

MECT122 \$ (3) **Mechanical Drawing II**
Limit dimensioning, drawing, and interpretation of weld symbols. Solid modeling and production drawings using CAD. Weekly: a 3-hour lab. Prerequisite: MECT121. *Spring*

MECT235 \$ (4)
(was MECT185, 186)
Materials Technology
Study of industrial materials. Properties of materials correlated with the internal structure. Includes metals, plastics, and ceramics. Weekly: a 3-hour lab. Prerequisites: MATH168, CHEM131. *Spring*

MECT285 (4)
(merges MECT265, 365, 366)
Statics and Strength of Materials
Analysis of static force systems. Forces, moments, resultants, free-body diagrams, equilibrium, center of mass, moment of inertia, and friction. Assignments designed to develop problem-solving abilities. Study of internal stress and deformation of elastic bodies. A minimum grade of C required in order to enroll in MECT355. Prerequisite: MATH182. *Fall*

MECT326 \$ Alt (4)
(was MECT226)
Fluid Power Systems
Principles and applications of fluid power systems to actuate and/or control machines. Electro-hydraulic-pneumatic systems studied. Principles of fluids introduced. Weekly: a 3-hour lab. Prerequisite: MECT285. *Fall*

MECT355 (4)
(merges MECT345, 364)
Dynamics and Kinematics
Fundamentals and applications of dynamics; displacement, velocities, acceleration, work, energy, power impulse, momentum, and impact. Also a study of the basic theories and techniques in the analysis of relative motion, acceleration, and acceleration of machine parts such as linkages, cams, gears, and other mechanisms. Prerequisites: MATH182, MECT285. *Fall*

MECT370 \$ Alt (4)
(merges MECT371, 372)
Heat Power
Thermodynamics properties, first and second law of thermodynamics, ideal gas law, the Carnot Cycle, power and refrigeration cycles, heat transfer power and refrigeration cycles, non-flow gas processes, mixtures of ideal gasses, psychrometric chart, air conditioning, fluid statics, kinematics, dynamics. Weekly: a 3-hour lab. Prerequisite: MECT355. *Fall*

MECT375 \$ Alt (4)
Fluid Mechanics
Dimensionless parameters, compressible flow, flow-in pipes, open channel flow, drag, lift. Weekly: a 3-hour lab. Prerequisite: MECT355. *Spring*

MECT415 (3)
(was MECT386)
Mechanical Design and Fabrication
The design of machine elements and the

calculations necessary in determining the size and shape of machine parts. The selection of materials and the application of standard machine components. Includes bearings, gears, clutches, and couplings. Prerequisite: MECT355. *Spring*

TECHNOLOGY EDUCATION

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Academic Programs	Credits
BT: Automotive Technology	60
Auto Body	
Auto Mechanics	
AT: Automotive Technology	40
Auto Body	
Auto Mechanics	
BT: Construction Management	74
BT: Digital Multimedia Technology	74
BT: Graphic Imaging Technology	79-96
Electronic Publishing	
Screen Printing	
Web Development	
AT: Graphic Imaging Technology	40
BS: Photographic Imaging	66
BS: Technology Education	64-69
Secondary Teaching Certification	
Minor in Automotive Technology	20
Minor in Construction	20
Minor in Imaging Technology	22
Minor in Photography	20
Minor in Screen Printing	20
Minor in Web Development	20

SEQUENCE OF TWO-YEAR AND FOUR-YEAR PROGRAMS

The Department of Technology Education plans programs using the "ladder concept," allowing a student to complete as much education as desired before entering the work force. Two- and four-year programs are available. Students completing the two-year program may go directly into a four-year program in the same area. The ladder concept allows students to reach the educational goal that best fits their specific needs.

ANCILLARY OPERATIONS

Screen Graphics and LithoTech are ancillary operations of the Department of Technology Education providing students with experience in graphic arts unavailable elsewhere on campus.

Programs

AUTOMOTIVE TECHNOLOGY

Two options are available in the automotive field—auto body and auto mechanics. Auto body provides the training needed to repair auto damage incurred in accidents and to restore vehicles to their original appearance and correct body alignment. Auto mechanics provides the training needed to maintain and repair automobile engines and systems.

