



Engineering, Manufacturing, and Industrial Technology and Engineering  
 Career Pathway Articulation Agreement  
**Between**  
**Park Center and Maple Grove High Schools**  
**and Normandale Community College**

Engineering Technology Program Articulation is a collaborative effort of Minnesota State Colleges and Universities Centers for Excellence in Engineering and Manufacturing, Minnesota high schools and Project Lead the Way (PLTW) to provide high school students with the academic and industry validated technical education that prepares them for transition into college or university related programs. The high school partners to this agreement are certified by Project Lead the Way to deliver engineering, manufacturing and industrial technology programs using PLTW curricula. Students who successfully complete the program will transition smoothly from high school to participating college and university engineering, manufacturing or industrial technology programs and university engineering programs.

Guidelines for developing a Career Pathway and Programs have been followed. Course syllabi for the PLTW curriculum have been reviewed by high school and college faculty and align with college curriculum content.

The goals of this agreement are to provide for transfer or articulation of credits and to provide learners with a quality education that prepares them for successful integration into the workforce, create contributing members of society, and instill the need to be lifelong learners. In accomplishing these goals **Osseo Area Schools – ISD 279 and Normandale Community College** will comply with federal and state legislation and guidelines.

The partners to this agreement are as follows.

High School	College	University
Park Center High School	Normandale Community College	
Maple Grove High School		

**Statement of Purpose**

This agreement has been entered into by **Osseo Area Schools – ISD 279 and Normandale Community College** to transfer the **Project Lead the Way** courses to the **Normandale Community College, A.A.S. in Nanotechnology**. The purpose of this agreement is to facilitate credit transfer and provide a smooth transition from one related degree program to another. It is further recognized that the attached appendix or appendices shall describe the **Project Lead the Way** approved courses for transfer into the **Normandale Community College A.A.S. in Nanotechnology**. This agreement identifies all required and equivalent courses at each institution in Appendix A: College/University Credit Equivalency Table.

## **Terms and Conditions of Credit Transfer:**

The evaluation and transfer of earned college credits shall be in full compliance with Minnesota State Colleges and Universities policies and all other state and Federal education policies pertaining to undergraduate credit transfer. Program specific requirements and/or required courses are listed for both (all) institutions and defined in Appendix A of this agreement.

Applicants accepted must fulfill the graduation requirements of the award granting college or university as identified in Appendix B: College or University Graduation Requirements.

### Criteria for Earning College/University Credit

Students may earn up to a maximum of 9 college credits by successfully completing the certified high school program curriculum and passing appropriate industry skill standard exams.

Students who meet the following criteria are eligible to receive college credit for courses, as identified in the course equivalency table for high school Engineering, Engineering Technology, Manufacturing, and Industrial Technology (PLTW) certified programs.

- Earn a course grade of “B” (80%) or better in each course being articulated for credit
- Complete course portfolio for each course
- Earn a “C” (70%) or better on the comprehensive exam (PLTW)
- Enroll at Normandale Community College
- Declare a nanotechnology major
- Provide an official high school transcript showing the course grade within three (3) years of high school graduation. If the transcript does not report the results of the PLTW comprehensive (Parts A and C) exam, an official score report, signed by the person responsible for the PLTW program in the school district, must be sent with the transcript.

### Documentation of College Credit

1. If the student’s grade on the PLTW program exit exam is a “C” or better and the course grade was a “B” or better, a “P” grade will be recorded on a Normandale Community College transcript indicating that credit is given.
2. The college will clearly indicate that the credit will count toward the A.A.S. in Nanotechnology requirements. College credit is given in a “credit for prior learning” model unless the course is delivered as Post Secondary Enrollment Option (PSEO) Concurrent Enrollment. In the PSEO Concurrent Enrollment model, credit is earned in both high school and college, simultaneously. Credit will appear on both the high school and college transcripts upon course completion.
3. Once credit is granted for prior learning by Normandale Community College, each system college and university shall evaluate credit for transfer according to policy 3.21 Undergraduate Course Credit Transfer.

