Applied Arts

Driver Education

Driver Education

Family and Consumer Sciences

Creative Cuisine Gourmet Human Growth and Child Development 1 & 2 International Foods Fashion Construction

Project Lead The Way (PLTW)

Introduction to Engineering Design Principles of Engineering Civil Engineering and Architecture Biotechnical Engineering Digital Electronics

Technology Education

Introduction to Design Technology/Introduction to Computer Coding
Interior Design
Introduction to Architecture
Architectural Models
Architectural Studio
Architectural Building Design
Automotives 1, 2, & 3
Geometry, Design, and Construction
Wood & Metal Design
Furniture Making and Design

HOMEWORK

In the Applied Arts Department, homework can be an integral part of the learning process. Depending on class format, curriculum, equipment, and software used, course homework varies from zero assignments per week to a few assignments per week. Every applied arts course has a policy and expectations about projects and assignments that are not finished during class time. When work is not completed during class time, the expectation is that students will complete unfinished projects and assignments at home or during non-scheduled class time. Assigned homework will vary based on a student's enrollment in a course for major credit or for elective credit. Please note that students taking an applied arts course for elective credit do not take a final examination at the end of each semester. Students taking an applied arts course for major credit will be required to complete a final exam.

PROJECT LEAD THE WAY (PRE-**ENGINEERING) COLLEGE CREDIT**

Project Lead the Way (PLTW) is a sequential engineering program that can potentially lead to college credit transferable to universities such as Purdue, Bradley, Milwaukee School of Engineering, and the University of Illinois. Students may take one or all of the proposed courses during their high school

APPLIED ARTS ON THE WEB

Please visit our website for department objectives, course videos, and additional information: http://www.newtrier.k12.il.us/ page.aspx?id=1024

DUAL CREDIT (NEW TRIER AND OAKTON COMMUNITY COLLEGE)

Students who take Interior Design, Introduction to Architecture, and Architectural Studio may elect to receive credit from Oakton Community College in addition to credit toward graduation from New Trier. In order to qualify for dual credit, students must be enrolled in one of these courses for a full year and must earn a C or higher each semester. Students interested in receiving dual credit for these courses should talk to their teacher.

4-Year Sequence in Applied Arts				
Freshman	Sophomore	Junior	Senior	
Introduction to Design Technology/Introduction to Computer Coding Fashion Construction	Introduction to Design Technology Interior Design Fashion Construction	Introduction to Design Technology Interior Design Fashion Construction	Introduction to Design Technology Interior Design Fashion Construction	
Introduction to Architecture	Introduction to Architecture Architectural Models Architectural Studio Interior Design	Introduction to Architecture Architectural Models Architectural Studio Architectural Building Design Interior Design	Introduction to Architecture Architectural Models Architectural Studio Architectural Building Design Interior Design	
Introduction to Engineering Design (PLTW)*	Introduction To Engineering Design (PLTW)* Principles of Engineering (PLTW) Civil Engineering and Architecture (PLTW)	Introduction To Engineering Design (PLTW)* Principles of Engineering (PLTW) Biotechnical Engineering (PLTW) Civil Engineering and Architecture (PLTW) Digital Engineering (PLTW)	Introduction To Engineering Design (PLTW)* Principles of Engineering (PLTW) Biotechnical Engineering (PLTW) Civil Engineering and Architecture (PLTW) Digital Engineering (PLTW)	
	Automotives 1*	Automotives 1* Automotives 2	Automotives 2 Automotives 3	
	Driver Education	Driver Education	Driver Education	
Creative Cuisine	Gourmet	Gourmet	International Foods	
	Human Growth & Child Development 1*	Human Growth & Child Development 1* Human Growth & Child Development 2	Human Growth & Child Development 1* Human Growth & Child Development 2	
	Geometry, Design, and Construction Wood & Metal Design	Geometry, Design, and Construction Wood & Metal Design Furniture Making and Design	Geometry, Design, and Construction Wood & Metal Design Furniture Making and Design	

