OAKTON DUAL CREDIT COURSES			
NILES WEST HIGH SCHOOL			
OAKTON COURSE	**COURSE NAME**	**SEMESTER HOUR OF CREDIT**	**COURSE DESCRIPTION**
ATA 102	Introduction To Automotive Technology	4	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.
BNA 100	Basic Nursing Assistant Training	7	Course offers a basic study of principles and procedures used by the nurse assistant in long term care, home health settings and hospitals. Content focus is on basic human needs and care of the elderly. Integration of skills and concepts is acquired through hands-on clinical experience at local health care facilities. This course is approved by the Illinois Department of Public Health (IDPH). Upon completion, students may apply to take the Illinois Nurse Assistant/Home Health Aide Competency Exam. Prerequisite: Successful completion of course admission procedures
BNA 105	Basic Nurse Assistant Job Training	1	Course expands understanding of today's health care workplace and the role of the CNA. Content focus is on gaining gain the job search techniques necessary to obtain employment in the health care field, e.g., hospitals, long term care and home health. Intended for those currently enrolled in BNA 100 Prerequisite: Concurrent enrollment in BNA 100
CAD 105	Industrial Design Engineering	4	Course introduces industrial design and its place in the manufacturing process. Content includes design visualization, creation and application of three-dimensional (3D) computer-generated models in today's manufacturing, communication, and publishing industries; creating a 3D computer model component design from original idea, pencil sketching, concept analysis and use of surface and solid modeling software.
CAD 107	Introduction to 3D Printing	4	Course is an introduction to 3D printing with emphasis on design of 3D printed parts and operational theory of 3D printers. The computer will be used by students to create three-dimensional models and prepare the models to print using a variety of filaments for applications in mechanical design, manufacturing and industrial design. Course content covers a step by step approach to creating models and setting up a 3D printer.

CAD 210	Industrial Design Techniques	4	Course teaches skills for creating prototypes of computer models using 3D modeling and prototyping software. Hands-on lab course involves critical thinking skills related to industrial design, digital prototyping and manufacturing. Content includes industrial design techniques using computer models for laser cutting, fasteners, 3D printing and production processes that employ computer-controlled machines and prototyping equipment.
CAD 220	Introduction to Building Information Modeling - Revit	4	Revit is a Building Information Modeling (BIM) software widely used by architects, engineers and contractors to create a unified model that all disciplines and trades can use to complete their work. Revit enables students to create full 3D architectural project models and place them in working drawings. Topics include creating floor plans, adding views, adding various building components, and creating sheets for plotting.
ECE 102	Child Growth & Development	3	Course provides an overview of the theory and principles of human development. Content includes in-depth study of physical, social, emotional and cognitive aspects, from conception to adolescence. Special emphasis placed on child development theories of Piaget, Erikson, Vygotsky, Skinner, etc., and significance of family, peers, culture and school. Field observations required. IAI Major: ECE 912
ELT 221	Digital Circuit Fundamentals	3	Course involves study of discrete devices and integrated circuits. Content includes application of inverters, AND, OR, NAND, and NOR gates, and all circuits necessary to operation of a computer including microprocessors. Focus is on analysis of functions from a systems and circuit standpoint.
HIT 104	Medical Terminology	3	Course presents medical terminology through study of medical word roots, prefixes and suffixes. Focus on relationships among symptomatic, disease, and procedural terms.
MFG 102	Industrial Drafting and Design	3	Course provides a comprehensive overview of industrial drafting and design. It covers major components of technical drawing including geometry, dimensions, and annotations to create part/assembly per specifications. Additional topics include detail and assembly drawings, metric versus standard projections and dimensioning, and advanced drawing views. The course concludes with an overview of Geometric Dimensioning and Tolerancing (GD&T). Introduction to 3D Computer Aided Design (CAD) software is integrated throughout the course.
MFG 110	Introduction to Machining	3	Intended for students with no experience in precision metalworking, the course starts with industrial safety and OSHA policies. The main content examines principles and operations of a drill press, a lathe, and a mill. Students will learn about common machining operations along with related tooling and fixtures. Additional topics include an overview of precision measurements and basic technical math including speeds and feeds calculations. The course concludes with an introduction to Computer Numerical

MFG 111	Introduction to Computer Integrated Manufacturing (CIM)	3	Directed towards new students interested in careers in Manufacturing and CNC, the course introduces students to Computer Integrated Manufacturing (CIM). The main content introduces advanced manufacturing, industrial safety, print reading, ferrous and non-ferrous materials, precision measurements, fundamentals of CNC, and welding. Additional topics include an overview of fluid power principles, automation fundamentals, robotics and vision systems, and basics of logic controllers (PLC).
MFG 120	#ERROR!	4	Course covers basic electric arc, oxy-fuel, gas metal arc, and gas tungsten arc welding processes, along with safety procedures required to set up and shut down welding equipment for the various processes. Hands-on experience includes practice with the four welding systems using various thickness materials. Industrial standards and American Welding Society (AWS) standards for quality are discussed.
MFG 125	Advanced Welding	3	Course teaches advanced electric arc welding techniques including American Welding Society (AWS) safety requirements related to welding. Students will learn about different welding methods such as Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Flux Core Arc Welding (FCAW), and Gas Tungsten Arc Welding (GTAW). Hands-on welding experience is integrated throughout the course. The course follows AWS industrial standards and prepares students for taking the AWS welding certification test.

Revised
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