for applying the analysis and design concepts. Prerequisites: Any program language, or permission of Instructor.

CIS233DA
Internet/Web Development Level II
3 credit(s) 4 period(s) lecture + lab
Design and create pages on the World Wide Web with a variety of markup languages, programming languages, scripts, and multimedia. Hands-on experience authoring and preparing sophisticated web documents. Exploration of best practices/issues for web design and publishing and careers in web development and e-commerce. Prerequisites: A grade of C or better in CIS133CA or CIS133DA or permission of Instructor.
CIS234
XML Application Development
3 credit(s) 4 period(s) lecture + lab
The use of Extensible Markup Language (XML) to make documents smarter, simplify Web automation, and to communicate between databases, both within and between corporations. Includes techniques for XML generation, data extraction and sharing, and transformation and managing of XML files. Prerequisites: A grade of C or better in CIS133CA or CIS133DA, or permission of the Instructor.

CIS235
e-Commerce
3 credit(s) 4 period(s) lecture + lab
Introduction to Electronic Commerce on the Internet. Designing an electronic storefront including web page content and development, e-commerce site marketing, advertisement, legal and security considerations, credit card and other debit transaction covered. Also includes current issues in e-commerce. Prerequisites: A grade of C or better in CIS133CA, or CIS133DA, or permission of Instructor.

CIS236
Web-Based Teaching and Learning I
2 credit(s) 3 period(s) lecture + lab
Experience using a web-based learning environment from an online student’s perspective. Use communication tools, submit assignments, use evaluation tools, create homepages, and navigate online-learning environment. Introduction to basics of online pedagogy. Hands-on experience with a web-based learning environment. Prerequisites: A grade of C or better in CIS133CA or CIS133DA, or permission of Instructor.

CIS237
Web-Based Teaching and Learning II
2 credit(s) 3 period(s) lecture + lab
Create an online or hybrid course using a web-based learning environment. Create, prepare, and manage content and resource files; locate and add resources; and manage a course homepage. Add, delete, and revise tools; create, maintain, and release quizzes and assignments; and manage a course. Track students, data, and respond to course grades, submissions, and attendance. Hands-on experience with creating a course using a web-based learning environment. Prerequisites: A grade of C or better in CIS236, or permission of Instructor.

CIS238DL
Linux System Administration
3 credit(s) 4 period(s) lecture + lab
Managing Linux Operating Systems including sophisticated manipulation of file structures, backup systems, printing processes, troubleshooting, user account management, hard disk maintenance and configuration, process monitoring and prioritizing, kernel customization, and system resource control. Preparation for industry certifications such as the CompTIA Linux+, the Red Hat Certified System Administrator (RHCSA), the Red Hat Certified Engineer (RHCE) and the Linux Professional Institute (LPIC-1). Prerequisites: A grade of C or better in CIS265L or CIS265H or permission of Instructor.

CIS250
Management of Information Systems
3 credit(s) 4 period(s) lecture
The study of business information systems and its management, communication, e-business strategies, emerging technologies, database concepts, and project management. Overview of systems analysis and design. Learn about the competitive and strategic uses of information systems and how they are transforming organizations and their management. Prerequisites: A grade of C or better in CIS105.

CIS259
Visual Basic Programming II
3 credit(s) 4 period(s) lecture + lab
Use of the Visual Basic programming language to identify and solve advanced problems using suitable examples from business or other disciplines. Prerequisites: A grade of C or better in CIS159 or permission of Instructor.

CIS262AD
C# Level II
3 credit(s) 4 period(s) lecture + lab
Advanced C# programming with emphasis on data structures, dynamic memory allocation, object-oriented programming, user interfaces, and database processing. Overview of web applications, network programming, and reporting tools. Prerequisites: A grade of C or better in CIS262AD, or permission of Instructor.

CIS290AA, AB, and AC
Computer Information Systems Internship
1, 2, and 3 credit(s) 6, 12, and 18 period(s) lab
Work experience in business or industry. Prerequisites: Permission of Instructor.

CIS298AA, AB, and AC
Special Projects
1, 2, and 3 credit(s) 1, 2, and 3 period(s) lab
Organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment are made available for student use. Allows the best aspects of independent study and individualized learning to be combined to maximize student development. Prerequisites: None.

COM – Communication

COM100
Introduction to Human Communication
3 credit(s) 3 period(s) lecture
Introduces the theory and practice of human communication. Surveys communication topics related to interpersonal, small group, and public communication. Prerequisites: None.

COM110
Interpersonal Communication
3 credit(s) 3 period(s) lecture
Theory and practice of communication skills which affect day-to-day interactions with other persons. Topics may include using verbal and nonverbal symbols, interactive listening, resolving interpersonal conflict, developing and maintaining personal and professional relationships. Prerequisites: None.

COM/MCM181
Conflict Mediation
3 credit(s) 3 period(s) lecture
Develop communication skills necessary to conduct mediation in formal and informal settings. Applies principles and theories of message production and responding, listening, questioning, source and receiver factors, and emotion to conflict management communication. Emphasis on respecting diversity and empowering joint problem solving throughout. Prerequisites: None.
COM222  
**Argumentation**  
3 credit(s)  3 period(s) lecture  
Discussion and practice of the use of evidence, applied reasoning, recognition of fallacies, selection of arguments, and methods of analyzing issues. **Prerequisites:** A grade of C or better in ENGL101 or ENGL107 or equivalent.

COM225  
**Public Speaking**  
3 credit(s)  3 period(s) lecture  
Designed to enhance the student’s ability to present public speeches confidently and competently. Also designed to improve information literacy and critical thinking skills. **Prerequisites:** A grade of C or better in ENGL101 or ENGL107, or equivalent.

COM230  
**Small Group Communication**  
3 credit(s)  3 period(s) lecture  
Principles and processes of small groups and development of skills for participation and leadership in small group settings. Practice in problem solving, decision making, and information sharing. **Prerequisites:** None.

COM/THP241  
**Oral Interpretation of Literature**  
3 credit(s)  3 period(s) lecture  
The study, analysis, and preparation for performance of prose, poetry, and dramatic literature. Preparation of material for public audiences. **Prerequisites:** A grade of C or better in ENGL101 or ENGL107.

COM250  
**Introduction to Organizational Communication**  
3 credit(s)  3 period(s) lecture  
Introduction to the study of communication in organizations including identification of variables, roles and patterns influencing communication in organizations. **Prerequisites:** None.

COM259  
**Communication in Business and Professions**  
3 credit(s)  3 period(s) lecture  
Interpersonal, group, and public communication in business and professional organizations. Emphasis on oral communication. **Prerequisites:** A grade of C or better in ENGL101 or ENGL107 or equivalent.

COM263  
**Elements of Intercultural Communication**  
3 credit(s)  3 period(s) lecture  
Diverse cultural contexts are explored through basic concepts, principles, and theories of intercultural communication. Discovering effective interaction and appropriate communication in a global community is emphasized. **Prerequisites:** None.

COM281AB  
**Communication Activities**  
3 credit(s)  5 period(s) lecture + lab  
Designed to provide students with competence and confidence in a variety of speech situations beyond the classroom setting. May include presentations at speech competitions or at community organizations. **Prerequisites:** None.  
**Course Notes:** COM281AB may be repeated for a total of six (6) credit hours.

COM298AA-AC  
**Special Projects**  
1-3 credit(s)  1-3 period(s) lab  
Individualized research and study paralleled by professional expertise and guidance. Professional type facilities and equipment are made available for student use. Allows the best aspects of independent study and structured to provide an atmosphere of organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized research and study paralleled by professional expertise and guidance. Professional type facilities and equipment are made available for student use. Allows the best aspects of independent study and individualized learning to be combined to maximize student development. **Prerequisites:** None.

CON  
**Construction**

CON101  
**Construction and Culture**  
3 credit(s)  3 period(s) lecture  
The cultural context of construction, emphasizing the evolution and expansion of constructed environments as expressions of ethical and historical value systems. **Prerequisites:** None.

CPD  
**Counseling and Personal Development**

CPD100  
**Orientation for Student Development**  
1 credit(s)  1 period(s) lecture  
Offered to orient new students to college life. Emphasis on assessing students’ academic potential, facilitating curricular advisement and registration procedures, learning academic survival skills, and becoming aware of all services available to students on campus and in the community. **Prerequisites:** None.

CPD101  
**Personal Development**  
2 credit(s)  2 period(s) lecture  
Designed to assist students in developing confidence in making personal, social, and educational decisions. Examination and assessment of individual needs, interests, abilities, and values to develop and strengthen interpersonal communication, enhance transitional skills, and identify realistic life planning goals. **Prerequisites:** None.

CPD102AB  
**Career Exploration**  
2 credit(s)  2 period(s) lecture  
Designed to assist students make informed career decisions. Focuses on current occupational trends and outlook. Explores career-related interests, values, needs, preferences, skills, and strengths with the use of various assessments. Aids in the development of individualized educational/career goals and action plan. **Prerequisites:** None.  
**Course Notes:** CPD102AB may be repeated for a total of six (6) credit hours.

CPD102AD  
**Growth and Transformation Strategies**  
2 credit(s)  2 period(s) lecture  
Designed to help students adopt a growth mindset within a holistic framework in order to transform patterns that prevent them from achieving their goals. **Prerequisites:** None.

CPD102AH  
**Stress Management**  
2 credit(s)  2 period(s) lecture  
Reviews the sources of stress, the physiological effects and the psychological impact of stress on the individual. Provides strategies to reduce stress. **Prerequisites:** None.
CPD102AN
Anger Management
2 credit(s) 2 period(s) lecture
Provides an understanding of the emotion of anger, explores the types, origins and typical reactions to anger. Covers stress and the need for stress management in relation to anger. Examines personal anger patterns and feelings, and the use of effective interpersonal communications in effective anger management. Prerequisites: None.

CPD102AR
Relaxation Training
1 credit(s) 1 period(s) lecture
Emphasis on specific relaxation techniques to alleviate dysfunctional tension. Use of progressive relaxation methods to reduce stress. Discussion of other modalities of relaxation. Prerequisites: Permission of Instructor.

CPD102AS
Conflict Resolution
2 credit(s) 2 period(s) lecture
Developing new skills for dealing effectively with everyday conflict and improving quality of one's own life. Opportunity to discuss issues and seek cooperative resolutions. Prerequisites: None.

CPD102AT
Building Self-Esteem
2 credit(s) 2 period(s) lecture
Practice in specific methods for building and keeping self-esteem. Personal assessment of attitudes, values, support systems, and goals. Prerequisites: None.

CPD103 Counseling Groups
Counseling courses offered to meet the needs of special groups of students. Emphasis on self-assessment to increase students' confidence and potential.

CPD103BA
Women in Transition
2 credit(s) 2 period(s) lecture
Designed to assist and support women who are experiencing life transitions. Emphasis on assessing self-potential, increasing self-confidence, managing life change, and exploring educational/ career/life options in terms of the realities of roles for women today. Prerequisites: None.

CPD103BC
African American Cultural Pride and Awareness
2 credit(s) 2 period(s) lecture
Develop an awareness of cultural roots, history, and traditions with emphasis on the shaping of personal identity, social, career, and educational decisions. Prerequisites: None.

CPD103BD
Latino/Hispanic American Pride and Awareness
2 credit(s) 2 period(s) lecture
Develop an awareness of cultural roots, history, and traditions with emphasis on the shaping of personal identity, social, career, and educational decisions. Prerequisites: None.

CPD103BE
Native American Cultural Pride and Awareness
2 credit(s) 2 period(s) lecture
Develop an awareness of cultural roots, history, and traditions with emphasis on the shaping of personal identity, social, career, and educational decisions. Prerequisites: None.

CPD104
Career and Personal Development
3 credit(s) 3 period(s) lecture
An overview of the process of career/life planning through self-awareness and understanding. Focus on specific skill development such as dealing with change, decision making, goal setting and understanding lifestyles. Provides opportunity to evaluate interests, skills and values. Emphasis on the development of a comprehensive career search process which includes current occupational information, specific tools for researching the job market and acquiring employment. Prerequisites: None.

CPD108
Personal Money Management for College Students
1 credit(s) 1 period(s) lecture
Designed to assist students in examining values related to spending, borrowing and saving money. Identify financial priorities and responsibilities associated with debt. Develop and follow a personal budget plan and learn strategies for maintaining a financially balanced personal life. Prerequisites: None.

CPD/AAA115
Creating College Success
1 credit(s) 1 period(s) lecture
Strategies to create success in college. Methods for selecting and developing effective academic strategies, increasing self-awareness and developing self-management strategies. Elements of college resources and relationships with others explored in support of students' educational experience. Prerequisites: None.

CPD/GBS126
Writing Resumes
1 credit(s) 1.7 period(s) lecture + lab
Planning, organizing, and writing a professional resume. Focus on presentation skills including format and language. Prerequisites: None.

CPD/AAA150
Strategies for College Success
3 credit(s) 3 period(s) lecture
Focus on increasing student success through college orientation and personal growth, study skills development, and educational and career planning. Prerequisites: None.

CPD160
Introduction to Multiculturalism
3 credit(s) 3 period(s) lecture
Examination of the multiple cultures and subcultures within the contemporary United States. Personal exploration of awareness and appreciation of multiculturalism. Activities for experiencing diverse cultural perspectives. Critical thinking skills for recognizing, analyzing, and mediating cultural and psychological factors impacting conflict and accord between diverse cultures through written and oral discourse. Prerequisites: A grade of C or better in ENG101, or ENG107, or permission of Instructor.

CRE – Critical Reading
Please Note: For additional Reading courses, see RDG, starting on page 288.

CRE101
College Critical Reading and Critical Thinking
3 credit(s) 3 period(s) lecture
Develop and apply critical thinking skills through critically reading varied and challenging materials. Includes analysis, evaluation, interpretation, and synthesis through at least two substantial writing and/or speaking tasks. Prerequisites: (A grade of "C" or better in ENG101 or ENG107) and (appropriate reading placement test score or a grade of "C" or better in RDG100 or RDG111 or RDG112 or RDG113 or permission of Instructor).

CRW – Creative Writing

CRW120
Introduction to Writing
Children's Literature
3 credit(s) 3 period(s) lecture
Overview of writing children's literature. Emphasis on genres and standards for quality. Development of techniques in reading, evaluating, writing, revising, and editing literature written for children. Prerequisites: None. ENH291 suggested but not required.
CRW150
Introduction to Creative Writing
3 credit(s)  3 period(s) lecture
Introduction to the basic aesthetics and techniques in contemporary creative writing within a variety of genres. Introduction to the analytical concepts and terminology necessary to understand, interpret, and enact contemporary creative writing. Facilitation of writing practices and evaluation. Introduction to literature’s role in society. Prerequisites: None.

CRW160
Introduction to Writing Poetry
3 credit(s)  3 period(s) lecture
Prewriting (invention and discovery); writing; analyzing and evaluating (in workshop); and revising to practice manipulating various elements of poetry, critique one’s own and the poetry of others, and produce a portfolio of finished, marketable poems. Prerequisites: None. CRW150 recommended but not required.

CRW170
Introduction to Writing Fiction
3 credit(s)  3 period(s) lecture
Practice in writing fiction through a process of prewriting (invention and discovery), writing, analysis and evaluation (in workshop), and revision; practice in manipulating various elements and forms of fiction. Prerequisites: None. CRW150 recommended but not required.

CRW172
Introduction to Comic Book Writing
3 credit(s)  3 period(s) lecture
Introduction to elements and techniques of comic book writing in its specific form; teaches terminology and concepts needed for the successful participation in writing workshops; focuses on proposal outline, planning, structure facilitates writing practice (including character study) and evaluation; offers individual suggestions in the student’s development in this genre. Prerequisites: None.

CRW180
Introduction to Writing Nonfiction
3 credit(s)  3 period(s) lecture
Practice in writing creative nonfiction, including autobiography and biography, the essay, reviews, and humor using a process of invention and discovery, writing, analysis, evaluation, and revision. Combines lecture, discussion, and workshop, leading to the production of marketable quality creative nonfiction. Prerequisites: None. CRW150 recommended but not required.

CRW190
Introduction to Screenwriting
3 credit(s)  3 period(s) lecture
Overview of screenwriting elements; introduction to screenwriting techniques. Prerequisites: None. CRW150 recommended but not required.

CRW200
Readings for Writers
1 credit(s)  1 period(s) lab
Close analysis and interpretation of selected literary texts designed to strengthen the students’ own writing by extending their familiarity with the genre in which they write and their knowledge of selected literary elements. One-on-one meetings between student and Instructor. Prerequisites: A grade of C or better in CRW150, or permission of Instructor. Course Notes: CRW200 may be repeated for a total of six (6) credits.

CRW201
Portfolio
1 credit(s)  1 period(s) lab
Close analysis of the creative writing portfolio culminating in selection, revision, editing, and compiling of the student’s own literary work in a portfolio. Students meet individually with Instructor to choose, prepare, and compile their work. Prerequisites: Acceptance into Creative Writing Certificate Program and completion of at least nine (9) credit hours in creative writing (CRW), or permission of Program Director. Course Notes: CRW201 may be repeated for a total of two (2) credit hours.

CRW202
The Writer As Witness
3 credit(s)  3 period(s) lecture
Studio course focusing on writing with the writer as witness of the world: prewriting, writing, analysis, evaluation, and writing of monologue and dialogue in various formats. Prerequisites: A grade of C or better in CRW150, or permission of Instructor.

CRW203
Dialogue
3 credit(s)  3 period(s) lecture
Studio course focusing on writing dialogue in a variety of genres; prewriting, writing, analysis, evaluation, and revision of monologue and dialogue in various formats. Prerequisites: A grade of C or better in CRW150 or permission of Instructor.

CRW220
Intermediate Writing
Children’s Literature
3 credit(s)  3 period(s) lecture
Application of techniques in writing literature for children. Emphasis on independent writing, self-evaluation, and revision. Includes completion of a major writing project of marketable quality. Prerequisites: A grade of C or better in CRW120, or permission of Instructor.

CRW242AH
Writing Studio Workshop I: Musical Elements of Poetry
3 credit(s)  3 period(s) lecture
Studio course focusing on the musical elements of poetry, including sounds and rhythms, rhyme, traditional rhetorical devices, line and stanza; examines relationship between the written and spoken poem; prewriting, writing, analysis, evaluation, and revision of poetry. Prerequisites: None.

CRW260
Intermediate Poetry Writing
3 credit(s)  3 period(s) lecture
Emphasis on writing a series of original poems; analysis and evaluation of the functions and effects of established works of poetry; concentration on evaluation and revising students’ poetry through intensive workshopping. Prerequisites: A grade of C or better in CRW160 or permission of Instructor.

CRW261
Topics in Writing: Poetry
3 credit(s)  3 period(s) lecture
Analysis, writing, and revision of genre or element within poetry. Prerequisites: A grade of C or better in CRW150 or permission of Instructor.

CRW270
Intermediate Fiction Writing
3 credit(s)  3 period(s) lecture
Writing original short stories; analysis of works of fiction; concentration on revising students’ fiction through intensive workshopping. Prerequisites: A grade of C or better in CRW170 or permission of Instructor.

CRW271
Topics in Writing: Fiction
3 credit(s)  3 period(s) lecture
Analysis, writing, and revision of genre or element within fiction. Prerequisites: A grade of C or better in CRW150 or permission of Instructor.

CRW272
Planning and Structuring the Novel
3 credit(s)  3 period(s) lecture
Focus on planning, structuring, and beginning a novel; prewriting, writing, analysis, evaluation, and revision of novel plans and excerpts. Prerequisites: A grade of C or better in CRW200 or permission of Instructor.
CRW273
Writing the Novel
3 credit(s) 3 period(s) lecture
Provides the beginning novelist with structure, support, and guidance vital to sustained writing; focus on establishing goals and using critique sessions with instructor and peers to draft a novel; open-and-topic-focused in-class forums, novel writing, peer and instructor critiques. Prerequisites: A grade of C or better in CRW272 or permission of Instructor.

CRW274
Revising the Novel
3 credit(s) 3 period(s) lecture
Studio course workshop format. Requires a complete novel finished, in manuscript, ready for revision and polishing. Prerequisites: A grade of C or better in CRW273 or permission of Instructor.

CRW281
Topics in Writing: Non-Fiction
3 credit(s) 3 period(s) lecture
Analysis, writing, and revision of genre or element within non-fiction. Prerequisites: A grade of C or better in CRW150 or permission of Instructor.

CRW290
Intermediate Screenwriting
3 credit(s) 3 period(s) lecture
Drafting and revision of original screenplay; overview of marketing a screenplay. Prerequisites: A grade of C or better in CRW190 or permission of Instructor.

CRW291
Topics in Writing: Plays
3 credit(s) 3 period(s) lecture
Analysis, writing, and revision of genre or element within plays and/or motion picture screenplays. Prerequisites: A grade of C or better in CRW150 or permission of Instructor.

DAE – Dental Assisting Education

DAE112
Dental Assisting I
7 credit(s) 19 period(s) lecture and lab
Introduction to general dentistry, dental sciences, and basic preclinical dental assisting theory and skills. Topics include dental anatomy, recording oral conditions, infection control, patient preparation, communication, patient safety and comfort, emergency management, four-handed dentistry concepts and the use and maintenance of dental equipment. Prerequisites: Acceptance into the Dental Assisting Program or permission of Program Director.

DAE124
Dental Radiography
2 credit(s) 2 period(s) lecture
Physics of radiography, theory of radiation production, exposure techniques, radiation protection, digital image production, film processing, mounting, and interpretation of radiographs. Prerequisites: A grade of C or better in DAE156 or permission of Program Director. Corequisites: DAE131 or permission of Program Director.

DAE131
Dental Radiography Laboratory
2 credit(s) 6 period(s) lab
Radiation safety and infection control procedures for operator and patient. Image receptor placement, exposure, processing, mounting, and evaluation of dental radiographs. Operation and maintenance of x-ray and processing equipment. Interpretation of radiographic findings. Prerequisites: A grade of C or better in DAE156 or permission of Program Director. Corequisites: DAE124 or permission of Program Director.

DAE140
Dental Issues Seminar
1 credit(s) 1 period(s) lecture
Examination of legal and ethical responsibilities of dental team members. Review and analysis of clinical procedures in general and specialty practices. Includes professional and career development strategies and certification information and processes. Prerequisites: A grade of C or better in DAE156 or permission of Program Director. Corequisites: (DAE224, DAE225, DAE226, DAE227, and DAE228) or permission of Program Director.

DAE156
Dental Assisting II
7 credit(s) 16 period(s) lecture and lab
Intermediate dental assisting skills, with an emphasis in treatment provided in general dentistry, including an introduction to dental diseases and their prevention, and preparing for and assisting in general dental restorative procedures, including the use of local anesthetics, dental materials, and pharmacological agents for procedures. Introduction to ethics and the legal aspects of dental practices. Prerequisites: A grade of C or better in DAE112 or permission of Program Director.

DAE212
Dental Assisting III
2 credit(s) 4 period(s) lecture and lab
Advanced dental assisting skills, with an emphasis in assisting for dental specialty procedures, including pediatrics, endodontics, periodontics, orthodontics, prosthodontics, and oral and maxillofacial surgery. Additional emphasis will be on expanded functions procedures performed by the dental assistant, as well as patient records management and pharmacology related to dental treatment procedures. Prerequisites: A grade of C or better in DAE156 or permission of Program Director.

DAE224
General Clinical Practice
1 credit(s) 5 period(s) lab
Placement of students in general practice dental facilities for supervised practical experience. Prerequisites: DAE112 and DAE156, or Permission of Program Director. Corequisites: A grade of C or better in DAE140 or permission of Program Director.

DAE225
Pediatric Clinical Practice
1 credit(s) 5 period(s) lab
Placement of students in pediatric practice dental facilities for supervised practical experience. Prerequisites: A grade of C or better in DAE112 and DAE156, or Permission of Program Director. Corequisites: DAE140 or permission of Program Director.

DAE226
Periodontal Clinical Practice
1 credit(s) 5 period(s) lab
Placement of students in periodontal practice dental facilities for supervised practical experience. Prerequisites: A grade of C or better in DAE112 and DAE156, or Permission of Program Director. Corequisites: DAE140 or permission of Program Director.

CWE – Career Work Experience

CWE198AA
Career/Work Experience
1 credit(s) 1 period(s) lecture and lab
Participation in a work experience, gaining on-the-job training, and/or exploring a career or field of choice. Helps students relate their education to the real work world. Resume writing and interviewing skills. Development of employability skills. Prerequisites: None.
Course Descriptions

DAE227
Orthodontic Clinical Practice
1 credit(s) 5 period(s) lab
Placement of students in orthodontic practice dental facilities for supervised practical experience. Prerequisites: A grade of C or better in DAE112 and DAE156, or Permission of Program Director. Corequisites: DAE140 or permission of Program Director.

DAE228
Oral and Maxillofacial Surgery Clinical Practice
1 credit(s) 5 period(s) lab
Placement of students in oral and maxillofacial surgical facilities for supervised practical experience. Prerequisites: A grade of C or better in DAE112 and DAE156, or Permission of Program Director. Corequisites: DAE140 or permission of Program Director.

DAE256
Dental Assisting IV
1.5 credit(s) 3 period(s) lecture and lab
Advanced dental assisting sciences, with an emphasis in the recognition of oral pathologies, use of technology in dentistry, intermediate dental office management skills, and legal considerations for the practice of dentistry. Additional emphasis will be placed on coronal polishing and community oral health. Prerequisites: A grade of C or better in DAE212 or permission of Program Director.

DAE288AA-AC
Special Projects
1-3 credit(s) 1-3 period(s) lab
Organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment are made available for student use. Allows the best aspects of independent study and individualized learning to be combined to maximize student development. Prerequisites: None.

DHE – Dental Hygiene Education

DHE110
Pharmacology
3 credit(s) 3 period(s) lecture
Study of the principles of pharmacology and drugs affecting dental treatment. Topics include drug interactions, oral manifestations, drugs used in dentistry and complementary medicine. Prerequisites: Admission to the Dental Hygiene Program or permission of Instructor.

DHE112
Oral Pathology
3 credit(s) 3 period(s) lecture
Identification, classification, etiology and treatment of lesions of the oral mucosa and atypical conditions of the oral cavity and supporting structures. Understanding of abnormal conditions to recognize the parameters of comprehensive dental hygiene care. Multi-media resources are used extensively for identification of oral lesions. Prerequisites: Admission to the Dental Hygiene Program or permission of Instructor.

DHE115
Emergency Medicine
2 credit(s) 2 period(s) lecture
Introduction to recording and interpreting medical history. Additional topics include: recognition of signs and symptoms of medical emergencies, procedures and techniques introduced to prevent emergencies and management of emergency situations in the dental environment. Prerequisites: Admission to the Dental Hygiene Program.

DHE117
Dental Radiography
2 credit(s) 2 period(s) lecture
Physics of radiography, theory of radiation production, exposure techniques, radiation protection, film processing, mounting, and interpretation of radiographs. Course activities include multi-media resources. Prerequisites: Admission to the Dental Hygiene Program or permission of Instructor.

DHE119
Head and Neck Anatomy
3 credit(s) 3 period(s) lecture
Study of the structures of the head and neck relevant to dental hygiene. Topics include: osteology, musculature, blood supply, glandular tissue, cranial nerves and routes of infection. Course activities include use of skulls, models and multi-media resources. Prerequisites: Admission to the Dental Hygiene Program or permission of Instructor.

DHE120
Pre-Clinical Dental Hygiene
6 credit(s) 12 period(s) lecture + lab
Introduction to the dental hygiene profession and the process of care. Infection control, patient assessment, preventive treatment and dental hygiene instrumentation are practiced. Students are introduced to self assessment skills and quality improvement. Prerequisites: Admission to the Dental Hygiene Program or permission of Instructor.

DHE121
Dental Anatomy, Embryology and Histology
2 credit(s) 3 period(s) lecture + lab
Includes the histology and embryology of oral tissues; developmental disturbances of the face, oral cavity, and related structures; tooth composition and morphology; eruption patterns and occlusal evaluation. Use of skulls, models and multi-media resources also covered. Prerequisites: Admission to the Dental Hygiene Program.

DHE125
Dental Radiography Laboratory
1 credit(s) 3 period(s) lab
Radiation safety and infection control procedures for operator and patient. Film placement, exposure, development, mounting and evaluation of dental radiographs. Operation and maintenance of X-ray and processing equipment. Interpretation of radiographic findings. Prerequisites or Corequisites: A grade of C or better in? DHE117 and admission to the Dental Hygiene Program or permission of Instructor.

DHE127
Prevention of Dental Disease
3 credit(s) 3 period(s) lecture
Introduction of preventive concepts to help clients achieve control of oral diseases and injury. Topics include etiologic agents, caries process, nutrition, fluorides, sealants and patient/client motivation techniques. Multi-media resources used extensively. Prerequisites: Admission to the Dental Hygiene Program or permission of Instructor.

DHE132
Dental Hygiene Theory I
3 credit(s) 5 period(s) lecture + lab
Continued study of the dental hygiene process of care with emphasis on assessment, planning and implementation. Topics include instrumentation, adjunct dental hygiene services, instrument sharpening, computer technology, dental specialties and professional accountability. Prerequisites: A grade of C or better in DHE120 and admission to the Dental Hygiene Program or permission of Instructor. Corequisites: DHE133.

DAH – Dance Humanities

DAH100
Introduction to Dance
3 credit(s) 3 period(s) lecture
Overview of the field of dance focusing on origins, historical development, and cultural characteristics of the various styles of dance. Prerequisites: None.
DHE132 Dental Hygiene Clinic I
3 credit(s) 9 period(s) lab
Application of the dental hygiene process of care with emphasis on assessment, planning, and implementation. Introduction to evaluation of dental hygiene therapy. Prerequisites: A grade of C or better in DHE120 and admission to the Dental Hygiene Program. Corequisites: DHE132 and current CPR card.

DHE201 Dental Materials
2 credit(s) 2 period(s) lecture

DHE202 Dental Materials Laboratory
1 credit(s) 3 period(s) lab
Manipulate permanent and temporary restorative materials, impression material, dental waxes, cements, periodontal dressings, bases and liners. Fabricate mouth protectors, study models, and custom impression trays. Laboratory proficiency in margination of permanent restorative materials. Prerequisites: Admission to the Dental Hygiene Program or permission of Instructor. Corequisites: DHE201.

DHE212 Dental Hygiene Theory II
2 credit(s) 2 period(s) lecture
Study of the dental hygiene process of care with emphasis on comprehensive care planning, case presentation, and critical decision making. Introduction to advanced periodontal instrumentation. Prerequisites: A grade of C or better in DHE132 and DHE133 and admission to the Dental Hygiene Program. Corequisites: DHE213.

DHE213 Dental Hygiene Clinic II
5 credit(s) 15 period(s) lab
Application of the dental hygiene process of care with emphasis on comprehensive care planning, case presentation, clinical decision making, advanced instrumentation and improved time utilization. Prerequisites: A grade of C or better in DHE132 and DHE133 and admission to the Dental Hygiene Program. Corequisites: DHE212.

DHE219 Practice Management
2 credit(s) 2 period(s) lecture
Integration of practice management concepts and comprehensive quality patient care in preparation for future collaborative practice between dental hygienists and dentists. Students are challenged with practice situations including productivity, conflict management, ethical and legal issues. Prerequisites: Admission to the Dental Hygiene Program or permission of Instructor.

DHE225 Periodontics
3 credit(s) 3 period(s) lecture
Principles of periodontology: etiology, microbiology, pathogenesis, classification and characteristics of healthy and diseased periodontal tissues. Surgical treatment of periodontal disease and the effects of dental hygiene therapy, surgical techniques and maintenance therapy. Evaluation of the scientific literature and multi-media resources are used extensively. Prerequisites: Admission to the Dental Hygiene Program or permission of Instructor.

DHE227 Dental Anesthesia
2 credit(s) 5 period(s) lecture and lab
A comprehensive lecture and laboratory course providing concepts and techniques for the administration of local anesthetic agents and nitrous oxide. Experience gained in medical history review, electronic recordkeeping, patient management, and hands-on experience administering local anesthetics and nitrous oxide in a clinical setting. Prerequisites: A grade of C or better in DHE119 and current CPR certification.

DHE229 Community Oral Health
3 credit(s) 3 period(s) lecture
An examination of methods used to assess the oral health status of the community and to plan, implement, finance and evaluate dental public health programs. Focus on community-based health promotion and disease prevention measures to improve the oral health of the population, as well as the characteristics of dental care delivery systems and the social, political, psychological and economic factors affecting utilization within the system. Prerequisites: Admission to the Dental Hygiene Program or permission of Instructor.

DHE232 Dental Hygiene Theory III
2 credit(s) 3 period(s) lecture + lab
Study of the dental hygiene process of care with emphasis on the patient with special needs and advanced instrumentation. Students participate in field observations and present case documentations. Prerequisites: A grade of C or better in (DHE212 and DHE213) and admission to the Dental Hygiene Program. Corequisites: DHE233.

DHE233 Dental Hygiene Clinic III
5 credit(s) 15 period(s) lab
Application of the dental hygiene process of care with emphasis on diverse populations. Students prepare for clinical practice using self assessment, evaluation and critical thinking skills. Prerequisites: A grade of C or better in (DHE212 and DHE213), and admission to the Dental Hygiene Program. Corequisites: DHE232.

DPR – Disaster Preparedness and Emergency Response

DPR/ASJS/FSC139 Emergency Response to Terrorism
3 credit(s) 3 period(s) lecture
Fundamentals of emergency response to suspected terrorist events. Historical perspective of terrorist activities and methods by which responders can identify and protect themselves and the public from these threats. Coordination of responding agencies. Prerequisites: None.

DPR/ASJS/FSC146 Disaster Recovery Operations
3 credit(s) 3 period(s) lecture
Specialized knowledge and skills for the emergency manager in developing programs and activities associated with disaster recovery assistance and mitigation actions that reduce losses from future disasters. Prerequisites: None.

DPR/ASJS/FSC147 Emergency Preparedness
3 credit(s) 3 period(s) lecture
Emergency preparedness related to natural and manmade disasters. Planning concepts and the planning process; awareness and education programs and strategies for the general community as well as business and industries. Prerequisites: None.

Course information is subject to change.
Visit https://curriculum.maricopa.edu for most current information.
ECE – Engineering Science

ECE102 EGR1102 Engineering Analysis Tools and Techniques
3 credit(s) 4 period(s) lecture + lab
Learning culture of engineering, computer use, and design in the context of engineering. Prerequisites: Two years of high school algebra or a grade of C or better in MAT122 or permission of Department or Division Corequisites: MAT151 or MAT182 or MAT187.

ECE103 EGR1102 Engineering Problem Solving and Design
3 credit(s) 4 period(s) lecture + lab
Fundamentals of the design process: engineering modeling, communication, and problem-solving skills in a team environment. Emphasis on process-based improvements to the design process. Introduction to engineering as a profession. Prerequisites: A grade of C or better in ECE102 or ECE102AA and high school physics, or PHY111, or PHY111AA. Course Notes: Student may receive credit for only one of the following: ECE103AB, or ECE103, or ECE103EP.

ECE111 Bioengineering Systems
3 credit(s) 3 period(s) lecture
Introduction to biological concepts and application of engineering to biologic and earth systems. Analysis of materials, structures, fluid mechanics, bioelectricity, and dynamics as applied to biological and environmental systems. Prerequisites: None.

ECE211 Engineering Mechanics - Statics
3 credit(s) 5 period(s) lecture and lab
Mathematical treatment of the basic physical principles of statics. Methods of vector algebra and vector calculus. Prerequisites: A grade of C or better in ECE103 or ECE103AB or ECE103EP and (MAT230 or MAT231) and (PHY115 or PHY111). Corequisites: MAT240 or MAT241.

ECE212 Engineering Mechanics - Dynamics
3 credit(s) 5 period(s) lecture and lab
Kinematics and kinetics of particles, translating and rotating coordinate systems, rigid body kinematics, dynamics of systems of particles and rigid bodies, and energy and momentum principles. Prerequisites: A grade of C or better in ECE211 and (MAT240 or MAT241).

ECE215 Mechanics of Materials
3 credit(s) 5 period(s) lecture and lab
Designed to provide students with a strong fundamental foundation in the mechanics of solids. Includes the concepts of stress and strain applied to the analysis and design of members subjected to axial and torsional loads and members subjected to shear and bending, applications and transformation of plane stress and plane strain, deformation of beams, and elastic buckling of columns. Prerequisites: A grade of C or better in ECE214 or [ECE211 and ECE212] and (MAT262 or MAT276 or MAT277).

ECE230 Introduction to the Chemical Engineering Process
3 credit(s) 5 period(s) lecture + lab
Introduces fundamental skills and principles needed to analyze the industrial processes of importance to the chemical engineering profession. Prerequisites: A grade of C or better in MAT261 and PHY121.

ECE231 Introduction to Fluid Transport Phenomena
3 credit(s) 5 period(s) lecture + lab
Fundamental skills and principles of fluid transport on both macroscopic and microscopic scales using mass balances, momentum balances and energy balances to analyze and/or design fluid systems of interest in the chemical engineering profession. Prerequisites: A grade of C or better in MAT261 and PHY121.

ECH – Early Childhood Education

ECH/CFS176 Child Development
3 credit(s) 3 period(s) lecture
Study of the science of human development from conception through adolescence. Includes observation skills, parent and adult roles in the lives of children, and contemporary issues. Prerequisites: None.

ECH182 Enhancing Toddler Development
1 credit(s) 1 period(s) lecture
Overview of the developmental needs of children from 15 through 30 months. Emphasis on the adult role in providing a safe, stimulating everyday environment where toddlers may explore, imitate and communicate with others. Prerequisites: None.

ECH236 Learning Materials for Young Children
1 credit(s) 1 period(s) lecture
Design aspects of traditional early childhood play materials examined for teaching/learning potential. Includes design, production, and field-testing of teacher-made devices. Prerequisites: None.

ECH270 Observing Young Children
1 credit(s) 1 period(s) lecture
Introduction to techniques of observing young children. Recording methods, interpretation and use of collected information including legal and ethical implications. Prerequisites: None.
ECH/CFS271  
Arranging the Environment  
1 credit(s) 1 period(s) lecture  
(Not offered every semester)  
Exploration of the influence of the environment on the behavior of young children. Indoor and outdoor spaces considered and analysis of environments practiced. Prerequisites: None.

ECH274  
Books and Verse For the Young Child  
1 credit(s) 1 period(s) lecture  
(Not offered every semester)  
Introduction to verse, storytelling, books and bookmaking for infants, toddlers, and preschoolers. Information as well as storybooks considered. Prerequisites: None.

ECH/CFS275  
Literacy Development and the Young Child  
1 credit(s) 1 period(s) lecture  
(Not offered every semester)  
Literacy from birth through the early childhood years. Focus on developmentally appropriate ways to encourage speaking, listening, writing, and reading in the home and classroom. Prerequisites: None.

ECH281  
Movement/Music for the Young Child  
1 credit(s) 1 period(s) lecture  
(Not offered every semester)  
Consideration of motor development in the toddler through the 8-year-old and exploration of age-appropriate rhythmic, musical and creative movement methods. Prerequisites: None.

ECH/CFS287  
Professional Development in Early Childhood Education  
1 credit(s) 1 period(s) lecture  
(Not offered every semester)  
Emerging professionalism within the field of early childhood education. Consideration of job responsibilities, rewards, ethics and current issues facing practitioners. Includes assessment and career planning. Prerequisites: None.

EDU – Education

EDU220  
Introduction to Serving English Language Learners (ELL)  
3 credit(s) 3 period(s) lecture  
Rationale for and current educational and legal issues for serving English Language Learners (ELL). Comparison and evaluation of various types of language educational models including Structured English Immersion (SEI), English as a Second Language (ESL) and bilingual/Dual Language Immersion (DLI). Includes SEI, ESL, and bilingual/DLI strategies. Prerequisites: None. Course Notes: Approved school-based practicum is required. EDU220 incorporates the 45-clock hour curricular framework for SEI endorsement through the Arizona Department of Education.

EDU221  
Introduction to Education  
3 credit(s) 3 period(s) lecture  
Overview of the historical, political, economic, social, and philosophical factors that influence education and make it so complex. Opportunity for students to assess their interest and suitability for teaching. Prerequisites: None. Course Note: Requires minimum of 30 hours of field experience in elementary or secondary classroom environment.

EDU222  
Introduction to the Exceptional Learner  
3 credit(s) 3 period(s) lecture  
Overview of the exceptional learner with emphasis on factors relating to current practices, identification, characteristics, and educational adaptations. Issues related to mild disabilities, severe disabilities, emotional and behavioral disorders, intellectual disabilities, and students who are gifted. Prerequisites: None. Course Notes: EDU222 requires an approved field experience.

EDU230  
Cultural Diversity in Education  
3 credit(s) 3 period(s) lecture  
Examination of the relationship of cultural values to the formation of self-concept and learning styles. Examination of the role of prejudice, stereotyping, and cultural incompatibilities in education. Emphasis on teacher preparation (preservice and/or inservice) to offer an equal educational opportunity to students of all cultural groups. Prerequisites: None.

EDU250  
Teaching and Learning in the Community College  
3 credit(s) 3 period(s) lecture  
The history, functions, organization and current issues in the community/junior college with emphasis on the Arizona community colleges. Includes focus on the design and practice of effective community college teaching and learning with special emphasis on the Maricopa County Community College District. Prerequisites: None.

EDU/ENH291  
Children’s Literature  
3 credit(s) 3 period(s) lecture  
Review of folk and modern literature from a variety of world cultures, including application of literary criteria to folk and modern literature for children. Prerequisites: None.
Course Descriptions

EDU/HUM/STO292
The Art of Storytelling
3 credit(s) 3 period(s) lecture
Explore the art and origin of storytelling. Provide a variety of storytelling techniques, styles and exercises to enhance the delivery of telling stories. Assist in the integration and application of storytelling to the learning environment in the classroom. Prerequisites: None.

EEE – Electrical Engineering
EEE202
Circuits and Devices
5 credit(s) 7 period(s) lecture and lab
Introduction to circuits and devices. Component models, transient analysis, steady state analysis, Laplace transform, and active and passive filter networks. Prerequisites: A grade of C or better in ECE101 or ECE103AB or ECE103EP. Corequisites: IMAT276 or IMAT277 and (PHY116 or PHY131).

ELE – Electronic
ELE111
Circuit Analysis I
4 credit(s) 6 period(s) lecture + lab
Direct current (DC) and Alternating current (AC) electric circuits. Ohm’s law, Kirchoff’s laws, series, parallel and series-parallel circuits, fundamentals of inductance and capacitance, and the transient behavior of circuits containing resistance and capacitance or resistance and inductance. Prerequisites: None. Corequisites: ELE105 or MAT120 or MAT121 or MAT122 or equivalent.

ELE112
Circuit Analysis II
4 credit(s) 6 period(s) lecture + lab
Alternating current (AC) and direct current (DC) circuits containing resistance and reactance. Detailed coverage of AC/DC circuit parameters, including theorems, impedance matching, and resonance. Prerequisites: A grade of C or better in ELE111.

EMT – Emergency Medical Technology
EMT101
Basic Life Support/Cardiopulmonary Resuscitation (CPR) for Health Care Providers
0.5 credit(s) 0.45 period(s) lecture + lab
Designed to provide the allied healthcare provider with the knowledge and skills to perform Basic Life Support (BLS) according to current guidelines. Prerequisites: A grade of C or better in EMT101 or a current validation in BLS or AED. Corequisites: None.

EMT104
Emergency Medical Technology
2 credit(s) 2 period(s) lecture + lab
Practical application of rules and regulations governing care and transport of patient. Inventory, methods of disinfection, and charge procedures covered. Practical and defensive techniques and maintenance of the ambulance demonstrated and practiced, according to the U.S. Department of Transport (DOT) National Highway Traffic Safety Administration (NHTSA). Prerequisites: EMT at any level of certification.

EMT116
Emergency Medical Communications (EMD)
1.5 credit(s) 1.8 period(s) lecture + lab
Designed to educate and train individuals as the emergency link among the community, health care providers, and law enforcement agencies. Comprehensive program to educate and train in procedures of communications, interrogation, assessment, and deployment. Includes interactive computer lab and scheduled observation with assignment at a dispatch center. Prerequisites or Corequisites: A grade of C or better in EMT101, or any current American Red Cross, or CPR for the Professional Rescuer, or American Heart Association Basic Life Support Health Care Provider validation.

EMT120
Spanish for Emergency-Care Providers
1 credit(s) 1 period(s) lecture
Participative course for prehospital and other emergency-care providers. Vocabulary, pronunciations, voice inflections, phrases, conversational terms, and methods of interviewing the ill or injured victim. Cultural information to facilitate approach and interaction with the victim, family, and/or significant other. Documentation of the interview content on the prehospital encounter form. Prerequisites: Certified EMT or licensed medical personnel.

Course information is subject to change.
EMT165
Pediatric Education for Prehospital Providers: Basic
2 credit(s) 2.87 period(s) lecture + lab
An interactive, scenario-based course designed for Basic EMTs who are not yet practicing in the field. Enables these EMTs to perform a rapid assessment of sick and injured children in a variety of different circumstances. Includes use of pediatric assessment triangle, developmental differences, injury prevention, basic airway management techniques, recognition of medical emergencies such as pediatric trauma, mechanism of injury, submersion events, children with special health care needs, abuse and neglect, child and family interactions, use of specialized equipment, and special issues in pediatric transportation. Treatment to children is in accordance with recommendations of the American Academy of Pediatrics. **Prerequisites:** A grade of C or better in EMT104, or permission of Instructor.

