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## ACADEMIC BRIEFING

**SPRING 2020**

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This publication is to inform other colleges and universities about pertinent course/curriculum revisions which may affect articulation. Changes are reflected in the catalog for the forthcoming (2020-2021) academic year. The new catalog is available from Oakton website ([www.oakton.edu](http://www.oakton.edu)) as of August 2020.

An electronic version of this document may be found online at:  
[www.oakton.edu/about/instpubs/academic\\_briefing\\_2020.pdf](http://www.oakton.edu/about/instpubs/academic_briefing_2020.pdf).

**SECTION I** Course & Curriculum changes included in the 2020-2021 Catalog: Pages 2 – 22  
Effective Spring 2020 – Fall 2020

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Effective Spring 2021



## SECTION I

### COURSE & CURRICULUM CHANGES INCLUDED IN 2020-2021 CATALOG: Effective Spring 2020 – Fall 2020

#### ART / GRAPHIC DESIGN

##### *Curriculum revision*

##### **Animation and Multimedia Certificate (#0371)**

Change certificate requirements. Total semester credit hours remain the same.

##### *Course revision*

##### **ART 262 Multimedia Sound Production**

Change course title to: **Introduction to Sound Design**

Change course description, remove prerequisite:

Course explores the various techniques of sound design in the creation of multimedia; film, animation, podcasting, etc. Musical instrument digital interface (MIDI) devices and synthesizers will be used as musical instruments and as an input device for the computer. Creative possibilities of sound design will be explored through the creation of music, recording Foley sound effects, and recording dialog for use in podcasting, voice over narration, and/or dialog in film and animation.

#### ASSOCIATE IN GENERAL STUDIES

##### *Curriculum revision*

##### **Associate in General Studies (A.G.S.) degree (#0600)**

Change General Education and Elective requirements. Total semester credit hours remain the same.

#### AUTOMOTIVE TECHNOLOGY

##### *Curricula revisions*

##### **Automotive Technology A.A.S. (#0031)**

Change General Education and Major requirements. Increase total semester credit hours to 67.

##### **Automotive Technology Certificate (#0030)**

Change certificate requirements. Increase total semester credit hours from 26 to 28.

##### *Course addition*

##### **ATA 211 Automotive Electrical Systems II (4:3:2)**

**Fee: \$40**

Course continues studying automotive electrical systems, discusses different types of communication networks and how they connect to the vehicles data link. Students will learn how to use and make applicable adjustment to oscilloscopes, graphing multi-meters and graphing scan tools. Cranking, Charging, Lighting and Signaling Systems, as well as Driver Information and Navigation Systems will also be covered. **Prerequisite:** ATA 111 with a minimum grade of C.

## ***Course revisions***

### **ATA 102 Introduction to Automotive Technology**

Change credit: lecture: lab ratio to **4:3:2**

Change course description.

Introductory course to familiarize students with the history of the automobile. Students will learn basic service shop organizational skills, basic vehicle inspection, multi-meter use, light duty vehicle maintenance, proper vehicle lifting, proper use of hand and power tools required for entry level automotive positions, and how to navigate online service manual information. Students will also learn about career options within the automotive industry and how to write a resume.

### **ATA 110 Engine Performance and Fuel Systems**

Change credit: lecture: lab ratio to **4:3:2**

Change prerequisite.

**Prerequisite:** ATA 111 with a minimum grade of C.

### **ATA 111 Electrical Systems**

Change course title to: **Automotive Electrical Systems I**

Change credit: lecture: lab ratio to **4:3:2**

Change course description and prerequisite.

Course studies the principles of automotive electrical systems. Topics include detailed operation and servicing of batteries, starters, generators, alternators and regulators. Emphasis is placed on Ohm's Law, and diagnosis and repair of the automotive electrical systems. **Prerequisite:** ATA 102 with a minimum grade of C.

### **ATA 113 Brake Systems**

Change credit: lecture: lab ratio to **4:3:2**

Change course description and prerequisite.

Course studies fundamentals of passenger car and light duty truck brake systems. Topics include hydraulic systems, component identification, power brake systems, self-adjusting systems, and Anti-Lock Brakes. **Prerequisite:** ATA 102 with a minimum grade of C.

### **ATA 114 Steering, Balancing and Alignment**

Change credit: lecture: lab ratio to **4:3:2**

Change course description and prerequisite.

Course content includes fundamentals and principles of front end alignment, tire repair and balancing. Course also focuses on diagnosis and replacement of suspension and steering components per manufacturer's procedures and specifications. Manual and power steering are also discussed. **Prerequisite:** ATA 102 with a minimum grade of C.

### **ATA 118 Diesel I**

Change credit: lecture: lab ratio to **4:3:2**

Change course description and prerequisite.

Course content includes fundamentals of light and medium duty vehicles. Topics include safety, basic diesel engine operation, engine component terminology, cooling and lubrication systems, and air induction. **Prerequisite:** ATA 111 or ELT 101 or equivalent with a minimum grade of C and consent of department chair.

### **ATA 204 Basic Automotive Engines**

Change credit: lecture: lab ratio to **4:3:2**

Change course description and prerequisite.

Course covers basic operations of the automotive engine. Emphasis is placed on engine components, measurement of engine components, disassembly and assembly of the cylinder head. Classroom discussions also includes engine oil, coolant, intake and exhaust valve operations, and complete valve repair. **Prerequisite:** ATA 102 with a minimum grade of C.

### **ATA 205 Advanced Automotive Engines**

Change credit: lecture: lab ratio to **4:3:2**

Change course description and prerequisite.

Course studies different engine block configurations, their internal components, and materials used to make engine blocks and components. Students disassemble, inspect, clean, check engine blocks and components for defects, take measurements, make repairs, and reassemble the engine. **Prerequisite:** ATA 204 with a minimum grade of C.

### **ATA 206 Clutches, Transmission, and Differentials**

Change credit: lecture: lab ratio to **4:3:2**

Change course description and prerequisite.

