TECH
CHALLENGE

APRIL 28, 2011

LIVE & DISPLAY COMPETITIONS

SPONSORED BY THE
Byron L. Walter Family Trust

Northeast
Wisconsin Technical College
www.nwtc.edu

TECH CHALLENGE
AND KNOWLEDGE BOWL

SPONSORED BY THE

Byron L. Walter Family Trust

The Byron L. Walters Family Trust committed to contributing $50,000 over five years to support Northeast Wisconsin Technical College's Tech Challenge and Knowledge Bowl. The Trust's donation provides scholarships to high school students who win "Star Firsts" in Tech Challenge events. Scholarship winners can redeem their awards upon enrollment at NWTC's Green Bay, Marinette, or Sturgeon Bay campuses. In addition, each year the winning team of Knowledge Bowl is rewarded with educational equipment for their school.

The Byron L. Walter Family Trust has contributed to Tech Challenge and Knowledge Bowl for over 20 years. "It's a good and rewarding program for high school students benefiting potential NWTC students and the community," said Dick Blahnik, Walter Family Trust trustee. "It's good to keep it going."

TECH CHALLENGE 2011
LIVE AND DISPLAY COMPETITIONS

Northeast Wisconsin Technical College

Thursday, April 28, 2011
8:30 a.m. – 2:30 p.m.

Support your students in the largest academic and technical competition in Wisconsin offering:

- Over 30 LIVE competitions including
- Over 40 DISPLAY competitions
- $500 or $250 Scholarships awarded to STAR FIRST winners
- $2500 Scholarship assistance sponsored by WFMC Members
- Medals and ribbons

REGISTER ONLINE at www.nwtc.edu
and search for **Tech Challenge** or send in completed registration forms for EACH student on page 23 to:

NORTHEAST WISCONSIN TECHNICAL COLLEGE
TECH CHALLENGE - Julie Taylor
2740 West Mason Street
P.O. Box 19042
Green Bay, WI 54307-9042

ENTRY DEADLINE: Thursday, MARCH 24, 2011

Reference Guide

For more information, contact Julie Taylor at (920) 498-5586 or e-mail: julie.taylor@nwtc.edu

JUDGING AND AWARDS

AWARDS

Each TECH CHALLENGE event will be allowed as many Gold, Silver, and Bronze medals as there are outstanding students. "STAR FIRST," Gold, Silver and Bronze medals and participation ribbons will be awarded to all students in Live/ Display Competitions. The top Gold Medal winner ("Star First") in each event will receive a scholarship to NWTC.

A complete listing of all award winners and their specific awards will be mailed to each high school following Tech Challenge.

SCHOLARSHIPS

Tech Challenge scholarship awards will be provided to all "STAR FIRST" place winners, redeemable upon enrollment as a student ($500 for 12 or more credits or $250 for 3-11 credits) at Northeast Wisconsin Technical College. The exceptions to this are events #2400 KNOWLEDGE BOWL and #500 DIESEL TECHNICIAN in which other awards apply.

Scholarships may be redeemed at the Green Bay, Marinette, or Sturgeon Bay campuses.

Scholarships are redeemable only for the academic year FOLLOWING high school graduation.

Scholarships will be credited to the student's account upon enrollment at NWTC. The student must present the scholarship award letter at the time of registration. These scholarships are non-transferable.

JUDGING

Judges are chosen from local industries, advisory committee members, alumni, or staff. They have been selected based on their expertise and their commitment to encouraging excellence in our future workforce. Judges will follow specific criteria for their event based on the event description and will award as follows:

"STAR FIRST": Top entry that exhibits the BEST application of skill and knowledge in an event.
Scholarships at NWTC:
($500 for 12 or more credits)
($250 for 3-11 credits)

Gold Medal: Entries which exhibit EXCELLENT application of skill and knowledge.

Silver Medal: Entries which demonstrate EXCEPTIONAL skill and knowledge.

Bronze Medal: Entries which exhibit ABOVE AVERAGE skill and knowledge.

Participant Ribbon: Students who do not receive medals in other competitions will receive a ribbon for participating in Tech Challenge.

All decisions are final. Complete award results will be sent to the high schools within 5 business days after Tech Challenge.

Thanks to the following Businesses that have help us Judge events:

BAYLAND BUILDINGS
BSA INC
CAMPBELL WRAPPER
CORRIGANS CBS STRUCTURE
COUNTRY WOODWORKER
CUSTOM LAMINATING SERVICES
DELEERS CONSTRUCTION
ESSCO INC
J E SOMERVILLE ASSOCIATES
KI
MILLENNIUM ARCHTS
MODERN PLASTICS
NEIGHBORHOOD HOUSING SERVICES
PCMC
PDQ MANUFCTURING
QTS DESIGN
SPECTRUM SURFACES
WIS BULIDING SUPPLY
VALLEY CABINET
WILCO CABINET MAKERS, INC

GUIDELINES

GENERAL RULES

- Students in grades 9 - 12 are eligible to participate.
- Students may choose up to a maximum of three (3) events.
- Students may choose any combination of Live and Display events.
- Students may enter only 1 DISPLAY project per competitive category.