EMT200
Refresher Course for Certified EMTs
2 credit(s) 2.7 period(s) lecture + lab
Designed to meet National and Arizona Department of Health Services (A-DHS) recertification for EMTs. Enhances the knowledge base of the Emergency Medical Technician (EMT) and reinforces basic skills competencies. **Prerequisites:** Current validation in Basic Life Support (BLS) Health Care Provider/Professional Rescuer or permission of Instructor. **Course Notes:** EMT200 may be repeated for credit.

EMT200AA
EMT Certification Renewal Challenge
0.8 credit(s) 0.6 period(s) lecture
Designed to contribute to Arizona Department of Health Services (A-DHS) Bureau of Emergency Medical Services (B-EMS) recertification requirements for Emergency Medical Technician (EMT) according to the U.S. Department of Transportation (DOT) EMT National Curriculum and the Arizona EMT Refresher Curriculum Guidelines. **Prerequisites:** Current validation in Basic Life Support (BLS) Health Care Provider/Professional Rescuer or proof of current registry with the National Registry of Emergency Medical Technicians (NREMT).

EMT201
Interactive Basic EMT Refresher
1 credit(s) 2.2 period(s) lecture + lab
Designed to contribute to Arizona Department of Health Services recertification requirements for Emergency Medical Technicians (EMT) according to the U.S. Department of Transportation (DOT) EMT Basic National Curriculum and the Arizona Basic EMT Refresher Curriculum Guidelines. Enhances the knowledge base of the EMT. Updates a wide variety of subjects including respiratory and cardiac emergencies, and interaction with advanced life support providers. **Prerequisites:** Current EMT Basic certification in the state of Arizona or proof of current registry with the National Registry of Emergency Medical Technicians (NREMT) and validation in Basic Life Support (BLS) Health Care Provider/Professional Rescuer.

EMT220
Advanced Concepts for EMTs
1.5 credit(s) 1.5 period(s) lecture + lab
Designed to meet Arizona Department of Health Services recertification requirements for EMTs. Enhances the knowledge base of the Emergency Medical Technician (EMT) and incorporates new information into daily practice. Updates a wide variety of subjects including medical and trauma emergencies, cardiac life support, interaction with advanced life support providers, and emergency scene management. **Prerequisites:** Current EMT certification in the state of Arizona.

EMT235
Basic ECG Rhythm Analysis and Interpretation in the Emergency Setting
3 credit(s) 3 period(s) lecture
Designed to provide the allied healthcare provider with basic skills in analysis and interpretation of sinus, atrial, junctional and ventricular rhythms from electrocardiographs (ECG) in the emergency setting. Also addresses heart block and electronically paced rhythms. **Prerequisites:** Current basic life support (BLS) healthcare provider/professional rescuer card and (EMT/FSC104 or permission of Instructor).

EMT236
Pharmacology in an Emergency Setting
3 credit(s) 3 period(s) lecture
Designed for the allied healthcare provider to integrate knowledge of pharmacology and pharmacologic agents to formulate a management plan in the emergency setting. Includes principles of pharmacology, pharmacokinetics, pharmacodynamics, physiology of pharmacology, calculating medication dosages, and medication profiles. **Prerequisites:** Current basic life support (BLS) healthcare provider/professional rescuer card and a grade of C or better in (EMT/FSC104 or permission of Instructor). MAT082 or higher suggested but not required.

EMT/FS238
Vehicular Extrication and Patient Stabilization
2 credit(s) 2 period(s) lecture
Participative course designed for the Emergency Medical Technicians (EMT). Incorporates new knowledge and skills necessary to access, extricate, and care for victims of crash incidents. Provides exposure to scene management, including size-up, disentanglement, victim stabilization for single and multi-victim situations, hazardous materials incidents, integration of local emergency medical services (EMS) for patient assessment and management, and standard operating procedures to selected victim scenarios. **Prerequisites:** Basic EMT certification, current enrollment in EMT Basic program, nurse with emergency department experience, or law enforcement personnel, or permission of Instructor.

EMT240
Advanced Cardiac Life Support (ACLS)
2 credit(s) 4 period(s) lecture + lab
Designed for the allied healthcare provider who initiates, directs, or participates in the management of cardiopulmonary arrest and other cardiovascular emergencies. Provides the allied healthcare provider with the knowledge and skills to recognize and manage cardiopulmonary arrest, acute arrhythmia, stroke, and Acute Coronary Syndromes (ACS) according to current advanced Emergency Cardiovascular Care (ECC) guidelines. Requires prior knowledge of basic electrocardiograph (ECG) rhythm interpretation, pharmacologic agents, and other interventions used in Advanced Cardiac Life Support (ACLS). **Prerequisites:** Current Basic Life Support (BLS) healthcare provider/professional rescuer card and a grade of C or better in (EMT235 and EMT236, or permission of Instructor).

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EMT241
Advanced Cardiac Life Support Refresher
0.5 credit(s) 1.5 period(s) lecture + lab
Designed to provide the healthcare professional with a review and updated information in emergency cardiovascular care and protocols for the patient in cardiac arrest, post-resuscitative patient management, and core cases in Advanced Cardiac Life Support (ACLS) according to current Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care 2004. Includes the ACLS approach to cardiovascular emergencies, elements of emergency cardiovascular care, ethical and legal issues, review and validation of the techniques of airway assessment and management, ventilation techniques, oxygen therapy, intravenous therapy, analyzing and interpreting the electrocardiogram (ECG), analyzing and interpreting the 12-lead ECG, myocardial ischemia, injury, and infarction, electrical interventions, cardiovascular pharmacology, acute coronary syndromes, emergency cardiovascular care algorithms, acute stroke and transient ischemic attack, and special resuscitation situations. Prerequisites: (Current validation in Basic Life Support (BLS) Health Care Provider/Professional Rescuer or a grade of C or better in EMT240) or permission of Instructor. Course Notes: EMT241 may be repeated for credit.

EMT242
Pediatric Advanced Life Support (PALS) 1 credit(s) 2 period(s) lecture + lab
Designed for the allied healthcare provider who initiates, directs, or participates in the management of an infant or child in respiratory compromise, circulatory compromise, or cardiopulmonary arrest according to current cardiopulmonary resuscitation (CPR) and emergency cardiovascular care (ECC) guidelines. Requires prior knowledge of basic electrocardiograph (ECG) rhythm interpretation, pharmacologic agents, and other interventions used in pediatric advanced life support (PALS). Prerequisites: Current basic life support (BLS) healthcare provider/professional rescuer card, and a grade of C or better in EMT235 and EMT236 or permission of Instructor. Course Notes: EMT242 is required for American Heart Association Provider approval and validation.

EMT243
Pediatric Advanced Life Support Refresher
0.5 credit(s) 1.5 period(s) lecture + lab
Current American Red Cross or American Heart Association Health Care Provider validation. Current validation in Pediatric Advanced Life Support. Prerequisites: A grade of C or better in EMT242, or permission of Instructor. Course Notes: EMT243 may be repeated for credit.

EMT245
Trauma Management I
2 credit(s) 3.5 period(s) lecture + lab
Designed to instruct prehospital care personnel in the critical skills necessary to manage the trauma victim and the emergency scene through the Incident Command System (ICS). Enhances basic emergency medical technology (EMT) skills by focusing on emergency care interventions. Provides exposure to victim assessment, initial treatment, resuscitative techniques, victim stabilization, transportation of the victim to an emergency care facility, and documentation. Prerequisites: Basic EMT certification or nurse with emergency room experience, or permission of department.

EMT246
Trauma Management II
4 credit(s) 4 period(s) lecture + lab
Designed to instruct advanced prehospital care personnel in the critical skills necessary to manage the trauma victim and the emergency scene through the Incident Command System (ICS). Enhances advanced emergency medical technology (EMT) skills by focusing on emergency care interventions. Provides advanced exposure to victim assessment, initial treatment, resuscitative skills, invasive techniques, electrical and pharmacologic interventions, stabilization, transportation of the victim to an emergency care facility, and documentation. Prerequisites: Certified as a Basic EMT, Intermediate EMT, Paramedic, or Arizona registered prehospital nurse, or permission of instructor.

EMT249
12 Lead ECG Rhythm Analysis
0.5 credit(s) 0.5 period(s) lecture
Designed to acquaint all levels of emergency care providers with electrocardiographic (ECG) rhythm analysis and interpretation using the 12-lead electrocardiogram (ECG). Required content for identification and treatment of myocardial infarction and its complications. Prerequisites: A grade of C or better in EMT235, or permission of Instructor.

EMT255AB
Advanced Cardiac Life Support Instructional Strategies
1 credit(s) 1 period(s) lecture
A participative course to prepare advanced EMTs (Paramedics), physicians, and/or nurses as Instructors in Advanced Cardiac Life Support courses. Includes American Heart Association Standards and guidelines, teaching and testing skills, writing objectives, preparing class and course schedules, preparing for lectures, developing and using audio visual (AV) aids; processing assignments and exams, classroom discipline, counseling, and student/Instructor evaluation methods. Successful completion qualifies individual to teach Advanced Cardiac Life Support Classes. Prerequisites: Current certification as Advanced Cardiac Life Support Provider and (State of Arizona EMT [Paramedic] certification or Arizona Registered Nurse or licensed physician or physician assistant) or permission of Instructor.

The Course Equivalency Guide (CEG) shows how courses transfer from community college to ASU, NAU and U of A. Visit www.aztransfer.com
EMT255AC
Pediatric Advanced Life Support Instructional Strategies
1 credit(s) 1 period(s) lecture + lab
A participative course to prepare advanced EMTs (Paramedics), physicians, and/or nurses as Instructors in Pediatric Advanced Life Support courses. Includes American Heart Association Standards and guidelines, teaching and testing skills, writing objectives, preparing class and course schedules, preparing for lectures, developing and using audio visual (AV) aids; processing assignments and exams, classroom discipline, counseling, and student/Instructor evaluation methods. Successful completion qualifies individual to teach Pediatric Advanced Life Support classes.
Prerequisites: Current certification as Pediatric Advanced Life Support Provider and (State of Arizona Advanced EMT [Paramedic] certification or Arizona Registered Nurse or licensed physician).

EMT255AD
Basic Cardiac Life Support Instructional Strategies
0.5 credit(s) 0.5 period(s) lecture + lab
A participative course to prepare Instructors in Basic Life Support (CPR) courses. Includes American Heart Association Standards and guidelines, teaching and testing skills, classroom discipline, counseling, and student/Instructor evaluation methods. Successful completion qualifies individual to teach Basic Life Support (CPR) classes according to American Heart Association Standards.
Prerequisites: Current certification as a Basic Life Support Health Care Provider level, a grade of C or better in EMT101, or equivalent.

EMT255AE
Basic and Advanced Level Skills for the Emergency Medical Services Instructor/Examiner
1 credit(s) 1 period(s) lecture + lab
Designed to provide an overview of the roles and responsibilities of the Emergency Medical Services (EMS) Instructor and examiner in basic and advanced level psychomotor skills instruction and evaluation. Includes instructional strategies and methodologies, benchmarks for psychomotor skill evaluation, and management of basic and advanced level psychomotor skills settings. Prerequisites: (Arizona Department of Health Services [A-DHS] certification as an EMT or Paramedic, or Arizona registered nurse, physician, or physician assistant), or permission of Instructor.

EMT260
Advanced Airway Management for EMTs
2 credit(s) 2 period(s) lecture + lab
Designed to instruct emergency care personnel in the critical skills necessary to establish and maintain an airway of the traumatized or medically compromised patient. Airway skills include oxygen therapy with all adjuncts, administration of pharmaceuticals via the endotracheal (ET)/pharyngeal tracheal lumen airway (PTLA), management of the airway as a route for medications, and invasive airway procedures. Content concurrent with Department of Transportation Guidelines and the American College of Surgeons Division on Trauma Standards of Care.
Prerequisites: Certified EMT, or licensed registered nurse with emergency department experience; EMT or emergency department licensed registered nurse with Medical Control physician supervision according to Arizona Department of Health Services (A-DHS) Bureau of Emergency Medical Services (B-EMS).

EMT264
Vascular Access for EMTs
1 credit(s) 1 period(s) lecture + lab
Includes review of anatomy of circulatory system. Skills include peripheral intravenous cannulation techniques, fluid resuscitation, obtaining venous blood samples for laboratory analysis, infection control techniques for the safety of self and victim, and complications of invasive cannulation; each and all with medical control. Content concurrent with American College of Surgeons Division of Trauma Standards of Care. Prerequisites: EMT-Basic or registered nurse with emergency department experience or licensed physician or physician assistant) or permission of Instructor.

EMT265
Pediatric Education for Prehospital Providers: Advanced
1 credit(s) 1.43 period(s) lecture + lab
An interactive, scenario based course designed for Advanced EMTs who practice in the field. Enables providers to perform a rapid assessment of sick and injured children in variety of circumstances. Includes scene management, use of pediatric assessment triangle, developmental differences, injury prevention, airway management techniques, intravenous and intraosseous access and monitoring, ECG arrhythmia recognition, synchronized and unsynchronized cardioversion, pediatric trauma and mechanism of injury, submersion events, children with special health care needs, child abuse and neglect, child and family interactions, use of specialized equipment, documentation of signs, symptoms, care and transportation, special issues in pediatric transportation. Treatment to children is in accordance with recommendations of the American Academy of Pediatrics.
Prerequisites: Advanced cardiac life support course or emergency cardiac care course, and EMT-Paramedic certification, and current employment as an EMT Paramedic, or permission of Instructor.

EMT272AA
Advanced Emergency Medical Technology
12.5 credit(s) 17.37 period(s) lecture
Designed to provide the emergency medical technician with advanced knowledge about the acute critical differences in physiology, pathophysiology, and clinical symptoms, as they pertain to prehospital emergency care. Emphasis on developing diagnostic and advanced emergency treatment skills necessary to care for the acutely ill and seriously injured. Prerequisites: (Valid Arizona EMT certification and a grade of C or better in [MAT090 or higher, or a satisfactory score on the ASSET, or COMPASS, or Accuplacer placement exam], a grade of C or better in [ENG101 or ENG107], EMT235, and EMT236), or permission of Program Director. Comprehensive written, oral and practical evaluation on all EMT272AA prerequisite courses. Course Notes: EMT272AA may be repeated for credit.
EMT272AB
Advanced Emergency Medical Technology
12.5 credit(s) 17.38 period(s) lecture
Designed to provide the emergency medical technician with advanced knowledge about the acute critical differences in physiology, pathophysiology, and clinical symptoms, as they pertain to prehospital emergency care. Emphasis on developing diagnostic and advanced emergency treatment skills necessary to care for the acutely ill and seriously injured. Prerequisites: Valid Arizona EMT certification and a grade of C or better in EMT272AA. Comprehensive written, oral and practical evaluation on EMT272AA. Course Notes: EMT272AB may be repeated for credit.

EMT272LA
Advanced Emergency Medical Technology Practicum Part I
3.75 credit(s) 18.75 period(s) lab
Clinical and vehicular practicum using diagnostic and advanced emergency medical treatment skills learned in the classroom. Emphasis on hands-on application of skills to real-life scenarios involving acute illness and serious injuries. Prerequisites or Corequisites: A grade of C or better in EMT272AA. Course Notes: EMT272LA may be repeated for credit.

EMT272LB
Advanced Emergency Medical Technology Practicum Part II
3.75 credit(s) 18.75 period(s) lab
Clinical and vehicular practicum using diagnostic and advanced emergency medical treatment skills learned in the classroom. Emphasis on hands-on application of skills to real-life scenarios involving acute illness and serious injuries. Prerequisites: A grade of C or better in EMT272AA and EMT272LA. Prerequisites or Corequisites: EMT272AB. Course Notes: EMT272LB may be repeated for credit.

EMT272LL
Advanced Emergency Medical Technology Practicum
7.5 credit(s) 37.5 period(s) lab
Clinical and vehicular practicum using diagnostic and advanced emergency medical treatment skills learned in the classroom. Emphasis on hands-on application of skills to real-life scenarios involving acute illness and serious injuries. Prerequisites or Corequisites: A grade of C or better in EMT272AA and EMT272AB. Course Notes: EMT272LL may be repeated for credit.

EMT273
Advanced Life Support Refresher Course
3.5 credit(s) 4 period(s) lecture + lab
Designed to meet requirements for EMT-Intermediate and EMT- Paramedic under guidelines of the U.S. Department of Transportation (U.S. DOT), National Registry of EMTs (NREMT) as recognized by the Arizona Department of Health Services (A-DHS) Bureau of Emergency Services (B-EMS). Provides updated knowledge and skills related to hypoperfusion states, respiratory arrest or insufficiency, seizure states, cardiovascular emergencies, unconscious of undetermined etiology, head injury with altered levels of consciousness, and chest trauma. Validates requisite knowledge, validates skills, reviews and informs students of new standards and technologies. Trains and educates out of state applicants in knowledge, procedures, medications, and skills specific to Arizona's system. Remediates students who have been unsuccessful three times on the certification examinations, and refreshes information for those who have expired certifications and desire re-entry into the EMS system. Prerequisites: (EMT - Advanced Paramedic certification or EMT - Intermediate certification or proof of current paramedic registry with the National Registry of Emergency Medical Technicians [NREMT]) or permission of Instructor.

ENG – English

NOTE: The student must complete course placement for English placement in order to register for some ENG courses. Seek Academic Advisement.

ENG071
Preparatory Academic Writing I
3 credit(s) 3 period(s) lecture
Emphasizes preparation for college level composition and related reading tasks with a focus on communicating through complete, grammatically correct writing, organized to communicate a central idea. Prerequisites: Appropriate writing placement test score or permission of Department or Division.

ENG081
Preparatory Academic Writing II
3 credit(s) 3 period(s) lecture
Emphasizes preparation for college-level composition and related reading tasks with a focus on critical writing, reading, and thinking skills and processes. Prerequisites: Appropriate writing placement test score, or a grade of C or better in ENG071 or ESL077, or permission of Department or Division.

ENG091
Preparatory Academic Writing III
3 credit(s) 3 period(s) lecture
Emphasizes preparation for first year composition with a focus on critical writing, reading, and thinking skills and processes at an increased level of academic complexity. Prerequisites: Appropriate writing placement test score, or a grade of C or better in ENG081 or ESL087, or permission of Department or Division.

ENG100AA
American-English Spelling System
1 credit(s) 1 period(s) lecture
American-English spelling system rules, mnemonic devices. Prerequisites: Appropriate English placement test score, or a grade of "C" or better in ENG091 or ESL097, or permission of Instructor.

ENG101
ENG 1101
First-Year Composition
3 credit(s) 3 period(s) lecture
Emphasis on rhetoric and composition with a focus on expository writing and understanding writing as a process. Establishing effective college-level writing strategies through four or more writing projects comprising at least 3,000 words in total. Prerequisites: Appropriate writing placement test score, or a grade of C or better in ENG091 or ESL097.

ENG102
ENG 1102
First-Year Composition
3 credit(s) 3 period(s) lecture
Emphasis on rhetoric and composition with a focus on persuasive, research-based writing and understanding writing as a process. Developing advanced college-level writing strategies through three or more writing projects comprising at least 4,000 words in total. Prerequisites: Grade of C or better in ENG101.

ENG107
First-Year Composition for ESL
3 credit(s) 3 period(s) lecture
Equivalent of ENG 101 for students of English as a Second Language (ESL). Emphasis on rhetoric and composition with a focus on expository writing and understanding writing as a process. Establishing effective college-level writing strategies through four or more writing projects comprising at least 3,000 words in total. Prerequisites: Appropriate writing placement test score, or a grade of C or better in ENG091 or ESL097.
ENG108  
First-Year Composition for ESL  
3 credit(s) 3 period(s) lecture  
Equivalent of ENG102 for students of English as a Second Language (ESL). Emphasis on rhetoric and composition with a focus on persuasive, research-based writing and understanding writing as a process. Developing advanced college-level writing strategies through three or more writing projects comprising at least 4,000 words in total. Prerequisites: Grade of C or better in ENG107.

ENG111  
Technical and Professional Writing  
3 credit(s) 3 period(s) lecture  
Covers analyzing, planning, organizing, researching, and writing correspondence, reports, and presentations for specific work-related audiences. Includes integrating data and graphics into work-related documents and presentations. Prerequisites: ENG101 with a grade of C, or better, or permission of Instructor.

ENG200  
Reading and Writing About Literature  
3 credit(s) 3 period(s) lecture  
Emphasis on critical analysis of various genres of literature; includes study of necessary terminology, introduction to methods of literary criticism, and practice in interpretation and evaluation. Prerequisites: A grade of C or better in ENG102.

ENG213  
Introduction to the Study of Language  
3 credit(s) 3 period(s) lecture  
Study of language as code; phonetics, phonology, morphology, syntax, semantics; language acquisition; historical and sociolinguistics. Prerequisites: ENG102 or ENG111, with a grade of 'C' or better, or permission of Instructor.

ENG215  
Strategies of Academic Writing  
3 credit(s) 3 period(s) lecture  
Advanced course in techniques of analyzing and writing academic expository prose. Writing to be research based. Prerequisites: A grade of 'C' or better in ENG102 or ENG111, or permission of Instructor.

ENG216  
Persuasive Writing on Public Issues  
3 credit(s) 3 period(s) lecture  
Advanced course in techniques of analyzing and writing persuasive arguments addressing topics of current public interest. Papers research based. Prerequisites: A grade of C or better in ENG102.

ENG217  
Personal and Exploratory Writing  
3 credit(s) 3 period(s) lecture  
Using writing to explore one's self and the world one lives in; emphasis on journal writing as a source and inspiration for public writing. Prerequisites: A grade of C or better in ENG101 or ENG107 or equivalent.

ENG219  
Life Stories  
3 credit(s) 3 period(s) lecture  
Uses of biography and autobiography to pass on stories, hand down traditions, and share wisdom. Analysis and practice of biographical and autobiographical writing. Prerequisites: A grade of C or better in ENG101 and ENG102.

ENG235  
Magazine Article Writing  
3 credit(s) 3 period(s) lecture  
Basic skills and techniques used by professional writers for publication in magazines. Includes analyzing markets, identifying article slant, research techniques, editing, and submission procedures. Emphasis on nonfiction. Prerequisites: None. Course Notes: ENG235 may be repeated for a total of six (6) credit hours.

ENH – English Humanities  

ENH110  
Introduction to Literature  
3 credit(s) 3 period(s) lecture  
Introduction to international literature through various forms of literary expression; e.g., poetry, drama, essay, biography, autobiography, short story, and novel. Provides a global overview of literature with special emphasis on diverse cultural contributions of women, African Americans, Asian Americans, Hispanic Americans, and Native Americans. Prerequisites: None.

ENH112  
Chicano Literature  
3 credit(s) 3 period(s) lecture  
Introduction to the works of Mexican-American writers of the southwest. Samples poetry, fiction, and essays viewed in their relationship to American cultural heritage and to contemporary culture. Prerequisites: None.

ENH114  
African-American Literature  
3 credit(s) 3 period(s) lecture  
Survey of major African-American writers from Colonial period through the present; analysis of trends and movements within African-American literary history; analysis of literary types and selected works. Prerequisites: None.

ENH117  
Rap Literature: The Oral Tradition  
3 credit(s) 3 period(s) lecture  
Survey of selected rap poetry looking at the oral tradition of Africa, the Caribbean, and the United States as precursors to East Coast, West Coast, Southern, North Central, and International development of the genre. Investigation of cultural environments, historical events, competitions (the ‘battles’), artists’ biographies, and parallel art forms as they relate to the analysis of the genre and its themes. Prerequisites: None.

ENH204  
Introduction to Contemporary Literature  
3 credit(s) 3 period(s) lecture  
Examines the work of major writers in poetry, fiction and drama from 1945 to the present. Examines important movements and trends that have developed within these genre since 1945. Prerequisites: None.

ENH214  
Poetry Study  
3 credit(s) 3 period(s) lecture  
(Fall only)  
Involves reading, discussing, and analyzing poetry of various forms and from selected periods. Prerequisites: None.

ENH221  
Survey of English Literature Before 1800  
3 credit(s) 3 period(s) lecture  
(Fall only)  
Emphasizes the social and political backgrounds as well as the form and content of English literature from Anglo-Saxon times to the end of the eighteenth century. Prerequisites: A grade of C or better in (ENG101 or ENG107) or equivalent.

ENH222  
Survey of English Literature After 1800  
3 credit(s) 3 period(s) lecture  
(Spring only)  
Emphasizes the social and political backgrounds as well as the form and content of English literature in the nineteenth and twentieth centuries. Prerequisites: A grade of C or better in (ENG101 or ENG107) or equivalent.

ENH230  
Introduction to Shakespeare  
3 credit(s) 3 period(s) lecture  
Introduces Shakespeare the playwright, the sonneteer, the linguist, and the citizen of the 17th century. Considers the major tragedies, comedies, histories, and sonnets; focuses on the use of language; and connects the writer to the time. Some emphasis on Shakespeare’s influence through the centuries, noting parallels between the late 16th century and the late 20th century. Prerequisites: None.
ENH235 Survey of Gothic Literature
3 credit(s) 3 period(s) lecture
A study of the origins, common elements and characteristics, and historical development of Gothic literature with an exploration of the literary techniques and psychological aspects of the genre. Prerequisites: None.

ENH241 American Literature Before 1860
3 credit(s) 3 period(s) lecture
(Fall only)
Includes literature written prior to 1860 in the United States. Prerequisites: A grade of C or better in ENG101.

ENH242 American Literature After 1860
3 credit(s) 3 period(s) lecture
(Spring only)
Includes literature written after 1860 in the United States. Prerequisites: None.

ENH251 Mythology
3 credit(s) 3 period(s) lecture
Deals with the myths and legends of civilizations with the greatest influence upon the development of the literature and culture of the English speaking people, and compares those myths with myths from other cultures. Prerequisites: None.

ENH254 Literature and Film
3 credit(s) 3 period(s) lecture
Reviews works of literature and their film versions and analyzes distinguishing techniques of each medium. Prerequisites: A grade of C or better in ENG101, or ENG107, or equivalent.

ENH256 Shakespeare on Film
3 credit(s) 3 period(s) lecture
Examines cinematic versions of Shakespeare’s plays and explains and analyzes how the dramatist’s major tragedies, comedies, histories and romances have been presented on film. Prerequisites: None.

ENH259 American Indian Literature
3 credit(s) 3 period(s) lecture
Contemporary American Indian forms of literary expression. Selected oral traditions of American Indians. Trends and movements within American Indian literary history. Prerequisites: None.

ENH260 Literature of the Southwest
3 credit(s) 3 period(s) lecture
Investigates major themes in Southwestern American literature including the Western myth, minority roles in the region’s literature, control of nature versus primacy of nature, and growth. Both prose and poetry are examined with an emphasis on contemporary Southwestern writing. Prerequisites: None.

ENH280 Topics in American Literature
3 credit(s) 3 period(s) lecture
Examines selected topics in American Literature. Focuses on a theme, genre, era, technique, or critical approach. Includes reading and interpretation of literature from a variety of cultures within the United States. Prerequisites: A grade of C or better in (ENG101 or ENG107) or permission of Instructor. Course Note: ENH280 may be repeated for a total of nine (9) credit hours.

ENH/WST285 Contemporary Women Writers
3 credit(s) 3 period(s) lecture
Examines twentieth-century literature (short stories, essays, plays, and poetry) written by women and about women. Focuses on themes relevant to women’s lives regardless of age, creed, or ethnic background. Prerequisites: None.

ENH/EDU291 Children’s Literature
3 credit(s) 3 period(s) lecture
Reviews folk and modern literature, including application of literary criteria to folk and modern literature for children. Prerequisites: None.

ESL010 English as a Second Language I:
Grammar
3 credit(s) 3 period(s) lecture
First level of English as a Second Language (ESL). Emphasis on basic conversational skills, pronunciation, vocabulary building and grammar. Some reading and sentence level writing. Prerequisites: Approximate ESL placement test score or a grade of C or better in ESL011. Course Notes: ESL010 may be repeated for a maximum of six (6) credits. Credit (P) or no credit (Z). Standard grading available according to procedures outlined in catalog.

ESL011 English as a Second Language I:
Listening and Speaking
3 credit(s) 3 period(s) lecture
Emphasis on listening and speaking skills involving survival skills. Asking and answering questions related to work, shopping, and personal safety. Prerequisites: Approximate ESL placement test score or a grade of C or better in ESL002. Course Notes: ESL011 may be repeated for a maximum of six (6) credits.

ESL012 ESL I- Writing with Oral Practice
3 credit(s) 3 period(s) lecture
Emphasis on basic conventions of writing in English. Includes introduction to the alphabet, capitalization, punctuation, and simple sentence structure. Prerequisites: Approximate ESL placement test score or permission of Instructor. Course Notes: ESL012 may be repeated for a maximum of six (6) credits.

ESL013 Vocabulary for ESL I
1 credit(s) 1 period(s) lecture + lab
Focuses on the acquisition of basic English vocabulary including identifying and pronouncing words related to people, medical/dental care, occupations and other activities. Prerequisites: Approximate ESL placement test score or permission of Instructor. Course Notes: ESL013 may be repeated for a maximum of two (2) credits.

ESL020 English as a Second Language II:
Grammar
3 credit(s) 3 period(s) lecture
Second level of English as a Second Language (ESL). Continued emphasis on conversational skills, pronunciation, vocabulary building and grammar with some reading and sentence level writing. Prerequisites: Approximate ESL placement test score, or a grade of P or C or better in ESL010. Course Notes: ESL020 may be repeated for a maximum of six (6) credits. Credit (P) or no credit (Z). Standard grading available according to procedures outlined in catalog.

ESL021 English as a Second Language II:
Listening and Speaking
3 credit(s) 3 period(s) lecture
Emphasis on listening and speaking skills involving social exchange. Asking and answering questions, using tag questions. Practice with question and answer patterns. Polite questions and responses. Prerequisites: Approximate ESL placement test score or a grade of C or better in ESL010 or ESL011 or ESL012 or RDG/ ESL016. Course Notes: ESL021 may be repeated for a maximum of six (6) credits.
ESL022
ESL II-Writing with Oral Practice
3 credit(s) 3 period(s) lecture
Emphasis on basic writing skills, accompanied by recitation of short writings. Sentence patterns and introduction of paragraph writing. May be repeated for a maximum of six (6) credits. Prerequisites: Appropriate ESL course placement score, or a grade of C or better in ESL012, or permission of Instructor.

ESL023
Vocabulary for ESL II
1 credit(s) 1 period(s) lecture + lab
Emphasis on the acquisition of basic English vocabulary including identifying and pronouncing words related to people, medical/dental care, occupations and other activities. Prerequisites: Appropriate ESL placement test score or permission of Instructor. Course Notes: ESL023 may be repeated for a maximum of two (2) credits.

ESL030
English as a Second Language III: Grammar
3 credit(s) 3 period(s) lecture
Third level of English as a Second Language (ESL). Emphasis on sentence structure and paragraph building. Extensive grammar study and writing practice. Prerequisites: Appropriate ESL placement test score, or a grade of P or C or better in ESL020. Course Notes: ESL030 may be repeated for a maximum of six (6) credits. Credit (P) or no credit (Z). Standard grading available according to procedures outlined in catalog.

ESL031
English as a Second Language III: Listening and Speaking
3 credit(s) 3 period(s) lecture
Emphasis on listening and speaking skills related primarily to academic environment. Asking questions, working in small groups, using college resources, informal oral presentation. Prerequisites: Appropriate ESL placement test score or a grade of C or better in ESL020 or ESL021 or ESL022 or RDG/ESL026. Course Notes: ESL031 may be repeated for a total of six (6) credit hours.

ESL032
ESL III-Writing with Oral Practice
3 credit(s) 3 period(s) lecture
Emphasis on complex sentence patterns in writing and speech. Introduction to the prewriting and writing process in a college setting. May be repeated for a maximum of six (6) credits. Prerequisites: Appropriate ESL course placement score, or a grade of C or better in ESL022, or permission of Instructor.

ESL033
Vocabulary for ESL III
1 credit(s) 1 period(s) lecture + lab
Emphasis on the acquisition of basic English vocabulary including identifying and pronouncing words related to people, medical/dental care, occupations and other activities. Prerequisites: Appropriate ESL placement test score or permission of Instructor. Course Notes: ESL033 may be repeated for a maximum of two (2) credits.

ESL040
English as a Second Language IV: Grammar
3 credit(s) 3 period(s) lecture
Fourth level of English as a Second Language (ESL). Continued emphasis on sentence structure and paragraph building. Extensive grammar study and writing practice. Prerequisites: Appropriate ESL placement test score, or a grade of P or C or better in ESL030. Course Notes: ESL040 may be repeated for a maximum of six (6) credits. Credit (P) or no credit (Z). Standard grading available according to procedures outlined in catalog.

ESL041
English as a Second Language IV — Listening and Speaking
3 credit(s) 3 period(s) lecture
Emphasis on academic skills. Listening to lectures, notetaking, peer interaction, accessing and using media resources, formal oral presentations. Prerequisites: Appropriate ESL placement test score or a grade of C or better in ESL030 or ESL031 or ESL032 or RDG/ESL036. Course Notes: ESL041 may be repeated for a maximum of six (6) credits.

ESL042
ESL IV-Writing with Oral Practice
3 credit(s) 3 period(s) lecture
Emphasis on paragraph writing and oral recitation of complex sentences and paragraphs. Introduction to the prewriting and writing process for short essays. May be repeated for a maximum of six (6) credits. Prerequisites: Appropriate ESL course placement score, or a grade of C or better in ESL032, or permission of Instructor.

ESL043
Review Grammar For ESL
3 credit(s) 3 period(s) lecture
Review of grammatical concepts for ESL (English as a Second Language) students who have some previous experience in reading and writing English. Appropriate for students who want to practice sentence skills in English. Prerequisites: Appropriate ESL placement test score, or a grade of “C” or better in ESL010, or permission of Instructor. Course Notes: ESL043A may be repeated for a total of two (2) credit hours.

ESL044
American Culture
3 credit(s) 3 period(s) lecture
Reading and writing about American culture including history, institutions and sports, and entertainment. Prerequisites: Appropriate ESL placement test score, or a grade of “C” or better in ESL040 or RDG/ESL048, or permission of Instructor. Course Notes: ESL044 may be repeated for a total of six (6) credit hours.
ESL054AA  
American Culture: History  
1 credit(s) 1 period(s) lecture + lab  
Reading and writing about American history.  
Prerequisites: Appropriate ESL placement test score or a grade of "C" or better in ESL040 or RDG/ESL046 or permission of Instructor.  
Course Notes: ESL054AA may be repeated for a total of two (2) credit hours.

ESL054AB  
American Culture: Institutions and Customs  
1 credit(s) 1 period(s) lecture + lab  
Reading and writing about American cultural institutions and customs.  
Prerequisites: Appropriate ESL placement test score or a grade of "C" or better in ESL040 or RDG/ESL046 or permission of Instructor.  
Course Notes: ESL054AB may be repeated for a total of two (2) credit hours.

ESL054AC  
American Culture: Sports and Entertainment  
1 credit(s) 1 period(s) lecture + lab  
Reading and writing about American sports and entertainment.  
Prerequisites: Appropriate ESL placement test score or a grade of "C" or better in ESL040 or RDG/ESL046, or permission of Instructor.  
Course Notes: ESL054AC may be repeated for a total of two (2) credit hours.

ESL071  
Advanced Pronunciation and Oral Reading for ESL  
1 credit(s) 1 period(s) lecture  
Pronunciation practice and review, spelling of English sounds, and oral reading for stress and intonation patterns in English.  
Prerequisites: A grade of C or better in ESL051, or permission of Instructor.  
Course Notes: May be repeated for a total of six (6) credit hours.

ESL087  
Preparatory Academic Writing II for ESL  
3 credit(s) 3 period(s) lecture  
Emphasizes preparation for college-level composition and related reading tasks with a focus on critical writing, reading, and thinking skills and processes.  
Prerequisites: Appropriate writing placement test score, or grade of C or better in ESL077 or ENG071, or permission of Department or Division.

ESL087  
Preparatory Academic Writing III for ESL  
3 credit(s) 3 period(s) lecture  
Emphasizes preparation for first year composition with a focus on critical writing, reading, and thinking skills and processes at an increased level of academic complexity.  
Prerequisites: Appropriate writing placement test score, or a grade of C or better in ESL087 or ENG081, or permission of Department or Division.

FON – Food and Nutrition

FON100  
Introductory Nutrition  
3 credit(s) 3 period(s) lecture  
Introduction to the science of food and human nutrition. Current sustainable dietary recommendations and applications for maximizing well-being and minimizing risk of chronic disease throughout the life cycle. An overview of the nutrients, emphasizing the importance of energy and fluid balance, and optimal functioning of the digestive system. Understanding factors that influence food intake in different cultures. Methods for evaluating credibility of nutrition claims, a focus on modern food safety and technology practices, and a worldview of nutrition are included. Emphasis is on personal dietary behavior change for a holistic life of wellness.  
Prerequisites: None.

FON104  
Certification in Food Service Safety and Sanitation  
1 credit(s) 1 period(s) lecture  
Preparation for and certification in a national food sanitation and safety program. Emphasis on food from purchasing, receiving, and storing to preparation, holding, and serving. Focuses on safe and sanitary food service facilities and equipment, employee habits and personal hygiene, and role of management in safety and sanitation. Includes time-temperature principles, foodborne illnesses, pest control, accident prevention, standards for cleaning and sanitizing, and regional regulations and standards.  
Prerequisites: None.

FON142AB  
Science of Food  
3 credit(s) 5 period(s) lecture + lab  
Exploration and Application of Scientific Principles of Food; experiences with ingredient functionality and application in cooking techniques.  
Prerequisites: None.

FON241  
Principles of Human Nutrition  
3 credit(s) 3 period(s) lecture  
Scientific principles of human nutrition. Emphasis on scientific literacy and the study of nutrients for disease prevention. Includes micro and macro nutrients, human nutrient metabolism and nutrition’s role in the health of the human body throughout the life cycle. Addresses nutrition principles for prevention of nutrition-related health conditions.  
Prerequisites: None.

FON241LL  
Principles of Human Nutrition Laboratory  
1 credit(s) 3 period(s) lab  
Self-evaluative laboratory experience to complement FON241, Principles of Human Nutrition using anthropometric, biochemical, clinical, dietary analysis, and ecological/ economical assessments. Includes the use of qualitative and quantitative methodology to determine nutritional status and evaluate methodological applications.  
Prerequisites: A grade of C or better in FON241 or Corequisites: FON241.

FRE – French

FRE101  
Elementary French I  
4 credit(s) 4 period(s) lecture  
Basic grammar, pronunciation and vocabulary of the French language. Includes the study of French culture, practice of listening, speaking, reading and writing skills.  
Prerequisites: None.

FRE102  
Elementary French II  
4 credit(s) 4 period(s) lecture  
Continued study of grammar and vocabulary of the French language along with the study of French culture. Emphasis on speaking, listening, reading and writing skills.  
Prerequisites: A grade of C or better in FRE101, or FRE101AA, or permission of Department or Division. Completion of prerequisites within the last three years is required.

FSC – Fire Science Technology

FSC101  
Intro to Fire Service Selection  
3 credit(s) 4 period(s) lecture + lab  
Overview of the application and selection processes used by various fire departments and fire service organizations. Elements of fire service culture and their effects on personal growth and interpersonal relationships. Major components of written application processes, requirements, preparation of resumes and their effect on employment prospects. Preparation for the interview to include communications skills, mental preparation techniques, behaviors, and the importance of the interview in the pre-employment process. Preparation for on-site experiences at a fire station. General components of the selection process, the importance of general education, and components of lifelong learning in career choices.  
Prerequisites: None.
FSC102
Fire Department Operations
11 credit(s) 19.6 period(s) lecture + lab
Introductory fire science course primarily designed for the fire department recruit. Includes firefighting skills, equipment, and administrative policies, fire department operations, personnel policies, and International Fire Service Accreditation Congress Practical Skills Testing. Prerequisites: A grade of C or better in EMT104, FSC105 and FSC130 and permission of Instructor. Corequisites: FSC134.

FSC/EMT104
Emergency Medical Technology
9 credit(s) 11.4 period(s) lecture + lab
Techniques of emergency medical care in accordance with national and state curriculum. Study of the human body, patient assessment, treatment of medically or traumatically compromised patients, special hazards, and medical operations, IV monitoring, patient-assisted medication administration, automated external defibrillators (AEDs), and blood-glucose monitoring. Prerequisites: A grade of C or better in EMT101 or a current validation in Basic Life Support (BLS) Health Care Provider/Professional Rescuer and (appropriate score on Reading placement test to demonstrate minimum tenth grade level reading or completion of an Associate’s degree or higher from an accredited institution). Course Notes: Students are required to complete additional hours in a competency-based clinical, vehicular, and/or scenario based experience. This may be completed through EMT104AB or program director-approved rotation. Students must meet National Registry of EMTs requirements for certification. Additional information available at nremt.org. FSC/EMT104 may be repeated for credit.

FSC105
Hazardous Materials/First Responder
3 credit(s) 3 period(s) lecture
Basic methods of recognition and identification based upon the chemical and physical properties of hazardous materials; basic safety procedures when utilizing specific types of protective clothing and equipment; basic tactical information relating to scene management. Confined space operations in accordance with the National Fire Protection Agency. Prerequisites: None.

FSC106
Introduction to Fire Protection
3 credit(s) 3 period(s) lecture
History and evaluation of fire department organization. Role of the fire service in the community. Responsibilities of the fire administrator including organization, departmental functions, interdepartmental relationships, management of buildings and equipment; techniques of firefighting. Also includes emergency medical services and fire prevention. Prerequisites: None.

FSC107
Public Safety Emergency Telecommunications
3 credit(s) 3 period(s) lecture + lab
In-depth coverage of established techniques and procedures for handling routine and emergency public safety telephone calls and radio (contact) communications. Nationally recognized procedures for processing 9-1-1 emergency calls, field unit safety, injury scenarios, and demonstrating positive public relations. Fundamental skills and responsibilities for fire, emergency medical, and law enforcement complaint report processing as well as federal laws regarding proper processing, retention, and dissemination of security information. Definitions of terms unique to fire suppression, emergency medical, and law enforcement situations common within the public safety sector. Prerequisites: None.

FSC108
Fundamentals of Fire Prevention
3 credit(s) 3 period(s) lecture
Fundamentals of fire prevention. Includes techniques, procedures, regulations, and enforcement. Also includes discussion of hazards in ordinary and special occupancies. Field trips and lectures from industry also included. Prerequisites: None.

FSC109PS
Public Safety Emergency Telecommunications
3 credit(s) 3 period(s) lecture + lab
Overview of all aspects of fitness for current and prospective firefighters. Includes physical and mental aspects of performance for optimal achievement on fire department agility tests and fire fighting tasks; individual conditioning strategies, nutritional guidelines, protective clothing concepts, and basic exercise principles. Pre-employment, evaluation, and lifelong fitness and conditioning. Prerequisites: None.

FSC111
Introduction to Urban Technical Rescue
3 credit(s) 3 period(s) lecture + lab
Practical application of safe rescue practices for urban technical rescue. Includes ropes and rope systems, trench rescue, confined-space rescue, swiftwater rescue, and rescue from collapsed structures. Prerequisites: None.

FSC112PS
Public Safety Emergency Telecommunications
3 credit(s) 3 period(s) lecture + lab
Basic methods of recognition and identification based upon the chemical and physical properties of hazardous materials; basic safety procedures when utilizing specific types of protective clothing and equipment; basic tactical information relating to scene management. Confined space operations in accordance with the National Fire Protection Agency. Prerequisites: None.

FSC113
Fire Apparatus
3 credit(s) 3 period(s) lecture
Principles of care, maintenance, and operation of fire apparatus and pumps. Includes pump construction and accessories, pumping techniques, power development, and transmission. Driving, troubleshooting, and producing effective fire streams. Prerequisites: None.

FSC114
Fire Hydraulics
3 credit(s) 3 period(s) lecture
Review of basic mathematics. Hydraulic laws and formulas as applied to the fire service. Application of formulas and mental calculations to hydraulic problems, water supply variables, and discharge requirements for pumpers. Prerequisites: None.

FSC115
Introduction Fire Service Ethics
3 credit(s) 3 period(s) lecture
Ethical issues, standards, and philosophical consideration of moral problems encountered in fire service. Ethical responsibility of fire service personnel and those they serve. Prerequisites: None.

FSC116
Fire Department Operations
3 credit(s) 3 period(s) lecture
Firefighting techniques and operations. Application of formulas and mental calculations to hydraulic problems, water supply variables, and discharge requirements for pumpers. Prerequisites: None.

FSC117
Fire Apparatus
3 credit(s) 3 period(s) lecture
Principles of care, maintenance, and operation of fire apparatus and pumps. Includes pump construction and accessories, pumping techniques, power development, and transmission. Driving, troubleshooting, and producing effective fire streams. Prerequisites: None.

