

NCPN CONNECT 2023

**Early College
Pathway for
Students in the
Academic Middle**

Burnsville Schools

8,000 Students
6 Elementary
2 Middle
2 High

74% SOC
72% FRP
21% Multilingual



Inver Hills Community Co

3000 Students
41% SOC

Most popular degrees

- Liberal Arts (A.A.)
- Nursing (R.N.)
- Business Transfer

600 Concurrent
Enrollment Students

Who's in the room?



Our Partnership: 2008 to present

- ★ South Metro Perkins Consortium | 2008
- ★ Concurrent Enrollment Partnership | 2012
- ★ Emergency Medical Services | 2018
- ★ Conversations about an Associates of Arts Degree | 2019
- ★ Dakota County Technical College | 2020
- ★ Approval by the Higher Learning Commission | 2023

Economic Need

Top skills sought

- Communication
- Customer Service
- Scheduling
- Operations
- Collaboration
- Relationships
- Supervision
- Monitoring
- Leadership, P
- Problem Solving
- Analysis
- Dedication & Commitment
- Detail-Oriented
- Interpersonal Skills
- Planning

Top credential sought

- Driver's License
- Certified Registered Nurse
- Commercial Driver's License
- Occupational Safety & Health
- Administration Certification
- Certification in CPR
- Class A Commercial Driver's License
- Certified in Long Term Care
- Basic Life Support
- HAZMAT
- Licensed Practical Nurse

Why Career Pathways?

Retail Trade, with 23,444 jobs at 1,126 establishments, was Dakota County's largest-employing industry in 2022. Total payroll for this industry equaled \$898.2 million, with average annual wages equal to \$38,272.

Health Care & Social Assistance, with 23,063 jobs at 1,810 establishments, was Dakota County's second largest-employing industry in 2022. Total payroll for this industry equaled \$1.2 billion, with average annual wages equal to \$53,300.

Manufacturing rounds out as Dakota County's third largest-employing industry, with 19,320 jobs at 474 establishments. Total payroll for this industry equaled \$1.5 billion in 2022, with average annual wages equal to \$79,612.

Career Fields and Pathways

Arts, Global Communications & Information Systems

- Visual and Performing Arts
- Information Technology
- Journalism & Broadcasting



Business Management & Entrepreneurship

- Marketing
- Business, Management & Administration
- Finance
- Hospitality & Tourism



Design, Engineering & Manufacturing Technology

- Architecture & Construction
- Manufacturing
- Engineering, Design & Technology
- Engine & Automotive Technology



Health Sciences & Human Services

- Health Sciences
- Education
- Government & Community Services



Current Pathway Programming



DESIGN, ENGINEERING, MANUFACTURING TECHNOLOGIES

Architecture & Construction
Manufacturing
Engineering, Design & Technology
Engine & Automotive Technology

Icon Key



College Credit Opportunity

Watch for these symbols next to course descriptions throughout the catalog. They indicate that the course offers an opportunity to earn college credit, a professional certification, and/or meets the Barrowville High School Fine Arts requirement.



Certification Opportunity

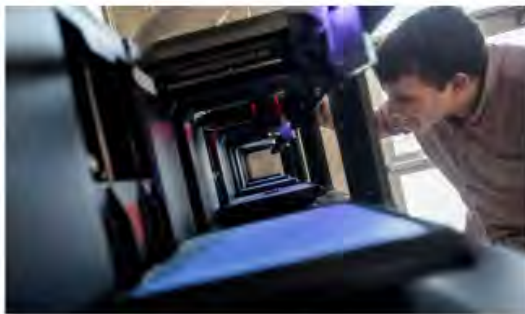


Fine Arts Credit

Design, Engineering & Manufacturing Technologies Pathways

This page will help students find & choose courses that are related to a particular Pathway. Each column in the table represents a specific Pathway. Courses in that column build from introductory courses at the bottom, which might be taken in ninth grade, to more advanced courses at the top.