REGISTRATION

- Students MUST register in advance to enter Tech Challenge competitions.
- **ONLINE REGISTRATION IS PREFERRED**
  To register online, go to **www.nwtc.edu** and search for **Tech Challenge** to complete the form(s).
- To register by mail, complete the registration form on page 23 for EACH student and send all registration forms to:

  NORTHEAST WISCONSIN TECHNICAL COLLEGE
  TECH CHALLENGE - Julie Taylor
  2740 West Mason Street
  P.O. Box 19042
  Green Bay, WI 54307-9042

ENTRY DEADLINE: Thursday, March 24, 2011

Group Projects/Entries are not allowed except in those events that require a team of students to enter.

SCHEDULING

The events will be scheduled based on total entries received. Every effort will be made to accommodate the student's event requests. However, conflicts can occur when more than one event is scheduled simultaneously. Therefore, requests cannot be guaranteed. In some cases, students and/or instructors will be asked to choose between events.

Students' schedules will be sent or emailed to the high school for distribution.

PROJECT ID TAGS

Judging criteria for the display competitions are included on the Project ID tags. Project ID Tags will be sent to the instructor submitting the registration form. These tags are to be completed prior to Tech Challenge and attached to the project where they can be seen. See page 24 for samples.

SET UP AND EQUIPMENT

LIVE Competition

Students are to report to the room for their competition as noted on the schedules sent to each high school.

DISPLAY Competition

Projects are to be delivered to the appropriate Display Location on Thursday, April 28 between 7:30 a.m. and 10:00 a.m. See page 21 for specific location. Projects must be set up and ready for judging by 10:00 a.m.

Students must supply all necessary equipment for project. This includes extension cords, power strips, air supply, etc.

Table display space will be provided. The display areas will be closed for judging from 10:00 a.m. until 12:00 noon.

PICKING UP PROJECTS

Projects may be picked up between 12:30 p.m. and 2:00 p.m., Thursday, April 28, 2011.

PARKING AND INFORMATION

See campus map on the inside back cover. Buses may drop students off at Center for Business and Industry (CB) main entrance.

SCHEDULE & ACTIVITIES

LIVE COMPETITION

8:30 a.m. - 2:30 p.m.
Live competition will take place throughout the day.

DISPLAY PROJECTS

SET UP: 7:30 - 10:00 a.m.
JUDGING: 10:00 a.m. - Noon
VIEWING: Noon - 12:30 p.m.
PICK UP: 12:30 - 2:00 p.m.

CAMPUS TOUR

A guided tour will be available to both high school instructors and students. We will have a school tour from 10:00 – 11:00 a.m. Please stop at the Tour table in CB to begin the tour.

OPEN HOUSE

Room BC 103 - Model Shop

PROTOTYPE and DESIGN

NWTC's Prototype and Design program will be hosting an open house event during the hours of Tech Challenge. Students and instructors are invited to visit the classrooms and workshops of the program. College instructors will be on hand to provide program information. For more information, contact Steve Doubek at (920) 498-5677 or (800) 422-NWTC, ext. 5677.

Find out what a career in prototyping is all about. Our graduates build prototypes and models for the design and manufacturing industry. They are also involved in the research and development of exciting new products. Learn about the skills necessary to enter this unique career.

DISPLAYS:

- Prototypes
- Architectural models
- Giant scale radio controlled airplanes
- And more cool stuff

REFRESHMENTS SERVED ALL DAY

LIVE COMPETITION

SPECIAL EVENT

500 Diesel Technician Scholarship Competition

BUSINESS AND COMPUTERS

200 Keyboarding, 5 minute Timings
201 PowerPoint 2007
202 Bookkeeping Theory
203 Machine Calculation
204 Excel 2007
205 Digital Video Production – Employment Interview
206 Resume Judging

WORD PROCESSING 1

207 Microsoft Word 2007

EARLY CHILDHOOD

100 Early Childhood - Activity Presentation

HEALTH SCIENCES

300 Med Term Millionaire

MATHEMATICS

400 Technical Mathematics

SCIENCE

401 Anatomy/Physiology Skills Test
402 General Science

TRADES & ENGINEERING TECHNOLOGIES

501 Auto Technician - Problem Diagnosis
502 Auto Collision - Repair Technique
503 Welding
504 Architectural Design
505 Computer Aided Drafting (CAD) - Technical
506 Solid Modeling