Highlighted areas = Sequential courses

Applied Arts Department Courses and College, Career, and Exploratory Paths				
Areas of Interest	Courses Offered at Northfield	Courses Offered at Winnetka		
Architecture	Introduction to Architecture	Introduction to Architecture		
Interior Design	Introduction to Architecture	 Interior Design Architectural Studio Architectural Models Wood & Metal Design Furniture Making and Design 		
Engineering	Introduction to Engineering Design (PLTW)	 Introduction to Engineering Design (PLTW) Civil Engineering and Architecture (PLTW) Principles of Engineering (PLTW) Biotechnical Engineering (PLTW) Digtal Electronics (PLTW) Research Design and Development through Engineering (Summer School) 		
Automotives		Automotives 1 Automotives 2 Automotives 3		
Applied Design and Technology	Fashion Construction Introduction to Architecture Introduction to Design Technology/ Introduction to Computer Coding	 Introduction to Design Technology Introduction to Architecture Geometry, Design, and Construction Wood & Metal Design Furniture Making & Design Fashion Construction 		
Human Growth		Human Growth & Child Development 1 Human Growth & Child Development 2		
Culinary and Hospitality	Creative Cuisine	Gourmet (Sophomores, Juniors) International Foods (Seniors)		

Highlighted areas = Sequential courses

Project Lead the Way (PLTW) is a national organization that has developed, in conjunction with professional engineers, an innovative pre-engineering curriculum for high school students. Similar to Advanced Placement courses, PLTW has an end-of-course exam. If students successfully complete the course and pass requirements on the exam, they can be eligible for university credit and/or scholarship opportunities. Please see our website for more information.

Family and Consumer Sciences Courses

Fashion Construction

OPEN TO FRESHMEN, SOPHOMORES, JUNIORS, AND SENIORS PREREQUISITE: NONE 1.0 MAJOR CREDIT AT LEVEL 9 / .5 ELECTIVE CREDIT

This hands-on lab course introduces students to the world of fashion. Through an integrated approach, the course combines machine work to construct clothing as well as personal and household items with the study of textiles, history, and trends in fashion. Students complete five projects throughout the course; the final project is the student's choice. This course fulfills the graduation requirement for fine and/or practical arts.

Creative Cuisine

OPEN TO FRESHMEN PREREQUISITE: NONE .5 ELECTIVE CREDIT

This course teaches the basic techniques used in the preparation of food. Students work together in the culinary lab to plan, prepare, and serve meals every day. Students learn to prepare breads, appetizers, soups, sauces, casseroles, pies, eggs, poultry, and meat. Course favorites include crepes, Santa Fe chicken salad, calzones, and chocolate cream pie. This course fulfills the graduation requirement for fine and/or practical arts.

Gourmet

OPEN TO SOPHOMORES AND JUNIORS PREREQUISITE: NONE 1.0 MAJOR CREDIT AT LEVEL 9 / .5 ELECTIVE CREDIT

This course teaches basic food preparation and examines how different heating techniques alter food and taste. Students work together in the culinary lab to plan, prepare, and serve meals every day. Student input is an invaluable component of this course, and students research recipes to add to the curriculum. Course favorites include steak tacos, homemade pasta, brownie parfaits, and pizza. In addition, current food trends, cooking methods, and nutrition are discussed. This course fulfills the graduation requirement for fine and/or practical arts.

International Foods

OPEN TO SENIORS PREREQUISITE: NONE 1.0 MAJOR CREDIT AT LEVEL 9 / .5 ELECTIVE CREDIT

This course takes students around the world as they learn about the cuisine in different countries. Students "visit" countries in Europe, the Middle East, Asia, and South America as they work together in the culinary lab to plan, prepare, and serve meals every day. In addition, this course ends with a unit on college cooking, in which students use recipes that can easily be prepared in a dorm room or small kitchenette. This course fulfills the graduation requirement for fine and/or practical arts.

Human Growth and Child Development 1

OPEN TO SOPHOMORES, JUNIORS, AND SENIORS PREREQUISITE: NONE 1.0 MAJOR CREDIT AT LEVEL 9 / .5 ELECTIVE CREDIT

This course explores the social, emotional, physical, and intellectual development of young children. The first semester concentrates on prenatal development to age 2; the second semester concentrates on development from ages 2 to 5. Topics also include parenting, teenage pregnancy, and child-centered careers. Students study human growth through the use of technology, including programmable baby simulators and an empathy belly. This course fulfills the graduation requirement for fine and/ or practical arts.