Grade	Architecture & Construction	Manufacturing	Design, Engineering & Technology	Engine & Automotive Technology
12		<ul style="list-style-type: none"> Advanced Placement Chemistry 		
11, 12	<ul style="list-style-type: none"> Engineering Design & Development 	<ul style="list-style-type: none"> Engineering Design & Development 	<ul style="list-style-type: none"> Engineering Design & Development 	<ul style="list-style-type: none"> Advanced Auto/Vehicle Services
10, 11, 12	<ul style="list-style-type: none"> Construction Trades I Construction Trades II Civil Engineering & Architecture Fab Lab Principals of Engineering 	<ul style="list-style-type: none"> Construction Trades I Construction Trades II Civil Engineering & Architecture Fab Lab Principals of Engineering Create-a-Skate (BARD) 	<ul style="list-style-type: none"> Civil Engineering & Architecture Fab Lab Principals of Engineering Unleash-a-Skate (BARD) 	<ul style="list-style-type: none"> Introduction to Consumer Auto Welding/Autobody Work & Refinishing
9, 10, 11, 12	<ul style="list-style-type: none"> Cabinet Making Introduction to Engineering Design Woodworking 	<ul style="list-style-type: none"> Cabinet Making Introduction to Engineering Design Woodworking 	<ul style="list-style-type: none"> Aerospace Latent Making Introduction to Engineering Design Woodworking 	<ul style="list-style-type: none"> Engine Technology



Design, Engineering & Manufacturing Technologies Pathways

ADVANCED AUTO/VEHICLE SERVICES

Course Number: 7758

Grade Level: 11, 12

Prerequisite: Successful completion of Intro to Consumer Auto. The Advanced Auto/Vehicle Services course provides you with a more in-depth study of automotive maintenance and repair. While in the Introduction to Consumer Auto course, you focused on how the car works. In this course the focus is on how to work on the car. You will learn vehicle inspection, maintenance, and repair and perform everything from basic services to advanced diagnosis and repair. This course meets two periods daily. This course qualifies for two credits at concurrent enrollment at Herndon Technical College.

ADVANCED PLACEMENT CHEMISTRY

Course Number: 1671/1682

Grade Level: 12

Prerequisite: Completion of Honors Chemistry and instructor approval. Successful completion of Algebra II or Honors Algebra II. This is a second-year high school chemistry course that provides you with a more in-depth study of chemistry. It is designed to be equivalent to a general, first-year college chemistry course. Topics covered are atomic theory and atomic structure, chemical bonding, nuclear chemistry, states of matter, rate theory, reaction types, stoichiometry, equilibrium, kinetics, thermodynamics and descriptive chemistry. There is an emphasis on chemical calculations, the mathematical formulation of principles and high quality laboratory experiences. The AP College Board recommends that students also take a high school physics course and a four-year college preparatory program in mathematics in addition to AP Chemistry. Successful completion of the AP Chemistry examination may result in credit and/or advanced placement in college courses. Note: This course has a summer homework requirement.

AEROSPACE A-B-S

Course Number: 7421/7422

Grade Level: 9, 10, 11, 12

Prerequisite: None

Through hands-on engineering projects developed with NASA, students learn about aerodynamics which includes building and testing airplanes and drones, astronautics, space-life sciences, and systems engineering (which includes the study of intelligent vehicles like the Mars rovers Spirit and Opportunity).

CABINET MAKING

Course Number: 7963

Grade Level: 9, 10, 11, 12

Prerequisite: Successful completion of Woodworking. This course builds on the knowledge and skills learned in Woodworking to provide you with the opportunity to study the cabinet and finish carpentry trades more in-depth. The course emphasizes precision manufacturing, safety, design, blueprint reading, and quality. You will identify basic tools and equipment used in the cabinet/finish carpentry trades, identify and describe materials used in cabinet making, understand and apply basic techniques, design and build a simple cabinet, and develop an understanding of the applied mathematics involved in cabinet and finish carpentry. This course qualifies for one credit at concurrent enrollment at Herndon Technical College.



CIVIL ENGINEERING AND ARCHITECTURE

(CEA, 1 YEAR A & B)

Course Number: 753/7531

Grade Level: 10, 11, 12

Prerequisite: This is a Project Lead The Way course. You will learn important aspects of building and site design and development in this course. You will apply math, science, and standard engineering practices to design both residential and commercial projects and document your work using 3-D architectural design software.

CONSTRUCTION TRADES I

Course Number: 7808

Grade Level: 10, 11, 12

Prerequisite: None

The Construction Trades Program (CTP) is a hands-on, project-based course where you will have both classroom and lab experiences to learn construction techniques. As part of this course, you will learn about and complete learning objectives: taking, roofing, window and door installation, and plumbing and electrical work. You will work together in this course with classmates to build a garden shed. This course meets two periods daily. This course qualifies for two credits at concurrent enrollment at Herndon County Technical College.