Course examines the theory and operational principles behind the front and rear wheel drive clutch systems. Students will use these principles to learn the operations and power flows of different models of front and rear wheel drive transmissions, driveline and axle assemblies. Students will also use these principles to repair and troubleshoot these systems. **Prerequisite:** ATA 102 with a minimum grade of C.

### **ATA 207 Automotive Heating and Air Conditioning**

Change credit: lecture: lab ratio to **4:3:2**

Change course description and prerequisite.

Course teaches basic principles and theory of automotive heating and air conditioning. Focus is on the diagnosis, servicing, and replacement of both heating and air conditioning system components. **Prerequisite:** ATA 102 with a minimum grade of C.

### **ATA 208 Automatic Transmissions**

Change credit: lecture: lab ratio to **4:3:2**

Change course description and prerequisite.

Course teaches operational principles and theory of automatic transmissions. Topics include internal components, internal power flow, torque converter operation, repair and troubleshooting of front and rear transmissions. **Prerequisite:** ATA 111 with a minimum grade of C.

### **ATA 210 Advanced Engine Performance Analysis**

Change credit: lecture: lab ratio to **4:3:2**

Change course description and prerequisite.

Course content includes examination of fault analysis of onboard computers and OBDII Emissions with the aid of advanced scan tool diagnostics. Diagnosis of fuel injection, computer controlled EI, DI, COP ignition systems are also covered. **Prerequisite:** ATA 110 with a minimum grade of C.

## **ATA 218 Diesel II**

Change credit: lecture: lab ratio to **4:3:2**

Change course description.

Course continues studying fundamentals of light and medium duty vehicles. Topics include low and high pressure fuel systems, emissions, hydraulic nozzle injector, Hydraulic Electronic Unit Injection (HEUI) systems, and rail high pressure injector systems.

## **BIOLOGY**

### *Course additions*

#### **BIO 105 Human Genetics (4:3:3)**

**Fee: \$40**

Course introduces basic genetic principles and applications in human populations. Content includes cell cycle; structure, function, mutation and transmission of the genetic material; role of genetics in health care and biotechnology; and ethical, psychological and social implications of gene-based medicine. Credit cannot be received for both BIO 104 and BIO 105.

#### **BIO 233 Non-Cadaver Human Anatomy and Physiology I (4:3:3)**

**Fee: \$50**

This non-cadaver based lab course begins with an introduction to the human body, basic biochemistry, cytology and histology. Following that foundation, the anatomy and physiology of the integumentary, skeletal, muscular, central nervous system and peripheral nervous systems are explored. First of two-part sequence. This course is intended for students entering the health care profession who do not need exposure to human cadavers in a lab setting. Students cannot receive credit for both BIO 231 and BIO 233. **Prerequisite:** BIO 101 with a minimum grade of C within the past 5 years, BIO 121 with a minimum grade of C within the past 5 years, or a year of high School Biology with a minimum grade of C within the past 5 years AND entry-level competency for EGL 101 as demonstrated by coursework or placement. **Recommended:** CHM 101 or CHM 105.

#### **BIO 234 Non-Cadaver Human Anatomy and Physiology II (4:3:3)**

**Fee: \$50**

Laboratory course continues BIO 233. Content includes structure and function of special senses, circulatory, digestive, respiratory, urinary, endocrine and reproductive systems. Dissection of animal organs included in lab experiences. Second of two-part sequence. This course is intended for students entering the health care profession who do not need exposure to human cadavers in a lab setting. Students cannot receive credit for both BIO 232 and BIO 234. **Prerequisite:** BIO 231 or BIO 233 with a minimum grade of C.

### *Course revisions*

#### **BIO 114 Basic Human Anatomy and Physiology**

Change course description.

Non-laboratory survey course covers the structure and function of each body system. Content includes body planes, directional terms, quadrants, body cavities, the major organs in each body system and example disease states.

## **BIO 122 General College Biology II**

Change course description.

Laboratory course continues BIO 121. Content includes Mendelian genetics, chromosomes and heredity, evolution, diversity of living organisms (including bacteria, archaea, selected protists, fungi, plants and animals), and ecology. Second of two-course sequence.

## **BIO 231 Human Anatomy and Physiology I**

Change prerequisite.

**Prerequisite:** BIO 101 with a minimum grade of C within the past 5 years, BIO 121 with a minimum grade of C within the past 5 years, or a year of High School Biology with a minimum grade of C within the past 5 years AND entry-level competency for EGL 101 as demonstrated by coursework or placement.

## **BIO 232 Human Anatomy and Physiology II**

Change course description.

Laboratory course continues BIO 231. Content includes structure and function of special senses, circulatory, immune, digestive, respiratory, urinary, endocrine and reproductive systems. Cadavers and other appropriate specimens are used. Second of two-part sequence. Intended primarily for students in allied health fields. **Prerequisite:** BIO 231 with a minimum grade of C.

## **BIO 240 Interdisciplinary Undergraduate Laboratory Research**

Change credit: lecture: lab ratio to **3:1:4**

Change course description and prerequisite.

Course provides undergraduate research experience. Interdisciplinary course co-listed with CHM 240. Team-taught by faculty from several disciplines. Content includes active participation in selected research experiences including: developing an independent research project; designing and performing experiments; collecting data; analyzing results; participating in collaborative research with other students and professors; learning how to discriminate among various types of scientific literature; reading, critiquing and presenting research articles in a selected area of research; and presenting research at end of semester in both written and oral form. Course can be repeated once for credit. Prerequisite: Honor student status or consent of instructor.

## **BIO 244 Principles of Pharmacology**

Change credit: lecture: lab ratio to **3:3:0**

Change course description and prerequisite.

Course introduces pharmacology, primarily for students in allied health fields. Content includes major prescription and over-the-counter drug classes (with representative drugs), their uses, side effects and warnings. Students will use practical pharmacology theory (pharmacokinetics, pharmacodynamics) and physiology to understand and predict drug effects, interactions, and toxicity. The impact of society, media, economic and cultural pressures on patient access and compliance with medication will also be discussed. **Prerequisite:** BIO 232 with minimum grade of C or concurrent enrollment in BIO 232.