FSC118
Women Firefighter Preparation
3 credit(s) 3 period(s) lecture + lab
Designed for women firefighting candidates. Includes firefighting techniques and procedure, physical/mental conditioning, health concerns, occupational opportunities, and mentorship programs. Prerequisites or Corequisites: A grade of C or better in FSC134 or permission of Instructor.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Units</th>
<th>Lecture Type</th>
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<tbody>
<tr>
<td>FSC/AJS/DPR139</td>
<td>Emergency Response to Terrorism 3 credit(s) 3 period(s) lecture</td>
<td>Fundamentals of emergency response to suspected terrorist events. Historical perspective of terrorist activities and methods by which responders can identify and protect themselves and the public from these threats. Coordination of responding agencies. <strong>Prerequisites:</strong> None.</td>
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<tr>
<td>FSC/AJS/DPR146</td>
<td>Disaster Recovery Operations 3 credit(s) 3 period(s) lecture</td>
<td>Specialized knowledge and skills for the emergency manager in developing programs and activities associated with disaster recovery assistance and mitigation actions that reduce losses from future disasters. <strong>Prerequisites:</strong> None.</td>
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<tr>
<td>FSC/AJS/DPR147</td>
<td>Emergency Preparedness 3 credit(s) 3 period(s) lecture</td>
<td>Emergency preparedness related to natural and manmade disasters. Planning concepts and the planning process; awareness and education programs and strategies for the general community as well as business and industries. <strong>Prerequisites:</strong> None.</td>
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<tr>
<td>FSC/AJS/DPR148</td>
<td>Fundamentals of Emergency Management 3 credit(s) 3 period(s) lecture</td>
<td>Emergency management systems including career opportunities, function, tasks and responsibilities of the emergency management program manager, role of the emergency manager in mitigation, preparedness, response, and recovery. Past civil defense and current emergency management systems since evolution from World War II. <strong>Prerequisites:</strong> None.</td>
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<tr>
<td>FSC/AJS/DPR149</td>
<td>Hazard Mitigation 3 credit(s) 3 period(s) lecture</td>
<td>Knowledge and skills required to develop programs to reduce losses from future disasters, emergencies, and other extreme events caused by natural and manmade hazards. <strong>Prerequisites:</strong> None.</td>
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<tr>
<td>FSC152</td>
<td>Engine Company Officer 1 credit(s) 1 period(s) lecture</td>
<td>Overview of all aspects of engine company operations including the activities and responsibilities performed by the captain as well as mechanisms for developing a personal supervisory style. Designed for the aspiring company officer or anyone having the opportunity for the role of a company officer. <strong>Prerequisites:</strong> None.</td>
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<tr>
<td>FSC202</td>
<td>Supervisory Training for Firefighters 3 credit(s) 3 period(s) lecture</td>
<td>Administrative methods applied to the fire service, departmental organization, and personnel management. Includes fire alarm signaling systems, fire service planning, and relationships with other city departments. <strong>Prerequisites:</strong> None.</td>
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<tr>
<td>FSC204</td>
<td>Firefighting Tactics and Strategy 3 credit(s) 3 period(s) lecture</td>
<td>Methods of coordinating personnel, equipment, and apparatus on the fireground. Practical methods of controlling and extinguishing structural and other types of fires. Includes simulation exercises. <strong>Prerequisites:</strong> A grade of C or better in FSC113 or permission of Instructor or equivalent.</td>
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<tr>
<td>FSC205</td>
<td>Command Strategies for Major Emergencies 3 credit(s) 3 period(s) lecture</td>
<td>Effective methods of managing major emergency incidents including multiple alarm structural fires, high rise fires, major brush fires, complex hazardous materials incidents and multi-casualty medical incidents. Includes incidents that require the commitment of resources based on a transitional situation and/or managing the effective interaction between numerous agencies to achieve control. <strong>Prerequisites:</strong> A grade of C or better in FSC204.</td>
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<td>FSC208</td>
<td>Firefighter Safety and Building Construction 3 credit(s) 3 period(s) lecture</td>
<td>Actions necessary to provide for the safety of firefighters operating on the fireground. Effects that fire and heat may have on various types of building construction resulting in the loss of structural integrity. Includes signs and symptoms of structural damage. <strong>Prerequisites:</strong> A grade of C or better in FSC113 or permission of Instructor or equivalent.</td>
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<tr>
<td>FSC209</td>
<td>Fire Investigation I 3 credit(s) 3 period(s) lecture</td>
<td>Methods of determining point of fire origin, path of fire travel, and fire cause. Includes recognizing and preserving evidence; interviewing witnesses; arson laws and types of arson fires; and court testimony, reports, and records. <strong>Prerequisites:</strong> None.</td>
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<tr>
<td>FSC214</td>
<td>Human Resource Management in Fire Service 3 credit(s) 3 period(s) lecture</td>
<td>Management of fire service personnel functions. Includes selection procedures, employee discipline, performance ratings, elements of supervision. Labor relations and related personnel responsibilities. <strong>Prerequisites:</strong> A grade of C or better in FSC202 or four years in the fire service.</td>
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<tr>
<td>FSC215</td>
<td>Customer Service in the Public Sector 3 credit(s) 3 period(s) lecture</td>
<td>Examines the personal and practical skills needed to enhance customer service in the public sector with an emphasis on application, basic management requirements, and training. <strong>Prerequisites:</strong> None.</td>
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<tr>
<td>FSC221</td>
<td>Ladder Company Officer 1 credit(s) 1 period(s) lecture</td>
<td>Overview of all aspects of ladder company operations including activities, expectations, and responsibilities required of the ladder captain. Designed for the company officer who aspires to the role of ladder company officer. <strong>Prerequisites:</strong> None.</td>
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<tr>
<td>FSC/EMT238</td>
<td>Vehicular Extrication and Patient Stabilization 2 credit(s) 2 period(s) lecture</td>
<td>Participative course designed for the Emergency Medical Technicians (EMT). Incorporates new knowledge and skills necessary to access, extricate, and care for victims of crash incidents. Provides exposure to scene management, including size-up, disentanglement, victim stabilization for single and multi-victim situations, hazardous materials incidents, integration of local emergency medical services (EMS) for patient assessment and management, and standard operating procedures to selected victim scenarios. <strong>Prerequisites:</strong> Basic EMT certification, current enrollment in EMT Basic program, nurse with emergency department experience, or law enforcement personnel, or permission of Instructor.</td>
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<tr>
<td>FSC/AJS/EMT/SWU258</td>
<td>Victimology and Crisis Management 3 credit(s) 3 period(s) lecture</td>
<td>Victimology, the criminal justice system, techniques of crisis intervention, and the importance of a multicultural and global perspective. Includes sexual assault, family violence, post-traumatic stress disorder, the role of substance abuse, effective coping skills, appropriate community resources and the responsiveness of the justice system. <strong>Prerequisites:</strong> None.</td>
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GBS – General Business

GBS103 Principles of Banking
3 credit(s) 3 period(s) lecture
History, characteristics and significance of American banking system, includes types of accounts, banking services and the relationship of commercial banks to their depositors. Prerequisites: None.

GBS110 Human Relations in Business and Industry
3 credit(s) 3 period(s) lecture
Exploration of fundamental theories and concepts of human relations in business and industry. Particular emphasis is placed on developing effective interpersonal relationships and leadership skills within an organization. Prerequisites: None.

GBS120 Workplace Communication Skills
3 credit(s) 3 period(s) lecture + lab
Reviews planning, organization, development, and evaluation of written and oral communication in business settings, including informative and persuasive messages. Prerequisites: None.

GBS131 Business Calculations
3 credit(s) 3 period(s) lecture
Review of basic arithmetic and application of mathematics to business problems, includes percentage, interest, discount, and markups. Prerequisites: None.

GBS151 Introduction to Business
3 credit(s) 3 period(s) lecture
Characteristics and activities of current local, national, and international business. An overview of economics, marketing, management and finance. Prerequisites: None.

GBS205 Legal, Ethical, and Regulatory Issues in Business
3 credit(s) 3 period(s) lecture
Legal theories, ethical issues and regulatory climate affecting business policies and decisions. Prerequisites: None.

GBS206 Business Law (UCC)
3 credit(s) 3 period(s) lecture
Legal and ethical aspects of contracts, sales, commercial paper, secured transactions, documents of title, letter of credit, bank deposits, and collections. Prerequisites: None.

GBS207 Business Law (General Corporate)
3 credit(s) 3 period(s) lecture
Legal and ethical aspects of agency, partnerships, corporations, bankruptcy, antitrust, securities, and other regulations of business. Prerequisites: None.

GBS220 Quantitative Methods in Business
3 credit(s) 3 period(s) lecture
Business applications of quantitative optimization methods in operations management decisions. Prerequisites: (A grade of “C” or better in MAT150 or MAT151 or MAT152) or satisfactory score on the District math placement test.

GBS221 BUS 2201 Business Statistics
3 credit(s) 3 period(s) lecture
Business applications of descriptive and inferential statistics, measurement of relationships, and statistical process management. Includes the use of spreadsheet software for business statistical analysis. Prerequisites: Grade of C or better in GBS220 or MAT217.

GBS233 Business Communication
3 credit(s) 3 period(s) lecture
Internal and external business communications, including verbal and nonverbal techniques. Prerequisites: ENG101 or ENG107 with grade of “C” or better, or permission of department/division.

GBS261 Investments I
3 credit(s) 3 period(s) lecture
Various investment forms available, including study of inflation, taxation, government securities, stocks and bonds, real estate and retirement plans. Prerequisites: None.

GBS270AA Business Internship
1 credit(s) 1 period(s) lab
General business work experience in a business or industry. Eighty hours of designated work per credit per semester. Maximum of 3 credits allowed. Prerequisites: Permission of Department.

GBS270AB Business Internship
2 credit(s) 2 period(s) lab
General business work experience in a business or industry. Eighty hours of designated work per credit totaling 160 hours per semester. Maximum of 3 credits allowed. Prerequisites: Permission of Department.

GBS270AC Business Internship
3 credit(s) 3 period(s) lab
General business work experience in a business or industry. Eighty hours of designated work per credit. Prerequisites: Permission of Department or Division. Course Note: GBS270AC may be repeated for a total of six (6) credits.

GBS294 Consumer Credit
3 credit(s) 3 period(s) lecture
Consumer lending by financial institutions. Prerequisites: None.

GBS298AA-AC Special Projects
1-3 credit(s) 1-3 period(s) lab
Organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment are made available for student use. Allows the best aspects of independent study and individualized learning to be combined to maximize student development. Prerequisites: None.

GCU – Cultural Geography

GCU102 Introduction to Human Geography
3 credit(s) 3 period(s) lecture
Systematic study of human use of the earth. Spatial organization of economic, social, political, and perceptual environments. Prerequisites: None.

GCU/POS113 United States and Arizona Social Studies
3 credit(s) 3 period(s) lecture
Overview of government, history, and geography of the United States and Arizona. Includes the relationship of government to the United States economic system as well as the influences and developments that have shaped U.S. and Arizona history. Also covers geographical systems, regions, and study techniques. Prerequisites: None.

GCU121 GEO 1121 World Geography I: Eastern Hemisphere
3 credit(s) 3 period(s) lecture
Description and analysis of spatial variations in culture, social, economic, and political phenomena in major world regions. Emphasis on the major cultural realms of Europe, North Africa, and Asia. Prerequisites: None.
GCU122
World Geography II: Western Hemisphere
3 credit(s) 3 period(s) lecture
Description and analysis of variations in social, economic, and political phenomena in major world regions. Emphasis on Sub-Saharan Africa, Latin America, and Anglo America. Prerequisites: None.

GCU221
Arizona Geography
3 credit(s) 3 period(s) lecture
The historical to modern development of Arizona. The interplay between the physical, cultural and economic factors affecting Arizona today. Prerequisites: None.

GIS – Geographic Information Science

GIS205
Geographic Information Technologies
3 credit(s) 3 period(s) lecture
Introduces modern geographic information technologies, including cartography, Geographic Information System (GIS), remote sensing, global positioning systems, and statistical analyses. Prerequisites: None.

GIS211
Geographic Information Science I
4 credit(s) 4 period(s) lecture
Introduces students to digital map creation including vector and raster data, map elements, and design, symbology, and the geo database using Esri (Environmental Systems Research Institute) desktop and online mapping environments. Prerequisites: A grade of C or better in CIS105, or CSC180, or permission of instructor.

GLG – Geology

GLG101
Intro to Geology I - Physical Lecture
3 credit(s) 3 period(s) lecture
A study of the kind and arrangement of materials composing the Earth’s crust and the geological processes at work on and within the Earth’s surface. Prerequisites: None.

GLG102
Intro to Geology II - Historical Lecture
3 credit(s) 3 period(s) lecture
Outlines the origin and history of the earth with emphasis on North America—its dynamic, geographic, and climatic changes; animals and plants of the past; the evolution of life. Prerequisites: None.

GLG103
Intro to Geology I - Physical Lab
1 credit(s) 3 period(s) lab
May accompany GLG101. Study of common rock-forming minerals, rocks, and maps. Prerequisites: None.

GLG104
Intro to Geology II - Historical Lab
1 credit(s) 3 period(s) lab
May accompany GLG102. Study of geological structures and rocks, fossils, and geologic maps. May require field trips. Prerequisites: None.

GLG105
Introduction to Planetary Science
4 credit(s) 6 period(s) lecture and lab
A survey of solar system objects and their geologic evolution, surfaces, interiors, and atmospheres, and the methods used to study them; weekly laboratory for data analysis and experiments; possible weekend field trip. Prerequisites: None.

GLG/AST106
Life in the Universe
4 credit(s) 6 period(s) lecture and lab
Introduction to the search for life in the universe for the non-science major. Earth’s location in space and time, nature of life, light and the spectrum, origin and history of the universe, origin of life on Earth and the possibility of life on other planets. Prerequisites: A grade of C or better in MAT090, MAT091, or MAT092, or completion of higher level mathematics course, or satisfactory score on placement exam.

GLG/AST107
Life in the Universe Laboratory
1 credit(s) 3 period(s) lab
Astronomy, Biology, and Planetary Science laboratory. Prerequisites: A grade of C or better in GLG/AST106 and permission of Instructor or Department or Division. Course Notes: GLG107 is a legacy course intended for those students who have previously completed the corresponding lecture course. Current MCCCD students should enroll in GLG106 only.

GLG110
Geological Disasters and the Environment
3 credit(s) 3 period(s) lecture
Acquaints students with the use and importance of geological studies as they apply to the interactions between people and the earth. Includes geological processes and hazards such as earthquakes, volcanoes, floods and landslides. Examines environmental impact and use of mineral and energy resources. Prerequisites: None.

GLG111
Geological Disasters and the Environment Lab
1 credit(s) 3 period(s) lab
May accompany GLG110. Basic geological processes and concepts. Emphasis on geology-related environmental problems concerning Arizona. Case histories and field studies. May require field trips. Prerequisites: None.

GLG121
Geology of the Grand Canyon
1 credit(s) 2 period(s) lab
Introduction to the physiography and geology of the Grand Canyon. Includes a hiking field trip to the Grand Canyon. Prerequisites: None. GLG103 suggested but not required.

GLG280
Geology of Arizona Lecture
3 credit(s) 3 period(s) lecture
Acquaints students with the physical and historical geology of Arizona, including the origin of present-day land forms and outstanding modern geologic features and processes now in operation. Prerequisites: None.

GPH – Physical Geography

GPH111
Introduction to Physical Geography Lecture
3 credit(s) 3 period(s) lecture
Spatial and functional relationships among climates, landforms, soils, water, and plants. Prerequisites: None.

GPH112
Intro to Physical Geography Lab
1 credit(s) 3 period(s) lab
Laboratory experience in support of GPH111. Prerequisites or Corequisites: A grade of C or better in GPH111.
GPH113
Introduction to Physical Geography
4 credit(s) 6 period(s) lecture + lab
Spatial and functional relationships among climates, landforms, soils, water, and plants.
Prerequisites: None.

GPH211
Landform Processes
4 credit(s) 6 period(s) lecture + lab
Geographic characteristics of landforms and earth surface processes emphasizing erosion, transportation, deposition and implications for human management of the environment. Prerequisites: A grade of C or better in ENG101 or ENG107 or equivalent.

GPH212
Introduction to Meteorology I
3 credit(s) 3 period(s) lecture
Atmospheric processes and elements. General and local circulation, heat exchange and atmospheric moisture. Prerequisites: None.

GPH213
Climate and Weather
3 credit(s) 3 period(s) lecture
Study of atmospheric phenomena over periods of time measured in months, years or longer. Includes average weather conditions, infrequent and unusual types of weather, and the influence of weather on the cultural and human landscape. Prerequisites: None.

GPH214
Introduction to Meteorology Laboratory I
1 credit(s) 1 period(s) lab
Basic meteorological and climatological measurements. Prerequisites: None. Corequisites: GPH212.

GPH215
Climate and Weather Laboratory
1 credit(s) 3 period(s) lab
A mathematical, statistical, and spatial analysis of climatological phenomena. Prerequisites: None. Corequisites: GPH213.

GPH219
Introduction to GIS Using ArcGIS
3 credit(s) 3 period(s) lecture + lab
An introduction to desktop Geographic Information Systems (GIS) technology using ArcGIS software. Prerequisites: A grade of C or better in CIS105 or CSC180 or permission of Instructor.

HCC – Health Core Curriculum

HCC130
Fundamentals in Health Care Delivery
3 credit(s) 3 period(s) lecture
Overview of current and recent development of health care professions, including career and labor market information, health care delivery systems, third party payers, and facility ownership. Health organization structure, patient rights and quality care. Health care and life values. Definition and importance of values, ethics, and essential behaviors in the workplace. Worker rights and responsibilities. Healthful living practices to include nutrition, stress management and exercise. Occupational Safety and Health Administration (OSHA) standard precautions and facility safety. Use of principles of body mechanics in daily living activities. Basic communication skills which facilitate interprofessional teamwork in the health care setting. Focus on development of personal communication skills and an understanding of how effective communication skills promote teamwork. Focus on intercultural communication strategies. Prerequisites: None.

HCC145
Medical Terminology for Health Care Professionals
3 credit(s) 3 period(s) lecture
Medical terminology used in health care, with special care populations and in special services. Body systems approach to terms related to structures, functions, diseases, procedures, and diagnostic tests. Building and analyzing terms using word parts. Medical abbreviations and symbols and term spelling. Prerequisites: None.

HCC145AA
Medical Terminology for Health Care Professionals I
1 credit(s) 1 period(s) lecture
Introduction to medical terms used in health care. Body systems approach to selected terms related to structures, functions, diseases, procedures, and diagnostic tests. Building and analyzing selected terms using basic word parts. Selected medical abbreviations and symbols and term spelling. Prerequisites: None.

HCC146
Common Medical Terminology for Health Care Professionals
2 credit(s) 2 period(s) lecture
Common medical terms used in health care. Body systems approach to common terms related to structures, functions, diseases, procedures, and diagnostic tests. Building and analyzing common terms using word parts. Common medical abbreviations and symbols and term spelling. Prerequisites: None.

HCC164
Pharmacology for Allied Health
0.5 credit(s) 0.5 period(s) lecture
Chemical, generic, and trade names for drugs. Use of drug references. Pharmacological principles of drugs. Routes of drug administration. Federal and Arizona regulations. Classification of drugs. Abbreviations and symbols for drug measurement, administration, and prescription. Prerequisites: A grade of C or better in HCC130 or (HCC130AA, HCC130AB, HCC130AC, HCC130AD, HCC130AE and HCC130AF), or equivalent course education as evaluated by the Health Core Curriculum Coordinator.

HCC204
Clinical Pathophysiology
3 credit(s) 3 period(s) lecture
Causes of disease and their impact on the human body. Common physiologic effects of disease on body systems. Roles of the multidisciplinary health care team in the diagnosis and treatment of disease. Cultural implications in prevention and treatment of disease. Prerequisites: A grade of C or better in HCC130 or (HCC130AA, HCC130AB, HCC130AC, HCC130AD, HCC130AE and HCC130AF), or equivalent and (BIO160 or BIO201).

HCC208
Health Care Leadership
1 credit(s) 1 period(s) lecture
Introduction to concepts and skills required of health care leaders. Discussion of leadership styles and conflict management. Application of motivation, delegation, and communication techniques to teamwork and leadership. Prerequisites: A grade of C or better in HCC130 or (HCC130AA, HCC130AB, HCC130AC, HCC130AD, HCC130AE and HCC130AF), or equivalent.

HCR – Health Care Related

HCR210
Clinical Health Care Ethics
3 credit(s) 3 period(s) lecture
An introduction to health care ethics with emphasis on analysis and ethical decision making at both the clinical and health policy levels for health care professionals. Theoretical foundation of bioethics reviewed within historical and contemporary contexts. Prerequisites: A grade of C or better in ENG102 or ENG108 or permission of Instructor.
**HCR220**
Introduction to Nursing and Health Care Systems
3 credit(s) 3 period(s) lecture
Introduction to the social, political, and economic contexts of the nursing profession and health care systems in the United States. **Prerequisites:** A grade of "C" or better in ENGL102 or ENGL108 or permission of Instructor.

**HCR230**
Culture and Health
3 credit(s) 3 period(s) lecture
Relation between cultures of diverse groups and health/illness. Emphasis on cross-cultural communication, including awareness of own cultural influences and indigenous and complementary healing practices. **Prerequisites:** None.

**HCR240**
Human Pathophysiology
4 credit(s) 4 period(s) lecture
Chemical, biological, biochemical, and psychological processes as a foundation for the understanding of alterations in health. The structural and functional pathophysiology of alterations in health; selected therapeutics considered. **Prerequisites:** A grade of C or better in BIO202 or BIO205, or permission of Instructor.

**HES – Health Science**

**HES100**
Healthful Living
3 credit(s) 3 period(s) lecture
Health and wellness and their application to an optimal lifestyle. Explores current topics of interest such as stress management, nutrition, fitness, and environmental health. Evaluates common risk factors associated with modern lifestyles. **Prerequisites:** None.

**HES126**
Women’s Health Issues
3 credit(s) 3 period(s) lecture
Develops awareness of women's health issues across cultures, lifespan, socioeconomic status, education and addresses global concerns and inequalities. The course introduces women's health issues through the history of the Women’s Health Movement and the political climate and economic systems in the United States. Addresses women’s health issues regarding sexual health and reproduction and examines many chronic diseases common to women. Explores predisposing and precipitating factors affecting women’s health and reviews current treatment of disease. Identifies interpersonal and social issues related to women's health and focuses on the development of behaviors that promote a healthy and productive life. **Prerequisites:** None.

**HES154**
First Aid/ Cardiopulmonary Resuscitation
3 credit(s) 3 period(s) lecture
Cardiopulmonary Resuscitation (CPR) and first aid for the adult, child and infant patients includes Automated External Defibrillator (AED), rescue breathing, obstructed airway, and other first aid procedures. Designed to train citizen responders in skills and procedures required during emergency situation. **Prerequisites:** None.

**HES201**
Substance Abuse and Behavior
3 credit(s) 3 period(s) lecture
Principles and factual bases of drug use and abuse. Physiological and socio-psychological effects of drug use and law enforcement of drug abuse. Consultants used extensively to enrich course. **Prerequisites:** None.

**HES210**
Cultural Aspects of Health and Illness
3 credit(s) 3 period(s) lecture
Examines how culture influences health and illness, health care practices, barriers to health care, interactions with health care professionals, and health disparities in the U.S. **Prerequisites:** None.

**HES271**
Prevention and Treatment of Athletic Injuries
3 credit(s) 3 period(s) lecture
Prevention and care of athletic injuries, emphasizing use of modern training techniques and support materials. Utilization of preventive taping, strapping, bandaging, cardiopulmonary resuscitation, massage, cryotherapy, hydrotherapy, and practical application of muscle reconditioning. **Prerequisites:** None.

**HES272**
Clinical Practicum in Athletic Training
1 credit(s) 1 period(s) lab
Practical application, in a clinical setting and under direct supervision, of methods and techniques of treatment of athletic injuries. **Prerequisites:** A grade of C or better in HES271.

**HES273**
Athletic Training: Advanced Wrapping and Taping Techniques
2 credit(s) 2 period(s) lecture
Expands and enhances practical uses of basic taping and wrapping skills. Hands-on experience in the use of braces, athletic taping, and elastic wraps to care for athletic injuries. **Prerequisites:** A grade of C or better in HES271 or permission of Instructor.

**HIM – Health Information Management**

**HIM101**
Introduction to Health Information Management
1 credit(s) 1 period(s) lecture
Detailed investigation of the history and development of the health information management profession. Career opportunities, ethics, history, and functions of the health information management profession in relationship to the healthcare delivery system. Overview of health information systems used to identify, file, and store patient health information. **Prerequisites:** Acceptance into the Health Information Technology program and (a grade of C or better in HCC130 or permission of Program Director).

**HIM105**
Computers in Healthcare and Health Record Systems
2 credit(s) 2 period(s) lecture
Introduction to computer applications in healthcare settings including electronic health records, health record content, structure, and origin of clinical information for various healthcare settings. A basic review of federal, state, and organizational documentation guidelines. Legal and ethical issues applicable to health information documentation and coding practices. **Prerequisites:** (Acceptance into either the (CCL/5092) Medical Coding: Hospital-Based or the (CCL/5014) Medical Billing and Coding: Physician-Based program) and a grade of C or better in HCC130 or permission of Program Director.

**HIM106**
Legal Aspects of Health Information Management
3 credit(s) 3 period(s) lecture
Legal aspects of health records and health information management. Application of general principles of law as related to health information management. Emphasis on regulations regarding protected health information, patient privacy, and patient confidentiality. Types of patient authorizations and procedures for access and release of protected health information. **Prerequisites:** A grade of C or better in HCC130 or permission of Program Director. **Prerequisites or Corequisites:** HIM101 or permission of Program Director.

**HIM106AA**
Legal Aspects of Health Information Management I
1.5 credit(s) 1.5 period(s) lecture
Legal aspects of health records and health information management. Types of patient authorizations and procedures for access and release of protected health information. **Prerequisites:** A grade of C or better in HCC130 or permission of Program Director.

See pages 126-128 for Instructional Department details.
HIM106AB
Legal Aspects of Health Information Management II
1.5 credit(s) 1.5 period(s) lecture
Application of general principles of law as related to health information management. Emphasis on regulations regarding protected health information, patient privacy, and patient confidentiality. Prerequisites: A grade of C or better in HIM106AA or permission of Program Director.

HIM140
Acute Care Documentation and Standards
2 credit(s) 3 period(s) lecture + lab
A comprehensive review of acute care hospital health records. Study of the origination, development, content, flow, and format of acute care records. Documentation standards and chart analysis guidelines specific to accreditation standards, state licensing, and Medicare certification requirements. Prerequisites: A grade of C or better in HCC130 or permission of Program Director. Prerequisites or Corequisites: HIM101 or permission of Program Director.

HIM150
Health Care Data
2 credit(s) 3 period(s) lecture + lab
Introduction to data collection methods for health information systems including structure, content, and standards. Study of the datasets and databases used in various health care settings. Overview of the creation and maintenance of health information disease registries and indexes. Prerequisites: A grade of C or better in [BPC110 or CIS105], or permission of Program Director.

HIM180
Introduction to Medical Billing and Reimbursement
2 credit(s) 2 period(s) lecture
An overview of the medical billing profession, the claims process, and federal billing guidelines. Study of major medical third-party payers including coverage offered, client eligibility, and reimbursement methodologies. Prerequisites: A grade of C or better in HCC130 or permission of Program Director.

HIM181
Medical Claims Processing
3 credit(s) 5 period(s) lecture + lab
Application of third-party payer billing information to claims processing in the non-hospital setting. Use of the computer for claims submission. Management of claims to ensure confidentiality, data retention, and successful payment for services. Prerequisites: A grade of C or better in [BPC110, HIM180, and HIM208], or permission of Program Director. Prerequisites or Corequisites: HIM214 or permission of Program Director.

HIM182
Human Diseases for Coding in Long Term Care Settings
2 credit(s) 2 period(s) lecture
Overview of diseases commonly treated in long term, home health, and hospice settings. Systems approach to causes, signs, symptoms, manifestations, diagnosis, and treatment of these diseases as required for accurate diagnostic coding. Prerequisites: A grade of C or better in [BIO160 and HCC146] or permission of Program Director.

HIM183
Diagnostic Coding in Long Term Care Settings
2 credit(s) 4 period(s) lecture and lab
Introduction to International Classification of Diseases (ICD) in long term care, home health and hospice settings. Principles for diagnostic coding. Standards of ethical coding. Emphasis on diagnostic coding for reimbursement and coding compliance. Prerequisites: A grade of C or better in [BIO160 and HCC146] or permission of Program Director. Prerequisites or Corequisites: HIM182 or permission of Program Director.

HIM201
Health Information Statistics and Research
2 credit(s) 4 period(s) lecture + lab
Compilation and usage of various types of administrative and health care statistics including vital records. Introduction to the health information research process and institutional review board functions. Use of computers for computation and data display. Prerequisites: A grade of C or better in [BPC110 or CIS105], HIM140, and MAT112 or permission of Program Director.

HIM204
Cancer Registry
4 credit(s) 6 period(s) lecture + lab
Requirements for managing a cancer registry, including comparisons of systems and data related to a hospital and central cancer registry and other registry standard-setting organizations. Organization and management of the basic functions of cancer registry operations. Analysis and presentation of cancer data and use in studies. Prerequisites: A grade of C or better in HCC145 or permission of Instructor. Corequisites: [BIO202 and HIM150] or permission of Instructor.

HIM205
Health Information Management Systems in Long Term Care Settings
1 credit(s) 2 period(s) lecture + lab
Overview of the health information management department roles, systems, policies and procedures in long term care settings. Introduction to computer applications used in long term care (LTC). Creation and maintenance of the LTC indices. Application of relevant healthcare statistics. Prerequisites: A grade of C or better in HIM101 or Corequisites: HIM101 or permission of Program Director.

HIM206
Health Information Management in Alternative Care Settings
2 credit(s) 3 period(s) lecture + lab
Characteristics of non-acute care organizations in the United States. Standards and regulations for health records in those settings according to state, federal, and accrediting agencies. Applicable health record content and health information practices. Prerequisites: A grade of C or better in HIM140 or permission of Program Director.

HIM206AA
Health Information Management in Alternative Care Settings: Long Term Care
1 credit(s) 1.5 period(s) lecture + lab
Characteristics of long term care organizations, including home health and hospice, in the United States. Standards and regulations for health records in those settings according to state, federal, and accrediting agencies. Applicable health record content and health information practices. Prerequisites: A grade of C or better in HIM140 or permission of Program Director.

HIM207
Health Information Organizational Resource Management
2 credit(s) 2 period(s) lecture
Principles and practices essential to the efficient use of human, financial, and physical resources within health information systems. Focus on roles and responsibilities applicable to practice as a health information team performing planning, organizing, directing, and controlling functions. Prerequisites: A grade of C or better in HIM150 or permission of Program Director. Prerequisites or Corequisites: HIM206 or permission of Program Director.
HIM208  
ICD-CM Diagnostic Coding  
2 credit(s) 4 period(s) lecture + lab  
International Classification of Diseases, 10th Revision, Clinical Modification (ICD-10-CM) diagnostic code assignment. Use of appropriate guidelines and federal, state, and local compliance standards for coding diagnoses. Application of diagnostic codes for inpatient, outpatient, and ambulatory coding assignments. Introduction of references to assist in code assignment. Prerequisites: A grade of C or better in all Prerequisites. Prerequisites: [HCC145, HCC164, HCC204, and (BIO160 or BIO202)] or permission of Program Director. Prerequisites or Corequisites: HIM180 or permission of Program Director.

HIM210  
ICD-PCS Coding and ICD Applications  
2 credit(s) 4 period(s) lecture + lab  
International Classification of Diseases, 10th Revision, Procedure Coding System (ICD-10-PCS) code assignment. Use of appropriate guidelines and federal, state, and local compliance standards for procedure coding in inpatient settings. Application of comprehensive coding skills to case studies. Introduction to technology for coding processes. Prerequisites: A grade of C or better in BIO202 and HCC204. Prerequisites: A grade of C or better in HIM208 or Corequisites: HIM208 or permission of Program Director.

HIM211  
Advanced Applications of Coding and Reimbursement  
4 credit(s) 6 period(s) lecture + lab  
Use of references, source documents, and computers for International Classification of Diseases (ICD) code assignment. Uniform Hospital Discharge Data Set and diagnostic-related group guidelines and federal regulations for hospital-based settings. Coding guidelines, code sets, and code assignment for home health, long term care, rehabilitation, and other health care settings. Identification of care provider documentation that supports code assignment. Use of codes for administrative purposes, reimbursement, marketing, and meeting regulatory requirements. Prerequisites: A grade of C or better in BIO202, HCC204, HIM208, and HIM210, or permission of Program Director.

HIM212  
CPT Coding I  
2 credit(s) 4 period(s) lecture + lab  
Introduction to Current Procedural Terminology (CPT) from both facility and physician perspectives. General content, coding guidelines, and the role in healthcare reimbursement. Coding of basic medical and surgical services including use of modifiers. Ethical coding and compliance issues. Prerequisites: A grade of C or better in [HCC145, HCC164, HCC204 and (BIO160 or BIO202)], or permission of Program Director. Prerequisites or Corequisites: HIM180.

HIM214  
CPT Coding II  
2 credit(s) 4 period(s) lecture + lab  
Introduction to Current Procedural Terminology (CPT) from both facility and physician perspectives. General content, coding guidelines, and the role in healthcare reimbursement. Coding of basic medical and surgical services including use of modifiers. Ethical coding and compliance issues. Prerequisites: A grade of C or better in (HCC204 and HIM212) or permission of Program Director.

HIM215  
Physician-Based Billing and Coding Seminar  
1 credit(s) 1 period(s) lecture  
Content and development of physician-based services billing and coding compliance programs. Forum for discussion of classroom, laboratory, and professional practice experiences. Prerequisites: A grade of C or better in (HCC204 and HIM212), or permission of Program Director. Corequisites: HIM216 or permission of Program Director. Prerequisites: A grade of C or better in HIM214 or Corequisites: HIM214 or permission of Program Director.

HIM216  
Professional Practice in Physician-Based Billing and Coding  
1 credit(s) 1 period(s) lab  
Practical application of billing and coding guidelines for the physician-based setting. Use of the International Classification of Diseases and Current Procedural Terminology systems to code ambulatory patient diagnoses and treatment. Process medical claims for patient care services. Prerequisites: A grade of "C" or better required in all Prerequisites. Prerequisites: [HCC204, HIM208, HIM212, and permission of Program Director. Corequisites: HIM215, or permission of Program Director. Prerequisites or Corequisites: (HIM181 and HIM214) or permission of Program Director.

HIM217  
Health Information Management Seminar I  
1 credit(s) 1 period(s) lecture  
Theory of and practice in specialized health information activities. Forum for discussion of classroom, laboratory, and clinical affiliation experiences. Prerequisites: A grade of C or better in (HIM106, HIM150, HIM201, and HIM206), or permission of Program Director. Corequisites: HIM218 or permission of Program Director.

HIM218  
Professional Practice  
1 credit(s) 5 period(s) lab  
Practical application of acquired health information technical knowledge in health care settings. Prerequisites: A grade of C or better in (HIM106, HIM150, HIM201, and HIM206), and permission of Program Director. Corequisites: HIM217 or permission of Program Director.

HIM219  
Health Information Management Systems  
3 credit(s) 5 period(s) lecture + lab  
Overview of the fundamental concepts, terminology, and structure of health information systems with emphasis on computer applications used to manage electronic health information. Review of electronic health information concepts and its impact on health care delivery in multiple settings. Prerequisites: A grade of C or better in HIM150 or permission of Program Director.

HIM220  
Health Information Management Seminar II  
1 credit(s) 1 period(s) lecture  
Survey of current practices and trends in health information management. Application of problem solving and research concepts to health information practices. Professional development preparation and career opportunities for health information management professionals. Prerequisites: A grade of C or better in (HIM207, HIM217, HIM218, and HIM219), or permission of Program Director. Corequisites: HIM224 or permission of Program Director.

HIM221  
Medical Coding Seminar  
1 credit(s) 1 period(s) lecture  
Content and development of coding compliance programs. Forum for discussion of classroom, laboratory, and professional practice experience. Prerequisites: A grade of "C" or better required in all Prerequisites. Prerequisites: HIM212. Prerequisites or Corequisites: (HIM211 and HIM214) or permission of Program Director. Corequisites: HIM222 or permission of Program Director.
**HIM222**
Professional Practice in Medical Coding
1 credit(s) 5 period(s) lab
Practical application of coding guidelines for medical coding. Use of the International Classification of Diseases and Current Procedural Terminology systems to code patient services. **Requisites:** A grade of “C” or better required in all Prerequisites. **Prerequisites or Corequisites:** (HIM211 and HIM214) or permission of Program Director. **Corequisites:** HIM221 or permission of Program Director.

**HIM224**
Advanced Professional Practice
1 credit(s) 5 period(s) lab
Practical application of advanced health information management knowledge in a variety of health-related settings. Focus on supervision and management, interdepartmental policies and procedures, budget and staffing considerations, as well as committee planning and preparation. **Prerequisites:** A grade of C or better in (HIM207, HIM217, HIM218, and HIM219), and permission of Program Director. **Corequisites:** HIM220 or permission of Program Director.

**HIM230**
Quality Management and Performance Improvement
2 credit(s) 2 period(s) lecture
Focus on the history and development of quality assurance in various health care facilities, including quality assessment techniques, utilization management, risk management, credentialing, and medical staff services as related to health information management. **Prerequisites:** A grade of C or better in (HIM207 and HIM219), or permission of Program Director.

**HIM298AA-AC**
Special Projects
1-3 credit(s) 1-3 period(s) lab
Organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment are made available for student use. Allows the best aspects of independent study and individualized learning to be combined to maximize student development. **Prerequisites:** Permission of Program Director or Instructor.

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**HIS – History**

**HIS100**
History of Western Civilization to Middle Ages
3 credit(s) 3 period(s) lecture
Survey of the origin and development of Western civilization and its institutions from prehistory through the Ancient World and the Middle Ages. **Prerequisites:** None.

**HIS101**
History of West Civilization Middle Ages to 1789
3 credit(s) 3 period(s) lecture
Survey of the origin and development of Western civilization and its institutions from the Renaissance and Reformation through the Age of Enlightenment. **Prerequisites:** None.

**HIS102**
History of Western Civilization 1789 to Present
3 credit(s) 3 period(s) lecture
Survey of the origin and development of Western civilization and its institutions from French Revolution through the present. **Prerequisites:** None.

**HIS103**
United States History to 1865
3 credit(s) 3 period(s) lecture
The political, economic, and social development of the United States from the Pre-Columbian period through the end of the Civil War (1865). **Prerequisites:** None.

**HIS104**
United States History 1865 to Present
3 credit(s) 3 period(s) lecture
The political, economic, and social development of United States from 1865 to the present time. **Prerequisites:** None.

**HIS105**
Arizona History
3 credit(s) 3 period(s) lecture
The prehistoric and contemporary Native American experience, Spanish colonial times, the Mexican National period, the U.S. federal territorial years, and Arizona’s political and economic development during the twentieth century. **Prerequisites:** None.

**HIS106**
Southwest History
3 credit(s) 3 period(s) lecture
Survey of Hispanic, Anglo, African-American and Native cultures of the peoples who have settled the American Southwest. Emphasis on cattle, mining, fur trade and transportation industries and role development of the region. **Prerequisites:** None.

**HIS108**
United States History 1945 to the Present
3 credit(s) 3 period(s) lecture
Survey of American history from 1945 to the present. Focuses on the political, social, economic and cultural history of the United States from the end of World War II to the present time. Includes domestic developments and foreign policy. **Prerequisites:** None.

**HIS109**
Mexican-American History and Culture
3 credit(s) 3 period(s) lecture
Examination of origins and development of the Spanish-American and Mexican-American peoples and their contribution to the culture, history and development of United States. Emphasis on Mexican-American War and its impact on educational, social, and economic conditions of the Mexican-Americans of the southwest. **Prerequisites:** None.

**HIS145**
History of Mexico
3 credit(s) 3 period(s) lecture
Survey of the political, economic, and social forces which have shaped the development of Mexico from Precolumbian times to the present. **Prerequisites:** None.

**HIS/ AIS170**
American Indian History of the Southwest
3 credit(s) 3 period(s) lecture
Covers history of Indian peoples in the southwestern United States from pre-Columbian era to the present. Includes historical events, the development and implementation of Spanish-Mexican and United States’ policies and their impact on Indian peoples in these areas, and current issues of importance to Indian peoples. **Prerequisites:** None.

**HIS190**
Environmental History
3 credit(s) 3 period(s) lecture
Survey of the environmental history of the world from hunter-gatherer societies to the present including but not limited to social groups, natural resources, and physical environments and impacts on the Earth. **Prerequisites:** None.

**HIS203**
African-American History to 1865
3 credit(s) 3 period(s) lecture
History and cultural heritage of African-Americans from their beginnings in Ancient Africa through the experience of chattel slavery in the Americas to their eventual emancipation and participation in the American Civil War. **Prerequisites:** None.
HST204  
**African-American History 1865 to Present**  
3 credit(s) 3 period(s) lecture  
Multifaceted experiences of African-American people from the post-Civil War period (1865) to the present, including the collective struggle for freedom, equality, and self-determination in the United States.  
**Prerequisites:** None.

HST209  
**The Chicano in 20th Century America**  
3 credit(s) 3 period(s) lecture  
Analysis of the twentieth century experience. Historical perspective of the emergence of Chicanos as an influential minority in the United States.  
**Prerequisites:** None.

HST242  
**Latin American Civilization in the Post-Colonial Period**  
3 credit(s) 3 period(s) lecture  
A survey of the political, economic, and social forces which molded Latin American civilization in the period of the development of Republics.  
**Prerequisites:** None.

HST – Histologic Technology

**HST170**  
**Overview of Histology (Anatomic Laboratory)**  
1 credit(s) 1 period(s) lecture  
Overview of anatomic laboratory services, anatomic laboratory professionals, and the role of the histology technician. Emphasis on certification, accreditation, and regulatory agencies. Application of process improvement, quality control, laboratory mathematics, infection control, sharps/mechanical hazards, documentation, medico-legal implications, and chemical hygiene principles. Includes information management in anatomic laboratories. Importance of management and supervision leadership principles and professional growth and ethical conduct.  
**Prerequisites:** Admission to Histologic Technology Program or permission of Program Director.  
**Corequisites:** HST171 and HST172.

**HST171**  
**Chemistry of Fixation**  
2 credit(s) 2 period(s) lecture  
Principles of fixation and fixative solutions. Anatomic laboratory instrumentation and specimen handling, identification, and tracking protocols. Emphasis on gross examination processes, tissue processing protocols, and specialized processing techniques.  
**Prerequisites:** Admission to Histologic Technology Program or permission of Program Director.  
**Corequisites:** HST170 and HST172.

**HST172**  
**Practicum: Chemistry of Fixation**  
3 credit(s) 6 period(s) lab  
Practicum in histology techniques performed in an anatomic laboratory. Application of clinical skills for specimen handling, identification, and tracking protocols. Use of anatomic laboratory instrumentation. Study of gross examination protocols. Demonstration of fixation techniques, paraffin processing protocols, and specialized processing techniques. Performance of clerical and computer functions using medico-legal guidelines for documentation. Use of professional and ethical conduct in all interpersonal communications.  
**Prerequisites:** Admission to Histologic Technology Program or permission of Program Director.  
**Corequisites:** HST170 and HST171.

**HST173**  
**Microtomy**  
3 credit(s) 3 period(s) lecture  
Emphasis on decalcification techniques, ergonomic safety practices for microtomy, and frozen section techniques. Application of embedding orientation by tissue type. Procedures for paraffin embedding station, cryostat and rotary microtome set-up and maintenance, and sharps safety practices for the microtome. Includes techniques for microtomy, specialized microtomy, frozen section, and cytology specimen preparation.  
**Prerequisites:** A grade of C or better in HST172.  
**Corequisites:** HST174.

**HST174**  
**Practicum: Microtomy**  
3 credit(s) 6 period(s) lab  
Practicum in histology techniques performed in an anatomic laboratory. Use of decalcification and frozen section techniques. Includes embedding orientation by tissue type and ergonomic safety practices for microtomy. Procedures for the paraffin embedding station, cryostat and rotary microtome set-up and maintenance, and sharps safety practices for the microtome. Emphasis on techniques for microtomy, specialized microtomy, frozen section, and cytology specimen preparation.  
**Prerequisites:** A grade of C or better in HST172.  
**Corequisites:** HST173.

**HST175**  
**Cellular Biological Staining**  
3 credit(s) 3 period(s) lecture  
Recognition of basic cellular structure. Identification of carbohydrates classification, pigments, minerals, and lipids in tissues and connective tissue structures. Explanation of staining theory. Stain principles and procedures for nuclear and cytoplasmic structures, carbohydrates and lipids, connective tissue, and tissue pigments and minerals stains.  
**Prerequisites:** A grade of C or better in HST173 and HST174.  
**Corequisites:** HST175.

**HST176**  
**Practicum: Cellular Biological Staining**  
3 credit(s) 6 period(s) lab  
Practicum in histology techniques performed in an anatomic laboratory. Recognition of basic cellular structure, carbohydrate structures, connective tissue, lipid structures, and pigments and minerals in tissues. Application of chemical staining. Emphasis on stains for nuclear and cytoplasmic structures, carbohydrates and lipids, connective tissue, and tissue pigments and minerals stains.  
**Prerequisites:** A grade of C or better in HST173 and HST174.  
**Corequisites:** HST175.

**HST177**  
**Cellular Biological and Immunohistochemical Staining**  
3 credit(s) 3 period(s) lecture  
**Prerequisites:** A grade of C or better in HST175 and HST176.  
**Corequisites:** HST178.