CONSTRUCTION TRADES II

Course Number: 7818

Grade Level: 10, 11, 12

Prerequisite: Successful completion of Construction Trades I. The Construction Trades II course provides you with a more in-depth study of the construction trades that you began to learn in Construction I. In addition, you will learn more basic plumbing and electrical repairs, sheet rock, taping, painting techniques, and finish carpentry. This course meets two periods daily.

CREATE-A-SKATE

Course Number: 2380

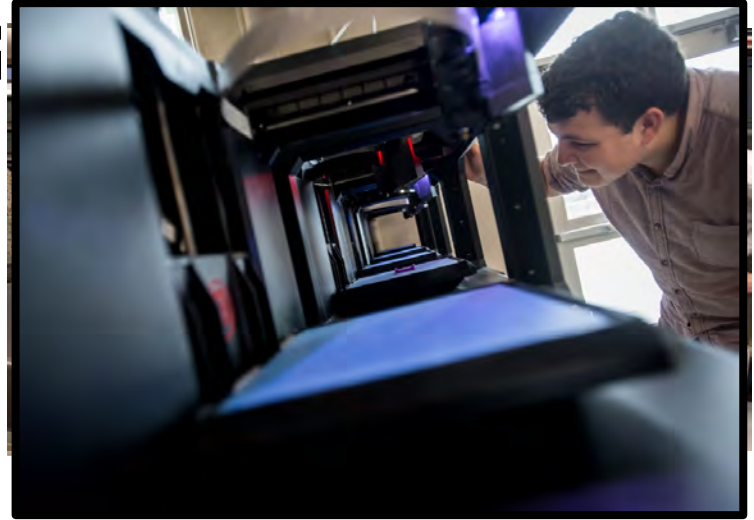
Grade Level: 10, 11, 12 BARS Only

Prerequisite: None

In this course, you create your own personal skateboard deck using an interdisciplinary curriculum. You experience hands-on mathematics, science, history, culture, language skills, as well as, design and engineering principles, in a collaborative learning experience. You will have the class with a high quality, durable skateboard that is ready to ride.

Promise of Pathways

- Industry Certifications
- Concurrent College Credit
- Project-Based learning
- Internships
- Paid work experiences
- Over 200 industry partners
- Donations and grants in excess of \$4 million



Extension of Current Programming

Health Sciences & Human Services

K-5

SPARK Wonder

Core

Physical Education (K-5)
Science (K-5)
Social Emotional Curriculum (K-5)

Enrichment

Advanced Learning: Health & Wellness (5)
All District Track Meet (5)
Science Fair (3-5)
College & Career Exploration (K-5)
Multicultural Games (K-2)
Cooperative Activities (3-5)

Extra Curricular

To be determined

6-8

FUEL Exploration

Core

Xello (6-8)
Advisory (6-8)
Physical Education (6-8)
Family & Consumer Sciences (6-7)
Science (6-8)
Health (8)

Enrichment

Sports & Fitness (8)
Personal Health & Wellness (7)

Extra Curricular

Service Club (6-8)
Athletics: Cross Country, Soccer,
Tennis, Basketball, Wrestling, Track,
Volleyball (6-8)

9-12

BLAZE Your Path

Pathways

Health Sciences

- Biotechnology
- Diagnostics
- Health Information
- Therapeutic Services

Education

- Administration
- Teaching/Training
- Professional Support
- Services

Government & Community Services

- Correction Services
- Emergency & Fire Management Services
- Public Management & Administration

Why an Early College Pathway?

Community College Research Center (CCRC) found that **88% of the dual/concurrent enrollment students went on to college after high school and completed degrees at higher rates and in less time** than their non-participating peers. ¹⁴ Several studies have documented these positive impacts of dual/concurrent enrollment participation after controlling for various student academic and demographic measures. NACEP

Students from low-income backgrounds and/or school districts who participated in dual/concurrent enrollment were nearly 10% **more likely to enter college after high school graduation** than their non-participating peers. ⁹⁻¹³ NACEP

Financial Advantage - \$7200 - Tuition, Fees, Books

Putting the AA Puzzle Together

An Associate of Arts (A.A.) degree consists of 60 total college/university credits

- 52-53 general college/ university education credits, known as the Minnesota Transfer Curriculum (MnTC)
 - Including Mindfulness, Meditation, and Movement (2 credits)
- 7-8 college/university elective credits
- Maintain a 2.00 GPA within Minnesota Transfer Curriculum



A Degree Classes at Burnsville High School



Burnsville High School Associate of Arts Course Planning Worksheet



The AA and/or the MnTC satisfy the general education requirements of Minnesota state colleges/ universities.