## **BIO 251 Microbiology**

Change prerequisite.

**Prerequisite:** BIO 121 (preferred) with minimum grade of C or BIO 232 with minimum grade of C or concurrent enrollment in BIO 232.

## **BUSINESS AND PROFESSIONAL SERVICES**

### *Curriculum addition*

Add a 14-credit-hour **Cannabis Transportation, Logistics and Supply Chain Management Certificate (#0411)**

### *Course revisions*

#### **BUS 221 Business Law**

Change course title to: **Business Law I**

#### **BUS 222 Business Law**

Change course title: **Business Law II**

## **CANNABIS DISPENSARY AND PATIENT CARE**

### *Course addition*

#### **CNB 106 Cannabis Cultivation Operations (2:2:0)**

Course covers content related to cannabis cultivation center operations including cannabis cultivation, processing, transportation, and disposal, facility requirements related to cannabis cultivation, cannabis plant monitoring systems for tracking seed to sale, state regulations and inspections, and biosecurity measures. **Prerequisite:** CNB 101 with a minimum grade of C or concurrent enrollment in CNB 101.

## **CHEMISTRY**

### *Course additions*

#### **CHM 225 Organic Chemistry I Lecture (4:4:0)**

Course is first of two-course sequence (CHM 225 and CHM 226). Content presents theories, structures, and reactions of organic chemistry, including the properties of various functional groups; bonding and structure of organic molecules; properties and reactions of aromatic and aliphatic hydrocarbons and alkyl halides; stereochemistry; spectroscopy, including infrared and nuclear magnetic resonance; reaction intermediates and mechanisms such as nucleophilic substitutions and electrophilic additions; and multi-step organic synthesis. Credit cannot be earned in both CHM 223 and CHM 225. Credit cannot be earned in both CHM 221 and CHM 225. **Prerequisite:** CHM 122 with a minimum grade of C or consent of instructor.

**CHM 226 Organic Chemistry II Lecture (4:4:0)**

Course is second of two-course sequence (CHM 225 and CHM 226). Content includes study of structure, nomenclature, properties and reactions of alcohols and phenols, aldehydes and ketones, carboxylic acids and their derivatives, amines, condensation reactions, polymers, and biomolecules. **Prerequisite:** CHM 221 or CHM 223 or CHM 225 with minimum grade of C or consent of instructor.

**CHM 227 Organic Chemistry I Laboratory (2:1:3)****Fee: \$50**

Course introduces organic chemistry laboratory techniques (extraction, distillation, chromatography, crystallization, melting point analysis), instrumentation (infrared spectroscopy, polarimetry, gas-chromatography) and the synthesis of organic compounds (nucleophilic substitution, elimination, electrophilic addition). Credit cannot be received in both CHM 221 and CHM 227. Credit cannot be received in both CHM 223 and CHM 227. **Prerequisite:** CHM 225 with a minimum grade of C or concurrent enrollment in CHM 225.

**CHM 228 Organic Chemistry II Laboratory (2:1:3)****Fee: \$50**

Laboratory focuses on the preparation, separation, purification and identification of organic compounds (alcohols, ketones and aldehydes, carboxylic acids and derivatives, amines, polymers). Properties of biomolecules are investigated (carbohydrates, amino acids, peptides, lipids). Analytical techniques are used to characterize chemical reactions and their products (HPLC, GC, IR, polarimetry). Credit cannot be received in both CHM 224 and CHM 228. **Prerequisite:** CHM 226 with a minimum grade of C or concurrent enrollment in CHM 226.

***Course revision*****CHM 240 Interdisciplinary Undergraduate Laboratory Research**

Change credit: lecture: lab ratio to **3:1:4**

Change course description and prerequisite.

Course provides undergraduate research experience. Interdisciplinary course co-listed with CHM 240. Team-taught by faculty from several disciplines. Content includes active participation in selected research experiences including: developing an independent research project; designing and performing experiments; collecting data; analyzing results; participating in collaborative research with other students and professors; learning how to discriminate among various types of scientific literature; reading, critiquing and presenting research articles in a selected area of research; and presenting research at end of semester in both written and oral form. Course can be repeated once for credit. Prerequisite: Honor student status or consent of instructor.

**COMPUTER INFORMATION SYSTEMS*****Course addition*****CIS 206 Software Cybersecurity (3:3:1)****Fee: \$20**

An introductory course of computer security principles and practices with applications to databases and software systems. An emphasis is placed on securing database authentication and authorization processes; and, securing systems through responsible software development and scripting techniques. **Prerequisite:** CSC 155, 156, or 157 with minimum grade of C.



## **COMPUTER NETWORKING AND SYSTEMS**

### *Curricula revision*

#### **Computer Networking and Systems A.A.S. (#0142)**

Change General Education and Major requirements. Total semester credit hours remain the same.

#### **Windows Server Administration Certificate (#0128)**

Change certificate requirements. Reduce total semester credit hours from 22 to 16.

#### **Network Security Administrator Certificate (#0152)**

Change certificate requirements. Total semester credit hours remain the same.

#### **Windows Support Technician Certificate (#0153)**

Change certificate requirements. Reduce total semester credit hours from 18 to 16.

#### **Cisco Certified Network Associate (CCNA) Certificate (#0170)**

Change certificate requirements. Reduce total semester credit hours from 18 to 14.

### *Course additions*

#### **CNS 103 IT Support Fundamentals (4:3:3)**

**Fee: \$20**

Course prepares students for entry-level IT support jobs. It utilizes Google IT support training modules to teach the fundamentals of IT support. Course includes troubleshooting and customer service, networking, operating systems, system administration, and security. Upon completion of this one-course curriculum, students will also earn the Google IT Support Professional certificate.