BT: Automotive Technology

Major requirements—40

AUTO135, 140, 150, 330, 380, 425; TCED140, 250, 254, 456, plus 7 credits of electives.

Emphasis in Auto Body—20

AUTO120, 130, 345, 355, plus 4 credits of electives chosen from auto technology.

or

Emphasis in Auto Mechanics—20

AUTO325, 340, 350, 425, plus 5 credits of electives chosen from auto technology.

AT: Automotive Technology

Major requirements—20

AUTO135, 140; INDT315; TCED456, plus 3 credits of electives.

Emphasis in Auto Body—20

AUTO120, 130, 345, plus 8 credits of electives chosen from AUTO355, 380; TCED140 and other auto technology courses.

or

Emphasis in Auto Mechanics—20

AUTO325, 330, 340, plus 9 credits of electives chosen from AUTO350, 380 and other auto technology courses.

All students in these two program options must have written two ASE exams by the end of their first year. By the end of the second year, they must have passed a minimum of five ASE tests in their respective option.

CONSTRUCTION MANAGEMENT

This program is directed toward residential and light commercial construction. Management and job entry level skills in basic trades are stressed.

BT: Construction Management

Major requirements—53

CNST105, 115, 120, 135; MECT120; TCED180, 9 credits minimum chosen from INDT320, 410, 440, 460; TCED254, 6 credits minimum chosen from ACCT111, 112; BSAD210, 341, 355, 374, 415, 436; ECON225, 226; FNCE387; MKTG310, 320, 330, plus 12 credits of electives chosen from upper division courses in consultation with adviser.

Cognate requirements—17

ARCH201, 202, 205, 230, 305; MATH167.

DIGITAL MULTIMEDIA TECHNOLOGY

Digital Multimedia is a very exciting field which utilizes the computer as its main work tool in developing projects needed by clients.

Students learn skills such as digital image manipulation and enhancement, 3-D modeling and animation, digital sound mixing and enhancement, digital video editing, interactive web page design, interactive multimedia, and CD authoring.

BT: Digital Multimedia Technology

Major requirements—58

DGME130, 175, 185, 215, 216, 220, 305, 330, 340, 345, 360, 370, 385, plus 10 credits of electives chosen from PHTO115, 300 and others in consultation with adviser.

Cognate requirements—8

8 credits chosen from the following: ART104, 207; JOUR140, 468; COMM320, 456.

By the beginning of the junior year, students in the Digital Multimedia program must have completed the following core courses with a cumulative GPA of 3.00: DGME130, 175, 185, 215, 220, 360; PHTO115. Those who fail to meet these requirements must either retake these core classes to bring the cumulative GPA to 3.00 or drop from the program.

Students must have a cumulative GPA of 2.75 in their major for graduation.

GRAPHIC IMAGING TECHNOLOGY

Revolutionized by the introduction of computer technology into the industry, the term "graphic imaging" is no longer limited to the field of printing. The industry now emphasizes online publishing and interactive multimedia. Students work extensively with computer applications. Three options are available.

Electronic publishing helps students develop skills in the use of computer applications to produce materials for the printed page as well as for Web and CD-ROM publishing and interactive media.

Screen printing provides students with skills needed to work in the field of textile and non-textile applications. This field of graphic imaging is heavily influenced by computer technology.

Web Development. In today's economy almost everyone has a Web page to help advertise or market a product. This is one of the rapidly growing areas of the job market. Students taking this emphasis will have the needed background to find good paying jobs.

BT: Graphic Imaging Technology

Major requirements—36

DGME130, 175, 220, 340 or 380; GRPH145 plus 20 credits of electives chosen from GTEC395; TCED495 or other upper division courses in consultation with adviser. Web development students must take CPTR125 (6 credits); DGME370; PHTO115, 200 plus 3 credits of electives chosen in consultation with adviser.

Emphasis in Electronic Publishing—20

DGME330, 340, 375; GRPH141, 145, 185

Cognate requirements—6

ART207, 214.

or

Emphasis in Screen Printing—20

GRPH145, 345; TCED485 (8 credits) plus 4 credits of electives chosen from upper division courses in consultation with adviser.

or

Emphasis in Web Development—20

CPTR460; DGME380; TCED275, 485 (6 credits) plus 3 credits of electives chosen from upper division courses in consultation with adviser.