**HST178**  
**Practicum: Cellular Biological and Immunohistochemical Staining**  
3 credit(s) 6 period(s) lab  
**Prerequisites:** A grade of C or better in HST175 and HST176.  
**Corequisites:** HST177.

HUM – Humanities

**HUM108**  
**Contemporary Humanities**  
3 credit(s) 3 period(s) lecture  
An exploration of human expression in contemporary arts and sciences.  
**Prerequisites:** None.
HUM120 Cultural Viewpoints in the Arts 3 credit(s) 3 period(s) lecture
Introduction to the influence of culture and ethnicity on the artist, including factors such as race, religion, gender, class, sexual preference, age, and region. Lecture and discussion on various art forms, including literature, visual arts, music, dance, film, and theater. Prerequisites: None.

HUM190AA-AI Honors Forum 1 credit(s) 1 period(s) lecture
Interdisciplinary studies of selected issues confronting the individual and society. Formal lectures followed by informal discussions with outstanding scholars and social leaders. Supplemented by readings and pre- and post-forum discussion and critique. Varied content from module to module due to changing forum themes and issues. Prerequisites: Admission to the College Honors Program or permission of Instructor.

HUM202 Humanities: Universal Themes 3 credit(s) 3 period(s) lecture
The hero/heroine; fool; the social world, and the future as themes in the humanities. Prerequisites: None.

HUM/THF205 Introduction to Cinema 3 credit(s) 3 period(s) lecture
Survey of the history and development of the art of motion pictures, including criticism of aesthetic and technical elements. Prerequisites: None.

HUM/WST209 Women and Films 3 credit(s) 3 period(s) lecture
Analysis of images of women in films from both historical and contemporary perspectives. Prerequisites: None.

HUM/THF210 Contemporary Cinema 3 credit(s) 3 period(s) lecture
A study of contemporary films, directors, and critics with emphasis on evaluating films as an art form. Prerequisites: None.

HUM212 Documentary Film 3 credit(s) 3 period(s) lecture
Survey of documentary (non-fiction) film with an emphasis on international issues. Focus on primary types of documentary film, including direct address, direct cinema, interviews, etc. Prerequisites: None.

HUM213 Hispanic Film 3 credit(s) 3 period(s) lecture
Analysis of Hispanic film as art form and as social commentary. Prerequisites: None.

HUM250 Ideas and Values in the Humanities 3 credit(s) 3 period(s) lecture
An historical analysis of the interrelationships of art, architecture, literature, music, and philosophy from the early civilizations to the Renaissance, including Western and non-Western cultures. Prerequisites: A grade of C or better in ENG101.

HUM251 Ideas and Values in the Humanities 3 credit(s) 3 period(s) lecture
An historical analysis of the interrelationships of art, architecture, literature, music, and philosophy from the Renaissance to modern period, including Western and non-Western cultures. Prerequisites: A grade of C or better in ENG101.

HUM260 Intercultural Perspectives 3 credit(s) 3 period(s) lecture
Cultural, literary, and artistic expressions of Native, Hispanic, and African Americans. Includes traditional and modern work and contribution to American civilization. Prerequisites: None.

HUM/EDU/STO292 The Art of Storytelling 3 credit(s) 3 period(s) lecture
Explore the art and origin of storytelling. Provide a variety of storytelling techniques, styles and exercises to enhance the delivery of telling stories. Assist in the integration and application of storytelling to the learning environment in the classroom. Prerequisites: None.

INT – International Business

IBS101 Introduction to International Business 3 credit(s) 3 period(s) lecture
A basic overview of international business to introduce students to international trade concepts. Focus of the course is on international business environment issues that influence global business practices, decisions and applications. Prerequisites: None.

INT100 Interior Design Drafting 3 credit(s) 6 period(s) lecture + lab
Basic manual drafting techniques used in the interior design industry. Focus on industry standards of equipment use, lettering, line work, dimensioning, scaling, and annotation. Introduction and practice of industry-specific drawing types, including floor plans, elevations, sections, details, multi-view projection, and paraline. Brief exploration of hand sketching and Computer-Aided Design (CAD) techniques as they relate to manual drafting. Prerequisites: None.

INT105 Introduction to Interior Design 3 credit(s) 3 period(s) lecture
Introduction to the profession of interior design, including design process, elements and principles of design, and basic concepts of space planning and furniture layout. Development of design vocabulary relative to architectural details, furnishings, and finishes. Prerequisites: None.

INT115 Historical Architecture and Furniture 3 credit(s) 3 period(s) lecture
Historical survey of the development of furniture, interiors, and architecture from antiquity to the 19th Century. Prerequisites: None.

INT120 Modern Architecture and Furniture 3 credit(s) 3 period(s) lecture
Survey of the development of furniture, interiors, and architecture from the 19th Century to the present. Emphasis is on modern architects and designers. Prerequisites: None.

INT140 Introduction to CAD for Interior Design 3 credit(s) 6 period(s) lecture + lab
This class focuses on the development of two-dimensional and three-dimensional spatial development through the use of Computer-Aided Design (CAD), computer-aided design for interior design following American Institute of Architects (AIA) guidelines. Prerequisites: None.

INT145 Drawing and Rendering 3 credit(s) 6 period(s) lecture + lab
Development of basic freehand sketching and perspective drawing skills. Explores styles and techniques with emphasis on quick sketch and presentation type drawings as used by design professionals. Prerequisites: None.
INT150  
Color and Design  
3 credit(s) 6 period(s) lecture + lab  
Introduction to the theory and application of color as related to the elements and principles of design. Light and its effect on color. Emphasis on the development of presentation skills for the field of interior design. Prerequisites: None.

INT156  
Furniture Upholstery I  
3 credit(s) 5 period(s) lecture + lab  
Techniques of general furniture upholstery, operations of webbing, springing, stuffing, trimming, sewing and cushion making on approved student-selected projects. Prerequisites: None. Course Notes: INT156 may be repeated for a total of nine (9) credit hours. Students must provide the furniture piece.

INT157  
Furniture Upholstery II  
3 credit(s) 5 period(s) lecture + lab  
Application and use of modern materials and tools, button tufting, channel construction, and special trim effects. Prerequisites: A grade of C or better in INT156 or permission of Department or Division. Course Notes: INT157 may be repeated for a total of nine (9) credit hours. Students must provide the furniture piece.

INT158  
Furniture Upholstery III  
3 credit(s) 5 period(s) lecture + lab  
Advanced techniques in upholstering of furniture and other needle-trade items; time and money saving shortcuts in layout; fabric cutting and sewing. Prerequisites: A grade of C or better in INT157 or permission of Department or Division. Course Notes: INT158 may be repeated for a total of nine (9) credit hours. Students must provide the furniture piece.

INT159  
Furniture Upholstery IV  
3 credit(s) 5 period(s) lecture + lab  
Advanced techniques of furniture upholstery for students interested in entering the upholstery trade; modern production techniques for sewing; stuffing; and finishing; job estimating; equipment selection and maintenance. Prerequisites: A grade of C or better in INT158. Course Notes: INT159 may be repeated for credit. Students must provide the furniture piece.

INT160  
Fabrics for Interiors  
3 credit(s) 3 period(s) lecture  
Study of the properties, design, and performance characteristics of interior fabrics. Psychological and cultural impact of textiles on the built environment. Role of the interior designer in working with textiles. Introduction to regulations and codes within the textile industry. Prerequisites: None.

INT170  
Interior Materials  
3 credit(s) 6 period(s) lecture + lab  
Properties, performance, maintenance, sustainability and general characteristic of interior finishes, furnishings, and equipment. Emphasis on building a resource file of interior finishes, furnishings, and equipment sources. Prerequisites: A grade of C or better in INT105 or permission of Instructor.

INT175  
Custom Design  
3 credit(s) 5 period(s) lecture + lab  
Custom design for interiors. Creative problem solving using design theory and process. Visualization of concepts through sketching. Prerequisites: A grade of C or better in INT105 and (ARC121 or INT100).

INT190  
Space Planning  
3 credit(s) 6 period(s) lecture + lab  
Study of creative, critical, analytical and strategic thinking as it relates to human behavior and the built environment. Emphasis on design theory, process, and application. Stresses creative expression through the utilization of design elements and principles. A grade of C or better required in all Prerequisites. Prerequisites: INT105. Prerequisites or Corequisites: ARC141 or INT140.

INT200  
Digital Rendering for Design  
3 credit(s) 6 period(s) lecture + lab  
Introduction to raster based rendering techniques utilizing interior design and landscape drawings. Comparison of raster based rendering to vector based rendering and presentation techniques utilizing leading industry software such as Adobe Photoshop and Adobe Illustrator. Prerequisites: None.

INT215  
Professional Practices  
3 credit(s) 5 period(s) lecture + lab  
Marketing and business processes used in interior design studios. Ethical issues facing interiors industry. Development of business plan. Prerequisites: None.

INT230  
Presentation Techniques  
3 credit(s) 6 period(s) lecture + lab  
Advanced freehand sketching and perspective drawing skills. Explores a variety of styles and techniques with emphasis on presentation type drawings and portfolio development techniques used by design professionals. A grade of C or better required in all Prerequisites. Prerequisites: INT145 and (INT140 or ARC141). Prerequisites or Corequisites: INT200 or ARC142.

INT240  
Kitchen and Bath Design  
3 credit(s) 6 period(s) lecture + lab  
Exploration into the specific requirements associated with kitchen and bath design. Emphasis on the design process and computer-based tools for interior design. Prerequisites: A grade of C or better in INT190 and (ARC141 or INT140).

INT268  
Lighting Design  
3 credit(s) 6 period(s) lecture + lab  
Study of interior lighting design and its impact on the health, safety and welfare of the public. Prerequisites: AAS Degree in Interior Design or permission of Department or Division.

INT271AA  
Interior Design Internship  
1 credit(s) 5 period(s) lab  
Interior design work experience in the interiors industry. Required to work 80 hours. Supervised and evaluated by a coordinator. Prerequisites: Permission of Department or Division. Course Note: May be repeated for a total of four (4) credits with department permission.

INT271AB  
Interior Design Internship  
2 credit(s) 10 period(s) lab  
Interior design work experience in the interiors industry. Required to work 160 hours. Supervised and evaluated by a faculty coordinator. Prerequisites: Permission of Department or Division. Course Note: May be repeated for a total of four (4) credits with department permission.

INT271AC  
Interior Design Internship  
3 credit(s) 15 period(s) lab  
Interior design work experience in the interiors industry. Required to work 240 hours. Supervised and evaluated by a faculty coordinator. Prerequisites: Permission of Department or Division.

INT274AA  
Interior Design Study Tour  
1 credit(s) 5 period(s) lab  
A tour of the interior design industry outside of the metropolitan Phoenix area. Includes a variety of experiences and activities to enhance knowledge about this multi-faceted career. Prerequisites: Permission of Department or Division.

INT274AB  
Interior Design Study Tour  
2 credit(s) 10 period(s) lab  
A tour of the interior design industry outside of the metropolitan Phoenix area. Includes a variety of experiences and activities to enhance knowledge about this multi-faceted career. Prerequisites: Permission of Department or Division.
INT240 or permission of Program Director.

Association of the Deaf (NAD) Code of Interpreter. Covers application and American Sign Language (ASL)/English and communication strategies of the Theories of role, function, responsibilities, 3 credit(s) 3 period(s) lecture

Introduction to Interpreting

IPP205

Introduction to Interpreting
3 credit(s) 3 period(s) lecture

Theories of role, function, responsibilities, and communication strategies of the American Sign Language (ASL)/English interpreter. Covers application and implementation of the National Registry of Interpreters for the Deaf (R.I.D.) and National Association of the Deaf (N.A.D.) Code of Professional Conduct. Additional topics addressed include interpreters functioning as advocates, moral systems vs. ethical systems, standard business practices, and perceptions of consumers. Prerequisites: SLG201 with a grade of "C" or better, or permission of Department or Division. Completion of prerequisites within the last three years is required. Course Notes: IPP205 may be repeated for a total of nine (9) credit hours.

IPP208

Advanced American Sign Language Discourse
4 credit(s) 4 period(s) lecture

(Spring only)

Advanced study of terminology and discourse in various fields such as medical, judicial, technological, as well as financial and business transactions. Use of specialized terminology/concepts in dialogues, discussions, and narratives. Advanced use of classifiers, structuring of space, and grammatical features of American Sign Language (ASL). Prerequisites: A grade of B or better in SLG203. Completion of prerequisites within the last three years is required.

IPP215

ASL to English Consecutive Interpreting
2 credit(s) 3 period(s) lecture + lab

(Fall only)

Sequential development of consecutive interpreting skills from American Sign Language (ASL) to English. Source language analysis and target language equivalents emphasized. Analysis of texts and contexts of naturally occurring monologues, guidance for discovering personal filters, practice of skills, techniques for self and peer evaluations, and application of theoretical models. Prerequisites: (Acceptance into the Interpreter Preparation Program or permission of Department or Division) and IPP211 with a grade of "B" or better.

IPP216

ASL to English Simultaneous Interpreting
3 credit(s) 4 period(s) lecture + lab

(Fall only)

Sequential development of simultaneous interpreting skills from American Sign Language (ASL) to English. Source language analysis and target language equivalents emphasized. Analysis of texts and contexts of naturally occurring monologues from differing genres with increasing length and difficulty, practice of skills, techniques for self and peer evaluations, and application of theoretical models. Prerequisites: A grade of "B" or better in IPP218, or permission of Department or Division. Completion of prerequisites within the last three years is required.

IPP218

English to ASL Consecutive Interpreting
2 credit(s) 3 period(s) lecture + lab

(Fall only)

Sequential development of consecutive interpreting skills from English to American Sign Language (ASL). Source language analysis and target language equivalents emphasized. Analysis of texts and contexts of naturally occurring monologues, guidance for discovering personal filters, practice of skills, techniques for self and peer evaluations, and application of theoretical models. Prerequisites: (Acceptance into the Interpreter Preparation Program or permission of Department or Division) and IPP211 with a grade of "B" or better. IPP215 suggested but not required.

IPP219

English to ASL Simultaneous Interpreting
3 credit(s) 4 period(s) lecture + lab

(Fall only)

Sequential development of simultaneous interpreting skills from English to American Sign Language (ASL). Source language analysis and target language equivalents emphasized. Analysis of texts and contexts of naturally occurring monologues from differing genres with increasing length and difficulty, practice of skills, techniques for self and peer evaluations, and application of theoretical models. Prerequisites: A grade of "B" or better in IPP218, or permission of Department or Division. Completion of prerequisites within the last three years is required.

IPP220

Interactive Interpreting I
4 credit(s) 5 period(s) lecture + lab

(Fall only)

Sequential development of interactive interpreting skills from English to American Sign Language (ASL) and from ASL to English. Perform source language analysis, apply cognitive processing techniques, and produce target language equivalents. Analysis of texts and contexts of naturally occurring dialogues, practice of skills, techniques for self and peer evaluations, and application of theoretical models. Prerequisites or Corequisites: IPP215 and IPP218, or permission of Department or Division. Completion of prerequisites within the last three years is required.
IPP221
Interactive Interpreting II
3 credit(s) 4 period(s) lecture + lab
(Spring only)
Continued development of interactive interpreting skills from English to American Sign Language (ASL) and from ASL to English. Perform source language analysis, apply cognitive processing techniques, and produce target language equivalents. Analysis of texts and contexts of naturally occurring dialogues, practice of skills, techniques for self and peer evaluations, and application of theoretical models.
Prerequisites: A grade of "B" or better in IPP220, or permission of Department or Division. Completion of prerequisites within the last three years is required.

IPP229
Interpreter Preparation Internship Seminar
1 credit(s) 1 period(s) lecture
(Spring only)
Classroom portion of the Interpreter Preparation Program internship. Emphasizes the blend of job-related activities including career exploration, employment application procedures, interpersonal skills, and on-the-job problems. Prerequisites: Acceptance into the Interpreter Preparation Program or permission of Program Director. Course Notes: IPP229 may be repeated for credit.

IPP230AA
Interpreter Preparation Program Internship
1 credit(s) 5 period(s) lab
(Spring only)
Laboratory portion of the Interpreter Preparation Program seminar. Eighty (80) clock hours of work required. Practical experience in settings such as educational, rehabilitation, community service centers, and agencies serving children, adolescents, and/or adults who are deaf or hard of hearing. Designed to provide students with the opportunity to synthesize practical and academic experiences gained during the in-classroom portion of the program. Site, supervision, and plan of activity mutually agreed upon by the student and Instructor. Capstone experience for AAS degree students. May be repeated for a total of four (4) credits. Prerequisites: Acceptance into the Interpreter Preparation Program and/or program director approval. Corequisites: IPP230AB or IPP230AC. Course Notes: IPP229.

IPP230AB
Interpreter Preparation Program Internship
2 credit(s) 10 period(s) lab
(Spring only)
Laboratory portion of the Interpreter Preparation Program Seminar. One hundred sixty (160) clock hours of work required. Practical experience in settings such as educational, rehabilitation, community service centers, and agencies serving children, adolescents and/or adults who are deaf or hard of hearing. Designed to provide students with the opportunity to synthesize practical and academic experiences gained during the in-classroom portion of the program. Site, supervision, and plan of activity mutually agreed upon by the student and Instructor. Capstone experience for AAS degree students. May be repeated for a total of four (4) credits. Prerequisites: Acceptance into the Interpreter Preparation Program and/or program director approval. Corequisites: IPP229.

IPP250AA
Special Topics: Interpreter Preparation 1 credit(s) 1 period(s) lecture + lab
Explores a special topic related to interpreter preparation. Topics vary and include concepts relevant to those pursuing career in (American Sign Language) ASL/English Interpreting and Transliterating. Prerequisites: Acceptance into the Interpreter Preparation Program or permission of Program Director. Course Note: IPP250AA may be repeated for credit.

IPP250AC
Special Topics: Interpreter Preparation 3 credit(s) 3 period(s) lecture + lab
Explores a special topic related to interpreter preparation. Topics vary and include concepts relevant to those pursuing career in (American Sign Language) ASL/English Interpreting and Transliterating. Prerequisites: Acceptance into the Interpreter Preparation Program or permission of Program Director. Course Note: IPP250AC may be repeated for credit.

LAS – Paralegal Studies

LAS100
The Paralegal Profession
3 credit(s) 3 period(s) lecture
Focus on the role, responsibilities, and ethical standards of a paralegal. Provides an overview of the legal system and the role of the paralegal in the legal system. Emphasis on professional development and job-search strategies. Prerequisites: None.

LAS101
Introduction to Law
3 credit(s) 3 period(s) lecture
Legal terminology and basic legal principles in the areas of tort, contract, and criminal law. Interrelationships among lawyers, the court system, and law enforcement and行政机关. Development of a case for trial, adjudication, and post-verdict procedures in the civil and criminal systems. Prerequisites: None.

LAS109
Civil Procedures I
3 credit(s) 3 period(s) lecture
Pretrial procedural issues in both Arizona and the federal system. Emphasis on Arizona Rules of Civil Procedure 1-37, 41, 55, 56, and 72-76. Coverage of applicable time limits, filing requirements, and proficiency in locating appropriate provisions in the Arizona Rules of Civil Procedure. Drafting of pleadings and motions and the application of procedural rules pertinent to the early stages of civil litigation. Prerequisites: Acceptance into the Paralegal Studies program. Prerequisites or Corequisites: LAS101 and (BPC110 or CIS105 or permission of Program Director).
LAS110
Civil Procedures II
3 credit(s) 3 period(s) lecture
Application of the procedural aspects of discovery, trial preparation, and post-trial work as part of a litigation team. Emphasis on practical concerns, such as interviewing of witnesses; preparation of discovery documents, exhibits, and transmittal memoranda; summarizing and indexing depositions; organization of files; preparation of trial notebooks; and participation in a mock trial. Prerequisites: A grade of C or better in LAS109 and (BPC110 or CIS105 or permission of Program Director).

LAS115
Criminal Trial Procedure
3 credit(s) 3 period(s) lecture
Procedural aspects of the criminal trial process in Arizona state courts from preliminary proceedings through trial. Emphasis on application of the rules of criminal procedure and preparation of common trial documents by paralegals. Documents include the charging instrument, pre-trial motions, and jury instructions. Prerequisites: A grade of C or better in LAS109 and (BPC110 or CIS105 or permission of Program Director).

LAS131
Legal Writing
3 credit(s) 3 period(s) lecture
The use of proper grammar, punctuation, and spelling in the construction of sentences and the development of paragraphs. Use of case briefs to study effective writing and analytical techniques. Analysis and application of the writing process to produce well-written documents commonly used in the practice of law. Prerequisites or Corequisites: A grade of C or better in LAS109 and (BPC110 or CIS105 or permission of Program Director).

LAS203
Ethics and Professional Practice
3 credit(s) 3 period(s) lecture
Rules of professional responsibility and ethical requirements with an emphasis on their application to legal assistants. Sources of power to regulate the practice of law. Issues related to unauthorized practice of law. Examination of professionalism in the legal profession. Prerequisites: A grade of C or better in LAS131 and (BPC110 or CIS105 or permission of Program Director).

LAS204
Contract Law
3 credit(s) 3 period(s) lecture
Examination of contracts and their regulation by the Uniform Commercial Code. Review and drafting of basic agreements. Prerequisites or Corequisites: A grade of C or better in LAS109 and (BPC110 or CIS105 or permission of Program Director).

LAS208
Probate
3 credit(s) 3 period(s) lecture
Emphasis on various ways in which property can be held and passed on. Requirements for valid wills and trusts. Steps involved in estate administration and appropriate forms to be used. Includes drafting basic wills and simple trusts. Prerequisites: A grade of C or better in LAS109 and (BPC110 or CIS105 or permission of Program Director).

LAS211
Legal Research
3 credit(s) 3 period(s) lecture
Use of print and electronic media to locate public documents, statutes, administrative regulations, and cases from county, state, and federal jurisdictions. Reading and interpreting research results. Shepardizing. Use of proper citation forms. Prerequisites or Corequisites: A grade of C or better in LAS109 and (BPC110 or CIS105 or permission of Program Director).

LAS212
Tort Law
3 credit(s) 3 period(s) lecture
Basic elements of negligence, strict liability, intentional torts; defenses; damages; insurance coverage. Evaluation of records and personal injury claims; review of insurance policies; settlement brochure; preparation of case intake memorandum. Prerequisites: A grade of C or better in LAS109 and (BPC110 or CIS105 or permission of Program Director).

LAS214
Business Organizations
3 credit(s) 3 period(s) lecture
Analysis and evaluation of business organizations with practical application of the law to analyze the utility, form, and function of Sole Proprietorships, General Partnerships, Limited Partnerships, Limited Liability Companies, and Corporations. Preparation of documents to create the most effective and feasible business organization under a given set of circumstances. Prerequisites: A grade of C or better in LAS109 and (BPC110 or CIS105 or permission of Program Director).

LAS217
Family Law
3 credit(s) 3 period(s) lecture
Legal analysis of marriage, dissolution of marriage, parental rights and duties; pleading and practice. Prerequisites: A grade of C or better in LAS109 and (BPC110 or CIS105 or permission of Program Director).

LAS220
Paralegal Internship Seminar
1 credit(s) 1 period(s) lecture
Coordinates on-the-job experiences with interpersonal relations, communications, time-management, and case-management skills. Provides opportunity to discuss problems encountered during internship. Prerequisites: A grade of C or better in LAS203, LAS211, (LAS204 or LAS212), and (BPC110 or CIS105 or permission of Program Director). Corequisites: LAS221AB.

LAS221AB
Paralegal Internship
2 credit(s) 10 period(s) lab
Field work through placement at a law firm or other law-related organization where student will gain experience working in a legal setting. Supervision and evaluation by on-the-job supervisor as well as college program director. Prerequisites: Permission of Program Director. Corequisite: LAS220. Course Notes: LAS221AB requires a minimum of 160 hours of field experience in a legal setting.

LAS225
Legal Research, Analysis, and Writing
3 credit(s) 3 period(s) lecture
Integration and further development of legal research and writing skills with an emphasis on critical thinking, issue analysis, and motion practice. Focus on integrating research, writing, and legal argument development. Prerequisites: A grade of C or better in LAS131 and LAS211 and (BPC110 or CIS105 or permission of Program Director).

LAS229
Litigation Technologies
3 credit(s) 3 period(s) lecture
Use of presentation software; use of timekeeping, calendaring, and docketing software; use of litigation support software to organize case files; use of electronic trial presentation software in an electronic courtroom; ethical issues. Prerequisites: A grade of C or better in LAS110 and (BPC110 or CIS105 or permission of Program Director).

LAS237
Civil Interviewing and Investigation
3 credit(s) 3 period(s) lecture
Foundations for interviewing and investigation. Questioning of clients, witnesses, and experts. Documenting and summarizing interviews. Factual investigation sources and techniques. Role of formal discovery (including E-discovery). Document analysis and preservation. Memorizing results of factual investigations. Prerequisites: A grade of C or better in LAS109 and (BPC110 or CIS105 or permission of Program Director).
LAS261
Bankruptcy
3 credit(s) 3 period(s) lecture
Examination of bankruptcy laws and procedures and the role of paralegals in bankruptcy practice, including the commencement of a case, preparation of common forms, review of bankruptcy litigation including contested matters and adversary proceedings, and debtors’ and creditors’ rights and obligations. 
Prerequisites: A grade of C or better in LAS109 and (BPC110 or CIS105 or permission of Program Director).

LAS265
Regulatory Compliance
3 credit(s) 3 period(s) lecture
Examination of, and requirements for, organizations maintaining compliance with regulatory schemes. Emphasis on federal regulations and the role of non-lawyer personnel, such as paralegals, in obtaining, organizing, analyzing, and presenting recommendations for acting on factual information and legal research related to regulatory requirements. Prerequisites: A grade of C or better in LAS109 and (BPC110 or CIS105 or permission of Program Director).

LAS280
Paralegal Studies Portfolio Capstone
1 credit(s) 1 period(s) lecture
Demonstration of acquired skills and knowledge through review, revision, and supplementation of electronic portfolio containing evidence of program competencies; preparation, revision, and review of work product samples to facilitate the transition from student to entry-level paralegal. Prerequisites: A grade of C or better required in all Prerequisites. Prerequisites: LAS110, LAS203, LAS204, LAS214 and (BPC110 or CIS105 or permission of Program Director). Prerequisites or Corequisites: (LAS225, LAS229, and LAS237) or permission of Program Director.

LBA – Laboratory Assisting

LBA150
Overview of Laboratory Assisting
1 credit(s) 1 period(s) lecture
Overview of laboratory services, laboratory professionals, and the role of a laboratory assistant. Understanding of certification, accreditation, and regulatory agencies. Emphasis on process improvement, laboratory mathematics, documentation, medico-legal implications, and specimen integrity. Application of pre-analytical and basic testing principles, infection control, and laboratory safety. Recognition of acceptable quality control and quality management principles. Includes information systems and information management in laboratories. Importance of professional growth and ethical conduct. Prerequisites: A grade of C or better in (HCC130 and HCC145AA and PLB109 and PLB110 and PLB111), or permission of Program Director.

LBA152
Laboratory Assisting: Principles and Procedures
2 credit(s) 6 period(s) lecture + lab
Principles and procedures for pre-analytical processing of laboratory specimens. Performance of specimen processing, pre-analytical processes, and point-of-care testing. Application of quality assurance, quality control, infection control, and laboratory safety. Use of laboratory supplies, instrumentation, and information systems. Performing clerical and computer functions using medico-legal guidelines for documentation. Prerequisites or Corequisites: A grade of C or better in LBA150.

LBA158
Laboratory Assisting Practicum
2 credit(s) 6 period(s) lab
Practicum in laboratory assisting based in healthcare facilities or reference laboratories. Performance of clinical skills for pre-analytical processing of laboratory specimens, initial testing phases, and point-of-care testing using laboratory instrumentation, information systems, and supplies. Application of quality assurance, quality control, infection control, and laboratory safety. Performance of clerical and computer functions using medico-legal guidelines for documentation. Use of professional and ethical conduct in all interpersonal laboratory communications. Prerequisites: A grade of C or better in LBA150 and LBA152 and permission of Program Director.

LDR – Leadership

LDR101
Emerging Leaders I
2 credit(s) 2 period(s) lecture
Focus on implementing collaborative practices and organizational leadership skills to promote positive social change. Apply value-based leadership behavior in diverse settings. Prerequisites: A grade of C or better in LDR101 or permission of Instructor.

MAS – Medical Assisting

MAS125
Professionalism in Healthcare
1 credit(s) 1 period(s) lecture
Principles and procedures for professional behaviors in a healthcare environment. Includes discussion and evaluation of professional behaviors for students, with coworkers, with superiors, with patients, in communications. Prerequisites: None.

MAS126
Administrative Procedures
3 credit(s) 3 period(s) lecture
Principles and procedures for front office administrative skills. Methods of telephone management, correspondence and mail processing, appointment scheduling, medical records management and data collection. Includes medical assistant as office manager. Prerequisites: Acceptance into the Medical Assisting or Medical Front Office program, and permission of Program Director. Corequisites: (MAS127, MAS128, MAS129, and MAS210) and permission of Program Director.

MAS127
Insurance, Billing and Coding
3 credit(s) 3 period(s) lecture + lab
Application of insurance, coding and billing. Includes legal and ethical issues, federal, state and private insurance claims, procedural and diagnostic coding, and banking and accounting principles. Prerequisites: Acceptance into the Medical Assisting or Medical Front Office program, and permission of Program Director. Corequisites: MAS126 and permission of Program Director.

The Course Equivalency Guide (CEG) shows how courses transfer from community college to ASU, NAU and U of A. 
Visit www.aztransfer.com
MAS128  
Electronic Health Records for Medical Assisting  
2 credit(s) 2 period(s) lecture + lab  
Introduction to the electronic health record in the physician’s office, including health record content and structure, origin of clinical information and merging clinical information into the record, implementation of electronic health record system, Health Insurance Portability and Accountability Act (HIPAA) regulations, and security measures for electronic health records (EHR).  
Prerequisites: Acceptance into the Medical Assisting or Medical Front Office program, and permission of the Program Director.  
Corequisites: MAS126 and MAS129, and permission of Program Director.

MAS129  
Automated Computer System for Medical Office Management  
2 credit(s) 4 period(s) lecture + lab  
Principles and procedures in using an office automated computerized system for entering patient information and tracking patient billing, including basic computer navigation skills and use of accounting cycle from originating data to closing ledger entries.  
Prerequisites: Acceptance into the Medical Assisting or Medical Front Office program, and permission of Program Director.  
Corequisites: MAS126 and MAS128, and permission of Program Director.

MAS130  
Orientation to the Pathophysiology and Psychology of Body Systems  
1 credit(s) 1 period(s) lecture  
Application of basic pathophysiology and psychology of body systems as they relate to an entry-level health care professional’s role.  
Prerequisites: A grade of “C” or better in MAS125, MAS126, MAS127, MAS128, and MAS129, acceptance into the Medical Assisting program, and permission of Program Director.

MAS210  
Aseptic Techniques  
1 credit(s) 3 period(s) lecture + lab  
Fundamentals of microbial control. Includes procedures for sanitation, disinfection, and sterilization. Specimen collection and handling. Compliance with Occupational Safety and Health Administration (OSHA), the United States Centers for Disease Control and Prevention (CDC), and Clinical Laboratory Improvement Amendments (CLIA).  
Prerequisites: A grade of “C” or better in MAS126, MAS127, MAS128, and MAS129, acceptance into the Medical Assisting program, and permission of Program Director.  
Corequisites: MAS126 and MAS220, and permission of Program Director.

MAS220  
Laboratory Testing in Patient Care Service Centers  
1 credit(s) 1.5 period(s) lecture + lab  
Basic Point of Care testing in a clinical setting. Includes procedures for urinalysis, whole blood hematology, glucose monitoring, cholesterol and coagulation testing. Specimen collection and handling. Compliance with Occupational Safety and Health Administration (OSHA) and the Clinical Laboratory Improvement Amendments (CLIA) regulations.  
Prerequisites: A grade of “C” or better in MAS126, MAS127, MAS128, and MAS210, acceptance into the Medical Assisting program, and permission of Program Director.

MAS230  
Emergencies in the Medical Office  
1.5 credit(s) 1.5 period(s) lecture + lab  
Introduction to the basic methods of identification and response to emergencies in a medical office.  
Prerequisites: Acceptance into the Medical Assisting program and permission of Program Director.  
Corequisites: MAS260 and permission of Program Director.

MAS240  
Applied EKG  
1 credit(s) 1.5 period(s) lecture + lab  
Entry-level training to professionally perform, process, and explain the electrocardiogram. Overview of cardiac anatomy, physiology, and conduction systems. Overview of commonly encountered drugs in cardiac medicine. Data collection, selection, processing, and presentation for the appropriate medical/c clinical professional to review. Selected specific non-invasive cardiac testing procedures.  
Prerequisites: Acceptance into the Medical Assisting program or permission of Program Director.  
Corequisites: MAS260 or permission of Program Director.

MAS260  
Clinical Procedures  
3 credit(s) 5 period(s) lecture + lab  
Principles and procedures for the medical assistant. Methods of assisting clinicians with physical examinations, procedures, treatments, and minor surgical procedures in the medical office. Includes vital signs, height, and weight, collection of patient data and documentation.  
Prerequisites: Acceptance into the Medical Assisting program, a grade of “C” or better in MAS125, MAS126, MAS127, MAS128, MAS129, MAS210, and SPA117), and permission of Program Director.  
Corequisites: MAS230 and MAS240.

MAS265  
Administration of Medication  
3 credit(s) 6 period(s) lecture + lab  
Principles and procedures for administering medications. Includes classifications, uses, effects, legal regulations, calculating dosages, and correct terminology. Emphasis on oral and parenteral of drug administration.  
Prerequisites: Acceptance into the Medical Assisting program and permission of Program Director and (a grade of “C” or better in MAS126, MAS127, MAS128, MAS129, MAS210, MAS220, MAS230, MAS240, MAS260 and SPA117).  
Corequisites: PLB109 and permission of Program Director.

MAS274  
Administrative Medical Assisting Externship  
1 credit(s) 6 period(s) lab  
Practicum in administrative medical assisting. Application of administrative duties, procedures, and knowledge derived from medical assisting courses.  
Prerequisites: Acceptance into the Medical Assisting or Medical Front Office program, negative results on drug screening, and permission of Program Director.  
Corequisites: MAS275, MAS280, PLB110, and permission of Program Director.  
Course Note: CPR and Fingerprint Clearance cards must remain current throughout the MAS274 externship/practicum.

MAS275  
Clinical Medical Assisting Externship  
2 credit(s) 9.6 period(s) lab  
Practicum in clinical medical assisting. Application of clinical skills, procedures, and knowledge derived from medical assisting courses.  
Prerequisites: Acceptance into the Medical Assisting program, negative results on drug screening, and permission of Program Director.  
Corequisites: MAS274, MAS280, PLB110, and permission of Program Director.  
Course Note: CPR and Fingerprint Clearance cards must remain current throughout the MAS275 externship/practicum.

MAS280  
Medical Assisting Program Review  
1 credit(s) 1 period(s) lecture  
Preparation for the medical assisting national certification examinations. Topics include medical terminology, anatomy and physiology, medical records management, appointment scheduling, law and ethics, insurance billing and coding, medication administration, electrocardiography, patient assessment, asepsis, clinical procedures, and laboratory techniques and values.  
Prerequisites: Acceptance into the Medical Assisting program, or current employment with minimum 1 year experience as Medical Assistant, and permission of Program Director.  
Corequisites: MAS274 and MAS275, and permission of Program Director.
MAT - Mathematics

The following courses require a graphing calculator: MAT090, MAT091, MAT092, MAT112, MAT120, MAT121, MAT122, MAT149, MAT141, MAT142, MAT150, MAT151, MAT152, MAT192, MAT195, MAT206, MAT212, MAT213, MAT214, MAT216, MAT218, MAT220, MAT221, MAT225, MAT230, MAT231, MAT240, MAT256, MAT257, and MAT276.

MAT081
Basic Arithmetic
4 credit(s) 4 period(s) lecture
Primary emphasis on conceptual understanding of and solving problems involving whole numbers, integers, mathematical operations, decimals, decimal operations, fractions, percentages, angles and geometric figures. Use of systems of measure, similarity, proportionality and the Pythagorean theorem. Focus on mathematical language, connections, patterns and reasoning, and additive and multiplicative reasoning.
Prerequisites: Satisfactory score on district placement exam.
Course Notes: Student may receive credit for only one of the following: MAT051 and MAT052 and MAT053 and MAT054, or MAT081, or MAT082.

MAT082
Basic Arithmetic
3 credit(s) 3 period(s) lecture
Primary emphasis on conceptual understanding of and solving problems involving whole numbers, integers, mathematical operations, decimals, decimal operations, fractions, percentages, angles and geometric figures. Use of systems of measure, similarity, proportionality and the Pythagorean theorem. Focus on mathematical language, connections, patterns and reasoning, and additive and multiplicative reasoning.
Prerequisites: Satisfactory score on district placement exam.
Course Notes: Student may receive credit for only one of the following: MAT051 and MAT052 and MAT053 and MAT054, or MAT081, or MAT082.

MAT090
Introductory Algebra
5 credit(s) 5 period(s) lecture
Emphasis on meanings related to variable, equality, inequality, equivalence. The use of additive and multiplicative reasoning in solving linear equations and inequalities in one variable. Validation of solution(s) through a reasonable mathematical defense. Transfer and apply knowledge through a process of sense making and reasonableness in mathematical problems and practical application situations. Recognize patterns and organize data to represent situations where output is related to input. Understand the concept of function and be able to represent functions in multiple ways, including tables, algebraic rules, graphs and contextual situations, and make connections among these representations. Read, represent, and interpret linear function relationships numerically, analytically, graphically and verbally and connect the different representations. Model and solve real world problems involving constant rate of change. Prerequisites: An appropriate diagnostic score, or a grade of C or better in each of the following courses: MAT051, MAT052, and MAT053 OR (an appropriate mathematics placement score, or a grade of C or better for MAT081 or MAT082).
Course Notes: Student may receive credit for only one of the following: MAT055 and MAT056 and MAT057, or MAT090, or MAT091, or MAT092.

MAT091
Introductory Algebra
4 credit(s) 4 period(s) lecture
Emphasis on meanings related to variable, equality, inequality, equivalence. The use of additive and multiplicative reasoning in solving linear equations and inequalities in one variable. Validation of solution(s) through a reasonable mathematical defense. Transfer and apply knowledge through a process of sense making and reasonableness in mathematical problems and practical application situations. Recognize patterns and organize data to represent situations where output is related to input. Understand the concept of function and be able to represent functions in multiple ways, including tables, algebraic rules, graphs and contextual situations, and make connections among these representations. Read, represent, and interpret linear function relationships numerically, analytically, graphically and verbally and connect the different representations. Model and solve real world problems involving constant rate of change. Prerequisites: An appropriate diagnostic score, or a grade of C or better in each of the following courses: MAT051, MAT052, and MAT053 OR (an appropriate mathematics placement score, or a grade of C or better for MAT081 or MAT082).
Course Notes: Student may receive credit for only one of the following: MAT055 and MAT056 and MAT057, or MAT090, or MAT091, or MAT092.

MAT092
Introductory Algebra
3 credit(s) 3 period(s) lecture
Emphasis on meanings related to variable, equality, inequality, equivalence. The use of additive and multiplicative reasoning in solving linear equations and inequalities in one variable. Validation of solution(s) through a reasonable mathematical defense. Transfer and apply knowledge through a process of sense making and reasonableness in mathematical problems and practical application situations. Recognize patterns and organize data to represent situations where output is related to input. Understand the concept of function and be able to represent functions in multiple ways, including tables, algebraic rules, graphs and contextual situations, and make connections among these representations. Read, represent, and interpret linear function relationships numerically, analytically, graphically and verbally and connect the different representations. Model and solve real world problems involving constant rate of change. Prerequisites: An appropriate diagnostic score, or a grade of C or better for MAT081 or MAT082.
Course Notes: Student may receive credit for only one of the following: MAT055 and MAT056 and MAT057, or MAT090, or MAT091, or MAT092.

MAT108
Tutored Mathematics
2 credit(s) 2 period(s) lecture
Structured tutorial assistance and math study skills to help students achieve success in a mathematics course in which they are concurrently enrolled. Mathematics study skills emphasized. Prerequisites: None. Corequisites: MAT082, or MAT090, or MAT091, or MAT092, or MAT120, or MAT121, or MAT122, or MAT140, or MAT141, or MAT142, or MAT150, or MAT151, or MAT152, or permission of department chair.
Course Note: MAT108 may be repeated for a total of ten (10) credits.

MAT112
Mathematical Concepts and Applications
3 credit(s) 3 period(s) lecture
A problem solving approach to mathematics as it applies to real-life situations. Development, use and communication of mathematical concepts and applications that relate to measurement, percentage, practical geometry, statistics, finance, and unit conversions. Prerequisites: An appropriate mathematics placement score OR a grade of “C” or better for MAT090 or MAT091, or MAT092 OR (an appropriate diagnostic score or grade of “C” or better in each of the following courses: MAT055, MAT056, MAT057).

Course information is subject to change.
Visit https://curriculum.maricopa.edu for most current information.
MAT120
Intermediate Algebra
5 credit(s) 5 period(s) lecture
Analysis of rational, radical, quadratic and exponential equations, functions and applications; graphs of radical, quadratic and exponential functions; operations on polynomial, rational, and radical expressions. Prerequisites: An appropriate mathematics placement score OR a grade of "C" or better for MAT090 or MAT091, or MAT092 OR an appropriate diagnostic score or grade of "C" or better in each of the following courses: MAT055, MAT056, MAT057). Course Note: Students may receive credit for only one of the following: MAT120, MAT121, or MAT122.

MAT121
Intermediate Algebra
4 credit(s) 4 period(s) lecture
Analysis of rational, radical, quadratic and exponential equations, functions and applications; graphs of radical, quadratic and exponential functions; operations on polynomial, rational, and radical expressions. Prerequisites: An appropriate mathematics placement score OR a grade of "C" or better for MAT090 or MAT091, or MAT092 OR an appropriate diagnostic score or grade of "C" or better in each of the following courses: MAT055, MAT056, MAT057). Course Note: Students may receive credit for only one of the following: MAT120, MAT121, or MAT122.

MAT122
Intermediate Algebra
3 credit(s) 3 period(s) lecture
Analysis of rational, radical, quadratic and exponential equations, functions and applications; graphs of radical, quadratic and exponential functions; operations on polynomial, rational, and radical expressions. Prerequisites: An appropriate mathematics placement score OR a grade of "B" or better for MAT090 or MAT091, or MAT092 OR an appropriate diagnostic score or grade of "B" or better in each of the following courses: MAT055, MAT056, MAT057). Course Note: Students may receive credit for only one of the following: MAT120, MAT121, or MAT122.

MAT140
College Mathematics
5 credit(s) 5 period(s) lecture
College-level mathematics and its applications to real-life problems. Emphasis on understanding mathematical concepts and their applications. Topics include set theory, probability, statistics, finance, and geometry. Prerequisites: An appropriate mathematics placement score OR a grade of "C" or better for MAT090 or MAT091, or MAT092 OR an appropriate diagnostic score or grade of "C" or better in each of the following courses: MAT055, MAT056, MAT057) or a grade of "C" or better in MAT120 or MAT121 or MAT122. Course Notes: Students may receive credit for only one of the following: MAT140, MAT141, or MAT142.

MAT141
College Mathematics
4 credit(s) 4 period(s) lecture
Working knowledge of college-level mathematics and its applications to real-life problems. Emphasis on understanding mathematical concepts and their applications. Topics include set theory, probability, statistics, finance, and geometry. Prerequisites: An appropriate mathematics placement score OR a grade of "C" or better for MAT090 or MAT091, or MAT092 OR an appropriate diagnostic score or grade of "C" or better in each of the following courses: MAT055, MAT056, MAT057) or a grade of "C" or better in MAT120 or MAT121 or MAT122. Course Notes: Students may receive credit for only one of the following: MAT140, MAT141, or MAT142.

MAT150
College Algebra/Functions
5 credit(s) 5 period(s) lecture
Analysis and interpretation of the behavior and nature of functions including polynomial, rational, exponential, logarithmic, power, absolute value, and piecewise-defined functions; systems of equations, using multiple methods including matrices, modeling and solving real world problems, and defining and illustrating sequences and series. Prerequisites: A grade of "C" or better in MAT120, or MAT121, or MAT122, or satisfactory score on District placement exam. Course Notes: May receive credit for only one of the following: MAT150, MAT151, MAT152, or MAT187. General Education Designation: Mathematics - [MA] in combination with: MAT182.

MAT151
College Algebra/Functions
4 credit(s) 4 period(s) lecture
Analysis and interpretation of the behavior and nature of functions including polynomial, rational, exponential, logarithmic, power, absolute value, and piecewise-defined functions; systems of equations, using multiple methods including matrices, modeling and solving real world problems, and defining and illustrating sequences and series. Prerequisites: A grade of "C" or better in MAT120, or MAT121, or MAT122, or satisfactory score on District placement exam. Course Note: May receive credit for only one of the following: MAT150, MAT151, MAT152, or MAT187. General Education Designation: Mathematics - [MA] in combination with: MAT182.

MAT152
College Algebra/Functions
3 credit(s) 3 period(s) lecture
Analysis and interpretation of the behavior and nature of functions including polynomial, rational, exponential, logarithmic, power, absolute value, and piecewise-defined functions; systems of equations, using multiple methods including matrices, modeling and solving real world problems, and defining and illustrating sequences and series. Prerequisites: A grade of "B" or better in MAT120, or MAT121, or MAT122, or satisfactory score on a placement test. Course Notes: May receive credit for only one of the following: MAT150, MAT151, MAT152, or MAT187.