#### **CNS 173 Cybersecurity Operations Analysis (3:3:1)**

**Fee: \$30**

Course simulates real-world cybersecurity threat scenarios and creates opportunities for ethical hacking, security monitoring, analysis and resolution. Course helps students develop critical thinking and complex problem solving skills innovative assessments provide immediate feedback to support the evaluation of knowledge and acquired skills. **Prerequisite:** CNS 105 or consent of department chair.

#### **CNS 178 Ethical Hacking (3:3:1)**

**Fee: \$30**

Course allows students and IT professionals to move into the cybersecurity field. Course helps students master an ethical hacking methodology that can be used in a penetration testing or ethical hacking situation. Students learn ethical hacking methodologies that can be used in penetration testing to assess the network security. The course covers reconnaissance, scanning, gain access, and maintain access. **Prerequisite:** CNS 176 or consent of department chair.

#### **CNS 193 Cloud Computing (3:3:1)**

**Fee: \$30**

Course helps students and IT professionals to acquire the knowledge they need to maintain and optimize cloud infrastructure services. Students learn to analyze system requirements to successfully execute workload migrations to the cloud, implement appropriate security controls, and troubleshoot connectivity and security issues related to cloud implementations. **Prerequisite:** CNS 150 or consent of department chair.

**CNS 214 Securing Enterprise Server (3:3:1)****Fee: \$15**

Course teaches you how to protect administrative credentials and rights to help ensure that administrators can perform only the tasks that they need to, when they need to. This course explains how you can use auditing and the Advanced Threat Analysis feature in Windows Server to identify security issues. You will also learn how to mitigate malware threats, secure your virtualization platform, and use deployment options such as Nano server and containers to enhance security. The course also explains how you can help protect access to files by using encryption and dynamic access control, and how you can enhance your network's security. **Prerequisite:** CNS 116 or consent of department chair.

***Course revisions*****CNS 110 Windows Client Desktop 1**

Change course description and recommendation.

Course presents most recent release of a Microsoft Modern Desktop Operating System (OS). Topics include knowledge and skills required to deploy, configure, protect, and maintain a modern desktop operating system environment. Students will develop skills needed to install and customize a modern desktop operating system. Students will also learn how to develop skills that include managing storage, files, drivers, and printers as well as how to configure network connectivity for a modern desktop operating system. Students will also learn how to secure the Windows OS and protect the data on the device, and how to manage and troubleshoot a modern desktop operating system. Course maps to Microsoft Modern Desktop Certification exam. **Recommended:** CNS 105 or consent of department chair.

**CNS 121 Network + Certification Preparation****Change course title to: IT Certification Preparation**

Change credit: lecture: lab ratio to **1:0:2**

Change course description; remove prerequisite, add recommendation.

Students may use this course as a prep course leading to an industry certification exam.

**Recommended:** Consent of department chair.

**CNS 141 Cisco Introduction to Networks**

Change course description and recommendation.

Course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. Content includes detailed description of OSI seven layer, the principles and structure of IP addressing, and the fundamentals of Ethernet concepts and operations. Course presents most recent release of the Cisco curriculum. This is the first course in the Cisco CCNA sequence of three courses. **Recommended:** CNS 103 or CNS 105 or consent of department chair.

**CNS 142 Cisco Routing and Switching Essentials**

Change course title to: **Cisco Switching, Routing and Wireless Essentials**

Change course description and prerequisite.

Course describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router, a switch, and a wireless router for basic

functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with these devices. Course presents most recent release of the Cisco curriculum. This is the second course in the Cisco CCNA sequence of three courses. **Prerequisite:** CNS 141; a passing grade must be registered on the Cisco Assessment Server.

### **CNS 143 Cisco Scaling Networks**

Change course title to: **Cisco Enterprise Networking, Security, and Automation**

Change course description and prerequisite.

Course describes the architecture, components, and operations of routers and switches in a large and complex network. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot enterprise networks. Students also learn about virtualization and automation. Course presents most recent release of the Cisco curriculum. This is the third course in the Cisco CCNA sequence of three courses. **Prerequisite:** CNS 142; passing grade must be registered on the Cisco Assessment Server.

### **CNS 150 Windows Client Desktop 2**

Change course description; remove recommendation, add prerequisite.

Course presents most recent release of a Modern Desktop Operating System (OS). Topics include knowledge and skills required to deploy, configure, secure, manage, and monitor devices and client applications in an enterprise environment. Students learn how to manage identity, access, policies, updates, and apps. Students also learn how to design and implement a device strategy that meets the business needs of a modern organization. Students must be proficient and experienced in deploying, configuring, and maintaining Windows 10 and non-Windows devices and technologies. Course maps to Managing Modern Desktop Certification exam. **Prerequisite:** CNS 110 with minimum grade of C or concurrent enrollment in CNS 110, or consent of department chair.

### **CNS 160 Fundamentals of Virtualization Technologies**

Change course title to: **Virtualization Technologies**

**Change credit:** lecture: lab ratio to **3:3:1**

Change course description and recommendation.

Course presents virtualization technologies and concepts using the latest virtualization products in networked server environments. Students gain the knowledge necessary to install and configure the leading virtualization products to create virtual machines (VMs), virtual networks, cloud-based and on-demand services. Students also learn how to apply virtualization technology to create virtual data centers that use clusters for high availability, and use management software to administer virtual environment. **Recommended:** CNS 105 or consent of instructor or department chair.

### **CNS 170 Principles of Information Security**

Remove recommendation, add prerequisite.

**Prerequisite:** CNS 105 or consent of instructor, program coordinator or department chair.

### **CNS 172 Network Defense and Countermeasures**

Remove recommendation, add prerequisite.

**Prerequisite:** CNS 105 or consent of instructor, program coordinator or department chair.

### **CNS 174 Introduction to Computer Forensics**

Remove recommendation, add prerequisite.

**Prerequisite:** CNS 105 or consent of instructor, program coordinator or department chair.

### **CNS 176 Security + Certification**

Change course title to: **Network Security**

Change course description, remove recommendation, add prerequisite.