### Life of the Credit

A student must present a request to a college to grant credit for PLTW courses within three (3) years of high school graduation, for the student's request for credit to be considered.

### Instructor Qualifications

#### High School Instructors

- High school instructors must meet the PLTW instructor requirements for professional development for each PLTW course in order to teach that PLTW course and maintain the high school's certification.
- High School instructors must be licensed as a K-12 teacher and qualified to teach in programs that contain PLTW courses. If the Perkins funds are used, the high school instructor must be career and technical education certified.

#### College faculty

- College faculty must meet the PLTW instructor requirements for professional development for each PLTW course.
- College faculty must meet college teacher credentialing field qualifications <http://www.mnscu.edu/board/policy/332.html>.

**Institution** Normandale Community College      **Name of Program(s)** A.A.S. in Nanotechnology  
**Appendix A: College/University Credit Equivalency Table**

Students taking Project Lead the Way courses in high school will receive high school credit toward their graduation. Students may also elect to receive college credit for the coursework if course completion requirements have been met as specified in the articulation agreement.

The college will record the college credit and provide a transcript as per articulation guidelines. The Credit Equivalency Table identifies the credit that may be awarded.

PLTW Courses	High School Credit	College/University Name	College/University Course Prefix	College/University Course Name	College/University Program/Degree Name
Principles of Engineering		Normandale Community College	NANO 1150	Introduction to Nanotechnology	A.A.S. in Nanotechnology
Introduction to Engineering Design					
Digital Electronics		Normandale Community College	COMT 2187	Digital Logic/Microprocessors/Lab	A.A.S. in Nanotechnology
Computer Integrated Manufacturing		Normandale Community College	NANO 1188	Industrial Robotics	A.A.S. in Nanotechnology
Civil Engineering and Architecture					
Aerospace Engineering					
Biotechnology Engineering					
Design and Development (EDD)					

*(Signature Page separate)*

**Appendix B: College or University Graduation Requirements.**

Award Granting College or University: **Normandale Community College**

Graduation requirements:

<http://www.normandale.edu/academics/factsheet/index.cfm?choice=dept&dept=42&year=10>

# Engineering, Manufacturing, and Industrial Technology Articulation Agreement

## Normandale Community College

Agree to accept the following 3 courses from

Maple Grove and Park Center High Schools

Principles of Engineering  
Digital Electronics  
Computer Integrated Manufacturing

A maximum of 9 credits toward program completion  
will be accepted upon successful completion of appropriate  
courses and PLTW comprehensive examinations consistent  
with the requirements of this agreement

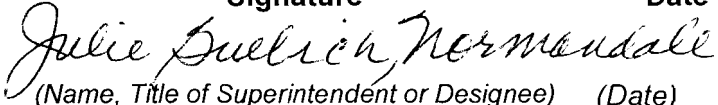
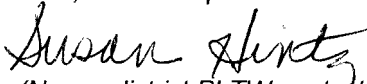
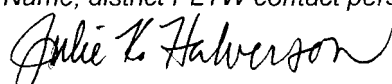

### Articulation Implementation and Agreement Review

The Chief Academic Officer, Superintendent or designee of the collaborating institutions, shall be responsible for implementing this agreement, for identifying and incorporating any changes into subsequent agreements, and for conducting a periodic review of this agreement.

This agreement becomes effective on May 15, 2008 and remains in effect until May 15, 2009 unless terminated or amended by either party with prior written notice.

This agreement will be reviewed for renewal 6 months from today.

### Authorized Signatures

Institution	Signature	Date
Maple Grove High School Park Center High School	 (Name, Title of Superintendent or Designee)	5/15/08 (Date)
Maple Grove High School Park Center High School	 (Name, district PLTW contact person)	5/12/08 (Date)
Normandale Community College	 (Name, Title of President or Designee)	5/09/08 (Date)
Normandale Community College	 (Name, college PLTW contact person)	5/8/08 (Date)