Cognate requirements—12

ART207; COMM454; EDTE376; INFS428

AT: Graphic Imaging Technology

Major requirements—40

DGME130, 175, 185, 220; GRPH141, 142; INDT315 plus 13 credits of electives chosen from DGME305, 330; GRPH145 and others in consultation with adviser.

PHOTOGRAPHIC IMAGING

Photographic imaging fosters creativity in the production of visual images. The subject of these images and the method used to create them vary.

Commercial imaging develops skills required by the commercial industry through the use of studio work and on-location shooting in medium- and large-format photography.

Digital imaging utilizes computer technology to create, enhance, or modify photographic images.

Photography encompasses elements of digital and commercial imaging, and adds individual creativity and photojournalism.

BS: Photographic Imaging

Major requirements—40

DGME175, 375; PHTO115, 200, 220, 285, 300, 410 plus 9 credits of electives chosen from DGME340, 375; GTEC395; PHTO210, 320, 385, 400, 425; TCED495.

Cognate requirements—26

ART104, 207, 214, 414; BSAD210; COMM405, 475; JOUR375.

TECHNOLOGY EDUCATION

Students learn skills for teaching technology education at the secondary level.

BS: Teaching Endorsement (Secondary Education)

Professional requirements—9

TCED254, 350, 456.

Communication Systems*—9

TCED465, plus 6 credits of electives chosen from ARCH171; DGME130; MECT120; PHTO115.

Construction Systems*—7

CNST105, plus 3 credits of electives chosen from ARCH201; CNST115, 120, 135.

Energy Systems*—6

TCED466, plus 3 credits of electives chosen from ELCT151, 171, 205.

Manufacturing Systems*—6

TCED470, plus 8 credits of electives chosen from MECT155; TCED140, 180, 250.

Transportation Systems*—6

TCED464, plus 3 credits of electives chosen from AUTO130, 140, 150.

Cognate requirements—10
ENGR370; PHYS131, 132 or 151, 152.

*Students must fulfill elective requirements for four of the five systems listed above.

Minors

Automotive Technology—20
AUTO120, 130, 345, or 135, 140, 150;
TCED140 plus 6-7 credits of electives chosen from auto technology.

Construction—20
CNST105, 115, 120, 135; MECT120 plus 3 credits of electives chosen in consultation with adviser.

Imaging Technology—22
ART207; DGME130, 175, 185; GRPH145 plus 3 credits of electives chosen from DGME, GRPH, and PHTO.

Photography—20
DGME175; PHTO115, 200, 220, 285.

Screen Printing—20
DGME130, 175; GRPH141, 145, 345.

Web Development—20
CPTR125; DGME130, 170, 380; TCED485 (5 credits)

Courses

See inside front cover for symbol code.

AUTOMOTIVE TECHNOLOGY

AUTO104 \$ 2
Personal Auto Care
Stresses the need for proper procedures in routine automobile maintenance. Helps the automobile owner become a wise consumer with emphasis on how to do simple tune-up, maintenance, and minor repairs. Not applicable to a major or minor. *Fall*

AUTO105 (1)
Automotive Consumerism
Consumer knowledge for the everyday challenges and decisions involved in automobile ownership. Topics include purchasing a new vehicle, how to choose a good repair facility, buying auto insurance, leasing, financing your purchase as well as how to deal with salespeople. When to sell or trade a vehicle along with how to protect your investment is also covered. Not applicable to a major or minor. *Fall*

AUTO115 \$ (2)
General Auto Body Repair
Basic auto body repair procedures are emphasized using individual projects. Helps the individual be a better consumer. Not applicable to a major or minor. *Spring*

AUTO120 \$ (4)
(was AUTO121, part of AUTO122)
Auto Body Repair I
Theory and skill development for metal control in auto body sheet metal repair procedures. Welding, hand tool and power tool skills are developed on mock-ups and selected damage on automobiles. Component alignment and minor panel sectioning will be covered on both unitized body and conventional frame style vehicles. *Fall*

AUTO130 \$ (4)
(was AUTO125, part of AUTO122)
Auto Body Repair II
Fundamentals of spray equipment, its usage and care. Emphasis in finishing materials, procedures and techniques for spot finishing and complete paint jobs. Course covers the preparation of substrata and final finishing using automotive urethane finishes. Study will also be made of body component systems and their diagnosis and repair. Prerequisite: AUTO120 or instructor's permission. *Spring*