Course presents the skills and knowledge necessary to install and configure systems to secure applications, networks and devices. This course also helps students to perform threat analysis and respond with appropriate mitigation techniques; participate in risk mitigation activities; and operate with an awareness of applicable policies, laws and regulations. This course helps students prepare for appropriate Security Certification examination. **Prerequisite:** CNS 105 or consent of department chair.

### **CNS 181 Implementing Cisco Network Security**

Change course title to: **Implementing and Operating Cisco Security Technologies**

Change course description and prerequisite.

Course provides the knowledge required to implement and operate core security technologies including network security, cloud security, content security, endpoint protection and detection, secure network access, visibility and enforcements. This course helps candidates to prepare for Cisco Security Core exam. **Prerequisite:** CNS 142 or consent of department chair.

## **COMPUTER SCIENCE**

### *Course additions*

#### **CSC 180 Introduction to Artificial Intelligence (3:3:1)**

**Fee: \$10**

Introduction to concepts involving the fundamentals of artificial intelligence for solving real world applications. Machine Learning (ML) problems will be emphasized including data science for analyzing and manipulating data, supervised and unsupervised learning, deployment of machine learning models as web services, and neural networks. Course includes use of the Python programming language and its fundamental ML libraries. **Prerequisite:** CSC 155, CSC 156, or CSC 157 with the minimum grade of C.

#### **CSC 206 Software Cybersecurity (3:3:1)**

**Fee: \$20**

An introductory course of computer security principles and practices with applications to databases and software systems. An emphasis is placed on securing database authentication and authorization processes; and, securing systems through responsible software development and scripting techniques. **Prerequisite:** CSC 155, 156, or 157 with minimum grade of C.

## **ENGLISH**

### *Course revisions*

#### **EGL 095 Reading/Writing Improvement I**

Change prerequisite:

**Prerequisite:** English placement of EGL 095 or Reading Placement of EGL 092 and Writing Placement of EGL 096 or Reading Placement of EGL 094 and Writing Placement of EGL 096

#### **EGL 098 Reading/Writing Improvement II**

Change prerequisite:

**Prerequisite:** English Placement of EGL 098 or Successful Completion (Grade of P) of both EGL 092 and EGL 096 or Successful Completion (Grade of P) of EGL 095 or Writing Placement of EGL 096 and Reading Placement of EGL110 or higher or Writing Placement of EGL 097 and Reading Placement of EGL 092 or Writing Placement of EGL 097 and Reading Placement of EGL 094 or Writing Placement of EGL 099 and Reading Placement of EGL 092 or Writing Placement of EGL 101 and Reading Placement of EGL 092.

#### **EGL 099 Composition Tutorial**

Change prerequisite:

**Prerequisite:** Co-enrollment in EGL 101, and any one of the following:  
English Placement of EGL 099 or  
Writing Placement of EGL 097 and Reading Placement of EGL 110 or higher or  
Writing Placement of EGL 099 and Reading Placement of EGL 094 or  
Writing Placement of EGL 099 and Reading Placement of EGL 110 or higher

#### **EGL 110 Effective College Reading**

Change prerequisite:

**Prerequisite:** Reading Placement of EGL110 or English Placement of EGL 101 (native only) or Successful Completion (grade of P) of EGL 094 or EGL 098 or EGL 089, or Completion of EGL 101 with minimum grade of C.

#### **EGL 150 Introduction to Journalism**

Remove prerequisite.

#### **EGL 220 Introduction to Mass Communication**

Change course description.

Course explores mass media's roles in society. Content includes mass media historical development, contemporary characteristics, functions, responsibilities, and inter-relationships among media. Course explores mass communications as a consumer and a producer.

### **EGL 221 American Literature I (from the Colonial Period to the Present)**

Change course title to: **American Literature I: Beginnings to 1865**

Change course description and prerequisite.

Course focuses on the culturally diverse literatures of early America up to the end of the Civil War. Course will cover such works as oral stories by Native Americans, writings by early European explorers and colonists, narratives and poetry by enslaved Africans, abolitionists, and free Black Americans, novels and poetry by women as well as the literatures of the American Renaissance broadly understood. Content includes social, cultural, historical, and literary influences, as well as terminology and methods of literary analysis and evaluation. **Prerequisite:** Placement into EGL 101.

### **EGL 260 Introduction to Linguistics**

Change prerequisite.

**Prerequisite:** Completion of EGL 101 with a minimum grade of C or consent of instructor.

## **FIRE SCIENCE TECHNOLOGY**

### *Curricula revisions*

#### **Fire Science Technology A.A.S. (#0180)**

Change major requirements. Total semester credit hours remain the same.

#### **Fire Science Technology Certificate (#0181)**

Change certificate requirements. Total semester credit hours remain the same.

#### **Basics of Fire Fighting Certificate (#0183)**

Change certificate requirements. Total semester credit hours remain the same.

## **HORTICULTURAL THERAPY**

### *Curriculum inactivation*

#### **Horticultural Therapy Certificate (#0412)**

Inactivate certificate.

## **HUMAN SERVICES**

### **HSV 121 Treatment Strategies**

Change course title to: **Assessment, Treatment Planning, and Addiction Strategies**

Change credit: lecture: lab ratio to **3:3:1**

Change course description and recommendation.

Course examines standardized screening and assessment instruments utilizing electronic health records, including American Society of Addiction Medicine (ASAM) criteria for admission into treatment settings and modalities. Practice integrative and comprehensive approaches that include, but not limited to motivational interviewing, treatment planning, documentation, discharge

planning, aftercare, and referral methods. Theoretical and evidence-based practices to be explored include psychoanalytic, humanistic-existential, behavioral, cognitive behavioral, person-centered, trauma-informed care, Stages of Change and co-occurring related approaches. **Recommended:** PSY 238.

### **HSV 122 Assessment and Treatment of the Chemically Dependent**

Change course title to: **Cross Cultural Consideration in Counseling**

Change course description and recommendation; remove prerequisite.