Course Descriptions

SUN – Consult with Academic Advisement for details.

For additional information on MCCC course competencies, visit: https://curriculum.maricopa.edu
MAT182
Plane Trigonometry
3 credit(s) 3 period(s) lecture
A study of measures of angles, properties of graphs of trigonometric functions, fundamental identities, addition and half-angle formulas, inverse trigonometric functions, solutions of trigonometric equations, complex numbers and properties of triangle solution. May receive credit for only one of the following: MAT182 or MAT187.
Prerequisites: Grade of "C" or better in MAT150, or MAT151, or MAT152, or equivalent, or concurrent registration in MAT150, or MAT151, or MAT152, or satisfactory score on District placement exam.

MAT187 MAT 1187
Precalculus
5 credit(s) 5 period(s) lecture
A precalculus course combining topics from college algebra and trigonometry. Preparation for analytic geometry and calculus.
Prerequisites: Grade of "B" or better in MAT120, or MAT121, or MAT122, or equivalent, or satisfactory score on district placement exam.
Course Note: Strongly recommended that students have some knowledge of trigonometry. Students may receive credit for only one of the following: MAT150, MAT151, MAT152, or MAT187.

MAT206 MAT 1160
Elements of Statistics
3 credit(s) 3 period(s) lecture
Basic concepts and applications of statistics, including data description, estimation and hypothesis tests.
Prerequisites: (A grade of "C" or better in MAT140 or MAT141 or MAT142) or (A grade of "C" or better in MAT150 or MAT151 or MAT152) or equivalent, or satisfactory score on District placement exam.

MAT212 MAT 2212
Brief Calculus
3 credit(s) 3 period(s) lecture
Introduction to the theory, techniques and applications of the differential and integral calculus of functions with problems related to business, life, and the social sciences.
Prerequisites: Grade of C or better in MAT150, or MAT151, or MAT152, or MAT187, or appropriate Math placement test score. 
Course Note: Students may receive credit for only one of the following: MAT212 or MAT213.

MAT213
Brief Calculus
4 credit(s) 4 period(s) lecture
Introduction to the theory, techniques and applications of the differential and integral calculus of functions with problems related to business, life, and the social sciences.
Prerequisites: Grade of "C" or better in MAT150, or MAT151, or MAT152, or MAT187, or appropriate Math placement test score. 
Course Note: Students may receive credit for only one of the following: MAT212 or MAT213.

MAT217
Mathematical Analysis for Business
3 credit(s) 3 period(s) lecture
An introduction to the mathematics required for the study of business. Includes multivariable optimization, Lagrange multipliers, linear programming, linear algebra, probability, random variables, discrete and continuous distributions.
Prerequisites: Grade of C or better in MAT212 or MAT213.

MAT218
Mathematical Analysis for Business
4 credit(s) 4 period(s) lecture
An introduction to the mathematics required for the study of business. Includes multivariable optimization, Lagrange multipliers, linear programming, linear algebra, probability, random variables, discrete and continuous distributions.
Prerequisites: Grade of C or better in MAT212 or MAT213.

MAT220
Mathematical Analysis for Business
3 credit(s) 3 period(s) lecture
An introduction to the mathematics required for the study of business. Includes multivariable optimization, Lagrange multipliers, linear programming, linear algebra, probability, random variables, discrete and continuous distributions.
Prerequisites: Grade of C or better in MAT220 or MAT221 or equivalent.
Course Note: Student may receive credit for only one of the following: MAT230 or MAT231.

MAT222
Introduction to Actuarial Science: Elements and Techniques
3 credit(s) 3 period(s) lecture
An introduction to the mathematics of actuarial science. Exploration of actuarial science as a profession, including but not limited to mathematical skills applied for problem-solving and technologies used in risk management and financial modeling.
Prerequisites: A grade of "C" or better in ([MAT220 or MAT221] and CIS106) or permission of Instructor.

MAT225
Elementary Linear Algebra
3 credit(s) 3 period(s) lecture
Introduction to matrices, systems of linear equations, determinants, vector spaces, linear transformations and eigenvalues. Emphasizes the development of computational skills.
Prerequisites: Grade of "C" or better in MAT212 or MAT220, or MAT221, or equivalent.

MAT230
Calculus with Analytic Geometry II
5 credit(s) 5 period(s) lecture
Techniques of integration for both proper and improper integrals with applications to the physical and social sciences, elements of analytic geometry, and the analysis of sequences and series.
Prerequisites: Grade of "C" or better in MAT220 or MAT221 or equivalent.
Course Note: Student may receive credit for only one of the following: MAT230 or MAT231.

MAT231
Calculus with Analytic Geometry II
4 credit(s) 4 period(s) lecture
Techniques of integration for both proper and improper integrals with applications to the physical and social sciences, elements of analytic geometry, and the analysis of sequences and series.
Prerequisites: Grade of C or better in MAT220 or MAT221 or equivalent.
Course Note: Student may receive credit for only one of the following: MAT230 or MAT231.

MAT240
Calculus with Analytic Geometry III
5 credit(s) 5 period(s) lecture
Multivariate calculus including vectors, vector-valued functions, partial differentiation, multiple integration, and an introduction to vector fields.
Prerequisites: Grade of "C" or better in MAT230 or MAT231.
Course Note: Student may receive credit for only one of the following: MAT240 or MAT241.
MAT241
Calculus with Analytic Geometry III
4 credit(s) 4 period(s) lecture
Multivariate calculus including vectors, vector-valued functions, partial differentiation, multiple integration, and an introduction to vector fields. Prerequisites: Grade of "C" or better in MAT230 or MAT231. Course Note: Student may receive credit for only one of the following: MAT240 or MAT241.

MAT256
Investigating Quantity, Number, Operations and Numeration Systems
4 credit(s) 4 period(s) lecture
Explore number, numeration systems and operations on numbers. Techniques of problem solving with an emphasis on exploring a variety of strategies. Use a variety of visualization techniques to develop a conceptual understanding of these topics. Prerequisites: A grade of "C" or better in (MAT150 or MAT151 or MAT152 or higher), OR A grade of "C" or better in [[MAT120 or MAT121 or MAT122] AND (MAT140 or MAT141 or MAT142 or higher)], OR [A grade of "C" or better in (MAT140 or MAT141 or MAT142) AND satisfactory score on District placement exam to permit enrollment in (MAT150 or MAT151 or MAT152 or higher)]. Course Notes: MAT256 is designed to meet requirements for prospective elementary education teachers.

MAT276
Modern Differential Equations
4 credit(s) 4 period(s) lecture
Introduces differential equations, theoretical and practical solution techniques with applications. Problem solving using MATLAB. Prerequisites: Grade of "C" or better in MAT230, or MAT231, or permission of Department or Division. Course Notes: Students may receive credit for only one of the following: MAT276 or MAT277.

MAT298AA-AC
Special Projects
1-3 credit(s) 1-3 period(s) lab
Organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment available for student use. Allows the best aspects of independent study and individualized learning to be combined to maximize student development. Prerequisites: Permission of Program Director or Instructor. Course Notes: MAT298AC may be repeated for a total of six (6) credit hours.

MDL – Medical Laboratory Science

MDL190
Clinical Laboratory Operations
2 credit(s) 2 period(s) lecture
Overview of laboratory services, laboratory professionals, and the role of a medical laboratory technician (clinical laboratory technician). Understanding of health care reform, reimbursement, cost analysis, credentialing, accreditation, and regulatory agencies. Emphasis on process improvement, laboratory mathematics, statistics, documentation, medico-legal implications, education, management and personnel, and specimen integrity. Application of pre-analytical, analytical, and post-analytical principles, infection control, and laboratory safety. Recognition of acceptable quality control and quality management principles, phlebotomy principles, and lab equipment, glassware, labware, and water purification. Includes information systems and information management in laboratories. Importance of professional growth, communicating with the patient and public, and ethical conduct. Prerequisites: Acceptance into the Medical Laboratory Science program and permission of Program Director.

MDL240
Clinical Urinalysis and Body Fluid Analysis
3 credit(s) 5 period(s) lecture + lab
Examines anatomy and physiology of the renal system, renal diseases, and renal function tests. Emphasis on interpretation, evaluation, and reporting of urinalysis and body fluid results, urine and body fluid collection techniques, types, specimen handling and preservation, and instrument calibration, maintenance, and quality control. Application of body fluid analyses, and chemical and microscopic analysis of urine. Prerequisites: A grade of "C" or better in MDL190, acceptance into the Medical Laboratory Science program, and permission of the Program Director.

MDL241
Practicum: Clinical Urinalysis and Body Fluid Analysis
1 credit(s) 6 period(s) lab
Practicum experience in clinical urinalysis and body fluid analysis based in healthcare facilities or reference laboratories. Assessment of anatomy and physiology of the renal system, renal diseases, and renal function tests. Performance of interpretation, evaluation, and reporting of urinalysis and body fluid results, urine and body fluid collection techniques, types, specimen handling and preservation, and instrument calibration, maintenance, and quality control. Performance of body fluid analyses and chemical and microscopic analysis of urine. Prerequisites: A grade of "C" or better in MDL240, acceptance into the Medical Laboratory Science program, and permission of the Program Director.

MDL242
Clinical Hematology and Hemostasis
6 credit(s) 9 period(s) lecture + lab
Examines the anatomy and physiology of the hematopoietic and hemostasis systems, hematology and hemostasis case studies, anemia categories, and thrombocyte, hemostatic, and malignant and nonmalignant leukocyte disorders. Emphasis on interpreting, evaluating, and reporting hematology and hemostasis results, anticoagulant therapy, morphology, peripheral smear correlation with analyzer results and patient condition, erythrocyte indices, collection techniques, specimen handling, calibration, and quality control. Methods of analysis on hematology and hemostasis analyzers, and preventive maintenance. Prerequisites: A grade of "C" or better in MDL240, acceptance into the Medical Laboratory Science program, and permission of the Program Director.

MDL243
Practicum: Clinical Hematology and Hemostasis
1 credit(s) 6 period(s) lab
Practicum experience in clinical hematology and hemostasis based in healthcare facilities or reference laboratories. Assessment of the anatomy and physiology of the hematopoietic and hemostasis systems, hematology case studies, anemia categories, and thrombocyte, malignant and nonmalignant leukocyte disorders. Application of interpreting, evaluating, and reporting hematology results, morphology, peripheral smear correlation with analyzer results, erythrocyte indices, collection techniques, specimen handling, calibration, and quality control. Emphasis on hematology and hemostasis analyzers, and preventive maintenance. Perform hematology and hemostasis analyses. Prerequisites: A grade of "C" or better in MDL242, acceptance into the Medical Laboratory Science program, and permission of the Program Director.
MDL244
Clinical Immunohematology and Immunology
6 credit(s) 9 period(s) lecture + lab
Principles of immunity and immunologic testing. Causes of disorders of the immune system. Study of blood group antigens, antibodies, and genetics. Understanding of donor blood collection, component preparation, and transfusion therapies. Performance of testing techniques and evaluation of data. Prerequisites: A grade of "C" or better in MDL242, acceptance into the Medical Laboratory Science program, and permission of the Program Director.

MDL245
Practicum: Clinical Immunohematology and Immunology
1 credit(s) 6 period(s) lab
Practicum in immunohematology and immunology in healthcare facilities or reference laboratories. Performance of clinical skills in immunity and immunologic testing, testing for disorders of the immune system, blood group antigens, antibodies, and genetics. Observation of donor blood collection, component preparation, and transfusion therapies. Performance of testing techniques and evaluation of data. Prerequisites: A grade of "C" or better in MDL244, acceptance into the Medical Laboratory Science program, and permission of the Program Director.

MDL246
Clinical Microbiology
6 credit(s) 9 period(s) lecture + lab
Emphasis on microbial infectious and bioterrorism agents, classification, morphology, phenotyping, diseases, biotechnology and molecular technology, quality assurance and quality control, epidemiological significance, and regulatory standards. Application of antimicrobial, biochemical, and differential testing, drug resistance, selection, inoculation and incubation of culture media, isolation techniques, cell culture and viral detection tests, and macroscopic and microscopic evaluation. Emphasis on staining, rapid and commercial testing methods, safety precautions, specimen collection, handling, storage, and disposal of biological material, pretreatment, decontamination, and concentration techniques, specimen type, source, and common microbial flora, specimen acceptability, and instrumentation. Prerequisites: A grade of "C" or better in MDL244, acceptance into the Medical Laboratory Science program, and permission of the Program Director.

MDL247
Practicum: Clinical Microbiology
1 credit(s) 9 period(s) lab
Practicum experience in clinical microbiology based in healthcare facilities or reference laboratories. Emphasis on microbial infectious and bioterrorism agents, classification, morphology, phenotyping, diseases, biotechnology and molecular technology, quality assurance and quality control, epidemiological significance, and regulatory standards. Application of antimicrobial, biochemical, and differential testing, drug resistance, selection, inoculation and incubation of culture media, isolation techniques, cell culture and viral detection tests, and macroscopic and microscopic evaluation. Procedures for staining, rapid and commercial testing methods, safety precautions, specimen collection, handling, storage, and disposal of biological material, pretreatment, decontamination, and concentration techniques, specimen type, source, and common microbial flora, specimen acceptability, and instrumentation. Prerequisites: A grade of "C" or better in MDL244, acceptance into the Medical Laboratory Science program, and permission of the Program Director.

MDL248
Clinical Chemistry
6 credit(s) 9 period(s) lecture + lab
Principles and procedures of clinical chemistry and testing for diseases of protein, nonprotein nitrogen compounds, lipid, glucose, bilirubin, liver disease, cardiac and endocrine function, toxicology, therapeutic drug monitoring, acid base balance, electrolytes, and trace elements. Emphasis on quality assurance, quality control, mathematics and statistical analysis, specimen collection, and preanalytical processes. Study of immunoassays, nucleic acid probes, viral and tumor markers, automation of analytical techniques, spectrophotometry, genetic diseases and inborn errors of metabolism, and point-of-care testing. Use of reagents, equipment, supplies, and units of measure. Prerequisites: A grade of "C" or better in MDL244, acceptance into the Medical Laboratory Science program, and permission of the Program Director.

MDL249
Practicum: Clinical Chemistry
1 credit(s) 9 period(s) lab
Practicum in clinical chemistry based in healthcare facilities or reference laboratories. Performance of clinical skills in clinical chemistry and testing for diseases of protein, nonprotein nitrogen compounds, lipid, glucose, bilirubin, liver disease, cardiac and endocrine function, toxicology, therapeutic drug monitoring, acid base balance, electrolytes, genetic diseases and inborn errors of metabolism, and trace elements. Application of quality assurance, quality control, mathematics and statistical analysis, specimen collection, and preanalytical processes. Performance of immunoassays, nucleic acid probes, viral and tumor markers, automation of analytical techniques, spectrophotometry, and point-of-care testing. Use of reagents, equipment, supplies, and units of measure. Prerequisites: A grade of "C" or better in MDL248, acceptance into the Medical Laboratory Science program, and permission of Program Director.

MDL252
Clinical Preparation I
0.5 credit(s) 2.5 period(s) lecture + lab
Examines clinical laboratory testing in a simulated laboratory environment. Emphasis on interpretation, evaluation, and reporting of a variety of laboratory results, and includes instrument calibration, maintenance, and quality control. Prerequisites: A grade of "C" or better in MDL244, acceptance into the Medical Laboratory Science program, and permission of Program Director.

MDL263
Clinical Preparation II
0.5 credit(s) 2.5 period(s) lecture + lab
Continuation of examination of clinical laboratory testing in a simulated laboratory environment. Emphasis on interpretation, evaluation, and reporting of a variety of laboratory results, and includes instrument calibration, maintenance, and quality control. Prerequisites: A grade of "C" or better in MDL248, acceptance into the Medical Laboratory Science program, and permission of Program Director.

MDL291
Medical Laboratory Science Program Capstone
1 credit(s) 1 period(s) lecture
Preparation for the professional practice national examinations. Topics include methodologies, techniques, and problem solving relative to urinalysis; body fluids, hematology, hemostasis, immunohematology, immunology, microbiology, and chemistry. Development of personalized test taking strategies and examination study plan. Prerequisites: (A grade of "C" or better in MDL247 and MDL249), acceptance into the Medical Laboratory Science program and permission of Program Director.
MGT229
Management and Leadership I
3 credit(s) 3 period(s) lecture
Covers management concepts and applications for business, industry, and government organizations. Prerequisites: None.

MGT230
Management and Leadership II
3 credit(s) 3 period(s) lecture
Includes practical applications of activities, issues and problems related to current managerial and supervisory skills and talents. Prerequisites: A grade of C or better in MGT229 or permission of Department or Division.

MGT251
Human Relations in Business
3 credit(s) 3 period(s) lecture
Analysis of motivation, leadership, communications, and other human factors. Cultural differences that may create conflict and affect morale within organizations. Prerequisites: None. MGT101, or MGT175, or MGT229 suggested but not required.

MGT253
Owning and Operating a Small Business
3 credit(s) 3 period(s) lecture
Starting, organizing, and operating a small business, including location, finance, management processes, advertisement and promotion, credit, inventory control and ethics. Prerequisites: None.

MGT270A
Management Internship
1 credit(s) 1 period(s) lecture + lab
Management work experience in a business or industry. 80 hours of designated work per credit. Prerequisites: Permission of Department or Division. Course Notes: MGT270A may be repeated for a total of three (3) credit hours.

MGT270B
Management Internship
2 credit(s) 2 period(s) lecture + lab
Management work experience in a business or industry. 80 hours of designated work per credit. Prerequisites: Permission of Department or Division. Course Notes: MGT270AB may be repeated for a total of six (6) credit hours.

MGT270AC
Management Internship
3 credit(s) 3 period(s) lecture + lab
Management work experience in a business or industry. 80 hours of designated work per credit. Prerequisites: Permission of Department or Division. Course Notes: MGT270AC may be repeated for a total of six (6) credits.

MGT276
Personnel/Human Resources Management
3 credit(s) 3 period(s) lecture
Human resource planning, staffing, training, compensating, and appraising employees in labor-management relationships. Prerequisites: None. MGT101, or MGT175, or MGT229 suggested but not required.

MGT286
Human Resource Employment Management
3 credit(s) 3 period(s) lecture
Techniques and methodology for coordinating and monitoring effective employment selection practices. Includes description of employment functions, staffing analysis, employment recruitment and advertising, applicant screening, interviewing and reference checking, employee selection and placement within a human resources division. Prerequisites: A grade of C or better in MGT276 or permission of department.

MHL – Music: History/Literature

MHL140
Survey of Music History
3 credit(s) 3 period(s) lecture
Study of composers, compositions, styles, and periods in music history. Prerequisites: None.

MHL143
Music in World Cultures
3 credit(s) 3 period(s) lecture
Non-European musical traditions including the study of music in rituals, musical instruments and the impact of cultures on musical styles. Prerequisites: None.

MHL145
American Jazz and Popular Music
3 credit(s) 3 period(s) lecture
The study of cultural and social contributions to the evolution of American jazz and popular music from the mid-1800’s to present. Prerequisites: None.

MHL146
Survey of Broadway Musicals
3 credit(s) 3 period(s) lecture
Survey of Broadway musicals traced from their origins to the present viewed in their cultural, political, and socioeconomic contexts. Emphasis on stylistic periods, composers, lyricists, directors, and choreographers. Prerequisites: None.

MHL153
Rock Music and Culture
3 credit(s) 3 period(s) lecture
History of Rock music and how cultural, social, political, and economic conditions have shaped its evolution. Prerequisites: None.
MHL155
Survey of American Music
3 credit(s) 3 period(s) lecture
History of the music of North America from the earliest American Indian music to the present. Introduction to the musical trends, composers, socioeconomic developments and trends, musical forms and styles that influence our modern American musical sense. Prerequisites: None.

MHL194
Music and Culture
3 credit(s) 3 period(s) lecture
Introduction to the study of multicultural music in its social, cultural, historical and economic contexts. Performance of music using percussion, rhythm, and the human body. Historical and social aspects of global cultures' musical expressions. Prerequisites: A grade of C or better in (MTC105 and MTC106) or permission of Instructor.

MHL204
Hip-Hop Music and Culture
3 credit(s) 3 period(s) lecture
A history of Hip-Hop's musical and artistic elements and how cultural, social, political, and economic conditions have shaped its evolution. Prerequisites: A grade of C or better in ENG101, or ENG107, or permission of Instructor.

MHL241
Music History and Literature to 1750
3 credit(s) 3 period(s) lecture
In-depth study of music history from the primitive era through the Baroque period. Prerequisites: A grade of C or better in MTC156 or permission of Instructor.

MHL242
Music History and Literature 1750 to Present
3 credit(s) 3 period(s) lecture
In-depth study of music history from the Classical period through the Contemporary period. Prerequisites: A grade of C or better in MHL241 or permission of Instructor.

MIS – Military Science

MIS101
Introduction to the United States Army
4 credit(s) 5 period(s) lecture and lab (Fall only)
Introduces the personal challenges and competencies that are critical for effective leadership and communication. Students learn how the personal development of life skills such as cultural understanding, goal setting, time management, stress management and comprehensive fitness relate to leadership, officership and the Army profession. Focuses on developing basic knowledge and comprehension of Army leadership dimensions, attributes and core leader competencies while gaining an understanding of the Army ROTC program, its purpose in the Army, and its advantages for the student. Includes physical training assessments, tactical training, as well as lecture-based instruction. Prerequisites: None.

MIS102
Foundation of Agile and Adaptive Leadership
4 credit(s) 5 period(s) lecture and lab (Spring only)
Introduces the professional challenges and competencies that are needed for effective execution of the profession of arms and Army communication. Through this course, students learn how ethics and values shape the Army and the specific ways that these ethics are inculcated into Army culture. Explores the seven Army values and the warrior ethos, investigate the profession of arms and Army leadership as well as an overview of the Army, and gains practical experience using critical communication skills. Includes physical training assessments, tactical training, as well as lecture-based instruction. Prerequisites: A grade of C or better in MIS101.

MIS201
Army Leadership and Decision Making
4 credit(s) 5 period(s) lecture and lab (Full only)
Academically challenging course where students study, practice and apply the fundamentals of Army leadership, officership, Army values and ethics, personal development and small-unit tactics at the platoon level. Requires the student to demonstrate writing skills and present information briefings as preparation for development in becoming a successful future officer. Includes reading assignments, homework assignments, small group assignments, briefings, case studies, practical exercises, a mid-term exam and final exam. Also includes physical training assessments, tactical training, as well as lecture-based instruction. Prerequisites: A grade of C or better in MIS102.

MKT – Marketing

MKT101
Introduction to Public Relations
3 credit(s) 3 period(s) lecture
Emphasizes public relations techniques used both within and outside the business organization, including operation of a PR counseling firm. Prerequisites: None.

MKT/TEC109
Introduction to Fashion Merchandising
3 credit(s) 3 period(s) lecture
Explodes the various levels and specialized segment of the fashion industry, the principles of fashion, the fundamentals of merchandising apparel, consumers' influence on demand and marketing activities. Prerequisites: None.

MKT110
Marketing and Social Networking
3 credit(s) 3 period(s) lecture
Theory and practice in the use of social media in marketing. Topics may include a history of social media, preparation for social marketing, the power of collective influence, and how to engage with social media. Reviews social mediums, social networks, platforms and other marketing tools used to create social media campaigns. Prerequisites: None.
MKT111  
**Applied Marketing and Social Networking**  
**3 credit(s) 4 period(s) lecture + lab**  
Examination of the strategic use of digital and social media marketing platforms and tools for global communication and networking, including analysis of various digital and social media platforms and tools for developing brands, creating professional networks and creating engaging content. Hands-on use of social media platforms and tools to conduct research, develop strategies for creating, integrating, and evaluating social media marketing campaigns, and development of metrics to measure effectiveness. **Prerequisites:** A grade of C or better in MKT110.

MKT/TEC151  
**Display and Visual Merchandising**  
**3 credit(s) 4 period(s) lecture + lab**  
An examination of the principles of design including line, color, balance, and texture as they relate to the display of merchandise. Participation in displays, field trips, and individual projects. **Prerequisites:** None.

MKT/TEC200  
**Retail Buying**  
**3 credit(s) 3 period(s) lecture**  
Examines management/buyer role in investment, pricing, planning, controlling sales and inventories. **Prerequisites:** None. Any BPC/CIS spreadsheet course recommended.

MKT263  
**Advertising Principles**  
**3 credit(s) 3 period(s) lecture**  
Introduces the advertising function within business, including media study, creative strategies, and advertising campaigns. **Prerequisites:** None. MKT271 suggested, but not required.

MKT267  
**Principles of Sales**  
**3 credit(s) 3 period(s) lecture**  
Analyzes and applies the steps and techniques used in personal selling. Highlights the role of the professional sales representative and his/her functions as they relate to the company’s mission and customer expectations. **Prerequisites:** None.

MKT268  
**Merchandising**  
**3 credit(s) 3 period(s) lecture**  
Surveys structure and operation of retail organizations. Emphasizes merchandising to include price, location, time promotion and quantity. **Prerequisites:** None. MKT271 suggested but not required.

MKT271  
**Principles of Marketing**  
**3 credit(s) 3 period(s) lecture**  
An analysis of the marketing process and environment with regard to the product, pricing, distribution, and communication in order to satisfy buyer needs. **Prerequisites:** None.

MKT/TEC274AC  
**Fashion Merchandising Study Tour**  
**3 credit(s) 15 period(s) lab**  
A tour of the retail merchandising industry outside the metropolitan Phoenix area. Includes a variety of experiences and activities to enhance awareness of this multifaceted career. **Prerequisites:** Department approval.

MKT280AA  
**Marketing Internship**  
**1 credit(s) 1 period(s) lecture + lab**  
Marketing work experience in a business or industry. 80 hours of designated work per credit. **Prerequisites:** Permission of Department or Division. **Course Notes:** MKT280AA may be repeated for a total of four (4) credits.

MKT280AB  
**Marketing Internship**  
**2 credit(s) 2 period(s) lecture + lab**  
Marketing work experience in a business or industry. 80 hours of designated work per credit. **Prerequisites:** Permission of Department or Division. **Course Notes:** MKT280AB may be repeated for a total of four (4) credits.

MKT280AC  
**Marketing Internship**  
**3 credit(s) 3 period(s) lecture + lab**  
Marketing work experience in a business or industry. 80 hours of designated work per credit. **Prerequisites:** Permission of Department or Division. **Course Notes:** MKT280AC may be repeated for a total of six (6) credits.

MMT – Multimedia Technology

MMT/CIS140  
**Survey of Multimedia Technology**  
**2 credit(s) 3 period(s) lecture + lab**  
Introduction to multimedia technology and its uses. Overview of the various hardware and software used in developing and delivering multimedia. Emphasis on how multimedia is used in education and training. Provides a basic understanding of the process used to define and develop multimedia applications. **Prerequisites:** A grade of C or better in CIS105, or permission of Instructor.

MMT/ADA/ART184  
**Computer Animation**  
**3 credit(s) 6 period(s) lecture + lab**  
The art of animation (animated sequences, special effects, titles, etc.) using the computer. Construction characters, background graphics, color, scaling, storyboard, cells, timing, editing, and surface rendering. Screening and discussion of selected animated short films and videos. **Prerequisites:** A grade of C or better in ART100, or ART111, or permission of Instructor.

MKT/ART185  
**3-D Modeling for Animation**  
**3 credit(s) 6 period(s) lecture + lab**  
Basic concepts of 3-D modeling. Anatomy of computer geometry; basic elements that make computer models-curves, surfaces, nurb's, and polygons. 3-D translation, shading, materials, and rendering. **Prerequisites:** A grade of C or better in ADA/ART/MMT184 or ART184AC or permission of the Instructor.

MKT216  
**Multimedia Project Management**  
**3 credit(s) 6 period(s) lecture + lab**  
Interactive video and multimedia project management including defining, analyzing, designing, and validating interactive/ multimedia applications; building and managing development and production teams; planning, budgeting, and scheduling; interactive/multimedia authoring; project implementation; and writing RFP's (Request For Proposal). **Prerequisites:** None.

MKT292  
**Multimedia Update**  
**1 credit(s) 2 period(s) lecture + lab**  
Exploration and comparative analysis of the newest hardware and software products and packages on the market designed to enhance or replace existing multimedia technology. **Prerequisites:** A grade of C or better in CIS/MMT140 or permission of Instructor.
MNT – Micro and Nano Technology

MNT110 General Principles of Nanotechnology 3 credit(s) 3 period(s) lecture
Designed to provide students with a strong fundamental understanding of the scientific principles, processing, and applications of nanotechnology. Includes the concepts of chemical bonding, quantum mechanics, and microstructure applied to various nanomaterials and their use in electronic devices, composites, computing, and various other biological, medical, energy-related, and current consumer applications. Introduces analytical techniques used in nanotechnology, as well as possible societal applications. Prerequisites: A grade of "C" or better in (MAT090, or MAT091, or MAT082, or MAT112, or equivalent) and CHM130, or equivalent.

MNT201 Materials, Safety, and Equipment for Nanotechnology 3 credit(s) 4 period(s) lecture + lab
Safety procedures and equipment used in the nanotechnology industry. Covers chemical, biological, and energy safety protocol as well as infrastructure facilities and systems. Also includes an overview of the structural, chemical and physical classification of materials. Prerequisites: None.

MNT210 Basic Nanotechnology Processes 3 credit(s) 4 period(s) lecture + lab
Introduction to basic nanotechnology processes and a comparison of top-down and bottom-up manufacturing processes. Covers characteristics of plasma and its application to additive and subtractive processes. Also includes basic pattern transfer processes, laser ablation, and chemical and physical vapor deposition. Prerequisites: None.

MNT220 Materials in Nanotechnology 3 credit(s) 4 period(s) lecture + lab
Examination of material used in the field of nanotechnology. Covers colloids, nanoparticles, oxides, and quantum dots in addition to self-assembly applications. Also includes biocompatibility and the dry etch material fabrication process. Prerequisites: None.

MTC – Music: Theory/Composition

MTC101 Introduction to Music Theory 3 credit(s) 3 period(s) lecture
Designed to develop written and aural skills necessary for advanced study of music theory and skills. Recommended for music majors. Prerequisites: None.

MTC103 Introduction to Aural Perception 1 credit(s) 2 period(s) lecture + lab
An introduction to the aural skills necessary to hear relationships of intervals, rhythms, melody, and harmony in music. May be repeated for a total of four (4) credit hours. Prerequisites: None. Course Notes: MTC103 may be repeated for a total of two (2) credit hours.

MTC105 Music Theory I 3 credit(s) 3 period(s) lecture
The chronological study of music theory including: harmony, melody, texture, structure and timbre through analysis, original compositions and basic exercises to demonstrate musical concepts. Prerequisites: A grade of C or better in MTC100 or MTC101 or permission of Instructor. Corequisites: MTC106.

MTC106 Aural Perception I 1 credit(s) 2 period(s) lecture + lab
The development of listening and performing skills through dictation, sight singing and keyboard harmony. Prerequisites: None. Corequisite: MTC105.

MTC/TCM120 Introduction to Sound Design for Film and Video 3 credit(s) 3 period(s) lecture
Basic principles of recording and mixing sound for film and video. Includes voice over, automatic dialog replacement (ADR), Foley, ambience, special effects and music. Emphasis on analog and digital recording techniques in the field as well as in a controlled environment. Prerequisites: A grade of C or better in (TCM100 and TCM136) or permission of Instructor.

MTC155 Music Theory II 3 credit(s) 3 period(s) lecture
A continuation of Music Theory I with emphasis on harmony and part-writing procedures. Prerequisites: A grade of C or better in MTC105. Corequisites: MTC156.

MTC156 Aural Perception II 1 credit(s) 2 period(s) lecture + lab
A continuation of Aural Perception I, including harmonic practices. Prerequisites: None. Corequisites: MTC155.

MTC191 Electronic Music I 3 credit(s) 4 period(s) lecture + lab
An introduction to producing music with Musical Instrument Digital Interface (MIDI) configuration consisting of computers, printers, synthesizers, and other compatible MIDI instruments. Prerequisites: None.

MTC192 Electronic Music II 3 credit(s) 4 period(s) lecture + lab
Continued study of the production of music with Musical Instrument Digital Interface (MIDI) configurations. Emphasis on more complex configurations and their applications in song arrangements. Prerequisites: A grade of C or better in MTC191.

MTC193 Computer-Based Sound Synthesis 3 credit(s) 4 period(s) lecture + lab
Principles of sound synthesis using computer-based methods. Synthesis methods include subtractive, additive, frequency modulation, sample and synthesis, and hybrid. Emphasis on synthesis techniques for use in electronic music. Prerequisites: A grade of C or better in MTC191 or permission of Instructor.

MTC205 MUS 2222 Music Theory III 3 credit(s) 3 period(s) lecture
The study of chromatic harmony and melody, modulation techniques and expanded chords. The analysis of formal structure. Prerequisites: A grade of C or better in MTC195. Corequisites: MTC206.

MTC206 MUS 2222 Aural Perception III 1 credit(s) 2 period(s) lecture + lab
A development of listening and performing skills, including an introduction of chromatic harmonic techniques and concepts of style. Prerequisites: None. Corequisites: MTC206.

MTC/TCM220 Advanced Sound Design for Film and Video 3 credit(s) 5 period(s) lecture and lab
Explores techniques and advanced applications used in designing sound using original student footage on a non-linear editing system. Prerequisites: A grade of C or better in MTC/TCM120 or permission of Instructor.

MTC240 Composition 3 credit(s) 0.6 period(s) lecture + lab
Introduction to the basics of music composition, stressing techniques and procedures for developing original ideas. May be repeated for total of twelve (12) credit hours. Prerequisites: A grade of C or better in (MTC105 and MTC106, or equivalent), and permission of Instructor.
MTC255 MUS MUS 2223
Music Theory IV
3 credit(s) 3 period(s) lecture
A continuation of Music Theory III, including 20th century theories and techniques. Prerequisites: A grade of C or better in MTC250. Corequisites: MTC256.

MTC256 MUS MUS 2223
Aural Perception IV
1 credit(s) 2 period(s) lecture + lab
A continuation of Aural Perception III, including extended chords. Prerequisites: None. Corequisites: MTC255.

MTC291
Electronic Music III
3 credit(s) 4 period(s) lecture + lab
Continued study of the production of music using electronic processes. Emphasis on more complex configurations and their applications in live performance or studio use. Prerequisites: A grade of C or better in MTC192.

MUC – Music: Commercial/ Business

MUC109
Music Business: Merchandising and the Law
3 credit(s) 3 period(s) lecture
Operation, scope, and career opportunities in the music business. Focuses on music in the marketplace, songwriting, publishing, copyright procedures, and business affairs, agents, artist management, and concert production. Prerequisites: None.

MUC110
Music Business: Recording and Mass Media
3 credit(s) 3 period(s) lecture
The operation, scope, and career opportunities in the music business. Focuses on the record industry; environmental music; uses of music in radio, telecommunications, and film; and career options. Prerequisites: None.

MUC111
Digital Audio Workstation I (DAW I)
3 credit(s) 5 period(s) lecture + lab
Use of digital mixing and automation software in conjunction with editing and recording. Includes computer operation, troubleshooting, and file management. Prerequisites: A grade of C or better in MUC195, or MUC195AA, or TCM/VPT105, or permission of Instructor.

MUC112
Digital Audio Workstation II (DAW II)
3 credit(s) 5 period(s) lecture + lab
Use of digital mixing and automation software in conjunction with editing and recording. Includes computer operation, troubleshooting, and file management. Prerequisites: A grade of C or better in MUC111, and (MUC195 or MUC195AA).

MUC122
Sound Design I
3 credit(s) 5 period(s) lecture + lab
Introduction to Sound Design and Audio Post-Production for Multimedia. Includes creating and editing Sound Effects, ADR, Foley, Music, and Ambience, for multiple mediums such as Film, TV, Video Gaming, Theatre, and Dance. Emphasis on computer assisted production using Digital Audio Workstations and sound design techniques using industry-standard equipment. Prerequisites: A grade of C or better in MUC191 or TCM/VPT105. Corequisites: A grade of C or better in MUC111 or MUC109 and MUC110 or permission of Instructor.

MUC141
Introduction to Sound Design and Audio Post-Production for Multimedia
3 credit(s) 3 period(s) lecture + lab
Approaches in final mixing for different musical genres. Develop critical listening skills, and applying these techniques to students’ projects. Professional-type facilities and equipment available for student use. Prerequisites: A grade of C or better in MUC112 and MUC195 or permission of Instructor.

MUC194
Live Sound Reinforcement I
3 credit(s) 5 period(s) lecture + lab
Basic principles of live sound engineering. Emphasis on signal-processing equipment, mixing consoles, and advanced musical recording session procedures, production, and engineering. Includes mix-down and resultant master tape of a musical recording session. Prerequisites: A grade of C or better in MUC195 or MUC195AA.

MUC195
Studio Music Recording I
3 credit(s) 5 period(s) lecture + lab
Basic principles of studio sound recording. Emphasis on musical acoustics, operation of recording equipment, studio setups, and multitrack recording. Includes studio session process and musical production decisions. Prerequisites: None.

MUC196
Studio Music Recording II
3 credit(s) 5 period(s) lecture + lab
Emphasis on signal-processing equipment, mixing consoles, and advanced musical recording session procedures, production, and engineering. Includes mix-down and resultant master tape of a musical recording session. Prerequisites: A grade of C or better in MUC195 or MUC195AA.

MUC197
Live Sound Reinforcement II
3 credit(s) 3 period(s) lecture + lab
Basic principles of live sound engineering. Emphasis on signal flow, acoustic, sound reinforcement set-ups and installation, signal processing, microphone selections and placement. Includes setting up sound systems and mixing live music. Prerequisites: None.

MUC198
Live Sound Reinforcement II
3 credit(s) 3 period(s) lecture
Emphasis on musical production decisions. Front-of-house and monitor console placement, loudspeaker arrangements, power considerations, program material and sound pressure levels. Includes setting up of sound system and mixing live performances with various styles of music. In addition to mixing at alternate locations. Prerequisites: A grade of C or better in MUC197.

MUC209
Music Industry Entrepreneurship
3 credit(s) 3 period(s) lecture
Operation, scope, and career opportunities in the music business. Focuses on music in the areas of entrepreneurship, visionary development and the collaboration process. Prerequisites: A grade of C or better in MUC109 and MUC110 or permission of Instructor.

MUC222
Sound Design II
3 credit(s) 5 period(s) lecture + lab
Intermediate level Sound Design and Audio Post-Production for Multimedia. Topics include: creating and editing Sound Effects, Automated Dialogue Replacement, Foley, Music, and Ambience for multiple mediums such as Film, TV, Video Gaming, Theatre, and Dance. Emphasis on computer assisted production using Digital Audio Workstations and acoustic forces. Prerequisites: A grade of C or better in MUC122 or MTC/TCM120, or permission of Instructor.

MUC290AA
Music Business Internship
1 credit(s) 1 period(s) lecture + lab
Music Business Internship work experience. Perform a variety of activities, to fulfill the routines and responsibilities of the department or business where the internship is served. Eighty (80) hours of designated work per credit. Prerequisites: Permission of Department or Division. Course Notes: MUC290AA may be repeated for a total of twelve (12) credit hours.
MUC292
Sound Design III
3 credit(s) 6 period(s) lecture + lab
Sound Design Production for Multimedia: includes Sound Effects, Music Composition/ Arranging, and Studio Recording Production for one or more mediums such as Film, TV, Gaming, Theatre, and Dance. Emphasis on computer assisted production using Digital Audio Workstations and acoustic forces. Structured to provide an atmosphere of team research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment available for student use. Prerequisites: A grade of C or better in (MTC192, MTC/ TCM220, MUC112, MUC196, and MUC222), or permission of Instructor.

MUC293
Self Promotion for Music
1 credit(s) 1 period(s) lecture
Career goal development. Includes self- presentation and communication skills, keeping files and records, and developing self-promotional materials. Prerequisites: None.

MUC295
Studio Music Recording III
3 credit(s) 6 period(s) lecture + lab
Producing and engineering a recording project. Covers how recording studios work and how recording projects are organized from pre-production through delivery of the final mix. Prerequisites: A grade of C or better in MUC196 and (MUC111 or permission of Instructor).

MUC297AA
Music Internship
1 credit(s) 1 period(s) lecture + lab
Music Internship work experience in a business or industry. Eighty (80) hours of designated work per credit. A maximum of 12 credits allowed. Prerequisites: Permission of department.

MUE – Music: Education

MUE240
Introduction to Choral Methods
2 credit(s) 3 period(s) lecture + lab
Overview of techniques, methods, materials, style characteristics, and repertoire used in directing choral music at the secondary level including simulated teaching, conducting, and the demonstration of vocal and choral performance practices. Prerequisites: None.

MUP – Music: Performance

MUP101, MUP151, MUP201, MUP251
Private Instruction
1 credit(s) 0.6 period(s) lecture + lab
Private Instruction emphasizing developmental improvement of musicianship and technique from an entering skill level. Four course sequence required of all music majors meeting departmental requirements. Instruction provided on voice, piano, harpsichord, organ, guitar, trumpet, French horn, trombone, euphonium, tuba, flute, oboe, clarinet, bassoon, saxophone, violin, viola, violoncello, contrabass, bass guitar, percussion, and harp. May be repeated for credit. Prerequisites: None.

MUP102, MUP152, MUP202, MUP252
Private Instruction
2 credit(s) 1.2 period(s) lecture + lab
Private instruction emphasizing musicianship, literature, technique and performance. Four course sequence designed for university transfer equivalency. Instruction provided on voice, piano, harpsichord, organ, guitar, trumpet, French horn, trombone, euphonium, tuba, flute, oboe, clarinet, bassoon, saxophone, violin, viola, violoncello, contrabass, bass guitar, percussion, and harp. May be repeated for credit. Prerequisites: None.

MUP123AB
Studio Class/Voice
0.5 credit(s) 0.5 period(s) lecture + lab
Performance and laboratory class for students enrolled in private voice instruction. Emphasis on demonstration and discussion of specific vocal problems. Prerequisites: None. Corequisites: Private Voice Instruction. Course Notes: MUP123AB may be repeated for credit.

MUP123AD
Studio Class: Instrumental
0.5 credit(s) 0.5 period(s) lecture + lab
Performance and laboratory class for students enrolled in private instrumental instruction. Emphasis on demonstration and discussion of specific instrumental problems. Prerequisites: None. Corequisites: Private Instrumental Instruction. Course Notes: MUP123AD may be repeated for credit.

MUP130
Beginning Group Piano
2 credit(s) 3 period(s) lecture + lab
Basic introduction to playing piano through music reading, chords, rhythm, and written activities. Designed for those with little or no piano experience. Prerequisites: None.

MUP131
Class Piano I
2 credit(s) 3 period(s) lecture + lab
Development of beginning piano techniques and the fundamentals of music including basic hand position, music reading skills of melodic and harmonic material, major scales, transposition, and harmonizations including the I, IV, V7 chords. Prerequisites: None.

MUP132
Class Piano II
2 credit(s) 3 period(s) lecture + lab
Continuation of Piano I with emphasis on elementary piano techniques including major and minor scales, transposition, improvisation, and sight reading. Prerequisites: A grade of C or better in MUP131 or permission of Instructor.

MUP133
Class Voice I
2 credit(s) 3 period(s) lecture + lab
Introduction to the fundamentals of vocal production. Emphasis on breathing techniques, tone production and performances in class of solo vocal literature. Prerequisites: None.

MUP134
Class Voice II
2 credit(s) 3 period(s) lecture + lab
Continuation of Class Voice I including the elements of stage presence and diction. Prerequisites: A grade of C or better in MUP133 or permission of Instructor.

MUP150
Community Chorus
1 credit(s) 3 period(s) lecture + lab
A mixed chorus with emphasis on college/ community participation and preparation of a variety of choral literature for public performance. Auditions may be required. May be repeated for credit. Prerequisites: None.

MUP153
Concert Choir
2 credit(s) 5 period(s) lecture + lab
A mixed choir designed to emphasize choral techniques and performance of all styles of choral literature. Public performances are scheduled each semester. Prerequisites: None. Course Notes: Auditions may be required. MUP153 may be repeated for credit.

MUP155
Handbell Choir (Bell Canto)
1 credit(s) 3 period(s) lecture + lab
Emphasis on practical and performing skills in bell ringing. Preparation of all styles of bell literature. Scheduled public performances during the year. Prerequisites: None. Course Notes: MUP155 may be repeated for credit.
MUP157
Women's Chorus
1 credit(s) 3 period(s) lecture + lab
A women's chorus designed to emphasize choral technique and performance of all styles of appropriate choral literature. Public performances are scheduled during the year. Auditions may be required. Prerequisites: None. Course Notes: MUP157 may be repeated for credit.

MUP159
Community Orchestra
1 credit(s) 3 period(s) lecture + lab
Emphasis on college/community participation and the preparation of orchestral literature for public performance. Prerequisites: None. Course Notes: MUP159 may be repeated for credit. Auditions may be required.

MUP161
Community Band
1 credit(s) 3 period(s) lecture + lab
Emphasis on college/community participation and the preparation of wind literature for public performance. Prerequisites: None. Course Notes: MUP161 may be repeated for credit. Auditions may be required.