Human Growth and Child Development 2

OPEN TO JUNIORS AND SENIORS PREREQUISITE: HUMAN GROWTH AND CHILD DEVELOPMENT 1 1.0 MAJOR CREDIT AT LEVEL 9 / .5 ELECTIVE CREDIT

This *two-period* course explores the social, emotional, physical, and intellectual development of children from ages 5 to 13. The first semester concentrates on development from ages 5 to 10; second semester concentrates on development from ages 10 to 13. Students have the opportunity to work with children at the New Trier Child Care Center. This course fulfills the graduation requirement for fine and/or practical arts.

Project Lead the Way (PLTW)

Introduction to Engineering Design (PLTW)

OPEN TO: FRESHMEN, SOPHOMORES, JUNIORS, AND SENIORS PREREQUISITE: NONE 1.0 MAJOR CREDIT AT LEVEL 9 / .5 ELECTIVE CREDIT

This foundational course in the Project Lead the Way pre-engineering program encourages students to think like engineers through a "design thinking" approach that encourages them to develop unique solutions to design problems. Students "engineer" using a hands-on approach, 3D modeling software, 3D printers, 3D scanners, laser cutters, and various other tools to bring their ideas to prototype and then to life. Students also learn how to properly document their work and communicate solutions to peers and members of the professional community. Students who earn qualifying grades may be eligible to receive engineering college credit. This course fulfills the graduation requirement for fine and/or practical arts.

Principles of Engineering (PLTW) levels 9 & 4

OPEN TO: SOPHOMORES, JUNIORS, AND SENIORS PREREQUISITE: INTRODUCTION TO ENGINEERING DESIGN OR DEPARTMENTAL APPROVAL

In this course, students learn about engineering and technology by creating solutions for actual engineering problems. They must apply their knowledge, research, and design skills to each challenge and explain their work to their peers and professional engineers. Strong emphasis is placed on group work and communication, essential skills for future engineering students. Each unit includes an in-depth group project; at the end of the year, groups work together on one large class project. The course gives students the opportunity to work on projects in a variety of engineering fields. Students who earn qualifying grades may be eligible to receive engineering college credit. This course fulfills the graduation requirement for fine and/or practical arts.

Biotechnical Engineering (PLTW) levels 9 & 4

OPEN TO JUNIORS AND SENIORS PREREQUISITE: PRINCIPLES OF ENGINEERING AND BIOLOGY (MAY BE TAKEN CONCURRENTLY)

Biotechnical Engineering is a specialized course that requires students to apply engineering skills learned in Introduction to Engineering Design and Principles of Engineering to problems in a diverse set of biotechnical engineering fields, including biomedical devices, orthopedic prosthetics, genetic engineering in agriculture and medicine, bioremediation, biofuels, and bioethics. As with all the PLTW courses, the Biotechnical Engineering course is designed to challenge students in unstructured problem solving within a project-based format in a lab setting. Students who earn qualifying grades may be eligible to receive engineering college credit. This course fulfills the graduation requirement for fine and/or practical arts.

Civil Engineering and Architecture (PLTW) levels 9 & 4

OPEN TO SOPHOMORES, JUNIORS, AND SENIORS PREREQUISITE: INTRODUCTION TO ENGINEERING DESIGN OR A CAD COURSE

In this course, students learn about various aspects of civil engineering and architecture and apply their knowledge to the design and development of residential and commercial properties and structures. In addition, students use 3D design software to design and document solutions for major course projects. Students present their solutions to their peers and professional engineers. Topics include, but are not limited to, building components and systems, structural design, road construction and design, storm water management, site design, utilities and services, cost estimation, and energy and efficiency. Students who earn qualifying grades may be eligible to receive engineering **college credit.** This course fulfills the graduation requirement for fine and/or practical arts.