This course provides an overview of theories and models in multicultural counseling for treatment of mental health and substance use disorders. Identify issues relating to, but not limited to, aging, culture, disability, ethnicity, race, religion/spirituality, gender, gender identify, sexual orientation, marital status/partnerships, language, socioeconomic status, and social justice. Students will engage in activities to analyze their own cultural awareness, influences, implicit biases, and limitations. The course will review culturally-centered, evidence-based assessments, referrals, and case management services. Culturally appropriate interventions will be analyzed for women, LGBTQ+, justice involved, adolescents, gerontology population, and veterans. **Recommended:** PSY 238.

## **HUMANITIES**

### ***Course addition***

#### **HUM 150 Environmental Humanities (3:3:0)**

Course concentrates on culture and arts focused on relationships between humanity, the earth, and our environment. Content provides interdisciplinary perspectives on literature, philosophy, music, drama, visual arts, architecture, film, and cultural theory, as well as social forces affecting humanity's relation to the natural world.

## **LAW ENFORCEMENT AND CRIMINAL JUSTICE**

### ***Course revisions***

#### **LAE 122 Police Operations**

Change course description.

Course examines the administration of police line operations with a focus on the patrol function and prevention of crime. The major emphasis of this course is the police as the initial major component of the criminal justice system. The allocation of police resources, specialized units, information systems, community relations, and determinants of police policy are identified. This course provides the student with a basic understanding of modern policing and identifies the organization, function, operational strategies and culture of the police. This course also explores the ethical, emotional, and physical aspects of a career in law enforcement.

### **LAE 239 Forensics II**

Change course description, add prerequisite.

Course builds upon Forensics I and provides instruction in protocols and techniques for forensic crime scene analysis, as well as providing hands-on experience. Topics include techniques in the examination of major crime scenes that involve fingerprints, blood spatter, ballistics, and impression/trace evidence. This course also examines procedures in forensic sketching/mapping, photography, report writing, and criminal offense identification. **Prerequisite:** LAE 135 with minimum grade of C, or consent of department chair.

### **LAE 245 Juvenile Delinquency**

Change course description.

Course is an analysis of the juvenile justice system in the United States. The history, philosophies, causes and control of juvenile behavior and problems are examined. Content includes the interaction among the police, judiciary, and corrections. Also examined are theoretical perspectives, cultural influences, psychological, social, and environmental causes attributing to delinquency.

## **MANAGEMENT AND SUPERVISION**

### *Curricula revisions*

#### **Leadership Excellence Certificate (#0223)**

Change certificate requirements. Total semester credit hours remain the same.

#### **Organization Management Certificate (#0224)**

Change certificate requirements. Total semester credit hours remain the same.

### *Course revisions*

#### **MGT 138 Introduction to Life Coaching**

Change course title to: **Introduction to Professional and Personal Coaching**

#### **MGT 170 Training and Development**

Change course title to: **Learning and Development**

Change course description and recommendation.

Course introduces the field of training and development. Content includes identification of skills necessary to design and implement a training program; roles and responsibilities of trainers, and unique characteristics of adult learners. Current trends and career opportunities addressed.

Intended for those who have responsibility for training or human resources development within their organization, or for those exploring training as a career. **Recommended:** MGT 165 or consent of instructor.

#### **MGT 238 Life Coaching II**

Change course title to: **Professional and Personal Coaching II**

Change prerequisite.

**Prerequisite:** MGT 138 with minimum grade of C.



## **MGT 266 Employee Selection and Staffing**

Change course title to: **Talent Acquisition**

Change course description and recommendation.

Course covers fundamental talent acquisition principles and practices. Content is focused on the interdependence of organizational performance and effective sourcing, recruitment, selection, and staffing in human resource management. **Recommended:** MGT 165 or consent of instructor.

## **MANUFACTURING TECHNOLOGY**

### *Curricula additions*

Add a 9-credit-hour **Production Technician Certificate (#0244)**

Add a 15-credit-hour **Programmable Controllers (PLC/PAC) Technician Certificate (#0248)**

Add a 10-credit-hour **Welding Certificate (#0250)**

### *Curriculum revision*

#### **Automation and Controls Certificate (#0276)**

Change certificate requirements. Total semester credit hours remain the same.

### *Course additions*

#### **MFG 125 Advanced Welding (4:3:2)**

**Fee: \$50**

Course teaches advanced electric arc, tungsten inert gas, gas metal arc welding processes. Safety procedures required to set up and shut down welding equipment for the various processes are enforced. Hands-on experience includes practice with the three welding systems using various thickness materials. Industrial standards and American Welding Society (AWS) standards for quality are discussed. Previous welding experience is recommended. **Recommended:** MFG 120.

#### **MFG 225 Motors and Controls (3:2:2)**

**Fee: \$50**

Course offers theoretical and practical applications of electrical motors along with control circuits. The course starts with electrical safety overview as applied to industrial motors. Main content provides overview of various Direct Current (DC) and single/three phase Alternating Current (AC) motors. During the course students will learn about different type of motors and controls including: step motors, servo motors, and variable frequency drives (VFD). Hands-on assignments associated with diverse motor control applications in the industry are integrated throughout the course. **Recommended:** MFG 111.

### *Course revisions*

#### **MFG 240 Programmable Controllers (PLC)**

Change course title to: **Programmable Logic Controllers (PLC)**

Change course description and recommendation.

Course teaches the fundamentals of a Programmable Logic Controllers (PLC) utilizing Allen-Bradley SLC-500 based trainers. The course starts with overview of basic terminology, binary and hex number systems, Boolean mathematics, common discrete input and output devices, and

various types of PLC controllers. Main content is based on programming sequences of events utilizing RSLogix 500 software to control electrical motors, pneumatic actuators, and lights. During the course students will learn how to address PLC Inputs and Outputs (I/O) and utilize common software instructions including latching, timers, counters, and data shifting. Hands-on Ladder Logic programming and testing utilizing SLC-500 based PLC trainers with multiple digital I/O is integrated throughout the course. **Recommended:** MFG 111.