MUP163
Jazz Ensemble
1 credit(s) 3 period(s) lecture + lab
Practical and performance experience in various jazz styles. Prerequisites: None. Course Notes: MUP163 may be repeated for credit. Open to all students on the basis of auditions. Auditions may be required.

MUP164
Jazz Improvisation I
2 credit(s) 2 period(s) lecture
Theoretical and performance skills in many styles of jazz improvisation. Prerequisites: None. Course Notes: MUP164 may be repeated for a total of six (6) credit hours.

MUP165
Jazz Improvisation II
2 credit(s) 3 period(s) lecture
Intermediate theoretical and performance skills in many styles of jazz improvisation. May be repeated for a total of six (6) credit hours. Prerequisites: A grade of C or better in MUP164 or permission of instructor.

MUP181
Chamber Music Ensembles
1 credit(s) 2 period(s) lecture + lab
Practical and performance experience in instrumental, vocal, and mixed ensembles. Prerequisites: None. Course Notes: MUP181 may be repeated for credit.

MUP182
Chamber Singers
1 credit(s) 3 period(s) lecture + lab
Practical and performance experience in various styles of vocal music. Prerequisites: None. Course Notes: MUP182 may be repeated for credit. Open to all students on the basis of auditions. Auditions may be required.

MUP190
Percussion Ensemble
1 credit(s) 3 period(s) lecture + lab
Practical and performance experience in various percussion styles. Percussion literature from a diverse number of world musical traditions. Western European art music, various African traditions, Indian music, Japanese music, Indonesian music, Mexican, Central, and South American music, and percussion compositions from the American Experimental Tradition rehearsed and performed. Concerts presented throughout the semester. Percussion technique are studied and refined as they relate to the literature performed. Emphasis placed on reading and listening skills, increased aesthetic discrimination. Informed performance practice and skills on all percussion instruments and traditions. Prerequisites: None. Course Notes: MUP190 may be repeated for up to six (6) credits.

MUP209
Elements of Conducting
2 credit(s) 2 period(s) lecture
Essentials of conducting techniques used in choral and instrumental ensembles including terminology, interpretation, and styles. Prerequisites: None.

MUP225
Class Guitar I
2 credit(s) 3 period(s) lecture + lab
Emphasis on note-reading and folk-style harmonic accompaniment. Includes finger-style playing. Stresses development of efficient practicing techniques and proper sitting and hand positions. Prerequisites: None.

MUP226
Class Guitar II
2 credit(s) 3 period(s) lecture + lab
Note-reading range including second position and parts of higher positions. Classical, popular, Latin, and other styles of music. Theory including scales, keys, and chord construction. Technical exercises of both hands. Prerequisites: A grade of C or better in MUP225 or permission of Instructor.

MUP227
Class Guitar III
2 credit(s) 3 period(s) lecture + lab
Additional fingerboard positions. Ensemble techniques and performance. Prerequisites: A grade of C or better in MUP226 or permission of Instructor.

MUP228
Class Guitar IV
2 credit(s) 3 period(s) lecture + lab
Advanced fingerboard positions. Duet and trio performances. Advanced ensemble techniques. Prerequisites: A grade of C or better in MUP227 or permission of Instructor. Course Notes: MUP228 may be repeated for credit.

MUP231
Class Piano III
2 credit(s) 3 period(s) lecture + lab
Continuation of Piano III including modulation techniques, improvisation of piano accompaniments, advanced chromatic harmony, and sight reading of advanced literature. Prerequisites: A grade of C or better in MUP231 or permission of Instructor.

MUP250AB
Survey of Diction for Singers (Italian/Latin)
1 credit(s) 2 period(s) lecture + lab
Introduction to the use of phonetics in the study of Italian/Latin song literature. Prerequisites: None.

MUP250AC
Survey of Diction for Singers (German)
1 credit(s) 2 period(s) lecture + lab
Introduction to the use of phonetics in the study of German song literature. Prerequisites: None.
NAV – Navajo

NAV101
Elementary Navajo I
4 credit(s) 4 period(s) lecture
Basic grammar, pronunciation, and vocabulary of the Navajo language. Practice of listening, speaking, reading, and writing skills. Includes the study of the Navajo culture with participation in an off-campus Navajo cultural event. Prerequisites: None.

NAV102
Elementary Navajo II
4 credit(s) 4 period(s) lecture
Continued study of grammar, pronunciation, and vocabulary of the Navajo language. Emphasis on listening, speaking, reading, and writing skills. Prerequisites: A grade of C or better in NAV101 or permission of department. Completion of prerequisites within the last three years is required. Course Note: Includes the study of the Navajo culture with participation in an off-campus Navajo cultural event.

NUR – Nursing Science: Basic

NUR152
Nursing Theory and Science I
9 credit(s) 19 period(s) lecture and lab
Introduction of Nurse of the Future competencies as a foundational framework for development of the professional nurse. Basic care concepts and the nursing process are utilized to meet the needs of adult and older adult patients. Prerequisites: Admission into the Nursing Program.

NUR172
Nursing Theory and Science II
9 credit(s) 16 period(s) lecture and lab
Utilization of Nurse of the Future competencies to develop knowledge, skills, and attitudes to provide safe, quality patient care across the wellness/illness continuum in selected medical-surgical and mental health patients. Prerequisites: A grade of C or better in (BIO205 and NUR252) or permission of Nursing Department Chair.

NUR252
Nursing Theory and Science III
9 credit(s) 16 period(s) lecture and lab
Application of critical thinking strategies related to holistic care of the newborn and childbearing patients. Integration of concepts related to holistic care of adults and older adult patients with selected acute and chronic alterations in health. Integration of professional nursing standards in role development. Utilization of previous knowledge of physical, biologic, psychosocial sciences, and the cultural, spiritual aspects of nursing care. Integration of concepts of nutrition, pharmacology, communication, health promotion, and pathophysiology into nursing care. Prerequisites: A grade of C or better in (CRE101 and NUR172 and PSY101) or permission of Nursing Department Chair.

NUR283
Nursing Theory and Science IV
9 credit(s) 16 period(s) lecture and lab
Applies Nurse of the Future competencies to practice and manage care for the child/family unit and adults requiring complex care throughout the wellness/illness continuum, and prepare for transition from student to professional nurse. Prerequisites: A grade of C or better in (BIO205 and NUR252) or permission of Nursing Department Chair.

NVH – Navajo Humanities

NVH245
Navajo Culture and Heritage
3 credit(s) 3 period(s) lecture
Survey of the Navajo people, including their history, culture/aesthetics, education, spirituality, and language. Prerequisites: None.

PAD – Public Administration

PAD100
21st Century Public Policy and Service
3 credit(s) 3 period(s) lecture
Introduction to topics pertaining to public policy and public service in the 21st century. Includes formation, implementation, and evaluation procedures for public policy, as well as roles and agendas of policy makers and public administrators. Also covers careers in public service/administration and an evaluation of essential skills necessary for a career in public service. Prerequisites: None.

PAD200
Public Affairs Economics
3 credit(s) 3 period(s) lecture
Introduction to the use of macroeconomic and microeconomic principles concerning public affairs and social issues. Includes the role of economics in societal development and public policies in addition to the effects of unemployment and inflation. Also covers measurement of, causes for, and societal responses to poverty. Prerequisites: A grade of C or better in PAD100 or permission of Instructor.

PED – Physical Education

PED101s
Physical Activities: Basic
1 credit(s) 2 period(s) lecture + lab
Individual, dual, or team sports activities at the basic level. Prerequisites: None. Course Note: PED101 may be repeated for credit.

PED102s
Physical Activities: Intermediate
1 credit(s) 2 period(s) lecture + lab
Individual, dual, or team sports activities at the intermediate level. Prerequisites: None. Prior experience recommended. Course Note: PED102 may be repeated for credit.

PED103s
Physical Activities: Basic
0.5 credit(s) 1 period(s) lecture + lab
Individual, dual, or team sports activities at the basic level. Prerequisites: None. Course Note: PED103 may be repeated for credit.

PED105
Army Master Fitness
1 credit(s) 3 period(s) lecture + lab
Introduces the student to the Army Master Fitness Program. Designed to enhance the student’s level of individual fitness and wellness. Prerequisites: None. Course Note: The course is taught at the ASU Tempe Campus. Contact the Army ROTC Department.

PED111
Aerobics
1.5 credit(s) 3 period(s) lecture + lab
Aerobic activity and wellness study to help develop a lifetime of regular exercise, stress management, and proper nutrition. Workout includes warm-up/stretch, aerobic exercise, selected strength exercises, and cool down/stretch. Prerequisites: None.
PED114
Fitness
1.5 credit(s) 3 period(s) lecture + lab
Fitness activity and wellness study to help develop a lifetime of regular exercise, stress management, and proper nutrition. Workout includes warm-up/stretch, aerobic exercise, selected strength exercises, and cool down/stretch. Prerequisites: None. Course Note: PED114 may be repeated for credit.

PED115
Lifetime Fitness
2 credit(s) 4 period(s) lecture + lab
Increase personal fitness, strength, and vitality. Current principles of cardiovascular exercise, weight training, flexibility, and balance exercises applicable to lifetime fitness goals. Personalized fitness plans developed and implemented with support of highly trained fitness professionals. Techniques to make sessions more effective and enjoyable. Prerequisites: None. Course Note: PED115 may be repeated for a total of eight (8) credit hours.

PED116
Cardiovascular Fitness
2 credit(s) 4 period(s) lecture + lab
Blends an effective warm-up, challenging cardiovascular and strength/endurance training strategies and a relaxing cool-down. Tailored by certified fitness professionals to personal goals. Prerequisites: None. Course Note: PED116 may be repeated for a total of eight (8) credits.

PED117
Weight Training for Wellness
2 credit(s) 4 period(s) lecture + lab
Strength training and muscular fitness activity to help develop a lifetime of regular exercise and muscular strength maintenance. Development of full body strength and stability of the body’s core musculature, translating to increased power, balance, and functional movement ability including assessment of current strength and goal-specific program design to increase strength and muscular fitness. Prerequisites: None. Course Note: PED117 may be repeated for a maximum of eight (8) credits.

PED201s
Physical Activities: Advanced
1 credit(s) 2 period(s) lecture + lab
Individual, dual, or team sports activities at the advanced level. Prerequisites: None. Prior experience at competitive level recommended. Course Note: PED201 may be repeated for credit.

PHI – Philosophy

PHI101 SUN PHI 1101
Introduction to Philosophy
3 credit(s) 3 period(s) lecture
General consideration of human nature and the nature of the universe. Knowledge, perception, freedom and determinism, and the existence of God. Prerequisites: None.

PHI103 SUN PHI 1103
Introduction to Logic
3 credit(s) 3 period(s) lecture
Informal logic, logical fallacies, elementary symbolic logic, analysis of argument forms, and construction of proofs for validity. Prerequisites: A grade of C or better in ENG101 or ENG107 or equivalent.

PHI105 SUN PHI 1105
Introduction to Ethics
3 credit(s) 3 period(s) lecture
A survey of ethical theory in Western Philosophy, including the major normative theories and selected metaethical theories. Prerequisites: None.

PHI212
Contemporary Moral Issues
3 credit(s) 3 period(s) lecture
Philosophical consideration of such moral issues as civil disobedience, preferential treatment, abortion, privacy, sexual morality, and poverty and hunger. Prerequisites: None.

PHI213
Medical and Bio-Ethics
3 credit(s) 3 period(s) lecture
A philosophical consideration of moral problems that arise in relation to medicine and biology, e.g., death, patient rights and biological experimentation. Prerequisites: None.

PHI216
Environmental Ethics
3 credit(s) 3 period(s) lecture
Philosophical consideration of diverse theories and perspectives on the environment, and application of these theories to global moral issues such as animal rights, preservation of wilderness and species, population, world hunger and poverty, and air and water pollution. Prerequisites: None.

PHI218
Philosophy of Sexuality
3 credit(s) 3 period(s) lecture
Philosophical examination of sexuality in human life. Historical and critical survey of philosophical and theological views. Comparison and evaluation of contemporary theories about the nature of sexual desire and sexual acts. Implications of theories for contemporary moral problems. Prerequisites: A grade of C or better in ENG101 or ENG107 or permission of Instructor. Course Notes: Course may contain adult content. All students under 18 years old are required to have a signed parental consent form on file, which is on the back of the "Students Under The Age of 18" Enrollment Form.

PHS – Physical Science

PHS110
Fundamentals of Physical Science
4 credit(s) 6 period(s) lecture and lab
Survey of the principles of physics and chemistry. Prerequisites: Grade of "C" or better in MAT090, or MAT091, or MAT092, or equivalent, or satisfactory score on Math placement exam.

PHY – Physics

PHY101
Introduction to Physics
4 credit(s) 6 period(s) lecture and lab
A survey of physics emphasizing applications of physics to modern life. Prerequisites: Grade of "C" or better in MAT090, or MAT091, or MAT092, or equivalent, or satisfactory score on Math placement exam. Course Note: Students may receive credit for only one of the following: PHY101 or PHY101AA.

PHY111 SUN PHY 1111
General Physics I
4 credit(s) 6 period(s) lecture and lab
Includes motion, energy, and properties of matter. Prerequisites: A grade of C or better in MAT182 or MAT187 or MAT220 or MAT221 or eligibility for MAT220 as indicated by appropriate placement test score or one year high school Trigonometry with a grade of "C" or better or permission of Department or Division. Course Note: PHY111 is recommended for preprofessional and suggested for certain other majors. Students may receive credit for only one of the following: PHY111 or PHY111AA.
PHYSICS

PHY 111
General Physics I
4 credit(s) 6 period(s) lecture and lab
Includes electricity, electromagnetism, and modern physics. Prerequisites: A grade of C or better in PHY 111.

PHY 112
General Physics II
4 credit(s) 6 period(s) lecture and lab
Kinematics, Newton’s laws, work, energy, momentum, conservation laws, dynamics of particles, solids, fluids, mechanical waves, and sound. Prerequisites: A grade of C or better in MAT 220, or MAT 221, or permission of Department or Division. One year of High School physics or PHY 111 and PHY 112 suggested but not required.

PHYSIOLOGY

PHT 105
Introduction to Pharmacology
3 credit(s) 4 period(s) lecture + lab
Examines the functions and uses of drugs. Prerequisites: A grade of C or better in PHY 111.

PLB 109
Phlebotomy: Basic Skills
2 credit(s) 4 period(s) lecture + lab
Theory and practice of basic phlebotomy including laboratory test codes, equipment, and procedures. Prerequisites: Acceptance into the Medical Assisting or Phlebotomy program, (a grade of ‘C’ or better in HCC 130 and HCC 145 AA), and permission of Program Director.

PLB 110
Practicum: Fundamental Phlebotomy Skills
0.5 credit(s) 3 period(s) lab
Application of fundamental phlebotomy techniques in a clinical laboratory setting or health care environment. Prerequisites: A grade of C or better in PLB 109, submit to a drug screening and demonstrate negative results, and acceptance into the Medical Assisting or Phlebotomy program, or permission of Program Director. Course Notes: PLB 110 may be repeated for credit.

PLB 110 AA
Practicum: Basic Phlebotomy: Training for Law Enforcement Officers
2.0 credit(s) 6.0 period(s) lab
Application of basic phlebotomy techniques in a clinical laboratory setting or health care environment for law enforcement purposes. Prerequisites: Certified Law Enforcement Officer or permission of Program Director. Corequisites: PLB 109.

PLB 111
Specimen Processing and Advanced Techniques in Phlebotomy Procedures
2 credit(s) 4 period(s) lecture + lab
Theory and practice of advanced techniques in phlebotomy and specimen processing including laboratory test codes, equipment, and procedures. Prerequisites: A grade of C or better in PLB 109 and permission of Program Director.

PLB 112
Practicum: Specialized Phlebotomy Techniques
0.5 credit(s) 3 period(s) lab
Application of specialized phlebotomy techniques in a clinical laboratory setting or health-care environment. Prerequisites: A grade of C or better in PLB 109 and PLB 110. Corequisites: PLB 111 and PLB 121, or permission of Instructor.

PLB 114
Refresher Course for Phlebotomists
0.5 credit(s) 0.75 period(s) lecture + lab
Review of phlebotomy theory and practices including equipment, procedures, and special considerations. Reinforces basic skills and competencies of phlebotomy for trained phlebotomists currently working in the field. Prerequisites: Must be currently employed as a phlebotomist or permission of the Program Director. Course Note: PLB 114 may be repeated for credit.

PLB 121
Practicum: Basic Specimen Processing
2 credit(s) 8 period(s) lab
Application of specimen processing techniques in a clinical laboratory setting or health care environment. Prerequisites: A grade of C or better in PLB 109 and PLB 110. Corequisites: PLB 111 and PLB 121 or permission of Program Director. Course Notes: PLB 121 supports Medical Assisting program completers seeking the Certificate of Completion in Phlebotomy and requires formal acceptance into the program.

PLB 122
Practicum: Phlebotomy and Specimen Processing
3 credit(s) 12 period(s) lab
Application of phlebotomy and specimen processing techniques in a clinical laboratory setting or health care environment. Prerequisites: A grade of C or better in PLB 109 or permission of Program Director. Prerequisites: A grade of C or better in PLB 111 or Corequisites: PLB 111 or permission of Program Director.

POLITICAL SCIENCE

POS 101
Survey of State and Local Government
3 credit(s) 3 period(s) lecture
Survey of the processes, institutions, and activities of government at the state and local levels. Prerequisites: None.

POS 104
Issues in American Politics
3 credit(s) 3 period(s) lecture
Examination of major issues in current affairs in the fields of politics, economics, social relations, foreign affairs, aesthetics, and others through the reading and viewing of secondary information sources. Prerequisites: A grade of C or better in ENG 101 or ENG 107 or equivalent.

POS 110
Survey of World Politics
3 credit(s) 3 period(s) lecture
Introduction to the principles and issues relating to the study of international relations. Evaluation of the political, economic, national, and transnational rationale for international interactions. Prerequisites: None.

POS 200
American National Government
3 credit(s) 3 period(s) lecture
Study of the historical backgrounds, governing principles, and institutions, of the national government of the United States. Prerequisites: None.

POS 120
World Politics
3 credit(s) 3 period(s) lecture
Contemporary issues and factors in international relations. Stress conditions in civil order, trade and international institutions. May be repeated for a total of six (6) credit hours. Prerequisites: None.

POS 130
Issues in World Politics
3 credit(s) 3 period(s) lecture
Contemporary issues and factors in international relations. Stress conditions in civil order, trade and international institutions. Special attention on Arizona State Government. Prerequisites: None.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>POS140</td>
<td>Comparative Government</td>
<td>3</td>
<td>lecture</td>
<td>Overview and evaluation of the sub-field of comparative politics. Covers various national governments from around the world: their structure, system, method of governance. Examines methods of assessing these governments. Prerequisites: None.</td>
</tr>
<tr>
<td>POS180</td>
<td>United Nations Studies</td>
<td>3</td>
<td>lecture + lab</td>
<td>Historical origins, structural makeup, political and operational characteristics, and legal activities of the United Nations. Analysis of the overall institution's ongoing utility, productivity and creativity. Prerequisites: None.</td>
</tr>
<tr>
<td>POS201</td>
<td>Political Ideologies</td>
<td>3</td>
<td>lecture</td>
<td>An exploration of the diversity of textual, historical, and cultural traditions of the political thought that has shaped the human experience. Prerequisites: (A grade of 'C' or better in RDG100 or eligibility for CRE101 as indicated by appropriate reading placement test score and a grade of 'C' or better in ENG091 or eligibility for ENG101 as indicated by appropriate writing placement test score).</td>
</tr>
<tr>
<td>POS220</td>
<td>U.S. and Arizona Constitution</td>
<td>3</td>
<td>lecture</td>
<td>Examination of the United States Constitution and the constitution and government of the State of Arizona. Prerequisites: None.</td>
</tr>
<tr>
<td>POS221</td>
<td>Arizona Constitution</td>
<td>1</td>
<td>lecture</td>
<td>Examination of the Constitution of the State of Arizona. Equivalent to the second part of POS220. May not enroll in POS220 and POS221 concurrently. Prerequisites: None.</td>
</tr>
<tr>
<td>POS222</td>
<td>U.S. Constitution</td>
<td>2</td>
<td>lecture</td>
<td>Examination of the United States Constitution. Equivalent to the first part of POS220. May not enroll in POS220 and POS222 concurrently. Prerequisites: None.</td>
</tr>
<tr>
<td>POS223</td>
<td>Civil Rights and Liberties</td>
<td>3</td>
<td>lecture</td>
<td>The historic background and current status of major civil rights and civil liberties issues in the United States. Prerequisites: (A grade of 'C' or better in RDG100 or eligibility for CRE101 as indicated by appropriate reading placement test score and a grade of 'C' or better in ENG091 or eligibility for ENG101 as indicated by appropriate writing placement test score).</td>
</tr>
<tr>
<td>POS230</td>
<td>Public Policy and Civic Engagement: César Chávez Legacy</td>
<td>3</td>
<td>lecture + lab</td>
<td>Exploration of democratic citizenship in a multicultural society. Focus on the role of the activist in public policy service, community organizing, and social change strategies such as communication, social movement theory perspectives, and how leaders maintain movement momentum. Interpretation of the vision, philosophy, and work of César E. Chávez; and accomplishments by citizens (individually and collectively) in social change and opposition. Special emphasis on community engagement participation. Prerequisites: None. Course Notes: POS230 requires a minimum of 16 hours of civic engagement participation with community partners.</td>
</tr>
<tr>
<td>PSY101</td>
<td>Introduction to Psychology</td>
<td>3</td>
<td>lecture</td>
<td>To acquaint the student with basic principles, methods and fields of Psychology such as learning, memory, emotion, perception, physiological, developmental, intelligence, social and abnormal. Prerequisites: None.</td>
</tr>
<tr>
<td>PSY132</td>
<td>Psychology and Culture</td>
<td>3</td>
<td>lecture</td>
<td>Presents current knowledge about human diversity in behavior and culture using examples from a variety of contexts within western and global societies. Highlights topics in cross-cultural psychology, such as intergroup relations, diverse cognitive styles, ethnocentrism, gender, personality, emotion, language, communication, work and health. The role of enculturation throughout the lifespan will be explored to increase awareness of how behavioral and cognitive principles affect interactions in a multicultural world. Prerequisites: None.</td>
</tr>
<tr>
<td>PSY143</td>
<td>Lesbian, Gay, Bisexual and Transgendered Studies</td>
<td>3</td>
<td>lecture</td>
<td>Introduction to the study of lesbian, gay, bisexual, and transgendered individuals. Includes psychological, developmental, social, biological, historical and cultural aspects. Review of research literature regarding the etiology and assessment of sexual orientation, prejudice, and discrimination, and family issues. Current issues in lesbian/gay/bisexual/transgendered studies. Prerequisites: None.</td>
</tr>
<tr>
<td>PSY215</td>
<td>Introduction to Sport Psychology</td>
<td>3</td>
<td>lecture</td>
<td>Application of the psychological, behavioral, social, cognitive, and humanistic perspectives in psychology to sport. Includes topics such as optimal performance, correlation, motivation, co-action effect, self-actualization, psycho-behavioral techniques, self-efficacy, and the general health benefits of sport participation. Prerequisites: PSY101 with a grade of ‘C’ or better or permission of Instructor.</td>
</tr>
<tr>
<td>PSY218</td>
<td>Health Psychology</td>
<td>3</td>
<td>lecture</td>
<td>Behavioral and mental foundations of health, wellness, illness, and disease, and psychological dimensions of medical intervention. Prerequisites: PSY101 with a grade of ‘C’ or better, or permission of Instructor.</td>
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</tbody>
</table>

**PSY – Psychology**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY228</td>
<td>Political Issues and Public Policy</td>
<td>3</td>
<td>lecture + lab</td>
<td>Introduction to public policy, how policy is made, and how public policy decisions are affected. Prerequisites: None.</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
<td>Periods</td>
<td>Type</td>
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<tr>
<td>PSY230</td>
<td>Introduction to Statistics</td>
<td>3</td>
<td>3</td>
<td>Lecture</td>
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<td>PSY240</td>
<td>Developmental Psychology</td>
<td>3</td>
<td>3</td>
<td>Lecture</td>
</tr>
<tr>
<td>PSY250</td>
<td>Social Psychology</td>
<td>3</td>
<td>3</td>
<td>Lecture</td>
</tr>
<tr>
<td>PSY266</td>
<td>Abnormal Psychology</td>
<td>3</td>
<td>3</td>
<td>Lecture</td>
</tr>
<tr>
<td>PSY277</td>
<td>Psychology of Human Sexuality</td>
<td>3</td>
<td>3</td>
<td>Lecture</td>
</tr>
<tr>
<td>PSY290AB</td>
<td>Research Methods</td>
<td>4</td>
<td>6</td>
<td>Lecture and Lab</td>
</tr>
<tr>
<td>PSY298</td>
<td>Special Projects</td>
<td>1-3</td>
<td>1-3</td>
<td>Lab</td>
</tr>
<tr>
<td>RDG008</td>
<td>Phonics</td>
<td>3</td>
<td>3</td>
<td>Lecture</td>
</tr>
<tr>
<td>RDG/ESL016</td>
<td>Reading English as a Second Language I</td>
<td>3</td>
<td>3</td>
<td>Lecture</td>
</tr>
<tr>
<td>RDG/ESL026</td>
<td>Reading English as a Second Language II</td>
<td>3</td>
<td>3</td>
<td>Lecture</td>
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<tr>
<td>RDG/ESL036</td>
<td>Reading English as a Second Language III</td>
<td>3</td>
<td>3</td>
<td>Lecture</td>
</tr>
<tr>
<td>RDG/ESL046</td>
<td>Reading English as a Second Language IV</td>
<td>3</td>
<td>3</td>
<td>Lecture</td>
</tr>
</tbody>
</table>

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**PSY277 Psychology of Human Sexuality**  
3 credit(s) 3 period(s) lecture  
Survey of psychological and physiological aspects of human sexual behavior. Emphasis placed on the integration of the cognitive, emotional, and behavioral factors in sexual functioning. **Prerequisites:** A grade of C or better in PSY101. **Course Notes:** PSY277 course may contain adult content. All students under the age of 18 are required to have a signed parental consent form on file, which is on the back of the Under the Age of 18 Enrollment Form.

**PSY290AB Research Methods**  
4 credit(s) 6 period(s) lecture and lab  
Planning, execution, analysis, and written reporting of psychological research using American Psychological Association guidelines (APA). Surveys the literature, procedures, and instruments in representative areas of psychological research. **Prerequisites:** A grade of C or better in ENG101 or ENG107. **Prerequisites or Corequisites:** PSY230 with a grade of "C" or better, or permission of Instructor.

**RDG – Reading**  
In college, most courses involve reading and studying. Thus it is critical for students to know and apply appropriate skills that will enhance academic progress and success. The Reading Department offers a wide variety of reading/study-based courses at different levels. These courses have been designed to develop and improve students' skills so that they can attain personal and academic goals. Please Note: For CRE (Critical Reading) courses, see page 239.
RDG071
Basic Reading
3 credit(s) 3 period(s) lecture
Provide opportunities for practice and application of basic reading skills. Includes phonic analysis, word recognition, structural analysis, use of context clues, and use of dictionary, reinforced through practical application. Development of vocabulary required for success in content area courses. Emphasis on literal comprehension and development of inferential interpretation. Prerequisites: Appropriate reading placement test score, or grade of "C" or better in RDG/ESL046, or permission of Instructor. Course Note: RDG071 is recommended for all students with limited reading experiences.

RDG081
Reading Improvement
3 credit(s) 3 period(s) lecture
Designed to improve basic reading skills. Includes word recognition, interdisciplinary vocabulary development, recognizing patterns of organization, interpreting inference. Reviews interpreting graphic materials. Emphasis on identifying main ideas and related details. Prerequisites: Appropriate reading placement test score, or grade of "C" or better in RDG071, or permission of Instructor.

RDG100
Successful College Reading
3 credit(s) 3 period(s) lecture
Emphasis on reading study strategies for any introductory class in any subject area. Introduction to Learning Management System (LMS), how to successfully read course textbooks and assessments, how to navigate information technology and development of academic vocabulary. Prerequisites: A grade of C or better in RDG081 or appropriate reading placement score or permission of Instructor. Corequisites: Any 100-level course in another content area or permission of Instructor. Course Notes: RDG100 may be repeated for a total of twelve (12) credit hours.

REA – Real Estate

REA179
Real Estate Principles I
3 credit(s) 3 period(s) lecture
Basics of real estate principles including introduction to the profession and license law, definition of real property, legal descriptions, rights and interests in property, ownership, contracts, real estate economics, financing and foreclosure, land use, and valuation. Prerequisites: None.

REA180
Real Estate Principles II
3 credit(s) 3 period(s) lecture
Advanced work in real estate including escrow procedures and title insurance, liens and encumbrances, advanced contracts, water rights, toxic waste and environmental hazards, agency, ethics and professional relationships, real estate code and the Commissioner’s rules, investment, property management, and government restrictions. Prerequisites: A grade of C or better in REA179 or permission of Instructor.

REA290AH
Real Estate Seminar: Contract Writing
0.5 credit(s) 0.5 period(s) lecture
Contract writing skills, techniques, and requirements. Writing of basic real estate contracts, including purchase offers, counter offers, sales listing agreements, and riders. Prerequisites: None.

REL – Religious Studies

REL100
World Religions
3 credit(s) 3 period(s) lecture
The development of various religions from the prehistoric to modern times. Political, economic, social and geographic relationships among world religions. Consideration of both Eastern and Western religions. Prerequisites: None.

REL203/AIS213
American Indian Religions
3 credit(s) 3 period(s) lecture
An examination of the historical and cultural background of diverse lifeways and worldviews belonging to the peoples indigenous to the North American continent over time, including a study of modern day American Indian beliefs and practices. Prerequisites: A grade of C or better in ENG101 or ENG107 or equivalent.

REL205
Religion and the Modern World
3 credit(s) 3 period(s) lecture
Introduction to the nature and role of religious beliefs and practices in shaping the lives of individuals and societies, with particular attention to the modern world. Prerequisites: A grade of C or better in ENG101, or ENG107, or equivalent.

REL212
Introduction to Islam
3 credit(s) 3 period(s) lecture
Introduction to history, scriptures, practices and impact of Islam. Prerequisites: None.

REL270
Introduction to Christianity
3 credit(s) 3 period(s) lecture
The nature and content of the Christian tradition developed over time, with overview of the New Testament, major historical trends and figures, major Christian ideas and practices, and survey of denominations. Prerequisites: None.

REC – Recreation

REC120
Leisure and the Quality of Life
3 credit(s) 3 period(s) lecture
Overview of the historical, psychological, social, and cultural aspects of play, leisure, and recreation and their role in contemporary society. Nature of play and leisure behavior in human development within different cultures and the contribution play, recreation, and leisure make to the quality of life for individuals in today’s society. Prerequisites: None.

REC150AA
Outdoor Adventure Skills Field Experience
1 credit(s) 2 period(s) lab
Practical application of camping and outdoor skills including camping, equipment selection and use, cooking, fire building, camp programs, backpacking, and safety. Prerequisites: None. Course Note: Course may be repeated for a total of four (4) credits.

REC210
Leisure Delivery Systems
3 credit(s) 3 period(s) lecture
Systematic study of Delivery of Leisure Services in public, commercial, and independent sectors; particular emphasis placed on the urban setting. Prerequisites: None.

REL – Religious Studies

REL100
World Religions
3 credit(s) 3 period(s) lecture
The development of various religions from the prehistoric to modern times. Political, economic, social and geographic relationships among world religions. Consideration of both Eastern and Western religions. Prerequisites: None.

REL203/AIS213
American Indian Religions
3 credit(s) 3 period(s) lecture
An examination of the historical and cultural background of diverse lifeways and worldviews belonging to the peoples indigenous to the North American continent over time, including a study of modern day American Indian beliefs and practices. Prerequisites: A grade of C or better in ENG101 or ENG107 or equivalent.

REL205
Religion and the Modern World
3 credit(s) 3 period(s) lecture
Introduction to the nature and role of religious beliefs and practices in shaping the lives of individuals and societies, with particular attention to the modern world. Prerequisites: A grade of C or better in ENG101, or ENG107, or equivalent.

REL212
Introduction to Islam
3 credit(s) 3 period(s) lecture
Introduction to history, scriptures, practices and impact of Islam. Prerequisites: None.

REL270
Introduction to Christianity
3 credit(s) 3 period(s) lecture
The nature and content of the Christian tradition developed over time, with overview of the New Testament, major historical trends and figures, major Christian ideas and practices, and survey of denominations. Prerequisites: None.
SBS – Small Business Management

SBS213 Hiring and Managing Employees 1 credit(s) 1 period(s) lecture
Methods and techniques for managing employees in a small business. Includes supervisor’s role, leadership styles, interpersonal communications, staff planning, employee work styles, techniques for handling problem employees, and employee motivation. Focuses on real life situations to enable the business owner to gain high performance from their employee team. Includes segment on hiring, new employee orientation, training, benefits, and developing future staffing needs assessment. Prerequisites: None.

SBS214 Small Business Customer Relations 1 credit(s) 1 period(s) lecture
Developing and improving customer relations for the small business. Planning and delivering quality customer service. Includes topics on attitude of employees, customer perceptions and motivations, handling customer dissatisfaction, and developing customer, supplier, vendor, and distributor loyalty. Prerequisites: None.

SBS216 Planning for a Small Business 2 credit(s) 2 period(s) lecture
Relates business management issues to a specific small business through development of an individual study plan. Provides on-site review of business operation by trained Instructor. Prerequisites: A grade of C or better in SBS200 and SBS204 or permission of Instructor.

SBS217 Starting/Managing a Home Business 1 credit(s) 1 period(s) lecture
Analysis of the successful operation of a home-based business. Includes study of economic feasibility, practicality, and adjustments for the family. Analysis of the advantages/disadvantages of operating a home based business, versus a "store-front" business. Review of current trends in home business opportunities and franchises. Descriptions of home businesses that have succeeded in local, national, and international markets. Prerequisites: None.

SBS220 Internet Marketing for Small Business 2 credit(s) 2 period(s) lecture
Focuses on “e-Commerce”-doing business on the Internet and planning a website. Topics include: how the Internet can help growth and success of business; examples of successful marketing on the Internet; availability of Internet services; necessary hardware and software for marketing on the Internet; determining products/services appropriate for Internet marketing; budget constraints and on-going operations of the Internet site. Prerequisites: None.

SBS230 Financial and Tax Management for Small Business 2 credit(s) 2 period(s) lecture
An overview of accounting and record-keeping for the successful management of a small business. Develops an understanding of the accounting cycle and preparation of financial statements. Includes section on tax consequences and the choice of legal entity choice based on taxation. Prerequisites: None.

SBU – Society and Business

SBU200 Society and Business 3 credit(s) 3 period(s) lecture
The study and scientific inquiry of issues and demands placed on business enterprise by owners, customers, government, employees and society. Included are social, ethical, and public issues and analysis of the social impact of business responses. Prerequisites: None.

SLG – Sign Language

SLG090AB Speedy Sign Language II 1 credit(s) 1 period(s) lecture
Use American Sign Language (A.S.L.) to converse about feelings, family members, other people, clothing, events according to proper tense, and to count to one hundred. Prerequisites: A grade of C or better in SLG090A. Completion of prerequisites within the last three years is required.

SLG101 American Sign Language I 4 credit(s) 4 period(s) lecture

SLG102 American Sign Language II 4 credit(s) 4 period(s) lecture
Continued development of knowledge and language skills for communicating with deaf people who sign. Includes numbers, fingerspelling, and culture. Emphasis on enhancement of receptive sign skills and continued development of expressive sign skills. Application of rudimentary, syntactical, and grammatical structure stressed with continued development of sign vocabulary. Prerequisites: SLG101 with a grade of ‘C’ or better, or permission of Department or Division. Completion of prerequisites within the last three years is required.

SLG103 Introduction to the Deaf Community 1 credit(s) 1 period(s) lecture
History and development of American Sign Language (A.S.L.) and English codes. Overview of education for Deaf and Hard of Hearing children. Legal rights and common adaptive devices used by Deaf and Hard of Hearing individuals. Prerequisites: None.

SLG110 Fingerspelling I 2 credit(s) 2 period(s) lecture
Introduction to basic fingerspelling techniques. Concentration on receptive and expressive skills including manual alphabet production and numbers. Focus on methods, theory, and applications. Prerequisites: A grade of C or better in SLG101, or permission of Department or Division. Completion of prerequisites within the last three years is required.

Course information is subject to change. Visit https://curriculum.maricopa.edu for most current information.
SLG120  Fingerspelling II  
2 credit(s) 2 period(s) lecture  
Continued skill development including speed, dexterity, clarity, and loan signs. Advanced use of numbers, prefixes, suffixes, and polysyllabic words.  
Prerequisites: SLG102 and SLG110 with a grade of C or better or permission of Department or Division. Completion of prerequisites within the last three years is required.

SLG200  Issues and Resources  
3 credit(s) 3 period(s) lecture  
Implications of laws pertaining to educational choices and rights of deaf and hearing impaired individuals. Local, state, and national organizations, activities, and agencies affecting the deaf community.  
Prerequisites: SLG102 with "C" or better, or permission of Department or Division. Completion of prerequisites within the last three years is required.

SLG201  American Sign Language III  
4 credit(s) 4 period(s) lecture  
Prerequisites: SLG102 with a grade of C or better, or permission of Department or Division. Suggested but not required: (ENG101 or ENG107) and (CRE101, or CRE111, or exemption by score on the reading placement test (ASSET)). Completion of prerequisites within the last three years is required.

SLG202  American Sign Language IV  
4 credit(s) 4 period(s) lecture  
Prerequisites: SLG201 with a grade of C or better, or permission of Department or Division. Suggested but not required: (ENG101 or ENG107), SLG200, and (CRE101, or CRE111, or exemption by score on the reading placement test). Completion of prerequisites within the last three years is required.

SLG203  American Sign Language V  
4 credit(s) 4 period(s) lecture  
Advanced study of vocabulary, classifiers, use of space, and grammatical features of American Sign Language (ASL). Includes evaluation of changes that occur in ASL as a living language. Advanced use of ASL in demonstrations, reports, and presentations.  
Prerequisites: SLG202, with a grade of 'C' or better. Completion of prerequisites within the last three years is required.

SLG204  Comparative Linguistics: ASL/English  
3 credit(s) 3 period(s) lecture  
A variety of topics about linguistics of American Sign Language and English including phonology, morphology, lexicon, syntax, discourse, and language acquisition. Aspects of using sign language and how visual languages differ and are similar to spoken language.  
Prerequisites: SLG202.  
Corequisites: SLG203. Completion of prerequisites within the last three years is required.

SLG212  Deaf Culture  
3 credit(s) 3 period(s) lecture  
Linguistic, social, educational, and political issues in deaf culture. Values and group identity issues as related to heritage and literature. Special emphasis on the cultural and philosophical attitudes shared with other minority groups.  
Prerequisites: SLG202, or permission of Department or Division. Completion of prerequisites within the last three years is required.

SOC – Sociology

SOC101  SOC 110  Introduction to Sociology  
3 credit(s) 3 period(s) lecture  
The systematic study of social behavior and human groups, particularly the influence of culture, socialization, social structure, stratification, social institutions, differentiation by region, race, ethnicity, sex/gender, age, class, and socio/cultural change upon people’s attitudes and behaviors.  
Prerequisites: None.

SOC110  Drugs and Society  
3 credit(s) 3 period(s) lecture  
Provides a sociological understanding of drug use and policy. Examines social-cultural factors contributing to use and abuse and effects of commonly used drugs on the individual and society. Reviews current theories and research relating to drug use. Introduces extensive coverage of various methods and statistics for measuring drug use. Explores prevention, intervention, and treatment. Examines public policies concerning drug related issues.  
Prerequisites: None.

SOC157  Sociology of Families and Relationships  
3 credit(s) 3 period(s) lecture  
Systemic analysis of socio-cultural and historical origins of modern families in the U.S. and their importance, major challenges and changing trends. Explores being single, dating and attraction, love, cohabitation and marriage, family planning and parenthood, conflict and crisis within the family, and divorce.  
Prerequisites: None.

SOC/AIS160  American Indian Law  
3 credit(s) 3 period(s) lecture  
Analyzes the legal system of the United States Government as it applies to American Indian Nations. Examines how United States legal institutions have impacted Indian sovereignty. Units of analysis include the development of Indian law, United States Supreme Court decisions, Congressional Acts, treaty rights and the development of tribal governments. Focuses on legal institutions that have abridged the property rights of Indian Nations.  
Prerequisites: None.

SOC180  Social Implications of Technology  
3 credit(s) 3 period(s) lecture  
Effects of development and implementation of technology on society. Historical and multi-cultural comparisons of this process, current concerns addressed, and prospects for the future analyzed.  
Prerequisites: None.
**SOC241** SOC 2215
Race and Ethnic Relations
3 credit(s) 3 period(s) lecture
Examines how the social construction of race shapes social interaction and social institutions. Explores the consequences of power, privilege and oppression among major ethnic and racial groups in the United States.
Prerequisites: None.

**SOC245**
Social Deviance
3 credit(s) 3 period(s) lecture
A sociological analysis of social deviance including a review of theories, individual and social implications of deviant labeling, and relevant aspects of social control.
Prerequisites: None.

**SOC251** Sociology of Aging
3 credit(s) 3 period(s) lecture
A systematic and in-depth survey of selected social problems and inequalities from a sociological perspective, including what is known about the problem, recent trends, their causes and consequences, individual and societal responses to them, and possible remedies or policies that could address these issues. Issues to be examined may include issues in health care, dependencies, crime/violence, inequalities in race/class/gender/region/age, family, education, work, the economy, population migration/immigration, the environment, war and global insecurity.
Prerequisites: None.

**SOC265**
Sociology Through Film
3 credit(s) 3 period(s) lecture
Examines movie-going and the experience of spectatorship. Studies how motion pictures reflect, influence, and are influenced by American culture and societal institutions. Explores the role of the movie industry as a vehicle for social commentary, analysis, and criticism.
Prerequisites: None.

**SPA – Spanish**

**SPA101** SPA 1101
Elementary Spanish I
4 credit(s) 4 period(s) lecture
Basic grammar, pronunciation and vocabulary of the Spanish language. Includes the study of Spanish-speaking cultures. Practice of listening, speaking, reading, and writing skills.
Prerequisites: None.

**SPA102** SPA 1102
Elementary Spanish II
4 credit(s) 4 period(s) lecture
Continued study of grammar and vocabulary of the Spanish language and study of Spanish-speaking cultures. Emphasis on speaking, reading, and writing skills.
Prerequisites: (A grade of “C” or better in SPA101 or SPA101AA), or permission of Department or Division. Completion of prerequisites within the last three years is required.

**SPA103**
Elementary Spanish for Spanish Speakers I
4 credit(s) 4 period(s) lecture
Review of basic Spanish grammar and pronunciation. Emphasis on reading and writing skills in Spanish. For native speakers needing review of essential language skills.
Prerequisites: Spanish-speaking or personnel or students. Emphasis on basic sentence structure, pronunciation, and vocabulary used in health care settings.

**SPA110**
Intermediate Spanish I
3 credit(s) 3 period(s) lecture
Continued review of grammatical problems in speaking and writing in Spanish.
Prerequisites: A grade of C or better in SPA103 or equivalent or departmental approval.

**SPA119**
Spanish for Educational Settings I
3 credit(s) 3 period(s) lecture
Basic conversational Spanish for teachers, counselors, administrators and other school personnel. Emphasis on basic sentence structure, pronunciation and vocabulary used in educational settings.
Prerequisites: None.

**SPA201** SPA 2201
Intermediate Spanish I
4 credit(s) 4 period(s) lecture
Continued study of essential Spanish grammar and Spanish-speaking cultures. Continued practice and development of reading, writing, and speaking skills in Spanish. Emphasis on fluency and accuracy in spoken Spanish.
Prerequisites: Grade of “C” or better in SPA102, or SPA111, or permission of Department or Division. Completion of prerequisites within the last three years is required.

**SPA202** SPA 2202
Intermediate Spanish II
4 credit(s) 4 period(s) lecture
Review of grammar, continued development of Spanish language skills with continued study of the Spanish-speaking cultures.
Prerequisites: A grade of “C” or better in SPA201, or permission of Department or Division. Completion of prerequisites within the last three years is required.

**SPA203**
Spanish for Spanish-Speaking Students I
4 credit(s) 4 period(s) lecture
Designed for Spanish-speaking students. Emphasis on written composition, grammar review, punctuation and spelling, literature and conversation. May be taken in lieu of SPA201.
Prerequisites: Permission of Instructor or Department Chair.

**SPA204**
Spanish for Spanish-Speaking Students II
4 credit(s) 4 period(s) lecture
Prerequisites: A grade of C or better in SPA203, or SPA201, or permission of Department or Division. Completion of prerequisites within the last three years is required. Course Notes: SPA204 may be taken in lieu of SPA202.

**SPA206**
Spanish for Medical Interpretation II
3 credit(s) 3 period(s) lecture
Continuation of Spanish interpretation for medical interpreters. Medical vocabulary relating to human anatomy and physiology emphasized. 
Prerequisites: A grade of B or better in SPA205 or permission of Department or Division. Completion of prerequisites within the last three years is required.
SPH – Spanish Humanities

SPH245
Hispanic Heritage in the Southwest
3 credit(s) 3 period(s) lecture
A survey of Hispanic heritage in the Southwest. Cultural and social institutions and their contribution to the development of the region and its heritage. Prerequisites: None.