AUTO135 \$ (4)
(was AUTO134)
Engine Performance I
A course dealing with general engine diagnosis emphasizing ignition, fuel, air intake, emission and computer controls. *Spring*

AUTO140 \$ (3)
(was AUTO144)
Brakes, Suspension and Steering I
A study of the hydraulic brake system including drum and disc diagnosis and repair. Steering and suspension along with basic wheel alignment will be covered. *Spring*

AUTO150 \$ (4)
(was AUTO334)
Automotive Electrical Systems I
A course dealing with general electrical diagnosis and service procedures which covers: starting, charging, lighting, accessories and gauges. *Spring*

AUTO325 \$ (4)
(was AUTO124, part of AUTO324)
Engine Repair
Includes general engine diagnosis and repair covering cylinder heads, block repair, lubrication and exhaust systems. *Fall*

AUTO330 \$ (4)
(was AUTO364)
Engine Performance II
An in-depth study of engine diagnosis as it relates to ignition, fuel air induction, emission and computer controls. Use of diagnostic tools will be emphasized. Prerequisite: AUTO135. *Fall*

AUTO340 \$ (3)
(was AUTO374)
Brakes, Suspension and Steering II
An advanced study of the hydraulic braking system including ABS diagnosis and repair. In-depth investigation of alignment, steering and suspension will be covered. Prerequisite: AUTO140. *Spring*

AUTO345 \$ (4)
(was AUTO346, part of AUTO347)
Auto Body Repair III
Frame and body alignment theory and techniques with emphasis in the use of frame and body measuring devices, heavy duty floor or rack-pulling equipment. Skill in the repair and replacement of sections and complete structural panels will also be developed. Prerequisite: AUTO130. *Fall*

AUTO350 \$ (4)
Automotive Electrical Systems II
In-depth study of the starting, charging, lighting systems along with accessories and gauges. Emphasis in computer application and control of the automobile operation. Prerequisite: AUTO150. *Spring*

AUTO355 \$ (4)
(was AUTO360, part of AUTO347)
Auto Body Repair IV
Study in advanced finishing systems and spray gun technique for three stage color systems and custom finishes including stripping, taping, air brush, and metal flake. Study and practice will also be made of estimating the cost of repairs of collision damage. Prerequisite: AUTO345 or by permission of instructor. *Spring*

AUTO380 \$ (2)
(was AUTO384)
Heating and Air Conditioning
A study of refrigeration theory and repair. Refrigerant recovery and recycling methods, heating and cooling principles are stressed. *Spring*

AUTO425 (1-4)
(merges AUTO320, 420)
Automotive Services
Designed to provide experience in automotive diagnosis, estimating, and repair. Students will work on assigned projects. Prerequisites: 20 credits of auto courses with a 3.00 GPA and listed in at least one specialty area by ASE. Repeatable to 8 credits. *Fall, Spring*

CONSTRUCTION

CNST105 (4)
(was CNST110, part of CNST107)
Residential Construction
Emphasis in house-framing. The use of the steel square as it relates to rafter and stairway construction. Reading of prints, safe and proper use of hand and power tools will be covered. Energy efficient houses and other modern methods of construction are introduced. *Spring*

CNST115 \$ (3)
Masonry Construction
Emphasizes the proper use of the trowel, laying block and brick to the line and building of corner leads. Vocabulary, theory, safety, and practical applications are stressed. *Fall*

CNST120 \$ (3)
Electrical Construction
Includes code requirements, design and layout of electrical circuits, wiring methods, and commercial applications. *Fall*

CNST135 \$ (4)
 (was **CNST130, part of CNST107**)
Plumbing Construction
 Includes design and layout of waste and water systems, rough-in methods, and trim. Print reading will be covered. *Spring*

DIGITAL MULTIMEDIA TECHNOLOGY

DGME130 \$ (4)
 (was **DGME125, part of GRPH120**)
Introduction to Digital Graphics
 An introductory survey of professional digital and conventional graphics covering understanding the Macintosh computer, electronic publishing, basic printing principles, sound digitizing, vector and raster graphics, interactive multimedia, image acquisition and output, web publishing and e-mail. *Fall, Spring*