Digital Electronics (PLTW) levels 9 & 4

OPEN TO JUNIORS AND SENIORS PREREQUISITE: PRINCIPLES OF ENGINEERING

In this course, students learn the systematic approach used by engineers to design the electronics we use every day. Students become familiar with the engineering design and troubleshooting techniques used in the electronics field through the study of the circuitry used to process and control digital signals. Students use computer simulation software to design and test digital circuits, such as those used in watches, cameras, and calculators, and build working prototypes using SSI and MSI chips and programmable logic devices. Students also learn how to program and use microcontrollers and microcomputers. In all of these projects, students learn how machines "think." Students who earn qualifying grades may be eligible to receive engineering college credit. This course fulfills the graduation requirement for fine and/or practical arts.

Technology Education Courses

Introduction to Design Technology/ **Introduction to Computer Coding**

OPEN TO FRESHMEN PREREQUISITE: NONE .5 ELECTIVE CREDIT

This course introduces students to two areas: computer coding and design technology. In the semester of computer coding, students will learn fundamental computer science concepts by creating programs that will solve problems, interact with users, perform complicated calculations, and control robots. The semester of design technology will introduce students to a variety of design concepts in engineering, architecture, and wood and metal working by using hands-on technologies, such as laser cutters, 3D printers, CAD software and power tools, to solve problems, design, create, and build. These two semesters are not prerequisites for any future courses, but they may inspire students to pursue further study in Web Development I and II, Computer Science, AP Computer Science, Architecture, Introduction to Engineering Design, Principles of Engineering, or the many other technology and programming courses we offer. This course fulfills the graduation requirement for fine and/or practical arts.

Introduction to Design Technology

OPEN TO SOPHOMORES, JUNIORS, AND SENIORS PREREQUISITE: NONE .25 ELECTIVE CREDIT

This course introduces students to a variety of design concepts in engineering, architecture, and wood and metal working by using hands-on technologies, such as laser cutters, 3D printers, CAD software, and power tools, to design, create, and build. This course fulfills the graduation requirement for fine and/or practical arts.

Interior Design

OPEN TO SOPHOMORES, JUNIORS, AND SENIORS 1.0 MAJOR CREDIT AT LEVEL 9 / .5 ELECTIVE CREDIT

This course introduces students to the field of interior design and current computer software used by interior designers. Students are given design projects similar to those featured on HGTV. Units include room design (kitchens, great rooms and foyers), commercial and house redesign, and furniture and lighting design. Students learn to use Chief Architect and Autodesk software. Through class discussions, group work, hands-on experiences, guest lecturers, and field trips, students gain an understanding of interior design concepts and encounter the challenges interior designers face. Overall interior design is integrated with computer-aided design, design principles, construction, and presentation techniques. Please visit our website: http:// www.newtrier.k12.il.us/page.aspx?id=13623. This course qualifies for Dual Credit. This course fulfills the graduation requirement for fine and/or practical arts.

Introduction to Architecture

OPEN TO FRESHMEN, SOPHOMORES, JUNIORS, AND SENIORS PREREQUISITE: NONE 1.0 MAJOR CREDIT AT LEVEL 9 / .5 ELECTIVE CREDIT

Design your own house plans just like an architect! Using the same software that architects and designers use, students learn how to design 3D and 2D drawings and build models from those drawings. Following a curriculum developed by the Chicago Architecture Foundation, students build their portfolios with outside-the-box designs and complete a set of blueprints for a house they design from scratch using AutoCAD and Revit. This course qualifies for Dual Credit. This course fulfills the graduation requirement for fine and/or practical arts.

Architectural Models

OPEN TO SOPHOMORES, JUNIORS, AND SENIORS PREREQUISITE: INTRODUCTION TO ARCHITECTURE OR INTERIOR DESIGN 1.0 MAJOR CREDIT AT LEVEL 9 / .5 ELECTIVE CREDIT

This course focuses on the creation of studio models through the process of developing architectural designs and responding to challenges presented by the instructor. Students learn architectural processes and develop design skills using different materials, software, technologies, and building techniques. Students are challenged to create spaces based on positive and negative space, form and function, and design principles. All methods, concepts, and technologies taught are currently utilized by architecture firms and universities. Architectural models is a course for students interested in a future that includes architecture and interior design. All work created in this course can be used for a personal portfolio. This course fulfills the graduation requirement for fine and/or practical arts.