SSH – Sustainability/Social Sciences and Humanities

SSH111
Sustainable Cities
3 credit(s) 3 period(s) lecture
Introduction to the field of sustainability and exploration of the practices leading to the development of sustainable cities. Explores the concept of sustainable development of cities within local, regional, and global contexts. Prerequisites: None.

SWU – Social Work

SWU171
Introduction to Social Welfare
3 credit(s) 3 period(s) lecture
Analysis of contemporary social welfare services and professional social work. Prerequisites: (A grade of ‘C’ or better in RDG100 or eligibility for CRE101 as indicated by appropriate reading placement test score) and (a grade of ‘C’ or better in ENG091 or eligibility for ENG101 as indicated by appropriate writing placement test score).

SWU275AA
Case Report Writing I
1 credit(s) 1 period(s) lecture
Documentation skills for human service helpers. Includes privacy and legal issues. Prerequisites: None.

SWU282AA-AC
Voluteership for Social Work: A Service Learning Experience
1-3 credit(s) and 1-3 period(s) lab
Service-learning field experience within private/public agencies, and citizen volunteer groups. May be repeated for a total of six (6) SWU282 credit hours; may not repeat specific assignment for more than three (3) credit hours. Standard grading available according to procedures outlined in catalog. Prerequisites: Permission of Instructor.

SWU285
Social Services Seminar
1 credit(s) 1 period(s) lecture
Special topics in social services with an emphasis on current issues not covered in other Social Work courses. Prerequisites: None. Course Note: May be repeated for a total of four 4 credit hours.

SWU250
Mindfulness for Stress Management
3 credit(s) 3 period(s) lecture
Introduction to the theory, research and practice behind mindfulness and stress management as it relates to quality of life issues and professional self-care. Focus on maintaining a healthy lifestyle and managing personal/professional stress by incorporating evidence based research on nutrition, mindfulness, communication, positive psychology, exercise, environmental factors contributing to wellness and disease; immune system support, activity management and developing practices that facilitate maintaining living in balance. Prerequisites: None.

SWU/AJS/EMT/FSC258
Victimology and Crisis Management
3 credit(s) 3 period(s) lecture
Victimology, the criminal justice system, techniques of crisis intervention, and the importance of a multicultural and global perspective. Includes sexual assault, family violence, post-traumatic stress disorder, the role of substance abuse, effective coping skills, appropriate community resources and the responsiveness of the justice system. Prerequisites: None.

TCM – Telecommunications

TCM100
Digital Multimedia
3 credit(s) 3 period(s) lecture + lab
Introduction to the major components of a multimedia project. Prerequisites: None.

TCM/MTC120
Introduction to Sound Design for Film and Video
3 credit(s) 3 period(s) lecture
Basic principles of recording and mixing sound for film and video. Includes voice over, automatic dialog replacement (ADR), Foley, ambiance, special effects and music. Emphasis on analog and digital recording techniques in the field as well as in a controlled environment. Prerequisites: A grade of C or better in (TCM100 and TCM136) or permission of Instructor.

TCM/MTC220
Advanced Sound Design for Film and Video
3 credit(s) 5 period(s) lecture and lab
Explores techniques and advanced applications used in designing sound using original student footage on a non-linear editing system. Prerequisites: A grade of C or better in TCM/TMC120 or permission of Instructor.

TCM242
Professional Portfolio in Film and Television
2 credit(s) 4 period(s) lecture + lab
Explores techniques and applications used in editing an individual project on an editing system. Prerequisites: A grade of C or better in (TCM241 and independent footage) or permission of Instructor. Course Note: TCM242 may be repeated for a total of six (6) credits.

TCM283
Advanced Non-Linear Editing Techniques
4 credit(s) 6 period(s) lecture + lab
Explores techniques and advanced applications used in creating and editing an advanced project on a non-linear editing system. Prerequisites: A grade of C or better in TCM241 or permission of Instructor.
TCM290 Professional Media Marketing
3 credit(s) 3 period(s) lecture + lab
Designed to equip media students with marketing tools for career development and promotion. Prerequisites: A grade of C or better in TCM136 or permission of Instructor.

TEC – Textiles and Clothing

TEC103 Developing Your Fashion Business
2 credit(s) 2 period(s) lecture
Creating and understanding a financial plan, developing operating and control systems, planning growth strategies and a business plan for the Fashion Entrepreneur. Emphasis on fashion merchandise and successful fashion business development. Prerequisites: None.

TEC105 Cultural Aspects of Clothing
3 credit(s) 3 period(s) lecture
Psychological, aesthetic, and economic factors applied to the systematic study of dress and adornment in relationship to world cultures and the global fashion industry. Prerequisites: None.

TEC106 History of Fashion
3 credit(s) 3 period(s) lecture
Consideration of historic factors influencing fashion and fashion change with special emphasis on historic costume. Prerequisites: None.

TEC110 Basic Sewing Skills
3 credit(s) 5 period(s) lecture + lab
Basic clothing construction techniques. Use of commercial patterns and sewing machines in the construction of basic garments. Prerequisites: None.

TEC111 Clothing Construction
3 credit(s) 5 period(s) lecture + lab
Construction of garments applying basic construction principles and techniques using patterns suitable for the individuals and their capabilities. Prerequisites: A grade of C or better in TEC110 or permission of Instructor. Course Notes: TEC111 may be repeated for a total of 12 credit hours with permission of Instructor. If student has no previous sewing experience, TEC110 Basic Sewing Skills should be taken prior to and not during this course.

TEC112AQ Pattern Alteration and Fit
2 credit(s) 3 period(s) lecture + lab
Structural features of patterns and altering patterns to achieve proper fit. Includes figure irregularities, pattern style variations, fashion, and individual figure problems. Prerequisites: A grade of C or better in TEC111 or permission of Instructor. Course Notes: TEC112AQ may be repeated for a total of six (6) credit hours with Instructor permission.

TEC112AU Sewing Clothing Accessories
3 credit(s) 5 period(s) lecture + lab
(Not offered every semester)
Construction of clothing accessories for personal or professional use. Includes overview of accessories, principles of design, selection of fabrics and trims, use of commercial patterns, creation of custom patterns, construction techniques, and evaluation of accessories. Prerequisites: A grade of C or better in TEC111 or permission of Instructor. Course Note: TEC112AU may be repeated for a total of twelve (12) credit hours.

TEC113 Textiles: Dyeing
1 credit(s) 1.5 period(s) lecture + lab
(Not offered every semester)
Demonstrations and projects emphasizing skills and techniques in creating textile designs on fabric for fashion and interior design applications. Fabric dyeing techniques through hands-on practices such as tie dyeing, shibori dyeing and batik dyeing. Prerequisites: None. Course Notes: TEC113 may be repeated for a total of three (3) credits.

TEC114 Textiles: Block Printing/Silk Screening
1 credit(s) 2 period(s) lecture + lab
(Not offered every semester)
Block printing and silk screening techniques used to create designs on fabric for apparel and interiors. Prerequisites: None. Course Notes: TEC114 may be repeated for a total of three (3) credits.

TEC115 Textiles: Hand Painting
1 credit(s) 1.5 period(s) lecture + lab
(Not offered every semester)
Techniques used to hand paint designs on textiles for fashion and interior design. Techniques include water color and ombre, marbling, stenciling, stamping and various resist methods such as gutta and taping. Includes color theory and design development. Prerequisites: None. Course Notes: TEC115 may be repeated for a total of three (3) credits.

TEC116 Textiles: Stitchery and Embellishment
1 credit(s) 1.5 period(s) lecture + lab
(Not offered every semester)
Materials and techniques used for stitchery and embellishment on textiles. Includes color schemes and design development. Prerequisites: None. Course Note: TEC116 may be repeated for a total of three (3) credits.

TEC120 Intermediate Clothing Construction
3 credit(s) 5 period(s) lecture + lab
Application of intermediate clothing and fitting techniques. Emphasis on improving basic construction skills. Prerequisites: A grade of C or better in TEC111 or permission of Instructor. Course Notes: TEC120 may be repeated for a total of 9 credit hours with permission of Instructor.

TEC121 Creative Sewing Machine Use
3 credit(s) 3 period(s) lecture
Use of the sewing machine for other than construction of garments or household items. Emphasis on decorative uses of the sewing machine on items made or purchased by the user. Prerequisites: None.

TEC122 Sewing with Knits
3 credit(s) 5 period(s) lecture + lab
(Not offered every semester)
Skills and techniques used in the construction of garments made from knit fabrics. Prerequisites: None.

TEC124 Advanced Clothing Construction
3 credit(s) 5 period(s) lecture + lab
Advanced garment construction techniques, pattern alteration and fit and techniques used on specialty fabrics. Prerequisites: A grade of C or better in TEC111 or permission of Instructor. Course Note: TEC124 may be repeated for a total of 12 credit hours with permission of Instructor.

TEC125 Fashion Design
3 credit(s) 3 period(s) lecture
Overview of the fashion design industry. Includes terminology, fashion trends, elements and principles of design, sources of inspiration, fabric selection, sketching and costing a collection, an introduction to pattern making techniques, and global fashion centers’ design and manufacturing specialties. Prerequisites: None.
TEC128 Home Upholstery
3 credit(s) 5 period(s) lecture + lab
Demonstration and application of knowledge and skills involved in upholstering stools, chairs, headboards, and other home furnishings. Includes measuring and cutting upholstery fabric and sewing outdoor/indoor cushions. Prerequisites: None. Course Notes: TEC128 may be repeated for credit.

TEC129 Sewing with a Serger
3 credit(s) 5 period(s) lecture + lab (Not offered every semester)
Operation of a home serger. Use in constructing, finishing, and decorating garments and home decorations. Home serger required. Prerequisites: None.

TEC134 Fashion Illustration I
3 credit(s) 5 period(s) lecture + lab
Proportions and techniques used in drawing fashion figures and clothing. Introduction of media and illustrative styles for portfolio design, trade sketches, and fashion advertisements. Prerequisites: None. Course Notes: TEC134 may be repeated for a total of nine (9) credits.

TEC135 Fashion Illustration II
3 credit(s) 5 period(s) lecture + lab
Intermediate-level study of proportion and techniques used in drawing fashion figures and flats. Continued study of garments, fabric textures and patterns. Development of skills in presentation drawing and commencing fashion design portfolio illustrations. Prerequisites: A grade of C or better in TEC134 or permission of Instructor. Course Notes: TEC135 may be repeated for a total of nine (9) credits.

TEC136 Fashion Illustration III
3 credit(s) 5 period(s) lecture + lab (Not offered every semester)
Advanced-level study of proportions and techniques used in drawing fashion figures, clothing, and flats. Continued study of illustrative styles for garments, fabric textures and patterns. Further development of skills in portfolio presentation. Prerequisites: A grade of C or better in TEC135 or permission of Instructor. Course Notes: TEC136 may be repeated for a total of nine (9) credits.

TEC221 Computer-Assisted Fashion Design
3 credit(s) 5 period(s) lecture + lab (Not offered every semester)
The use of computer hardware and software in the fashion design industry. Create and illustrate fashion designs using computer hardware and software. Color and design principles applied in creating an apparel line and developing a portfolio. Prerequisites: A grade of C or better in TEC125 or permission of Instructor.

TEC222 Textiles
3 credit(s) 4 period(s) lecture + lab
Study of textile fibers, yarns, fabrication, color and finishes and their impact on product performance. Includes labeling laws, fiber manufacturing processes, technical textiles, fiber properties, care, end use, and global sustainability efforts. Prerequisites: None.

TEC223 Tailoring
3 credit(s) 6 period(s) lecture + lab
Principles of tailoring as applied in the construction of a coat or suit. Alteration of patterns and fitting techniques. Prerequisites: A grade of C or better in TEC124 or permission of Instructor. Course Note: TEC223 may be repeated for a total of 12 credit hours with permission of Instructor.

TEC224 Pattern Drafting
2 credit(s) 3 period(s) lecture + lab (Not offered every semester)
Draft patterns from measurements of dress forms and human figures. Development of slopers and garment patterns. Design and produce an original garment using pattern drafting techniques. Prerequisites: A grade of C or better in TEC111 or permission of Instructor. Course Notes: TEC224 may be repeated for a total of six (6) credit hours.

TEC225 Pattern Design I
3 credit(s) 5 period(s) lecture + lab (Not offered every semester)
Creation of pattern designs by flat pattern methods. Produce a variety of styles. Production of an original pattern design and garment. Prerequisites: A grade of C or better in TEC111 or permission of Instructor. Course Note: TEC225 may be repeated for a total of twelve (12) credits.

TEC226 Draping for Fashion Design
3 credit(s) 5 period(s) lecture + lab (Not offered every semester)
Manipulation of fabrics on a dress form and/or live figure to create designs and patterns. Use of woven fabrics to create basic and intermediate designs. Introduction of knitwear draping. Drape and construct an original design. Prerequisites: A grade of C or better in TEC111 or permission of Instructor. Course Notes: TEC226 may be repeated for a total of nine (9) credits.

TEC227 Couture Sewing
3 credit(s) 5 period(s) lecture + lab (Not offered every semester)
Construction techniques used in couture sewing. Includes fabric selection, fabric preparation, hand sewing, garment shaping, edge finishes, embellishments, and closures. Emphasis on fitting and couture construction techniques used to construct skirts, pants, blouses, dresses, sleeves, pockets, jackets, coats, and evening wear. Prerequisites: A grade of C or better in TEC111 or permission of Instructor. Course Note: TEC227 may be repeated for a total of twelve (12) credit hours with permission of Instructor.

TEC228 Advanced Draping for Fashion Design
3 credit(s) 5 period(s) lecture + lab (Not offered every semester)
Advanced draping techniques for fashion design. Includes draping jackets/coats, shorts/pants, dresses/gowns and other woven fabrics. Also includes draping swimwear/leotards and other garments in knits. Drape and construct an original design. Prerequisites: A grade of C or better in TEC226 or permission of Instructor. Course Notes: TEC228 may be repeated for a total of nine (9) credits.

TEC230 Pattern Design II
3 credit(s) 5 period(s) lecture + lab (Not offered every semester)
Practical application in designing clothing/patterns using flat pattern method. Principles of flat pattern and use of sloper reviewed. Includes creation of woven and knit original designs. Prerequisites: A grade of C or better in TEC225 or permission of Instructor. Course Note: TEC230 may be repeated for a total of twelve (12) credits.

TEC231 Pattern Grading
3 credit(s) 5 period(s) lecture + lab (Not offered every semester)
Grading patterns to change sizes. Includes grading terminology, grading methods, figure types, grading charts, types of grade, even and uneven grades, and grading basic and intermediate designs. Prerequisites: A grade of C or better in TEC111 or permission of Instructor. Course Notes: TEC231 may be repeated for a total of six (6) credit hours.
TEC232
Costume Construction
3 credit(s) 5 period(s) lecture + lab
(Not offered every semester)
Costume construction techniques applied to period reproduction, vintage, fantasy and anime; stage and dance costumes. Includes alteration of commercial patterns, drafting of original patterns, and fitting techniques. Prerequisites: A grade of C or better in TEC111 and (TEC224, or TEC225, or TEC226, or permission of Instructor). Course Notes: TEC232 may be repeated for a total of twelve (12) credit hours with permission of Instructor.

TEC233
Computer-Assisted Pattern Making
3 credit(s) 5 period(s) lecture + lab
(Not offered every semester)
Pattern making using the computer and various software programs. Includes measuring, block patterns, pattern development, production patterns, modifications for size and fit, and markers. Prerequisites: A grade of C or better in TEC225 or permission of Instructor. Course Notes: TEC233 may be repeated for a total of twelve (12) credit hours with permission of Instructor.

TEC236
Portfolio Development
1 credit(s) 3 period(s) lab
(Not offered every semester)
This course is designed to assist students in the preparation and presentation of an original professional portfolio. Students will design, produce, and present artistic designs. Including but not limited to using computer-assisted design software, presentation boards, and other required components in the field of portfolio development. Prerequisites: A grade of C or better in TEC134 and permission of Department or Division. TEC221 is recommended. Course Notes: TEC236 may be repeated for a total of three (3) credits.

TEC240
Apparel Production Management
2 credit(s) 3 period(s) lecture + lab
Overview of apparel production management for the global marketplace examining component details of the technical package, tech-pack, which include specifications and costing in the most time-efficient manner. Prerequisites: None. Course Notes: TEC240 may be repeated for a total of six (6) credit hours.

TEC241
Advanced Computer-Assisted Fashion Design
3 credit(s) 5 period(s) lecture + lab
Advanced techniques and use of computer hardware and software in the fashion design industry. Create and illustrate fashion designs using multiple computer applications. Create advanced textile surface pattern design using color and design principles on the computer. Manipulate CAD pattern design for original patterns, grading, and markers. Create storyboards for product development and personal portfolio. Prerequisites: A grade of C or better in TEC124 and TEC221.

TEC271AA
Fashion Design Internship
1 credit(s) 5 period(s) lab
Work experience in fashion design business or industry. Work hours are coordinated for a minimum of 80 hours per semester. Supervision and evaluation by internship coordinator. Prerequisites: Permission of Department or Division. Course Notes: TEC271AA may be repeated for a total of three (3) credit hours.

TEC278AA
Costume Design and Production Internship
1 credit(s) 1 period(s) lab
Costume Design and Production work experience in a business or industry. Supervision and evaluation by an internship coordinator. Eighty hours of designated work per credit per semester. Prerequisites: Completion of at least twelve (12) college credits, minimum 2.6 grade point average, and be able to obtain a position related to student’s academic or career goals (student’s present job may qualify); or permission of Instructor.

THE111
Introduction to Theatre
3 credit(s) 3 period(s) lecture
A survey of the theatre from ancient Greece to modern times, including basic elements and principles of production, styles, and/or historical perspectives of theatre, dramatic literature, and criticism. Prerequisites: None.

THE118
Playwriting
3 credit(s) 3 period(s) lecture + lab
Practice and study of theories and techniques of writing for the stage; creating characters, dialogue, and plot for monodramas, scenes, and plays. Prerequisites: None.

THE220
Modern Drama
3 credit(s) 3 period(s) lecture
(Spring only)
Analysis of dramatic literature studied within political, historical, and cultural contexts and examined from the perspective of the playwright’s structure and style. Prerequisites: A grade of C or better in ENG101 or ENG107 or equivalent.

THE274AC
Theatre Study Tour
3 credit(s) 15 period(s) lab
A tour that focuses on theatre production outside of the metropolitan Phoenix area. Includes a variety of experiences and activities to enhance knowledge about theatre production. Prerequisites: Department approval.

THE298AA-AC
Special Projects
1-3 credit(s) 1-3 period(s) lab
Organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment are made available for student use. Allows the best aspects of independent study and individualized learning to be combined to maximize student development. Prerequisites: None.

THF115
Makeup for Stage and Screen
3 credit(s) 4 period(s) lecture + lab
Purposes, materials, and techniques of makeup for stage and screen. Prerequisites: None.

THF130
Combat for Stage and Screen
3 credit(s) 4 period(s) lecture + lab
Fundamental techniques and terminology of staged combat with and without weapons. Analysis and performance of safely choreographed violence that tells a story for stage and screen. Prerequisites: None. Course Notes: THF130 may be repeated for a total of twelve (12) credit hours.

THF/HUM205
Introduction to Cinema
3 credit(s) 3 period(s) lecture
Survey of the history and development of the art of motion pictures, including criticism of aesthetic and technical elements. Prerequisites: None.
THP209
Acting for the Camera
3 credit(s) 4 period(s) lecture + lab
Special technical aspects of acting before a camera. Prerequisites: A grade of C or better in THP112 or permission of Instructor.

THP/HUM210
Contemporary Cinema
3 credit(s) 3 period(s) lecture
A study of contemporary films, directors and critics with emphasis on evaluating film as an art form. Prerequisites: None.

THP215
Advanced Makeup Techniques for Stage and Screen
3 credit(s) 4 period(s) lecture + lab
Advanced character analysis and makeup design for stage and screen. Technical application of makeup for stage and screen. Prerequisites: A grade of C or better in THP115.

THP216
Beginning Stage Lighting
3 credit(s) 4 period(s) lecture + lab
Basic theories of stage lighting for all production types. Emphasis on technical/theoretical facts, artistic design concept development, and "teamwork" structure of theatre. Examines stage lighting optics, instrument selection and application, color theory, circuiting and control systems, and basic design. Prerequisites: A grade of C or better in THP213 or permission of Instructor.

THP217
Introduction to Design Scenography
3 credit(s) 4 period(s) lecture + lab
The role of the theatre designer in creating scenic, lighting, costume, sound, and multimedia effects for stage productions. Elements of the design process and communication of dramatic themes and visions to the audience. Prerequisites: None.

THP219
Advanced Acting for the Camera
3 credit(s) 4 period(s) lecture + lab
Focuses on special technical aspects of advanced acting before a camera. Prerequisites: A grade of C or better in THP209 or permission of Instructor.

THP220
Theatrical Design: Rendering
2 credit(s) 4 period(s) lecture + lab
Provides experience and explores multiple illustration techniques used to communicate ideas in entertainment production. Provides basic skills including pictorial drawing and sketching. Prerequisites: None.

THP225
Visual Script Analysis
2 credit(s) 2 period(s) lecture
Theory and practice in analysis of dramatic literature for the technician and designer. Emphasis on techniques of script analysis for visual information. Prerequisites: None.

THP226
Theatrical Design: Costuming
3 credit(s) 4 period(s) lecture + lab
Basic techniques involved in researching and designing costumes for the stage. Prerequisites: None.

THP/ART246
Introduction to Digital 3D Fabrication Tools
3 credit(s) 6 period(s) lecture + lab
Introduction to concepts and application of computer visualization, modeling, and rapid prototyping for interdisciplinary arts. Students will design sculptures applying 3D computer modeling techniques, rapid prototyping, and other available digital output devices to produce solid models. Prerequisites: None.

THP250
Stage Properties
3 credit(s) 4 period(s) lecture + lab
Introduction to stage properties including design, construction and maintenance features. Provides skills in property design and construction using an assortment of standard materials. Prerequisites: None.

THP – Theatre Performance/Production

THP112
Acting I
3 credit(s) 4 period(s) lecture + lab
Fundamental techniques and terminology of acting through physical and vocal expression, improvisation, and monologue and scene work. Emphasis on characterization. Prerequisites: None.

THP131
Stage Movement
3 credit(s) 4 period(s) lecture + lab
Movement skills for the actor to develop a flexible, expressive physical instrument. Includes pantomime, physical isolation, and awareness exercises. Prerequisites: None.
THP261
Previsualization Modeling
2 credit(s) 4 period(s) lecture + lab
Provides experience and explores basic previsualization methods used to communicate ideas in entertainment preproduction. Provides basic models skills. Prerequisites: None.

THP263
Entertainment Industry Design I: 2D CAD
3 credit(s) 6 period(s) lecture + lab
Introduction to Computer Aided Drafting (CAD) for the Entertainment industry, including stage, screen and television venues, using CAD software. Includes basic set-ups, formats, two-dimensional drawing and editing commands, dimensions, text, and plotting typical to entertainment industries. Prerequisites: None.

THP264
Entertainment Industry Design II: 3D CAD
3 credit(s) 6 period(s) lecture + lab
Introduction to construction, manipulating, and rendering three-dimensional (3D) objects and theatrical stage spaces using CAD software and post-production software. Prerequisites: A grade of C or better in THP263.

THP265
Introduction to Stage Management
3 credit(s) 6 period(s) lecture + lab
The focus of this course is the role of the stage manager. Topics include all aspects of preparation and implementation of rehearsals and performances for the stage manager position. Prerequisites: None.

THP266
Production Careers in Technical Theatre
1 credit(s) 2 period(s) lecture + lab
Provides the continuing design, stage management and technical student with opportunities to explore the versatility of the job opportunities within the Tech Theatre industry. Emphasis on presenting the work and talent both in person and on paper. Development of a professional resume and vita. Prerequisites: None.

THP267
Painting Techniques for Film, TV and Theatre
3 credit(s) 6 period(s) lecture + lab
Theory and skills in scenic artistry. Techniques of painting two-dimensional and three-dimensional scenery, tools, and the use of color. Prerequisites: A grade of C or better in THP213.

THP269
Technical Theatre Portfolio Development
1 credit(s) 1 period(s) lab
The analysis and preparation of all elements of a Technical Theatre/Design Portfolio including the use of digital portfolios and application to specific disciplines. Practice with portfolio presentation and maintaining and updating portfolio materials. Prerequisites: None.

THP/MUP270
Musical Theatre Workshop
2 credit(s) 5 period(s) lecture + lab
Workshop in the study and performance of Musical Theatre repertoire. Including audition techniques, talent evaluation criticism, rehearsal techniques, vocal acting styles, stage movement, and performance. Prerequisites: None. Course Notes: THP270 may be repeated for credit.

THP/COM271
Voice and Diction
3 credit(s) 3 period(s) lecture
Exercises and techniques to free the voice and improve projection, resonance, and articulation. Covers international phonetic alphabet and standard stage speech. Prerequisites: None.

THP/STO285
Creating/Performing Solo/Collaborative Works
3 credit(s) 3 period(s) lecture
Developing, rehearsing, and performing solo and collaborative works for fringe festivals and other storytelling and theatre venues. Prerequisites: None.

THP296WC
Cooperative Education
3 credit(s) 15 period(s) lab
Work-college experiences that involve the combined efforts of educators and employers to accomplish an outcome related to the career objectives of the students. Prerequisites: Completion of at least twelve (12) college credits, minimum 2.6 grade point average, and be able to obtain a position related to student’s academic or career goals (student’s present job may qualify); or permission of Instructor. Corequisites: Must be concurrently enrolled in at least one class which is related to student’s major or career interest or with permission of the Instructor.

VPT – Video Production Technology

VPT/TCMI14
Audio Production
3 credit(s) 5 period(s) lecture and lab
Audio in media production including location, studio and Sound Room for corporate, cable and broadcast applications. Microphones and audio recording equipment: audio production techniques using a Shot Gun Boom microphone while in the field; audio recording in the sound room; multi-track recording and layback; audio editing using a non-linear computer program: music libraries: sound effects: video tape editing in audio post-production. Prerequisites: A grade of C or better in TCM/VPT105 or TCM/VPT108.

WED – Wellness Education

WED120
Massage Therapy: Anatomy Refresher - Upper Body
1 credit(s) 1 period(s) lecture + lab
This course is designed for individuals in the field of massage therapy and provides a review of upper body musculature affecting the neck, shoulder, spine, elbow and wrist joints. Origins and insertions and resistive stretches included. Prerequisites: None. Course Notes: WED120 may be repeated for a total of six (6) credit hours.

WED125
Reiki: Healing and Symbols
2 credit(s) 2 period(s) lecture + lab
Introduction to Reiki as a Japanese technique for stress reduction and relaxation that also promotes healing. Instruction in the Usui method of Reiki and its applications to personal health and everyday life. Prerequisites: None. Course Notes: WED125 may be repeated for a total of ten (10) credits.

WED145
Hand and Foot Massage
1 credit(s) 1 period(s) lecture + lab
History and application of specific pressure points on the hands and feet that have correlation to different body organs and systems. Practice of micromovement techniques with the goal of creating a response throughout the body. Prerequisites: None. Course Notes: WED145 may be repeated for a total of six (6) credit hours.
WED151 Introduction to Alternative Medicine
3 credit(s) 3 period(s) lecture
Definition of health; exploration of mind-body-spirit connection in health; various therapeutic modalities; identification of strengths and limitations of alternative therapies. Also includes development of ability to critically review written material in the alternative therapy area. Prerequisites: None.

WED160 Ethics of Touch Massage
0.5 credit(s) 0.5 period(s) lecture
Basic ethical principles used in the practice of massage. Major emphasis on personal and professional boundaries, the role of dual relationships, effective communication, and special considerations in massage. Prerequisites: None.

WED162 Meditation and Wellness
1 credit(s) 1 period(s) lecture
Physiology of meditation and its effects on physical and mental health; scholastic abilities and interpersonal relationships; differentiation between meditation and other relaxation techniques. Prerequisites: None.

WED165 Overview of Massage Therapy
2 credit(s) 2 period(s) lecture
History of massage; overview of bodywork systems; benefits and indications of massage; legal requirements for practice in Arizona. Prerequisites: None.

WED170 Principles of Homeopathy
1 credit(s) 1 period(s) lecture
Origins of homeopathy; key concepts; perceptions of disease; schools of homeopathy; scientific studies; preparation of remedies; case taking. Prerequisites: None.

WED172 Overview of Herbal Remedies
1 credit(s) 1 period(s) lecture
History and evolution of herbs for healing applications. Preparation, usage, and effects of certain herbs used for healing purposes. Basic literature review skills in the area of herbal medicine. Prerequisites: None.

WED176 Flower Essences
1 credit(s) 1 period(s) lecture
Healing properties of Bach flower remedies; Bach’s development of remedies and his philosophy of healing; use and preparation of a variety of flower essences. Prerequisites: None.

WED182 Health Conditions and Popular Herbs
2 credit(s) 2 period(s) lecture
In-depth look at some of today’s most popular herbs and their relationship to specific health conditions. Emphasis on research skills in relation to popular herbs. Includes the effects, uses, and application strategies of herbs. Prerequisites: None. WED172 suggested but not required.

WED183 Introduction to Ayurvedic Principles
2 credit(s) 2 period(s) lecture + lab
Introduction to Ayurveda: “the science of life”; a complete system of balancing the body, mind and spirit, originating from ancient India. Introduction to foundational Ayurvedic principles, health philosophy and self assessment of basic constitution. Application of basic health and self care practices such as food selection and preparation, exercise and movement, renewal and restoration activities, environmental influences to promote health and well-being. Prerequisites: None. Course Notes: WED183 may be repeated for a total of six (6) credits.

WED184 Establishing a Massage Practice
3 credit(s) 3 period(s) lecture
Explore career options in therapeutic massage, including state licensing requirements, and determine how to lay the groundwork for a successful massage practice. Prerequisites: None.

WED185 Principles of Massage
2 credit(s) 2 period(s) lecture + lab
Purpose, benefits, and contraindications of sports massage; principles of sports physiology; massage techniques, applications, and procedures; treatment of injuries. Prerequisites: A grade of C or better in WED165 and WED230, or permission of Program Director.

WED186 Self-Care for Health Care Professionals
2 credit(s) 5 period(s) lecture + lab
Emphasis on mind-body methods for personal wellness through integration of physical, emotional, social, and spiritual dimensions of being. Development of a personal practice to achieve and sustain a balanced program to support personal health and well being. Prerequisites: None.

WED187 Aromatherapy
1 credit(s) 1 period(s) lecture
Physiology of aromatherapy; methods of use; preparation of oils; uses in sports, beauty care, massage, child care, healthcare, at work, and in the home. Prerequisites: None.

WED188 Aromatherapy: Therapeutic Applications
2 credit(s) 2 period(s) lecture + lab
Continued study of the physiology of essential oils and effects on major body systems. Plant families, chemistry, therapeutic applications and contraindications regarding the use of essential oils; case studies and creation of personal blends. Prerequisites: None. Course Notes: WED188 may be repeated for a total of ten (10.0) credit hours.

WED190 Principles of Homeopathy II
6 credit(s) 9 period(s) lecture + lab
Principles of professionalism, ethics, and legalities. Includes use of terminology related to massage therapy. Applications, indications, and contraindications of the nine strokes of Swedish massage. Study of the human osseous and muscular structure. Emphasis on normal movement patterns, origins, insertions, and functions of the muscular system. Prerequisites: Acceptance into the Massage Therapy program or permission of Program Director.

WED191 Therapeutic Massage Practices I
6 credit(s) 9 period(s) lecture + lab
Refined application of the nine strokes of Swedish massage and contraindications to avoid. Application of advanced principles and techniques of trigger point therapy, muscle energy technique, stretching, hydrotherapy protocols, hot and cold applications, reflexology, and corporate massage. Study of the human osseous and muscular structure. Emphasis on normal movement patterns and the origin, insertion, and function of the muscular system. Prerequisites: A grade of C or better in WED230.

WED192 Therapeutic Massage Practices II
6 credit(s) 9 period(s) lecture + lab
Refinement and integration of technical skills, psychosocial competencies, and role identity. Exploration of techniques to assess and facilitate range of motion and function; purpose, benefits, indications, and contraindications of therapeutic massage for specific neuro-musculoskeletal disorders/injury and special populations. Application of massage techniques with therapist’s pre- and post-client evaluations of the client. Adaptation of massage techniques for special populations. Prerequisites: A grade of C or better in WED231. Corequisite: WED225 or permission of Program Director.

WED193 Clinical Practicum
3 credit(s) 6 period(s) lab
Application of fundamental massage techniques. Prerequisites: A grade of C or better in WED231. Corequisites: WED232, and permission of Program Director.
WED250A
Clinical Practicum: Part I
1.5 credit(s) 3 period(s) lab
Application of fundamental massage techniques. Prerequisites: A grade of C or better in WED231. Corequisites: WED232 and permission of Program Director.

WED250AB
Clinical Practicum: Part II
1.5 credit(s) 3 period(s) lab
Continued application of fundamental massage techniques. Prerequisites: A grade of C or better in WED250AA.

WED262
Acupuncture/Shiatsu I
2 credit(s) 3 period(s) lecture + lab
Overview of the principles of Traditional Chinese Medicine and the Meridian System; history, purpose, benefits, indications, and contraindications of Acupuncture/Shiatsu. Therapeutic techniques and applications of Acupuncture/Shiatsu; pre and post evaluations of intervention procedures. Prerequisites: None.

WED297AA-AC
Special Topics: Therapeutic Massage
1-3 credit(s) 1-3 period(s) lecture + lab
Explores a special topic related to therapeutic massage. Topics vary and include concepts relevant to those pursuing careers in therapeutic massage. Prerequisites: None.

WST – Women’s Studies

WST100
Introduction to Women’s and Gender Studies
3 credit(s) 3 period(s) lecture
Introduction to critical issues in women’s studies. Prerequisites: None.

WST120
Gender, Class, and Race
3 credit(s) 3 period(s) lecture
A feminist discussion of gender, class and race as basic and central social categories that determine how we see ourselves and others and how they circumscribe our opportunities and privileges in American society. Prerequisites: None.

WST128
Law and Violence Against Women
3 credit(s) 3 period(s) lecture
Covers cases and materials on systems of oppression particularly as related to women in our society. Areas covered include battering, sexual harassment, sexual assault, prostitution, and pornography as exemplified in present-day society. Designed to give students the ability to identify problems of violence against women and participate in current societal discourse on various ways to resolve them. Prerequisites: None.

WST160
Women and the Early American Experience
3 credit(s) 3 period(s) lecture
Introduction to American women’s history, from the colonial period to suffrage in 1920, based on a feminist perspective. Prerequisites: None.

WST161
American Women Since 1920
3 credit(s) 3 period(s) lecture
Continuation of the history of women in America from 1920 to the present, based on a feminist perspective. Includes discussion of the roles and status of immigrant and ethnic minority women. Prerequisites: None.

WST206
La Mujer
3 credit(s) 3 period(s) lecture
Analysis and discussion of critical issues for Latinas in America today. Prerequisites: None.

WST/AFR207
Black Women
3 credit(s) 3 period(s) lecture
Analysis and discussion of critical issues for Black women in America today. Prerequisites: None.

WST/HUM209
Women and Films
3 credit(s) 3 period(s) lecture
Analysis of images of women in films from both historical and contemporary perspectives. Prerequisites: None.

WST/ENH285
Contemporary Women Writers
3 credit(s) 3 period(s) lecture
Explores twentieth century literature (short stories, essays, plays, and poetry) written by women and about women. Focus on themes relevant to women’s lives regardless of age, creed, or ethnic background. Prerequisites: None.

WST/REL290
Women and World Religions
3 credit(s) 3 period(s) lecture
Focus on the role of women in several organized religions and/or religious sects. Study of myth and symbols as they are used to establish, maintain, and enforce sex-roles within specific cultural contexts around the world. Prerequisites: None.
Career Services

Career Services Staff
Alicia Middleton, Director

Career Services
Career Services helps you build your success by careful selection of a meaningful major and/or career that is a good fit based upon your unique personality, skills, interests, abilities, work values, and goals. Services also include expert assistance in building attention-getting resumes, cover letters and development of excellent personal presentation to prepare you for entry into the job market. We also assist with developing opportunities that will enhance your educational experiences in preparation for your career.

Our personal guidance and vast array of tools and resources will support your goals:

Choose a Major / Career
- Learn all about you—take self-discovery inventories
  - How to Choose a Major, Phoenix College brochure that provides a shortened career assessment test based on John Holland’s RIASEC codes.
  - Maricopa Career Planning System, a free comprehensive and intuitive online program that helps college students and other adults plan a career by assessing your unique self, narrowing choices, and identification of options, research results, and saving your research.
  - O-NET Online, helps you identify and explore your interests and how they relate to the world of work, exploration of various career options.
  - Jung Typology Test, discover careers and occupations most suitable for your personality type
  - Many more!

- Explore your options
  - What Can I Do with a Major in..., Maricopa Community College District comprehensive online resource listed by major. Look at the possibilities and where our degree will take you.
  - My Next Move has tasks, skills, salary information, and more than 900 different careers. Find careers through keyword search. Browse industries that employ different types of workers.
  - Research labor market information, occupations, wages, trends, in-demand careers, companies

- Develop a plan of action
  - Learn what it will take to complete your chosen degree and career goals
  - Develop a plan that is specific in nature, manageable, action-focused, and realistic.
  - Make a timeline, evaluate your progress and make necessary adjustments.
  - Be accountable to your plan and work diligently to complete your goals
  - Conduct informational interviews, shadow employees, participate in internships to develop knowledge of your chosen occupation and develop networking relationships

Job Search
Develop a strategic, efficient job search plan
- Job openings, on-and off-campus
- Federal Work Study jobs
- On-campus employer recruitments
- Maricopa Career Network (www.maricopa.edu/careers, free on-line job board) and a variety of resources to locate job openings

Marketing You—Stand out from the crowd! Develop top-notch personal presentation skills.
- Write a winning resume
- Create an enthusiastic cover letter
- Get the most out of job fairs
- Tap the hidden job market—networking and using social media
- Conduct a successful interview
- Send resumes online and by FAX

Hours:
Fall and Spring semesters:
Monday - Wednesday: 8:00 a.m. - 6:00 p.m.
Thursday: 8:00 a.m. - 4:30 p.m.
Friday: 10:00 a.m. - 4:30 p.m.

Summer semesters:
Monday - Wednesday: 8:00 a.m. - 6:00 p.m.
Thursday: 8:00 a.m. - 4:30 p.m.
Friday: Closed

The Career Services Center is located in the Hannelly Center, Room 113
https://www.phoenixcollege.edu/careerservices
Phone: 602.285.7420 • Fax: 602.285.7951
Career Planning for a Lifetime of Work

To find information on available job-related education and training programs to expand your career opportunities, visit the Phoenix College Career Center. Students are realizing that the Maricopa Community Colleges provide high-quality, affordable education and training to get the skills that employers are seeking.

Whether you are new to college, starting your career, or changing careers, the Maricopa Community Colleges have hundreds of programs to choose from, and can help you find a career path that will expand your career opportunities. In addition, you will learn about the projected salary ranges for jobs in your chosen field, plus lots of other related information.

To explore what career cluster your occupational goal is in, visit O*NET at https://www.onetonline.org/find/career. Then see pages 116-120 of this catalog to find the Maricopa Community College that delivers the program you are interested in pursuing. Remember, we have lots of resources available to you, and you don’t have to make this journey alone.
Residential Faculty
(First Year of Service to MCCCD)


AMBROSICH, KORY (1997) Mathematics
– B.A., Evergreen State College; M.A.T., Northern Arizona University.

ARISTIZABAL, CRYSTAL (2017) Nursing
– A.A.S., Phoenix College; B.S., M.B.A., University of Phoenix; M.S.N., University of Texas.

BAILEY, TIFFANY (2014) Fine and Performing Arts

– B.S.N., University of Arizona; M.S.N., University of Phoenix.

BELLY, AMY (2014) Biosciences

BERGE, ERIC D. (2011) English
– B.S.Ed., Northern Arizona University; M.F.A., Lesley University.

– B.S., Pennsylvania State University; J.D., Villanova School of Law.

BRANDON, CHARLYNN (2017) Applied Technology, Family and Consumer Sciences

BROMLEY, RAYMOND (1991) Liberal Arts
– B.A., M.A., Ph.D., University of California at Los Angeles.

BRYAN, TIMOTHY M. (1990) Mathematics
– B.S., California State University, San Bernardino; M.A., California State University, Long Beach.

CARNAHAN, DARRELL (1998) Business
– A.A.S., Salt Lake City Community College; B.A., University of Utah; M.S., Arizona State University.

CARRILLO, JENNIFER (2017) Mathematics
– B.S., University of Scranton; M.S., Northern Arizona University.

CELOZA, ALBERT (1988) Liberal Arts
– B.A., M.P.A., University of the Philippines; B.I.S., Northern Arizona University; M.A., University of San Francisco; M.A., Ph.D., Claremont Graduate University.

CHAPMAN, AMANDA S. (2011) Biosciences
– B.S., M.P.H., University of Arizona; Ed.D., University of Phoenix.

CLARK, LOMAN B. (1994) Counseling
– B.S., M.Div., M.C., Arizona State University.

– A.A., Glendale Community College; B.S., M.B.A., Arizona State University.

COOK-TIDWELL, NANCY (2010) Nursing
– A.S.N., Miami Dade College; A.A., Hillsborough Community College; B.S.N., University of Arizona; M.S.N., Northern Arizona University.

CORBY, MARCIA (2017) Mathematics

CORKINS, JAMES A. (2011) Physical Sciences
– B.S., M.S., Ph.D., Arizona State University.


CORONEL, ADRIANNA (2011) Dental

COTTER, ROBIN L. (2005) Biosciences
– B.A., DePauw University; Ph.D., University of Nebraska Medical Center.

DARROW, LaQUERA (2014) Dental
– B.S., University of Minnesota-St. Paul; M.Ed., Northern Arizona University.

DEELA, KRISTINA J. (2016) Dental
– A.A.S., Rio Salado College; B.S., Northern Arizona University.

DOMINO, TRACY L. (2011) Health Professions, Fitness, and Wellness
– A.A.S., Bellevue Area College; B.S., Stephens College; M.Ed., Northern Arizona University.

DOPP, GEORGE DAWSON (2010) Business
– B.S., Arizona State University; M.Ed., Northern Arizona University.

DUTY, PAMELA (2017) English
– B.S., Texas Tech University; M.A., University of Phoenix; M.Ed., Grand Canyon University.

– B.A., Oakland University; M.S., Wayne State University.

ELDOTT, JEFF (2005) English
– B.A., University of Wisconsin; M.A., Northern Arizona University.

ELLIS, LENORA H. (2017) Health Professions, Fitness, and Wellness
– B.A., Ashford University.

ERMOIAN, DEBORAH (1999) Mathematics
– B.S., Grand Canyon University; M.Ed., Ph.D., Arizona State University.

ERSPAMER, ERIK S. (2017) Fine and Performing Arts
– B.A., Grand Canyon University; M.S., Arizona State University.

ETCHART, MARTIN (1995) English

FINKENSTADT, PATRICIA M. (2005) Biosciences
– B.S., Southeast Missouri State University; Ph.D., Johns Hopkins University School of Medicine.
FRANZ, STEPHANIE MARIN (2017) Nursing  
–A.S., Pima Community College; B.S.N., Chamberlain College;  
M.S.N., Grand Canyon University.

FULTON, APRIL L. (2016) Nursing  
–A.A.S., Scottsdale Community College; B.S.N., M.S.N.,  
Western Governors University.

GALLUCCI, MATTHEW J. (2015) Biosciences  
–B.S., M.S., University of Arizona.

GEDDIS, DIANNE (2002) Health Professions, Fitness and Wellness  
–A.A., Phoenix College; B.A., M.S., Arizona State University.

GEDDIS, SCOTT (1984) Health Professions, Fitness and Wellness  
–A.A.S., Phoenix College; B.A., M.S., Arizona State University.

GENNA, IGNAZIO E. (2006) Liberal Arts  
–B.A., B.S., Arizona State University; M.A., City University of  
New York Graduate Center; J.D., Boalt Hall School of Law,  
University of California, Berkeley.

GIBNEY, ROBERT M. (2012) English  
–B.A., University of Arizona; M.A., Northern Arizona  
University; Ph.D., University of Nebraska-Lincoln.

GOMPERT, SCOTT A. (2017) Physical Sciences  
–B.S., University of Arizona; B.S., M.P.A., M.Ed., Arizona State  
University.

GREEN, STEPHANIE S. (2017) Applied Technology, Family and  
Consumer Sciences  
–B.S., University of Texas.

HAAG, AUDREY (2011) Nursing  
–B.S.N., University of Toledo; M.S.N., Grand Valley State  
University; R.N.

HAMDAN, ABEER M. (2015) Physical Sciences  
–B.S., MAS-GIS, M.A., Ph.D., Arizona State University.

–B.F.A., University of Arizona; M.F.A., Arizona State  
University.

and Legal Studies  
–B.S., Embry-Riddle University; M.B.A., University of New  
Mexico; M.S.Ed., Duquesne University; M.S., Walden  
University; J.D., University of Dayton.

HELMINSKI, ROCHELLE T. (2005) Health Professions, Fitness and  
Wellness  
–B.S., Arizona State University; M.S., University of Alabama,  
Birmingham.