DGME175 \$ (4)
 (was **DGME255, part of DGME355**)
Digital Imaging
 A study of raster graphic fundamentals as they apply to scanned images. Emphasis on image manipulation, restoration, tonal enhancement, on-screen graphics and image acquisition and output. Visual and procedural problems relating to digital imaging will be covered, along with techniques of aesthetic and efficient image enhancement. Prerequisite: DGME130. ART207, PHTO115 recommended. *Spring*

DGME185 \$ (4)
 (was **DGME180, part of 300**)
Desktop Publishing I
 Students learn to produce publications on desktop computers, including: brochures, magazine covers, corporate stationary, book covers etc. Course topics incorporate: Effective page layout, basic color theory, monitor calibration, gray balance, tone compression, GCR and UCR, digital proofing, image acquisition, and final output. Applications of color theories and color separation are stressed. Prerequisite: DGME175. *Fall, Spring*

DGME215/DGME216 \$ (2+2)
Intro to Digital Sound/Digital Video Editing I
 A study of digital sound and video acquisition, manipulation, and storage techniques. Students learn sound and video terminology, audio digitizing, video capture, nonlinear audio and video editing, audio and video applications for interactive and World Wide Web applications, and creative audio and video conceptualization. Prerequisite: DGME175. *Fall*

DGME220 \$ (4)
 (was **DGME200, part of DGME300**)
Digital Vector Graphics I
 A study of digital vector graphic imaging emphasizing graphic production for: print, digital multimedia, and web publishing. Students learn to produce images using digital tools and techniques. These images are implemented in assignments that mimic real-world situations, such as: compact disc illustrations, corporate logo creation, product illustration, etc. Color reproduction techniques emphasized include process and spot color

separation, color trapping, and proofing. Prerequisite: DGME130. *Fall*

DGME305 \$ (4)
 (was **DGME310, part of DGME435**)
Desktop Publishing II
 An advanced study of desktop publishing principles including: grid based layout, typographic applications, layout techniques for printing and web publications, effective electronic file preparation, preflighting, and tips for consistent color reproduction. Prerequisite: DGME185. *Spring*

DGME330 \$ (4)
 (was **DGME320, part of DGME435**)
Digital Vector Graphics II
 A course designed to enhance students' ability to produce eye-catching graphic images for publishing, interactive media, and web applications. Students learn techniques for producing appealing charts and graphs, technical and informational graphics, realistic image rendering, and image format conversions. Prerequisite: DGME220. *Spring*

DGME340 \$ (4)
 (was **DGME304 plus new material**)
Interactive Multimedia I
 A survey of leading multimedia techniques using state of the art software and covering principles of effective digital multimedia production, interactive new media concepts, basic scripting, animation, digital imaging, and sound manipulation. Students produce digital interactive presentations, kiosks, and web-ready programs. Prerequisites: DGME175. *Fall*

DGME345 \$ (4)
 (was **TCED275, part of DGME325**)
Digital Video Editing II
 An emphasis on nonlinear video editing, implementing modern video editing suites. Students learn video composition, the use of filters, transitions, alpha channels, video formats and their application, video recording/capturing, broadcasting techniques, and the advantages and limitations of this medium. Prerequisites: DGME215, 216. *Spring*

DGME360 \$ (4)
 (was **DGME280 plus new material**)
3-D Modeling
 A study of basic 3-D modeling principles and techniques. Students learn 3-D modeling terminology, points and polygonal manipulation, model construction, and surfacing. Students also implement geometric manipulation tools such as: Lathe, extrude, boolean effects, metamurbs, text manipulation and more. Prerequisites: DGME175, 220. Basic drawing skills a plus. *Fall*

DGME370 \$ (4)
 (was **DGME280 plus new material**)
3-D Animation
 Basic 3-dimensional animation and rendering. Students learn to work with splines, keyframes, and to manipulate object geometry on the computer as they animate and texture 3-D objects. Basic lighting, compositing and other effects also implemented. Prerequisites: DGME175, 220. *Spring*