Architectural Studio

OPEN TO SOPHOMORES, JUNIORS, AND SENIORS PREREQUISITE: INTRODUCTION TO ARCHITECTURE OR, FOR SENIORS, DEPARTMENTAL APPROVAL 1.0 MAJOR CREDIT AT LEVEL 9 / .5 ELECTIVE CREDIT

This course introduces students to a full range of design concepts, current trends, and architectural techniques through drawing exercises, analyses of precedents, and exploration of design methods. Design skills are developed by conceptualizing and representing architectural theories through sketching, drawing on board, abstract models, and CAD. Discussions about architecture's role in culture, nature, and technology help students develop architectural vocabulary. In the second semester, students develop a "green" architectural structure, following LEED standards. All work created in this course can be used for a personal portfolio. This course qualifies for Dual Credit. This course fulfills the graduation requirement for fine and/or practical arts.

Architectural Building Design

OPEN TO JUNIORS AND SENIORS PREREQUISITE: INTRODUCTION TO ARCHITECTURE AND ONE OTHER ARCHITECTURE 1.0 MAJOR CREDIT AT LEVEL 9 / .5 ELECTIVE CREDIT

This advanced architectural design studio course introduces students to a broad range of architectural concepts and issues through drawing exercises, exploration of design methods, and model building. Students continue to develop design skills by conceptualizing and representing architectural ideas through various media. Projects vary in size and scope and range from sketching and drawing to computer renderings using the latest professional design software; however, all projects require the same design process. Students discuss and critique their work with their peers and professional architects through blogs and video conferencing. All work created in this course can be used for a personal portfolio. This course fulfills the graduation requirement for fine and/or practical arts.

Geometry, Design, and Construction

OPEN TO SOPHOMORES PREREQUISITE: ALGEBRA 1 MATH DEPARTMENTAL APPROVAL REQUIRED 1.0 MAJOR CREDIT IN MATHEMATICS AT LEVEL 9 1.0 MAJOR CREDIT IN APPLIED ARTS AT LEVEL 9

In this team-taught, double-period course, students learn plane geometry concepts by applying real-world construction concepts through Computer Aided Design as they create and build small projects, such as playhouses and gazebos. Throughout the course, students develop skills in teamwork, problem solving, and project management. This course covers all necessary plane geometry concepts and will prepare students to enter an Algebra 2 course in the following year. Prior experience in woodworking is not required. This course fulfills the graduation requirement for mathematics and fine and/or practical arts.

Wood and Metal Design

OPEN TO SOPHOMORES, JUNIORS, AND SENIORS PREREQUISITE: NONE 1.0 MAJOR CREDIT AT LEVEL 9 / .5 ELECTIVE CREDIT

This course uses hands-on experiences to teach students how to design and construct projects made from wood and metal. Student projects include furniture design, woodturning, and welding, utilizing new technologies such as a PlasmaCam and CNC router. Students are given several introductory turning projects to complete, such as pens, mini pen lights, key chains, and mini baseball bats. Larger student projects include tables, skate boards, chairs, and additional furniture items. Work completed can be used for engineering and architectural portfolios. This course fulfills the graduation requirement for fine and/or practical arts.

Furniture Making and Design

OPEN TO JUNIORS AND SENIORS PREREQUISITE: WOOD & METAL DESIGN OR A CAD COURSE 1.0 MAJOR CREDIT AT LEVEL 9 / .5 ELECTIVE CREDIT

In this course, students increase the depth of their skills by designing and making their own furniture projects. They learn how to create their own individual plans of procedure for design projects. Projects are developed from concepts learned in Wood and Metal Design. New technologies such as a CNC Router and CNC Plasma CAM are used in this course. This course fulfills the graduation requirement for fine and/or practical arts.

Automotives 1

OPEN TO SOPHOMORES, JUNIORS, AND SENIORS PREREQUISITE: NONE 1.0 MAJOR CREDIT AT LEVEL 9 / .5 ELECTIVE CREDIT

This course is an introductory course designed for anyone who intends to own and maintain his or her car. The class covers engine fundamentals, auto maintenance, and troubleshooting. Automotive systems covered include: ignition, fluids, fuel, lubrication, cooling, chassis, exhaust, welding, air conditioning, and on-board computer testing. Also covered in this course are units on body and fender work, brakes, tires, and tune-up procedures. Students participate in a hands-on environment in the lab and have the opportunity to work on their personal vehicles. The course stresses diagnosis and problem-solving skills used in everyday life. Strong emphasis is placed throughout the course on consumer information related to automobiles. This course fulfills the graduation requirement for fine and/or practical arts.

