

OAKTON DUAL CREDIT COURSES

EVANSTON TOWNSHIP HIGH SCHOOL

| OAKTON COURSE | COURSE NAME | SEMESTER HOUR OF CREDIT | COURSE DESCRIPTION |
|---------------|---|-------------------------|--|
| ART 115 | Beginning Photography | 3 | Course explains basic photography. Student, using their own cameras, explore basics of film exposure, development and printing. Focus is on realizing camera's ability to record fine delineation of tone and detail using black and white materials. Content includes use of studio cameras, studio lighting, brief history and basic aesthetics of photography. |
| 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 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. |
| GRD 101 | Introduction to Visual Communication | 3 | Course covers the fundamental principles of design and how these relate to effective communication. It explores the media and tools that create imaging and how these tools are integrated into the image-making process. Topics include conceptual design, critical thinking in the creation of practical design, how design relates to industry, human perception and the visual process, and the history of visual communication, from the symbols of the cave man to modern-day advertising. |
| 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. |

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| MAT 125 | General Education Mathematics | 4 | Course focuses on mathematical reasoning and the solving of real-life problems. Topics include: counting techniques and probability, logic, set theory, and mathematics of finance. Calculators/ computers used when appropriate. IAI General Education: M1 904 |
| MAT 140 | College Algebra | 3 | Topics discussed in this course include functions and their graphs, polynomial and rational functions, exponential and logarithmic functions, systems of linear and nonlinear equations, matrices, sequences and series, and study skills. Applications and technology are integrated throughout. Prerequisite: MAT 095 or MAT 110 or the equivalent with a minimum grade of C, or appropriate score on the Mathematics Placement Test; and MAT 080 or geometry proficiency. |
| MAT 252 | Calculus III | 4 | Course surveys topics of calculus for multivariable functions. Content focus is on vectors, functions of several variables, curves and surfaces, differentiation, partial derivatives, multiple integrals, and line integrals. Technology is integrated throughout. IAI General Education: M1 900-3 |
| MAT 260 | Linear Algebra | 3 | Course covers matrices and the algebra of linear systems. Content includes equations, vector spaces, real inner product spaces, linear transformations, determinants, eigenvalues, eigenvectors, diagonalizability, quadratic forms and symmetric matrices. Calculators/computers used when appropriate. IAI Major: MTH 911 |
| MFG 111 | Introduction to Computer Integrated Manufacturing | 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). |

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