DGME375 \$ (4)
 (was **DGME355, part of DGME455**)
Advanced Digital Imaging
 In-depth manipulation using leading industry software, emphasizing high quality image acquisition and output. Students learn to: Produce duotones, create raster graphic collages, perform critical image enhancement, create custom palettes, and alpha channels for image compositing. Prerequisites: ART207, DGME175. Repeatable to 8 credits. *Fall, Spring*

DGME380 \$ (4)
 (was **DGME400, part of TCED275**)
Web Publishing and Graphics
 Exploration of the design, storage, retrieval, and delivery of electronic information using text and graphic images. Emphasis on publishing via the World Wide Web, kiosks, HTML authoring, and digital formats. Effective organization and planning of data for delivery, efficient design, and ethics are examined. Prerequisite: DGME340. *Fall, Spring*

DGME385 \$ (4)
 (was **DGME405 plus new material**)
Interactive Multimedia II
 An intermediate multimedia production course using leading industry software. 2-D and 3-D image manipulation and animation are implemented. Topics include interactive new media presentations, television commercials, digital video, kiosks, animation for web pages, and other computer-based presentations. Moderate Lingo scripting is also covered. Prerequisite: DGME340. *Spring*

GRAPHIC IMAGING TECHNOLOGY

GRPH141, 142 \$ (4,4)
 (merges **GRPH131, 132 with part of DGME125**)
Principles of Printing I and II
 A study of the graphic arts industry including prepress concepts, color science, digital printing, digital image capture and color management. Also more traditional methods in design, layout, text and page composition, film assembly, imposition, and many different printing techniques to produce images on a substrate. Some business aspects and career possibilities will be explored. Open to all students. *Fall, Spring*

GRPH145 \$ (4)
 (was **GRPH140, part of GRPH315**)
Screen Graphics I
 Basic screen printing principles and practices with emphasis on stencils, fabric selection, frames, inks, squeegees, screen reclamation, photography, digital and conventional artwork to produce screened projects. The sign industry, large format digital printing, UV and curved printing sequences will be explored. Open to all students. *Fall*

GRPH345 \$ (4)
 (was **GRPH316, part of GRPH315**)
Screen Graphics II
 In-depth study on making process, simulated process, index and spot separations for screen printing. Other decorating methods will be explored such as transfers, foil, athletic

numbering, glow in the dark, puff and UV. Non-textile applications will also be explored, decorating substrates such as plastics (binders, CDs, etc.) and glass (simulated etch, etc.) and many other substrates. Prerequisite: GRPH145. *Spring*

PHOTOGRAPHY

PHTO115 \$ (4)

Introduction to Photography

Basic introduction to the principles of the camera and darkroom techniques with consideration toward composition, psychological, and aesthetic attitudes in black-and-white photography. *Fall, Spring*

PHTO200 \$ (4)

(was PHTO206, part of PHTO207)

Advanced Photography I

Develops the art of photographic perception and use of photography as a visual language. Emphasizes craftsmanship and awareness of tools available, as well as aesthetics, and the art of seeing creatively. Developing skills beyond introductory camera usage is emphasized. Prerequisite: PHTO115. *Spring*

PHTO210 (3)

History of Photography

Historical study of significant contributors in the development of photography and their influence on art and society. *Fall, Spring*

PHTO220 \$ (4)

Color Photography I

Designed to acquaint students with color materials, their handling and exposure. Aesthetic and communicative aspects of color photography stressed in producing visually effective color transparencies. Prerequisites: PHTO115 or by permission of instructor. *Fall*

PHTO285 \$ (4)

(was PHTO280, part of PHTO370)

Studio

Study of lighting techniques in standard-equipped studio, emphasizing portraiture, commercial illustration, and experimental techniques in both black-and-white color mediums. Prerequisite: PHTO200. *Spring*

PHTO300 (3)

Media Ethics

Understanding the influence and role the media has in who we are and what we value. Provides a language and a forum for discussion on the media and how they influence our lives. *Spring*

PHTO320 \$ (4)

Color Photography II

An image-oriented course, drawing on the student's background in the use of color comprehension, photographic technical and aesthetic understanding, and working knowledge of emulsion and digital photography. Information in this class is for the sole purpose of comprehensive color image. Prerequisites: DGME175; PHTO220. *Fall*

PHTO385 \$ (4)