### **MFG 250 Advanced PLC / Automation Applications**

Change course title to: **Advanced Automation Applications (PLC/PAC/HMI)**

Change credit: lecture: lab ratio to **4:2:4**

Change course description and prerequisite.

Course covers advanced concepts and skills needed to program and use programmable controllers in automated systems in industry. This course stresses a system approach to integrate controllers to manage several electromechanical and pneumatic components based on input status of multiple types of sensors to function together as one mechanism. During the course students will use RSLogix 5000 software to program, edit, download, and run a sequence of motions utilizing Allen-Bradley CompactLogix based trainers. Students will also learn how utilize FactoryTalk View Studio software to develop screen layouts for PanelView Plus HMI (Human Machine Interface) devices. Extensive analysis of controllers wiring and troubleshooting of automation systems are integrated activities of this course. **Prerequisite:** MFG 240 or MFG 245 or consent of instructor.

## **MATHEMATICS**

### *Course addition*

#### **MAT 092 Intermediate Algebra Bridge (3:3:0)**

This course is intended for students who have successfully completed MAT 085, but wish to enroll in MAT 128, MAT 122 or MAT 140. Passing both MAT 085 and MAT 092 is equivalent to passing MAT 095 for enrollment in future courses. Course covers algebraic principles at an intermediate level. Content includes real and complex numbers, polynomials, factoring, radicals, rational expressions, quadratic equations and an introduction to logarithmic functions. Course objectives will be achieved using computer-assisted learning, group discussions, and individual tutoring. **Prerequisite:** MAT 085 with minimum grade of C.

## **MECHANICAL DESIGN/CAD**

### *Course revisions*

#### **CAD 210 Industrial Design Engineering Techniques**

Change course description and recommendation.

Course teaches skills for creating prototypes of computer models using 3D modeling software. Hands-on lab course involves critical thinking skills related to industrial design and manufacturing. Content includes industrial techniques such as extrusions, laser cutting, fasteners, welding, sheet metal production, injection molding, 3D printing and production processes utilizing computer controlled machines and prototyping equipment. **Recommended:** General computer skills.

## **CAD 232 Intermediate SolidWorks**

Remove prerequisite, add recommendation

**Recommendation:** CAD 230

## **MEDICAL ASSISTANT**

### *Curriculum revision*

#### **Medical Assistant Certificate (#0329)**

Change certificate requirements. Decrease total semester credit hours from 44 to 28.

### *Course addition*

#### **MAP 185 Medical Billing and Coding for the Medical assistant (3:2:4) Fee: \$10**

Course concentrates on application of guidelines and requirements for accurate medical diagnosis and procedure coding for medical office along with efficient and compliant healthcare claims filing. Course provides instruction in insurance processing procedures in the medical office as well as bookkeeping, collection, banking, and financial procedures vital to medical office.

**Prerequisite:** Completion of HIT 105 with minimum grade of C or concurrent enrollment.

### *Course revisions*

#### **MAP 120 Basic Healthcare Skills for the Medical Assistant**

Change course prefix (was MOA)

#### **MAP 180 Healthcare Office Procedures for the Medical Assistant**

Change course prefix (was MOA)

#### **MAP 230 Clinical Skills for the Medical Assistant**

Change course prefix (was MOA); change prerequisite.

**Prerequisite:** Completion of MAP 120, MAP 180, HIT 105, MLT 107, all with minimum grades of C, or concurrent enrollment.

#### **MAP 260 Medical Assistant Practicum**

Change course prefix (was MOA); change prerequisite.

**Prerequisite:** MAP 180, MAP 230, MLT 107, all with minimum grades of C.

## **NURSING**

### *Curriculum revision*

#### **Practical Nursing Certificate (#0323)**

Change certificate requirements. Increase total semester credit hours from 36 to 38

### *Course revision*

#### **NUR 151 LPN Option**

Change credit: lecture: lab ratio to **4:2:4**

Change course description and prerequisite

Course emphasizes the role of the LPN. This course incorporates and builds on previous nursing courses for the acquisition and application of geriatric/mental health nursing theory necessary for safe, patient-centered nursing care while integrating legal and ethical responsibilities of the Practical Nurse. This course must be completed by the student in the program with the intent to meet eligibility requirements to take the National Council Licensure Examination for Practical Nurse. Nursing skills are taught in the nursing lab and the college's Simulation Hospital, and implemented in health care facilities. **Prerequisite:** Completion of NUR 109 and NUR 110 and concurrent general education and support courses, with minimum grade of C in all courses.

### **PSYCHOLOGY**

#### *Course revisions*

#### **PSY 106 Theories of Personality**

Change course description.

Course surveys the five major theoretical perspectives of personality development. Content includes psychodynamic, humanistic-existential, dispositional, biological-evolutionary, and learning (social)-cognitive approaches to personality.

#### **PSY 221 Psychology in Business & Industry**

Change course title to: **Industrial and Organizational Psychology**

### **PUBLIC HEALTH CONTACT TRACER**

#### *Curriculum addition*

Add a 13-credit hour **Public Health Contact Tracer Certificate (#0293)**

#### *Course additions*

#### **HCT 101 Introduction to Public Health Contact Tracing (1:1:0)**

Course introduces students to a career as a contact tracer and the required skills to be successful. Students will enhance existing technology skills so they can be applied to contact tracing databases. Students will be able to identify critical resources and guidelines to support contacts and use employability skills to acquire accurate information. **Prerequisite:** English placement into EGL 090 or EGL 097 or higher. Students must also successfully complete four Northstar Digital Literacy assessments prior to enrollment including: Basic Computer Skills, Internet Basics, Microsoft Excel, and Using Email.