Automotives 2

OPEN TO JUNIORS AND SENIORS PREREQUISITE: AUTOMOTIVES 1 1.0 MAJOR CREDIT AT LEVEL 9 / .5 ELECTIVE CREDIT

This course is a continuation of Automotives 1. Additional theory is provided along with a strong emphasis on hands-on lab activities. Students refine their diagnostic and repair skills in a lab setting and have the opportunity to spend additional time working on personal or extended projects. In the classroom a variety of technical topics are covered, including high performance systems, alternate fuels and energies, and fabrication. Automotive careers within the automotive field are explored and discussed. Careers examined range from technician, engineering and design, to sales and marketing. This course fulfills the graduation requirement for fine and/or practical arts..

Automotives 3

OPEN TO SENIORS PREREQUISITE: AUTOMOTIVES 2 1.0 MAJOR CREDIT AT LEVEL 9 / .5 ELECTIVE CREDIT

This course provides students with an opportunity to apply what they have learned during Automotives 1 and 2 to realworld situations. Under the direction of the instructor, the students gain a greater appreciation for the automotives field through hands-on independent activities. Projects include working with OBD systems, brake system components, welding techniques, body work, brakes and engine rebuilding/modifications, and automotive furniture designs. This course fulfills the graduation requirement for fine and/or practical arts.

Driver Education

Driver Education

.5 ELECTIVE CREDIT

The driver education program consists of three phases of instruction: theory (classroom), behind-the-wheel, and simulation. Students learn about traffic laws and enforcement, driving skills, and the responsibilities of vehicle ownership. The behindthe-wheel portion develops students' basic driving skills, techniques, and decision-making abilities while driving.

Advisers of students who register for only the theory (classroom) portion of Driver Education must notify the department chair. These students will not be offered behind-the-wheel instruction at a later date or receive an Instructional Driving Permit. Theory-only students will fulfill the graduation requirement at New Trier. Theory only must be taken as a pass/ no-credit option.

Please see our website for an FAQ and more information about our Cooperative Driver Testing Program.

All students must be at least 15 years old to be enrolled in **Driver Education.**

Cutoff Dates:

Semester 1 (birthday before 8/15/2002) Semester 2 (birthday before 1/15/2003) Summer School (birthday before 6/1/2003)

APPLIED ARTS Course Classifications

Each course has a six-digit number. The first two digits, "14," identify the department. The fourth digit, "1," indicates the year the course is usually taken. The fifth digit, "3," identifies the semester(s) in which the course is offered; full-year courses are assigned a "3" to represent both semesters. The sixth digit, "8," indicates the level. Initial course selection for applied arts courses can only be at level 8. Students who want to take a course offered at the Winnetka campus for major credit may complete the Contract for Applied Arts Major form during the first two weeks of the semester.

Driver Ed	.130218
Cutoff Birthday 8/15/2002	
J. J.	
Driver Ed	.130228
Cutoff Birthday 1/15/2003	
Fashion Construction	.121138
Creative Cuisine	
Human Growth/Child Dev 1	.122338
Human Growth/Child Dev 2	.122438
Gourmet	123338
International Foods	.123438
Intro Design Tech/Coding	.140138
Intro Design Tech	.140218
Intro Design Tech	
Intro to Architecture	.141138
Architect Studio	.142238
Architect Models	.142338
Intro Engineer Design (PLTW)	.143338
Principles Engineer (PLTW)	.143439
Principles Engineer (PLTW)	.143434
Civil Engineer/Architect (PLTW)	.143539
Civil Engineer/Architect (PLTW)	.143534
Biotech Engineeer (PLTW)	.143639
Biotech Engineeer (PLTW)	
Digital Electronics (PLTW)	
Digital Electronics (PLTW)	
Architect Bldg Design	
Design/Construct-T: Geom/Design/Construct	.191239
Wood/Metal Design	
Furniture Making/Design	.145338
Interior Design	
Automotives 1	
Automotives 2	.148438
Automotives 3	.148538