Advanced Studio

An individual approach to an advanced level of studio photography. The student will be able to choose a concentration in the following areas: Portraiture, People/Fashion, Still-Life, Advertising/Illustration, and Location Photography. This course is designed specifically to learn visual concepts and solve visual problems of the commercial photo industry. Repeatable to 12 credits. Prerequisite: PHTO285. *Fall, Spring*

PHTO400 \$ (4)

Digital Photographic Printing

Study in color printing using traditional emulsion based processes and digital color output. Prerequisite: DGME175. *Fall*

PHTO410 \$ (4)

Advanced Photography II

A course designed for the advanced photographer to investigate personal potential in visual exploration, experimentation, and technical excellence. Discussion involves expanding personal vision and exploring new techniques to achieve goals. Repeatable to 8 credits. Prerequisite: PHTO200. *Spring*

PHTO425 (4)

Travel Photography

Designed to be done in conjunction with on-location photography, and provides a background in the specific needs related to travel. Photographing people and their land in foreign environments is emphasized. Unique materials and equipment are discussed as they relate to travel photography. Prerequisite: PHTO115.

TECHNOLOGY EDUCATION

TCED140 \$ (2)

(was TCED141, part of TCED142)

Welding Technology

Oxyacetylene and electric welding processes including oxyacetylene welding, cutting, and brazing; basic shielded metal arc welding and basic gas metal arc welding. A limited amount of out-of-position welding will be stressed. *Fall*

TCED179 \$ (2)

Woodturning

Instruction and practice on the wood lathe covering safety and the basic operations used in spindle and face-plate turnings. Projects are of a useful and artistic nature. *Spring*

TCED180 \$ (3-4)

Fundamentals of Woodworking

Emphasis in design, wood identification, and the construction of appropriate projects from drawings. Safety and proper use of wood-working machines and common hand tools stressed. *Fall*

TCED194/494 (1-3)

Project Course

Development of a skill in a given area by working independently under the supervision of the instructor. Prerequisite: Permission of instructor. Repeatable to 12 credits. *Fall, Spring*

TCED250 \$ (3-4)

(was TCED251, part of TCED252)

Machine Shop

Basic set-up and operation of lathes, milling machines, grinders, drilling machines, and shapers; safety, machine maintenance, off-hand grinding, drill sharpening, layout, and inspection emphasized. *Spring*

TCED254 (3)

Technical Space Utilization

Acquaints students with the planning and organization of technical facilities. Consideration given to space requirements, building structure, material flow, equipment needs, site location, and environment control of such facilities. *Spring*

TCED350 (2)

Teaching of Technology Education

Teaching methods and strategies applicable to the teaching of technology education at the secondary level. The developing of specific learning experiences and learning through problem-solving is covered. Prerequisite: Permission of instructor.

TCED456 (3)

Safety and Loss Control

Safety and the fundamentals of accident prevention with emphasis on schools, school laboratories, and industrial applications. Introduction to the total program of loss control in industry, including the legal implications for both school and industry. Emphasis on the problem of accident prevention and control. *Spring*

TCED464 (3)

Transportation Technology

The field of transportation as related to technology education at the secondary level. Material handling, transportation involving space and atmospheric, marine, and terrestrial modes included.

TCED465 (3)

Communication Technology

Study in the field of communications as related to the secondary level in technology education. Emphasis on broadcasting, computers, drafting, photography, graphic arts, telecommunications, and their effect on society.

TCED466 (3)

Energy Utilization

Study of different types of energies used by modern society, how they have changed society, and implications for the future.

TCED470 (3)

Manufacturing Technology

Study of the manufacturing process as it relates to the teaching of technology education at the secondary level. Emphasizes materials and processes, research and development, management, marketing, and sales.

TCED275/485 (1-3)

Topics in _____

Repeatable in various areas.

TCED495 (1-3)

Portfolio Development

Helps the student develop a traditional or electronic portfolio for employment or continuing educational purposes. Emphasis in direction, development, and refinement of the individual portfolio. Repeatable to 12 credits. Prerequisites: minimum of 30 credits in a major and permission of the instructor. *Spring*

TCED597 (1-3)

Independent Study

Individual study or research under the direction of a staff member. Repeatable to 6 credits.
Prerequisite: Permission of department chair.