### **HCT 102 Public Health and Disease (1:1:0)**

Detecting health issues early and responding appropriately are critical to protect and promote the health of individuals and communities. This course will introduce students to the role of public health workers and organizations in the education, policy making and research of disease and prevention to maintain public health. Students will discuss global, national, state and local guidelines and processes related to given diseases.

### **HCT 103 Introduction to Public Health Communications (2:2:0)**

Health communications provides an opportunity to improve individual and societal health by implementing strategies that educate and affect decisions and actions. This course introduces students to communication theories and skills in the context of health and illness.

### **HCT 104 Disease Tracing Organization and Management (1:1:0)**

Course provides an introduction to contact tracing management and organization. Emphasis is placed on the basic knowledge of types of and purpose of tracing technologies, including CDC's EPI Info, quality control activities, and the legal and ethical issues around contact tracing. **Prerequisite:** HCT 102 and CAB 135 with a minimum grade of C, and CAB 140 with a minimum grade of C or concurrent enrollment in CAB 140.

## **VARIOUS DISCIPLINES**

### *Course withdrawals:*

ART 106	Fundamentals of Two-Dimensional Art II
ART 118	Photographic Retouching & Finishing
ATA 214	Advanced Steering and Alignment
BIO 230	Methods in Biotechnology
CIS 255	Technology Tools in the Classroom
COL 100	Introduction to College Skills
COL 104	Computing For College Success I
COL 105	Computing For College Success II
COL 106	Career Exploration
CNS 122	Microsoft MCSA Client 1 Certification Preparation
CNS 123	Microsoft MCSA Client 2 Certification Preparation
CNS 124	Microsoft MCSA Server 1 Certification Preparation
CNS 125	Microsoft MCSA Server 2 Certification Preparation
CNS 126	Microsoft MCSA Server 3 Certification Preparation
CNS 127	Microsoft MCSE Server 1 Certification Preparation
CNS 128	Microsoft MCSE Server 2 Certification Preparation
CNS 144	Cisco Connecting Networks
CNS 146	Health Information Networking (HIN)
CNS 148	Cisco CCENT Certification Preparation
CNS 149	Cisco CCNA Certification Preparation
CNS 152	Data Media Infrastructure Fundamentals for IT Professionals
CNS 190	Microsoft Windows Command Line Administration
CNS 201	Microsoft Designing a Windows Active Directory Infrastructure

CNS 207	Microsoft Installing, Configuring and Administering SQL Server
EDN 100	Prep for Tap (Test of Academic Proficiency)
EDN 260	Intro to the Foundations of Reading
EGL 215	Science Fiction
FIR 110	Introduction to Public Safety Careers - Fire, Police, and Emergency Medical Services – I
FIR 111	Introduction to Public Safety Careers - Fire, Police, and Emergency Medical Services – II
HUD 200	Independent Study - Hindi-Urdu
HUM 175	Culture & Science in Western Tradition
HUM 190	Japanese Culture And Society
LAE 110	Introduction to Public Safety Careers - Fire, Police, and Emergency Medical Services – I
LAE 111	Introduction to Public Safety Careers - Fire, Police, and Emergency Medical Services – II
MAT 165	Computer Methods for Statistics
MOA 262	Medical Assistant Practicum
NUR 105	Nursing Concepts in the Care of the Psycho-Socially Maladaptive Client
NUR 106	Nursing Concepts in the Care of the Expanding Family
NUR 108	Nursing Concepts in the Care of the Elderly
NUR 155	Nursing Informatics
NUR 160	Pharmacotherapeutics I
NUR 207	Nursing Concepts in the Care of the Adult Client
NUR 212	Nursing Concepts in the Care of Children
NUR 260	Pharmacotherapeutics II
PED 120	Softball II
PSC 211	Practical Politics
PSC 240	Introduction to Social Research
SOC 240	Introduction to Social Research

**End of SECTION I**

**(COURSE & CURRICULUM CHANGES INCLUDED IN 2020-2021 CATALOG: Effective  
Spring 2020 – Fall 2020)**

## SECTION II

### COURSE & CURRICULUM CHANGES INCLUDED IN 2020-2021 CATALOG: Effective Spring 2021

#### BIOLOGY

*Course addition (effective Spring 2021)*

##### **BIO 116 Microbe and Society (3:3:0)**

A non-lab introductory science course in microbiology designed for non-science majors who wish to explore the vast universe of microbes and their roles in life on earth. The course focuses on the impact of microbes on human affairs and society. Content includes microbial diversity, cell structure and function, growth and reproduction, genetics, molecular biology and evolution, and the role of microbes in the environment, agriculture, industry, and in human welfare and disease.

#### HINDI

*Course addition (effective Spring 2021)*

##### **HIN 201 Intermediate Hindi I (4:3:2) Fee: \$20**

Course is a continuation of HIN 102. Further develops language skills in Hindi within the socio-cultural context of India and South Asia. Content includes vocabulary, grammatical rules, reading comprehension, listening comprehension and oral and written real life situational conversation. Recommended that experienced students discuss proper placement with instructor. **Prerequisite:** HIN 102 or consent of instructor

#### URDU

*Course addition (effective Spring 2021)*

##### **URD 201 Intermediate Urdu I (4:3:2) Fee: \$20**

Course is a continuation of URD 102. Further develops language skills in Urdu within the socio-cultural context of Pakistan/India and South Asia. Content includes vocabulary, grammatical rules, reading comprehension, listening comprehension and oral and written real life situational conversation. Recommended that experienced students discuss proper placement with instructor. **Prerequisite:** URD 102 or consent of instructor.

#### NURSING

*Course withdrawals (effective Spring 2021)*

- NUR 208 Nursing Concepts in the Care of Acutely Ill Clients
- NUR 209 Nursing Care Concepts Related to Community and Home Health
- NUR 210 Nursing: Challenges, Issues, and Trends
- NUR 211 Nursing Care Concepts Related to Management of Client Care

**End of SECTION II**

**(COURSE & CURRICULUM CHANGES INCLUDED IN 2020-2021 CATALOG:  
Effective Spring 2021)**