HILDER, KAY (1999) Communication, Reading, ASL, and Education  
–B.S., University of Nebraska; M.S., Western Maryland  
College; M.A., Arizona State University; CI/CT, Registry of  
Interpreters for the Deaf.

HIRSCH, DIANE J. (2016) Mathematics  
–B.A., Fort Lewis College; M.A., Northern Arizona University;  
M.A., Ottawa University.

HOLDER, DANIEL (2012) Mathematics  
–B.S.E.E., M.S.E.E., M.S. (Mathematics), Texas Tech  
University.

JOHN, HERSHMAN R. (1999) Liberal Arts  

KAPOOR, ANIL (2014) Biosciences  
–B.S., M.S., California State University, Chico; M.B.A., California State University, San Bernardino.

KILDUFF, JOSIAH R. (2017) English  

KIMBUENDE, JOSEPH (2000) English  
–B.A., National University of Zaire; M.A., Ed.D.,  
Northern Arizona University.

KING, DOLORES (2005) Business  
–B.S., M.B.A., Lindenwood University; Ph.D., Walden  
University.

LAFFOON, JENNIFER (2006) Fine and Performing Arts  
University; M.F.A., University of Arizona.

LAMBERT, AMY (2012) Mathematics  
–B.S., University of Nebraska; M.Ed., Northcentral University.

LaVOY, KATHLEEN (2013) Dental  
–B.H.A., University of St. Francis; M.Ed., Northern Arizona  
University; Public Dental Health Certificate, Northern  
Wisconsin Technical College.

LEAL, SANDRA (2004) Behavioral Sciences  
–B.A., Howard Payne University; M.S.S.A., Case Western  
Reserve University.

LEE, SEUNG-JOO (1997) Physical Sciences  
–B.S., M.S., Kyung-Hee University; Ph.D., Arizona State  
University.


LITTLE, BRENT (2003) Criminal Justice, Emergency Response, and  
Legal Studies  
–B.S., Weber State University; M.Ed., Northern Arizona  
University.

LOGAN, ELIZABETH (1998) Health Professions, Fitness and  
Wellness  
–B.S., Northern Arizona University; B.S.N., Grand Canyon  
University; M.A., University of Santa Monica; M.S.,  
Arizona State University.

LOGVINENKO, DMITRI (2006) Mathematics  
–B.S., Moscow State University; M.A., Arizona State  
University.

Sign Language, and Education  

MARFAI, FRANK (2013) Mathematics  
–B.A., Occidental College; M.A., California State University;  
Ph.D., Arizona State University.
MARIN, AMY J. (1995) Behavioral Sciences
– B.A., University of California, Irvine; M.A., Ph.D., Arizona State University.

MARIN, CHRISTINA (2017) Fine and Performing Arts
– B.S., Northwestern University; Ph.D., Arizona State University.

MARTÍ-SUBIRANA, ANNA (2001) Biosciences
– B.S., Ministry of Education and Science, Spain; M.S., Ph.D., Universitat Autonoma de Barcelona, Spain.

MARTIN, JAMIE (2011) English
– B.S., University of Texas; M.Ed., Texas State University.

MARTÍNEZ, CLEOPATRIA (1985) Mathematics
– B.A., University of Denver; M.A., Ph.D., University of Colorado.

– A.A.S., Alpena Community College; B.S., Ferris State University; M.A., Washington University; SPHR.

– A.A.S., Mesa Community College; B.S., Charter Oak State College.

McKENZIE, ALVERTA (2005) Applied Technology, Family and Consumer Sciences
– A.A.S., Phoenix College; B.A., University of Phoenix; M.A., Prescott College.

MIHALJEVIC, JANA (2014) Health Professions, Fitness, and Wellness
– A.A.S., Cuyahoga Community College.

MILLER, DIANNE L. (2005) Communication, Reading, ASL, and Education
– B.A., Arizona State University; M.Ed., Northern Arizona University; Ed.D., Nova Southeastern University.

MILLER, JR., KENNETH (2011) Fine and Performing Arts

MILLER, PAMELA (2001) Mathematics
– B.A., University of California at Santa Cruz; M.A., Ed.D., Northern Arizona University.

MIRAMONTES, MERCEDES M. (2012) Library
– B.A., Indiana University; M.L.S., Wayne State University.

MONAHAN, MICHELLE J. (2014) Communication, Reading, ASL, and Education
– M.L.S., Arizona State University.

MOORE, CHRISTINE (2002) Library
– B.A., Claremont McKenna College; M.A., University of Arizona.

– M.A., M.S.W., Arizona State University; Ph.D., Stanford University.

NELSON, LEXA J. (2010) Nursing
– B.S.N., Arizona State University; M.S.N., Walden University.

– B.S., M.B.A., Western International University; M.S.A., University of Phoenix.

NUNN, MARY (2009) Communication, Reading, American Sign Language, and Education
– A.A., Jamestown Community College; B.A., M.A., Northern Arizona University.

– B.S., Ph.D., Arizona State University.

ORTIZ, ELENA (2005) Biosciences
– B.A., University of California, Santa Cruz; M.S., Universidad de Puerto Rico, Rio Piedras; Ph.D., Arizona State University.


– B.S.N., Grand Canyon University; M.S.N., University of Phoenix; Ed.D., Walden University; R.N.

– B.S., Arizona State University; M.A., California State University, Dominguez Hills; Ph.D., Northern Arizona University.

PARKER, VERONIQUE M. (2004) Health Professions, Fitness and Wellness
– A.A., Clovis Community College; B.A., Eastern New Mexico University; M.B.A., University of Phoenix.

PERRY, RITA H. (2001) Dental
– A.A.S., Phoenix College; B.S., M.P.A., Arizona State University; R.D.H., C.D.A.

PINEDA, DAVID (1995) English

PODWASKI, JO ANN (2015) Nursing
– B.S.N., Marian College; M.S.N., University of Phoenix; D.N.P., Arizona State University; R.N.

POWERS, CONSTANCE (2014) Nursing
– A.S., Mesa-Boswell Community College; B.S.N., M.S.N., Grand Canyon University.

RAFIEEI, NOSHIN (2017) Behavioral Sciences
– B.A. (Psychology), B.A. (Sociology), M.A., Ph.D., Arizona State University.

RANDON, RODY (2002) Communication, Reading, ASL, and Education
– B.S., M.A., University of Northern Colorado.

REDENDO, ANTHONY P. (2001) Business
– A.O.S., Culinary Institute of America, B.S., University of Phoenix.

RICHARDSON, DONALD J. (1971) English
– B.A., M.A., Fort Hays State University.

ROE, CRISTIE E. (1990) English
– B.A., Arizona State University; M.A., Monterey Institute of International Studies; Ph.D., University of Arizona.

ROSATI, MARK A. (1993) Biosciences
– B.S., M.S., Eastern Michigan University.

ROSELLE, ANN M. (2001) Library
– B.A., University of Vermont; M.A., Northwestern University; M.L.S., University of Illinois.
ROUSE, NICOLAS (1997) Business
– B.S., Arizona State University; M.Ed., Northern Arizona University.

– B.S., Charter Oak State College; C.E.P.

SANDOVAL, TRINO (1996) Liberal Arts
– B.A., California State University at Chico; M.A., Ph.D., Arizona State University.

SCHAFFER, WILLIAM C. (2017) Liberal Arts
– B.A., University of Massachusetts; M.A., University of Arkansas.

SCHAMPEL, JOHN (2006) Biosciences
– B.S., University of Wisconsin; M.S., University of Minnesota.

– B.M., M.M., University of North Texas; D.M.A., Arizona State University.

SERGEANT, KRISTIN (2017) Counseling

– A.A., The American Institute; B.A., B.S., Arizona State University; J.D., Phoenix School of Law.

– B.S., University of Maryland; M.A., Webster University.

SINNER, JAMES E. (2012) Biosciences
– A.P.M., Olney Community College; B.L.S., University of Missouri-Rolla; B.S., National University of Health Sciences; D.C., National College of Chiropractic.

SKEEN, CHRISTY L. (2016) English
– B.S., West Virginia University; M.A., Northern Arizona University.

– B.S., Austin Peay State University; M.L.S., George Peabody College for Teachers.

SOUSA, JAMES (2002) Mathematics
– B.A., Sonoma State University; M.S., California State University at Hayward.

SPEXARTH, KATRINA A. (2017) Communication, Reading, ASL, and Education
– B.S., Northern Arizona University; M.Ed., Concordia University.

STARK, DIANE (1997) Business

STONE, SERENA T. (2017) Communication, Reading, ASL, and Education

SUEYOSHI, JOE (1991) Mathematics
– B.A., University of California at Berkeley; M.S., University of Minnesota.

SUMPTER, RASHEL M. (2012) Physical Sciences
– Ph.D., University of North Dakota.

THORPE, STEVE G. (2001) Liberal Arts
– B.A., M.A., Ph.D., University of Colorado, Boulder.

TORRES-SIERRA, MARILO M. (2017) Nursing
– A.D.N., GateWay Community College; B.S.N., M.S.N., Chamberlain College of Nursing.

– B.S., Grand Canyon University.

USSERY, JENNIFER (2014) Communication, Reading, American Sign Language, and Education
– B.A., California State University, San Bernardino; M.A., California State University, Fullerton; and M.A., Arizona State University.

VALDIVIA, KATHERINE (2013) Communication, Reading, ASL, and Education
– B.A., Arizona State University; M.Ed., Northern Arizona University.

VAZQUEZ, JULIAN (1999) Liberal Arts

VETTO, NORA (2013) Nursing
– B.S.N., M.S.N., Grand Canyon University; R.N.

VILLEGAS-GOLD, ROBERTO Y. (2016) Counseling

WALKER, ROLAND McALLEN (1999) Liberal Arts

WANG, YUN DAN (2016) Physical Sciences
– B.S., M.S., St. John’s University.

WEBSTER, DEBORAH A. (2012) Behavioral Sciences

WEDDLE, JAMISON B. (2017) Fine and Performing Arts
– Hiring Qualification with Equivalent Experience.

WEINGART, CARMEL ANN (2007) Dental
– R.D.H.; B.S., Loyola University; M.Ed., Northern Arizona University.

WELTER, MARTIN (2006) Health Professions, Fitness and Wellness
– B.S., M.A., University of Iowa.

WHITE, JAMES J. (2004) Physical Sciences
– B.A., Idaho State University; M.S., Ph.D., University of Arizona.

WILBURN, JANET (1996) Dental
– A.S., San Diego Mesa College; B.S., Texas Woman’s University; C.D.A.

– A.A.S., Phoenix College.

– A.A.S., Phoenix College; B.G.S., M.Ed., Northern Arizona University.
WINTERS, GENEVIEVE (2001) English
– B.A., University of Arizona; M.P.A., Arizona State University;
M.A., Northern Arizona University.

ZAHAROPOULOS, DOULA (2005) Business
– B.S.B.A., M.B.A., University of Wisconsin; Ph.D., Grand
Canyon University.

Emeritus Faculty
(Years of Service to MCCCD)

ANDERSON, KRISTIN (1981-2008) Dental Hygiene
ANDERSON, WILLIAM N. (1962-2002) Physics, Geology,
Astronomy, Engineering
AWE, FLORETTA S. (1960-1983) District Director, Allied Health &
Nursing
BAILEY, LOWELL, JR. (1965-1989) Physical Education
BENHAM, MILFORD J. (1946-1983) Physics, Geology
BOGUE, JAMES W. (1960-1982) Library
BRATT, MARION (1976-1989) English
BRUNDAGE, JOE R. (1946-1973) Engineering Technology
CAÑEZ, OFELIA (2001-2007) Education
CARPENTER, AFTON J. (1963-1983) Reading
CLIFTON, LORAYNE (1961-1983) Nursing
COFFEEN, CLIFF G. (1962-1987) Social Science
COLE, DALE L. (1961-1989) Physics, Engineering
CUPS, RICHARD (1982-2014) Physical Sciences
DECKER, JESSE SMITH (1946-1973) Chemistry
DILLARD, GEORGIA (1973-1999) Library
DIMAS, PETE (1990-2007) History

DORR, DEBRA (1996-2015) Applied Technology, Family and
Consumer Sciences
DRISCO, JOHN EDWARD (1970-1990) English
EVANS, SETH PARKER (1958-1989) Business
FIELDEN, JOHN R. (1961-1986) Social Science
FOSTER, VIRGINIA R. (1968-2006) Foreign Language
GOLDBERG, RICHARD B. (1964) Social Science
HODGKINS, ANNE V. (1994-2016) Mathematics
HUARD, DONALD V. (1963-1989) Psychology
INGRAHAM, JAMES A. (1968-1992) Business
JAMESON, BRENT L. (1972-2006) Foreign Language
JAMIESON, GAIL M. (1968-1992) Art
JOHNSON, ANN (retired 1972) Psychology
KACZUR, PAUL (1971-1997) Mathematics
KASS, EMIL L. (1965-1989) Counseling
MACIAS, MARGARET (1993-2008) Counseling
MARICH, MARTIN (1960-1983) Physical Education
MARKS, JOYCE LYNN (1976-2008) Library
MARSHALL, PAUL E. (1951-1978) Business
McLAIN, JOYCE D. (1966-1989) Physical Education
MILLER, RICHARD B. (1966-1986) English
MILLS, GILBERT (1947-1983) Physics, Geology, Engineering
MONROE, MARSHALL (1940-1966) Foreign Languages
NAPLES, DOROTHY J. (1963-1984) Physical Education
NAUMOFF, HAROLD (1966-1995) Psychology
NICHOL, JOHN S. (1967-2000) Counseling
O’BRIEN, ELIZABETH (1990-2017) Communication, Reading, ASL, and Education
OEHMKE, ANN (1962-1986) Physical Education
ORMAN, ARTHUR (1965-1987) English
PFEFFERBAUM, ROSE L. (1972-2012) Liberal Arts
POLICHINO, LOUIS M. (1956-1977) Speech
REPP, ANN (1972-1992) Physical Education
ROE, WILLIAM (1984-2014) Behavioral Sciences
ROWE, RICHARD F. (1964-1997) Geography, Geology
SHARPE, CHARLES K. (1948-1977) Audiovisual Services
SHEEHAN, DENNIS (1995-2014) Business
TADANO, MARIAN Y. (1973-2004) Clinical Laboratory Sciences, Chemistry
TANKERSLEY, CATHERINE M. (1985-2006) Phlebotomy
TATE, PHILIP (1984-2008) Biology
VILLEGAS, AMALIA VALLE (1990-2016) Counseling
WEISS, ELMA STECK (1961-1983) Physical Education
WESLER, WARREN (1963-1983) Social Science
WESTENBERG, CAMILLA (1986-2013) English
WILF, SELMA (1975-1996) Reading

Emeritus Administration
(Year of Service to MCCCD)
WALLACE, WILLIAM B. (1961-1989) Dean of Administrative Services

Retired Faculty
(Year of Service to MCCCD)
ADAMSON, THOMAS (1990-2013) Mathematics
AGIN, AVIS (1966-1981) Reading
ARLE, JOHN F. (1993-2006) Biology
ARNOLD, CATHERINE L. (1965-1973) Home Economics
ARQUETTE, JEANNE (1994-2014) Physical Sciences
BANKHEAD, HUGH L., JR. (1965-1983) Technology
BOLTON, CAROL J. (1991-2014) Communication, Reading, ASL, and Education
BOND, MINYON L. (1984-2011) Biosciences
BROWN, ALMA (1977-1987) Home Economics
BRUNER, BEVERLY (2005-2014) Communication, Reading, ASL, and Education
BURGESS, GERALD (1999-2014) Fine and Performing Arts
CHAVEZ, ENRIQUETA (1984-2018) Counseling
CIPRIANO, CHERYL (2010-2014) Nursing
CRANDALL, JEWELL (retired 1979) Home Economics
DOLPHIN, HARRIET (1977-1989) Art
DRUDING, HARRIET (1977-1989) Art
DOLPHIN, HARRIET (1977-1989) Art
DRUDING, C. EDWIN (1965-1983) Psychology
ESCALANTE, DELIA P. (1976-2016) Liberal Arts
EWALD, BONNIE (2001-2009) Nursing
EYGENDAAL, JAN (1978-2001) Dental Assisting
FARRINGTON, ROSEMARIE (1968-1986) Dental Assisting
FAWCETT, IRENE M. (1998-2013) Nursing
GALLOWAY, LAURA (1987-2018) Communication, Reading, ASL, and Education
GARCIA, LINDA (1991-2007) Dental Hygiene
GIBNEY, MARIAN (1983-2016) Behavioral Sciences
HABERMAN, JUDITH G. (1990-2006) English
HACKLEMAN, RANDOLPH (1963-1976) Technology
HATHY, SANDRA (2001-2011) Business
HAUGEN, VIVIAN K. (1973-1983) Medical Records Technology
HERRERA, VERONICA (2006-2016) Mathematics
HOLMES, LUCILLE (retired 1966) Communications, English
HOPKINS, MARSHA ANN (1973-2011) Behavioral Sciences
Houser, Helen J. (2001-2010) Health Care Education
JAMISON, JUANITA (1955-1973) English
JENKINS, BEVERLY (2001-2015) Business
JENNINGS, VIOLET MAY (1956-1973) Mathematics
JOFFE, IRWIN L. (1965-1983) Reading
KAPPES, DEBORAH (1998-2014) Dental
KETCHAM, SHARYN (2006-2015) Health Professions, Fitness and Wellness
LOSICKI, DEBRA A. (2010-2016) Nursing
LOWE, MONICA (1984-2013) Counseling
MACKLIN, LAURA (1961-1973) English
MAHER, MARY S. (1965-1978) English
MARLETT, ROBERT (1978-1983) Technology
McGIR, CLARENCE (1980-1986) Research & Development
MEYERS, NANCY (2002-2012) English
MILLER, LISA (1981-2015) English
OSBORN, APRIL (1977-1997) Dental Hygiene
PEPE, PHILIP (1984-2009) Biosciences
PETerson, Eula (retired 1973) Nursing
PETTERSON, BONNIE J. (1993-2011) Health Professions, Fitness and Wellness
PHILLIPS, VIVIAN (1965-1975) Business
PRAther, MARIANNE (1991-2004) Reading
RASSAS, SARA LEYVA (2003-2016) English
RUSSell, R. KEITH (1961-1980) Physics, Engineering
SAMSON, PATRICK (1983-1993) Medical Records Technology
SANDOVAL, RALPH (2000-2014) Communication, Reading, ASL, and Education
<table>
<thead>
<tr>
<th>Name</th>
<th>Years</th>
<th>Department/Program</th>
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<td>1970-1989</td>
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<td>1988-2004</td>
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<td>1990-2008</td>
<td>Communication and Theatre</td>
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<td>Physical Sciences</td>
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<td>(retired 1968)</td>
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<td>(retired 1979)</td>
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<td>Liberal Arts</td>
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**Retired Administration**

(Years of Service to MCCC)

<table>
<thead>
<tr>
<th>Name</th>
<th>Years</th>
<th>Position/Department</th>
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<tbody>
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<td>ARCHIBALD, EILEEN</td>
<td>2002-2015</td>
<td>Director, Institutional Advancement</td>
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<td>BINDER, JAN</td>
<td>1995-2017</td>
<td>Director, Planning, Research, and Institutional Effectiveness</td>
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<td>HALFORD, SHARON</td>
<td>2004-2016</td>
<td>Dean, Industry and Public Service</td>
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<td>HARRISON, MYRNA</td>
<td>1988-1993</td>
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<td>MOORE, JAMES D.</td>
<td>1994-2007</td>
<td>Vice President, Administrative Services</td>
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<tr>
<td>SOLLEY, ANNA</td>
<td>1976-2015</td>
<td>President</td>
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</table>

**Phoenix College Administration**

President: Larry D. Johnson, Jr., D.A.
Vice President, Academic Affairs: Casandra Kakar, Ed.D.
Vice President, Administrative Services: Paul DeRose, Ed.D.
Dean, Student Affairs: Meredith L. Warner, M.A.
Dean, Student Affairs, Interim: Ralph D. Thompson II, M.Ed.
Chief Information Officer: Andrew G. Giddings, M.Ed.
Dean of Arts and Sciences: Wilbert Nelson, M.S.W.
Dean of Industry and Public Service: Julie Stiak, M.Ed.
Director of Development: Deborah Spotts, M.S.
Manager of Public Relations and Marketing: Erika Keenan, M.S.

**Maricopa County Community Colleges District Governing Board**

Mr. Laurin Hendrix, President: term expires 12/2020
Mr. Augustine Bartning: term expires 12/2018
Ms. Johanna Haver, Secretary: term expires 12/2018
Ms. Tracy Livingston: term expires 12/2018
Ms. Jean McGrath: term expires 12/2018
Mr. Dana G. Saar: term expires 12/2020
Dr. Linda Thor: term expires 12/2020

**District Administration**

Chancellor: Maria Harper-Marinick, Ph.D.
Vice Chancellor of Academic and Student Affairs/Provost: Karla Fisher, Ph.D.
Human Resources: LaCoya Shelton, M.A., SPHR
Information Technology Services: Edward Kelty, M.Ed.
Vice Chancellor, Business Services: Gaye Murphy, M.P.A.
Chief Executive Officer, Maricopa Community Colleges Foundation: Christina Schultz, M.A.
President, Chandler-Gilbert: Greg Peterson, Ed.D.
President, Estrella Mountain: Ernie Lara, Ph.D.
President, Gateway: Steven R. Gonzales, Ed.D.
President, Glendale: Teresa Leyba Ruiz, Ed.D.
President, Mesa: Richard Haney, Ed.D.
President, Paradise Valley: Paul Dale, Ed.D.
President, Rio Salado College: Chris A. Bustamante, Ed.D.
President, Scottsdale: Chris Haines, Ed.D.
President, South Mountain: Shari L. Olson, Ph.D.
Index

A
Absences .................................................. 47
Abuse-Free Environment .......................... 57, 80, 92
Academic Advisement ................................. 8, 40
Academic Advising and New Student Orientation .......................................................... 40
Academic Calendar ........................................ 5
Academic Certificate (AC) Requirements ..... 115
Academic Certificates at Phoenix College ... 203
Academic Load ............................................. 47, 73, 88
Academic Misconduct .................................. 51
Academic Probation ..................................... 49
Academic Renewal ....................................... 49
Accident Insurance ....................................... 8
Accounting
  Course Descriptions (ACC) ......................... 219
  Programs ................................................. 144
Accreditation ................................................ 4
Administration
  District ..................................................... 310
  Phoenix College ....................................... 310
Administration of Justice
  Course Descriptions (AJS) ......................... 221
  Programs ................................................. 194
Administrative Professional
  Course Descriptions (CIS) ......................... 235
  Programs ................................................. 149
Administrative Regulations ............................. 24
Admission Classifications ............................ 25
Admission Information ................................ 26
Admission Policy ......................................... 25
Admission/Registration/Enrollment .................. 25
Admissions, Registration and Records ........... 8
Adolescent Studies
  Course Descriptions (CFS) ......................... 232
  Program .................................................. 181
Advanced Emergency Medical Technology (Paramedic)
  Course Descriptions (EMT) ......................... 246
  Program .................................................. 176
Advanced Placement ................................... 31, 33, 34
Advancing Academic Achievement
  Course Descriptions (AAA) ......................... 219
Adult Basic Education (College Bridge Pathways) .................................................. 10
Advisement ................................................. 8, 40
Aerospace Studies (Air Force ROTC)
  Course Descriptions (AES) ......................... 220
  Program .................................................. 200
Affirmative Action Statements ....................... 83
African American Studies
  Course Description (AFR) ......................... 220
Alcoholic Beverages ................................... 58, 80
Allied Health or Nursing Program (MCCCD) ..... 157
Alumni and Development .............................. 8
American Indian Studies
  Course Descriptions (AIS) ......................... 220
  Program ................................................. 203
American Sign Language (See Deaf Studies and Interpreter Preparation)
Americans with Disabilities Act ........................... 83
Anthropology
  Course Descriptions (ASB, ASM) ................. 228
Art
  Course Descriptions (ART) ......................... 224, 228
Art Humanities (ARH)
  Course Descriptions .................................. 223
Art Programs: See
  Computer Graphic Design ........................ 134
  Digital Photography .................................. 187
  Media Arts Programs .................................. 188-192
  Transfer Programs .................................... 207
Articulation and Transfer Agreements ............. 38
Articulation Transfer Credit ......................... 31
Assessment (Student Course Placement) ........... 18, 40
Associate Degrees Designed for University Transfer,
  Academic Policies .................................... 99
Associate in Applied Science (AAS) Degree ........ 114
Associate in Arts Degree (AA) ....................... 100
Associate in Arts Elementary Education (AAEE) .... 103, 210
Associate in Business Degree, General Requirements
  (Abus/GR) ............................................. 108, 209
Associate in Business Degree, Special Requirements
  (Abus/SR) ............................................. 108, 209
Associate in Fine Arts (AAFA), Art ................... 104, 207
Associate in Fine Arts (AAFA), Dance .............. 105
Associate in Fine Arts (AAFA), Theatre ............ 107, 214
Associate in General Studies (AGS) Degree ....... 111
Associate in Science Degree (AS) .................... 101
Astronomy
  Course Descriptions (AST) ......................... 229
Athletics ..................................................... 9
Attendance Policy ....................................... 47
Audio Production Technologies
  Course Descriptions (MTC, MUC) ................. 280, 281
  Programs ................................................ 140
Auditing a Course ....................................... 48
Banking and Finance
Course Descriptions (ACC, GBS) ........................................ 219, 257
Programs ................................................................. 155
Biology
Course Descriptions (BIO) .............................................. 230
Bookstore ................................................................. 9
Business
Course Descriptions (ACC, CIS) ................................. 219, 235
Programs ................................................................. 209
Transfer Programs ...................................................... 209
Business-Personal Computers
Course Descriptions (BPC) .............................................. 231
Cafeteria (Bear Cave Cafe) .............................................. 9
Calendar ................................................................. 5
Cambridge International Examinations (CIE) .............. 36-37
Campus Map ............................................................ 320
Career and Technical Education
Bachelor of Science in Education Transfer Option ........ 211
Career Services .......................................................... 9, 301, 302
Career Work Experience
Course Description (CWE) ............................................ 241
Catalog Under Which a Student Graduates ................. 39, 94
CEEB Advanced Placement Exams ............................ 31
Certificates and Degrees List ......................................... 60, 95, 130-131
Chemistry
Course Descriptions (CHM) ............................................ 233
Program ................................................................. 209
Chicana and Chicano Studies
Course Descriptions (CCS, HIS) ................................. 231, 263
Program ................................................................. 203
Child Care (see Family Care and Head Start Center) . 10
Child/Family Studies
Course Descriptions (CFS) ............................................ 232
Children on Campus .................................................... 60
CLEP Examination ..................................................... 30, 31, 34-35
College Bridge Pathways (Adult Basic Education) .... 10
College Environment ................................................... 52
College Grounds, Use of ............................................. 59, 61
College Police (see Public Safety) ............................... 10
College Level Examination (CLEP) ............................. 30, 31, 34-35
College-Specific Fees .................................................... 45
Comic and Sequential Art
Course Descriptions (ART, CRW) ............................. 224, 239
Programs ................................................................. 186
Communication
Course Descriptions (COM) ........................................... 237
Transfer Program ......................................................... 210
Community Emergency Response Team (CERT) Program . . . . . . . . ................................................................. 177
Complaints ............................................................... 12, 86
Computer-Aided Drafting
Course Description (CAD) ............................................ 231
Consensual Relationships ............................................. 81
Computer Applications
Course Descriptions (BPC) ............................................ 231
Program ................................................................. 150
Computer Art/Illustration, Media Arts Programs ........... 188-192
Computer Graphic Design
Course Descriptions (ART) ............................................ 224
Program ................................................................. 134
Computer Information Systems
Course Descriptions (CIS) ............................................ 235
Programs ................................................................. 183
Concurrent Enrollment ............................................... 30
Conduct (See Disciplinary Standards Statement) ......... 62
Confidentiality ............................................................ 86
Consortium ............................................................... 75
Construction
Course Description (CON) ............................................ 238
Copyright Compliance .................................................. 57, 77, 78
Costing
Course Description (TEC) ............................................ 294
Program ................................................................. 136
Counseling Department ................................................ 11
Counseling and Personal Development Course
Descriptions (CPD) ..................................................... 238
Course Applicability System (Arizona Transfer Resources) .... 123
Course Descriptions ..................................................... 219
Course Equivalency Guide ............................................. 123
Course Fees ............................................................... 44
Course Index by Subject ................................................ 218
Creative Writing
Course Descriptions (CRW) ........................................... 239
Program ................................................................. 204
Credit by Evaluation ...................................................... 31
Credit for Prior Learning (Prior Learning Assessment Credit) .... 30
Credit/No Credit Graded Courses (P/Z) ....................... 48
Crime and Accident Scene Photography
Course Descriptions (AJS) ............................................ 221
Program ................................................................. 195
Crime Scene Investigation
Course Descriptions (AJS) ............................................ 221
Program ................................................................. 195
Crime Scene Technology
Course Descriptions (AJS) ............................................ 221
Program ................................................................. 195
Credit Awareness and Campus Security Act ................ 60
Critical Reading and Critical Thinking Course Description (CRE) .... 239
Cultural Geography
Course Descriptions (GCU) ............................................ 257
Curriculum for Young Children
Course Descriptions (CFS) ............................................ 232
Program ................................................................. 153
D
Dance, Associate in Arts, Fine Arts (AAFA) .......................... 105
Dance Humanities
Course Description (DAH) ............................................ 242
DANTES Subject Standardized Test (DSST) Examinations ....... 32, 37
Deadlines for Students .................................................. 46
Deaf Studies
Course Descriptions (SLG) ............................................. 290
Program (Also see Interpreter Preparation) ....................... 179
Degrees
MCCCD ............................................................. 94
Phoenix College .......................................................... 130
Delivery of Instruction .................................................. 11
Dental Assisting
Course Descriptions (DAE) ............................................. 241
Program ............................................................... 173
Dental Hygiene
Course Descriptions (DHE) ............................................. 242
Program ............................................................... 175
Dental Office Management
Course Descriptions (DAE) ............................................. 241
Department Chairpersons ............................................. 126-128
Digital Animation, Media Arts Programs ......................... 189
Digital Imaging, Media Arts Programs ............................ 190
Digital Photography
Course Descriptions (ART - Photography) ....................... 228
Program ............................................................... 187
Disaster Preparedness and Emergency Response
Course Descriptions (DPR) ............................................. 243
Disciplinary Standards .................................................. 61
Discrimination Complaint ............................................. 12, 57, 84
Disability Resources and Services .................................. 11, 71
Dress Code .............................................................. 14
Driver Operator
Course Descriptions (FSC) ............................................. 254
Program ............................................................... 197

E
Early Childhood Classroom Management
Course Descriptions (CFS, ECH) ................................. 232, 244
Program ..................................................................... 154
Early Childhood Education and Administration:
Birth through Age Five
Course Descriptions (CFS, ECH) ................................. 232, 244
Programs .................................................................... 154
Early Childhood Education
Course Descriptions (ECH) ........................................... 244
Early College Programs ............................................... 14
Early Education
Course Descriptions (EED) ........................................... 246
Earn A Degree Online .................................................. 131
Economics
Course Descriptions (ECN) ........................................... 245
Education
Course Descriptions (EDU) ........................................... 245
Programs:
Associate in Arts in Elementary Education (AAEE) ............ 103, 210
Educational Planning Worksheet ................................. 122
Electrical Engineering
Course Descriptions (EEE) ........................................... 246
Electronic
Course Descriptions (ELE) ........................................... 246
Electronic Music
Course Descriptions (MTC, MUC) .............................. 280, 281
Program ............................................................... 204
Emergency Communications and Deployment
Course Descriptions (EMT) ........................................... 246
Program ............................................................... 177
Emergency Medical Technology
Course Descriptions (EMT) ........................................... 246
Program ............................................................... 193
Emergency Preparedness ............................................. 92
Emergency Response and Operations
Course Descriptions (EMT) ........................................... 246
Program ............................................................... 197
Emissions Control Compliance ..................................... 57
Employment, Student .................................................. 68
Engineering
Transfer Options ....................................................... 210
Engineering Science
Course Descriptions (ECE) .......................................... 244
English
Course Descriptions (ENG) .......................................... 250
English Humanities
Course Descriptions (ENH) .......................................... 251
English as a Second Language
Course Descriptions (ESL) .......................................... 252
Enrollment Center ...................................................... 15
Environmental and Natural Resource Conservation
Program ............................................................... 134
Environmental and Natural Resource Stewardship
Program ............................................................... 205
Environmental and Natural Resource Sustainability
Program ............................................................... 133
Equal Opportunity Statement .................................... 52, 83
Evidence Technology
Course Descriptions (AJS) .......................................... 221
Program ............................................................... 196
Expressive Activity ...................................................... 61

F
Faculty of Phoenix College .......................................... 303-310
Faculty Office Hours at Phoenix College ......................... 15
Family and Consumer Sciences Transfer Option ............... 211
Family Care and Head Start Center .............................. 10
Family Development
Course Descriptions (CFS) .......................................... 232
Programs ............................................................... 182
Family Support
Course Descriptions (CFS) .......................................... 232
Program ............................................................... 183
Fashion Design
Course Descriptions (TEC) .......................................... 294
Programs ............................................................... 136
Fashion Illustration
Course Descriptions (TEC) .......................................... 294
Program ............................................................... 137
<table>
<thead>
<tr>
<th>H</th>
<th>Hazardous Materials Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Courses (FSC)</td>
</tr>
<tr>
<td></td>
<td>Program</td>
</tr>
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<td>I</td>
<td>Hazing Prevention</td>
</tr>
<tr>
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<td>70</td>
</tr>
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<td>J</td>
<td>Head Start</td>
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</tr>
<tr>
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<td>Health Care Integrated Educational Systems (HCIES)</td>
</tr>
<tr>
<td></td>
<td>32, 157</td>
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<td>L</td>
<td>Health Care Related</td>
</tr>
<tr>
<td></td>
<td>Course Descriptions (HCR)</td>
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<td>M</td>
<td>Health Concerns</td>
</tr>
<tr>
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<td>58</td>
</tr>
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<td>N</td>
<td>Health Core Curriculum</td>
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<td>Course Descriptions (HCC)</td>
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<td>Health Information: Long Term Care Settings</td>
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<td>Program</td>
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<td>Program</td>
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<td>Health Insurance</td>
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<td>26</td>
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</tr>
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<td>X</td>
<td>Honors Program List, President's</td>
</tr>
<tr>
<td></td>
<td>49</td>
</tr>
<tr>
<td>Y</td>
<td>Honors Program</td>
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<tr>
<td>Z</td>
<td>How to Use Your Catalog and Student Handbook</td>
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<td>Humanities</td>
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<td>Course Descriptions (HUM)</td>
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<td>Course Descriptions (MGT)</td>
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<td>Program</td>
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### G

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<th>Gainful Employment Disclosures</th>
<th>16</th>
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<tr>
<td>G.E.D. (High School Equivalency)</td>
<td>10</td>
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<tr>
<td>General Business</td>
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<td>Course Descriptions (GBS)</td>
</tr>
<tr>
<td></td>
<td>Programs</td>
</tr>
<tr>
<td>General Education Designations</td>
<td>51, 96</td>
</tr>
<tr>
<td>General Education Statement</td>
<td>50, 95</td>
</tr>
<tr>
<td>General Regulations</td>
<td>24</td>
</tr>
<tr>
<td>Geographic Information Science</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Course Descriptions (GIS)</td>
</tr>
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<td>Geology</td>
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</tr>
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<td>Course Descriptions (GLG)</td>
</tr>
<tr>
<td>Governing Board for MCCCD</td>
<td>310</td>
</tr>
<tr>
<td>Grading</td>
<td>48</td>
</tr>
<tr>
<td>Graduation (Commencement) Fees</td>
<td>44</td>
</tr>
<tr>
<td>Graduation Requirements</td>
<td>49, 94</td>
</tr>
<tr>
<td>Graphic Design–See Computer Graphic Design Programs</td>
<td></td>
</tr>
<tr>
<td>Grants</td>
<td>15, 87</td>
</tr>
<tr>
<td>Grievance Processes</td>
<td>49, 90</td>
</tr>
</tbody>
</table>

### I

| Identification cards | 17 |
| Important Deadlines for Students | 46 |
| Important numbers | 19-20 |
| Improving a grade/repeating a course | 48 |
| Incomplete, grade of | 48 |
| Incidental Computer Usage Guidelines | 87 |
| Incidental Telephone Usage Guidelines | 87 |
| Index of Courses by Subject | 218 |
| Index of Phoenix College Occupational Programs | 130 |
| Instructional Departments | 126-128 |
| Instructional Grievance Process | 49, 90 |
| Insurance, Accident | 8 |
| Interior Design |
|   | Course Descriptions (INT) | 265 |
|   | Program | 138 |
| Interior Merchandising |
|   | Course Descriptions (INT) | 265 |
|   | Program | 138 |
| International Baccalaureate Credit | 32, 35-36 |
International Business
  Course Descriptions (IBS) .......................................................... 265
International Education Program ..................................................... 16
International Studies
  Course Descriptions (POS) .......................................................... 286
  Program ....................................................................................... 205
Interpreter Preparation
  Course Descriptions (IPP) .......................................................... 267
  Programs (Also see Deaf Studies) .................................................. 180

J
Job Placement (Career Services) ........................................................ 9, 301, 302

L
Laboratory Assisting
  Course Descriptions (LBA) .......................................................... 270
  Program ....................................................................................... 162
Leadership
  Course Descriptions (LDR) .......................................................... 270
Learning Commons ................................................................................ 16
Learning Communities .......................................................................... 16
Legal Assisting (see Paralegal Studies) ..................................................... 150
Liberal Arts Programs ........................................................................... 211
Library .................................................................................................. 17
Licensure Disclaimer ............................................................................... 50, 95
Linux Professional
  Course Descriptions (CIS) .......................................................... 235
  Program ....................................................................................... 184
Load, Academic ..................................................................................... 47
Loans ..................................................................................................... 15, 47, 87
Lost and Found (College Police) ............................................................... 10

M
Management
  Course Descriptions (MGT) .......................................................... 277
  Programs ....................................................................................... 147
Map of Phoenix College Campus .......................................................... 320
Maricopa-ASU Pathways Programs (MAPP) ............................................. 215
Maricopa Community College District .................................................... 83-85
Maricopa Community College District Common Policies ......................... .24
Maricopa Community Colleges Vision, Mission, and Values .................... .4
Maricopa Emergency Management System (MEMS) ................................. 92
Marketing
  Course Descriptions (MKT) .......................................................... 278
  Program ....................................................................................... 202
Marketing and Sales
  Course Descriptions (MKT) .......................................................... 278
  Program ....................................................................................... 201

Massage Therapy
  Course Descriptions (WED) .......................................................... 298
  Programs ....................................................................................... 163
Mathematics
  Course Descriptions (MAT) .......................................................... 272
  Mathematics Flowchart ................................................................... 318
Media Arts
  Course Descriptions (ART, MMT, MTC) ................................................. 224, 279, 280
  Programs ....................................................................................... 188-192
Medical Assisting
  Course Descriptions (HCC, MAS) ....................................................... 259, 270
  Programs ....................................................................................... 165
Medical Billing and Coding: Physician-Based
  Course Descriptions (HIM) .......................................................... 260
  Program ....................................................................................... 168
Medical Billing and Coding: Hospital-Based
  Course Descriptions (HIM) .......................................................... 260
  Program ....................................................................................... 169
Medical Laboratory Science
  Course Descriptions (MDL) .......................................................... 275
  Programs ....................................................................................... 170
Medical Marijuana Act ........................................................................... 92
Medical Records
  (See Health Information Management/Technology) .................................. 158
Micro and Nano Technology
  Course Descriptions (MNT) .......................................................... 280
Military Science (R.O.T.C.)
  Course Descriptions (MIS) .......................................................... 278
  Program ....................................................................................... 200
Multimedia Programs (See Media Arts) ..................................................... 188-192
Multimedia Technology
  Course Descriptions (MMT) .......................................................... 279
Music
  Course Descriptions
    Music: Education (MUE) .......................................................... 282
    Music History/Literature (MHL) ..................................................... 277
    Music: Theory/Composition (MTC) ................................................. 280
    Music: Commercial/Business (MUC) .............................................. 281
    Music: Performance (MUP) .......................................................... 282
  Programs: See
    Academic Certificate ....................................................................... 206
    Audio Production Technologies Programs ...................................... 140
    Music Business Programs ............................................................. 141
    Transfer Program ........................................................................... 211

N
Native American Studies
  (See American Indian Studies) .......................................................... 203, 208
Navajo
  Course Descriptions (NAV) .......................................................... 284
Navajo Humanities
  Course Description (NVH) ............................................................ 284
New Student Orientation (see Academic Advising) .................................... 40
Noncredit Courses, Refund .................................................................. 45
Nondiscrimination .................................................................................. 52, 83
Non-Instructional Complaint Resolution Process .................................... 52, 91
Nursing (See also Pre-Nursing Program)
  Course Descriptions (NUR) .......................................................... 284
  Program ....................................................................................... 178
Small Business Start-Up
  Course Descriptions (SBS) .................................. 290
  Program .................................................. 149
Smoke-Free/Tobacco-Free Environment .................................. 80
Social Media Marketing
  Course Descriptions (MKT) .................................. 278
  Program .................................................. 153
Social Work
  Course Descriptions (SWU) .................................. 293
Society and Business
  Course Descriptions (SBU) .................................. 290
Sociology
  Course Descriptions (SOC) .................................. 291
  Solicitation .................................................. 58, 92
  Southwest Human Development (Child Care for PC) .......... 10
  Southwest Studies
    Course Descriptions (HIS) .................................. 263
    Program .................................................. 206
Spanish
  Course Descriptions (SPA) .................................. 292
Spanish Humanities
  Course Description (SPH) .................................. 293
Special Fees .................................................. 44
Speech Communication (See Communication) ......................... 210, 237
Student Assessment and Course Placement ......................... 40
Student Clubs/Organizations .................................. 21, 70
Student Conduct Code ......................................... 62
Student Employment ........................................... 68
Student Financial Assistance ..................................... 15, 47, 87
Student Governance ........................................... 69
Student Grievance ............................................. 12, 49, 90
Student Identification Cards .................................... 17
Student Life and Leadership .................................... 17
Student Records .................................................. 66, 92
Student Right to Know .......................................... 60
Student Rights and Responsibilities ............................. 61
Student Services (See Phoenix College Information) ............ 8-21
  Student Union ................................................. 17
  Students With Disabilities .................................... 11, 71
  Substance Abuse .............................................. 57
  SUN System Course Information ............................... 39, 249, 273, 300
  Suspension ....................................................... 65
  Sustainability/Social Sciences and Humanities
    Course Descriptions (SSH) .................................. 293

T
Taping of Faculty Lectures ........................................... 78
Technical Theatre
  Course Descriptions (THE, THF, THP) ......................... 296, 296, 297
  Program .................................................. 192
Technology Accessibility ......................................... 74
Technology Resource Standards .................................. 78
Telecommunications
  Course Description (TCM) .................................. 293
Testing Services ................................................... 18
Textiles and Clothing
  Course Descriptions (TEC) .................................. 294
Theatre Arts
  Course Descriptions (THE, THF, THP) ......................... 296, 296, 297
  Transfer Program ........................................... 107, 213

Time Limit for Coursework ........................................ 39, 94
Tobacco-Free Environment ......................................... 80
Transcripts ....................................................... 18, 51
Transfer Credits from Outside of MCCCD ......................... 96
Transfer Resources ............................................... 123-124
Transferring to the Maricopa Community Colleges ............. 38
  Tuition and Fees ............................................. 41, 43
  Types and Levels of Courses .................................. 300

U
University Transfer Pathway Programs ............................ 215
Use of College Grounds ........................................... 59, 61

V
Vaccinations ......................................................... 47
Values, MCCCD .................................................... 24
Verification of Information ....................................... 88
Veterans Services .................................................. 18, 74
  Video Production Technology
    Course Description (VPT) .................................. 298
  Violations, Common Policy .................................... 85
  Vision Statement
    MCCCD ......................................................... 24
    Phoenix College ........................................... 4

W
Web Design (see Media Arts: Web Design) ......................... 191
Web Design
  Course Descriptions (BPC/CIS) ............................... 231, 235
  Programs .................................................. 186, 191
Web Developer
  Course Descriptions (CIS) .................................. 235
  Program .................................................. 186
  Welcome Center ............................................. 19
Wellness Education
  Course Descriptions (WED) .................................. 298
  Withdrawal .................................................... 49, 91
  Student Withdrawal Procedures ................................ 91
  Faculty Withdrawal Procedures ................................ 91
Women's Studies
  Course Descriptions (WST) .................................. 300
Word Processing (See BPC and CIS for Course Descriptions) .... 231, 235
Workplace Violence Prevention .................................. 60
World Wide Web Address ........................................... 3, 218
Mathematics Flowchart

This flowchart is an information tool and is not intended to replace consultation with an advisor. Begin at the math level indicated by math placement score and/or prior math experience. Refer to the Placement Scores and Course Recommendations.

For many AAS and AGS degree programs.
For specific programs see an Academic Advisor.

For many AA degree programs

For Business majors (ABUS-GR, ABUS-SR)

For Elementary Education (AAEE)

Math, Science, Engineering, and Computer Science Majors see advisor for computer classes that will meet the minimum entrance requirements. MAT225 is strongly recommended and now required for some majors.