- Associates of Arts Degree (A.A.)
 - Requires completion of all 10 goal areas below and elective credits. A degree is awarded after successful completion of the 60 required credits. Students should anticipate taking about 10 elective credits.

Goal 1: Communication (3 courses) (at least 9 credits)		OR	
<u>A. IH11A: Writing and Research Skills</u>	4	<u>C. CIS Spanish A and B</u>	10
<u>B. The Research Paper</u>	3	Goal 7: Human Diversity (1 course) (at least 3 credits)	
<u>C. CIS Public Speaking</u>	3	<u>CIS Intro to African Am. Studies</u>	3
Goal 2: Critical Thinking (Met by completion of MnTC courses)		Goal 8: Global Perspective (1 course) (at least 3 credits)	
<u>College Success Strategies</u>	2	<u>CIS Microeconomics</u>	4
Goal 3: Natural Sciences (2 courses) (at least 6 credits)		Goal 9: Ethical and Civic Responsibility (1 course) (at least 3 credits)	
<u>Environmental Science</u>	3	<u>CIS American Government</u>	4
<u>College Physics</u>	4	OR	
Goal 4: Mathematical/Logical Reasoning (1 course) (at least 3 credits)		<u>Introduction to U.S. Politics</u>	3
<u>College Algebra 1</u>	4	Goal 10: People and the Environment (1 course) (at least 3 credits)	
OR		<u>Environmental Science</u>	3
<u>CIS Calculus A/B</u>	4	Elective Credits (to reach 60 total credits)	
Goal 5: History and the Social & Behavioral Sciences (3 courses) (at least 9 credits)		<u>Req'd: Mindfulness, Med., and Move</u>	2
<u>CIS American History A/B</u>	6	<u>Determined by student</u>	:
<u>CIS Microeconomics</u>	4	<u>Determined by student</u>	:
<u>CIS American Government</u>	4	<u>Determined by student</u>	:
OR		MnTC Credits	<u>50-51</u>
<u>IH Intro to Political Science</u>	3	Elective Credits	<u>at least 10</u>
Goal 6: The Humanities and Fine Arts (3 courses) (at least 9 credits)		Total Credits (60 required)	<u>60-61</u>
<u>A. TBD</u>	3		
<u>B. IH11B: Introduction to Literature</u>	4		
<u>C. Am. Lit: The Civil War-Present</u>	4		

Recruitment Process

- Identifying students in the “Academic Middle”
- Working with AVID instructors
- Meetings with teachers and counselors
- Reaching out to families
- Individual outreach to students

Challenges

Funding

Starting in 8th grade, or earlier

Helping students/families understand commitment

Scheduling

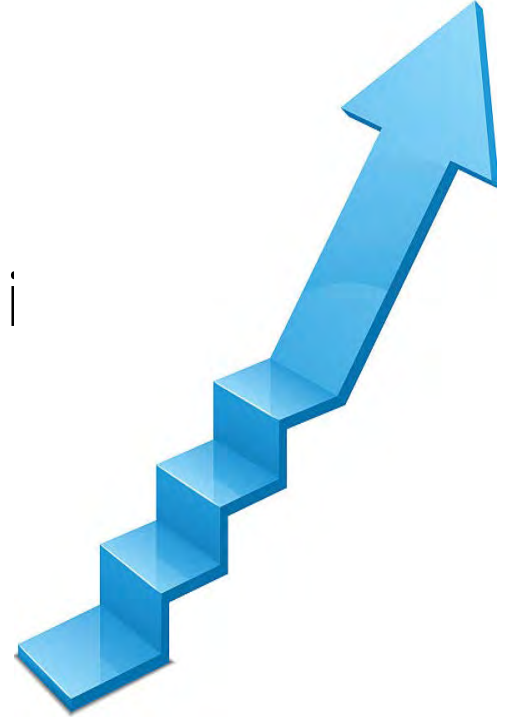
Dedicated project manager/staffing

General communication

**Qualifying HS teachers for concurrent courses

Early Successes

- All classes offered at high school
- High school teachers earning credit
- Highly functioning partnership
- Dedicated counselor
- Two grants



54%

6

1

Open-Enrolled in District



Contact Information



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DAKOTA COUNTY
TECHNICAL COLLEGE

**What questions
might you have?**

**Early College Pathway for
Students in the Academic Middle**

NCPN 2023