DISPLAY COMPETITION

HEALTH
3000 Research Display

JEWELRY
6000 Cast
6001 Fabricated
6002 Forged
6003 Jewelry Item with Set Stone(s)
6004 Jewelry Design Rendering

MARKETING COMMUNICATIONS
5000 Desktop Publishing
5001 Computer Generated Artwork

PRINT MEDIA
5002 1-Color Jobs
5003 Multiple spot color jobs

TRADES & ENGINEERING TECHNOLOGIES

DRAFTING-ARCHITECTURAL
8000 Building Under 1800 sq. ft.
8001 Residence Over 1800 sq. ft.
8002 Renderings and Perspectives

DRAFTING-MECHANICAL
8003 Working Drawings
8004 Solid Models

ELECTRICITY
9000 Lighting and Branch Circuit
9001 Motor Control Circuit

INDUSTRIAL TRADES
2000 Machine Tool - Conventional

METAL FABRICATION OR WELDING
2001 Functional Items
2002 Creative Items

PROTOTYPE AND DESIGN
7000 Architectural
7001 Prototype
7002 Special Design
7003 3D CAD (Virtual) Models

WOOD TECH PROJECTS
1000 Laminating, Combination of Wood and other Materials
1001 Material cost is Under $15
1002 Material cost is $15 to $30
1003 Material cost is $30 to $50
1004 Material cost is $50 to $100
1005 Material cost is $100 to $150
1006 Material cost is OVER $150
1007 Wood Turning
1008 Wood Carving

LIVE Competition

BUSINESS AND COMPUTERS

AREAS OF ENTRY

Business and Computers

200 Keyboarding, 5 minute Timings
201 PowerPoint 2007
202 Bookkeeping Theory
203 Machine Calculation
204 Excel 2007
205 Digital Video Production – Employment Interview
206 Resume Judging

Word Processing 1

207 Microsoft Word 2007

FOR MORE INFORMATION

Contact: Lori Fisher, Associate Dean, Business and Information Technology Department, (920) 498-5478 or (800) 422-NWTC, ext. 5478; or e-mail: lori.fisher@nwtc.edu

DESCRIPTION OF EVENTS

Business and Computers

200 Keyboarding, 5-minute Timings

This event will consist of two 5-minute timed writings. One will be evaluated. Contestants should be typing a MINIMUM of 40 w.p.m., using backspace correct to enter this competition. Entries will be judged for speed and accuracy. Entrants who demonstrate poor technique may be disqualified. All timed writings will be on personal computers. This is a 30-minute event.

201 PowerPoint 2007

This 50-minute hands-on event will include the Microsoft Office PowerPoint 2007 competencies.

202 Bookkeeping Theory (Written objective test)

This event will be in the form of a comprehensive objective theory test. Theory such as account classification, journalizing of typical transactions, and problems relating to procedures at the end of the fiscal period are included. All theory tested is normally included in the typical high school bookkeeping program. Students will be able to complete the test in the allotted 50 minutes.

203 Machine Calculation

This event will consist of using desktop calculators in solving addition, subtraction, multiplication and division problems. The test is 20 minutes. Judging will be based on quality of work completed and accuracy of answers.

204 Excel 2007

This 50-minute hands-on event will include the Microsoft Office Excel 2007 Specialist Competencies.

205 Digital Video Production – Employment Interview

Students will produce and submit a DVD video where they answer a series of six mock employment interview questions. The questions will be provided in advance. Students will produce the DVD in advance. The video should be at least 2 minutes and no more than six minutes in length. The video must be recorded to a DVD in a DVD format.

206 Resume Judging

Students will submit a professional employment resume for a mock office position. Submittals will be judged based on instructor grading criteria.

Word Processing 1

207 Microsoft Word 2007

This 50-minute hands-on event will include the Microsoft Office Word 2007 Specialist Competencies.

Digital Video Production – Employment Interview

Digital Video Entry Limit is 2-6 minutes

Scenario: You are interviewing for a business position that will require customer service ability, software skills using the Microsoft Office Suite, and proprietary software that you may need to learn on the job. Assume you will be working in a team setting, and the position will call upon your ability to apply good communication and people skills. You will be working with confidential information. You have been asked to submit a self interview captured in a DVD format.

Questions to be discussed:

1. Introduce and describe yourself using three unique adjectives.
2. Describe a time where you have demonstrated excellent customer service skills.
3. What does integrity mean and tell about a time when you demonstrated this trait.
4. Tell about a time you have worked in a team to complete a project.
   - Briefly describe the project.
   - What was your role on the team?
   - How did your participation contribute to the success of the project?
   - Tell about any conflict resolution that may have occurred during the project.
5. What software are you familiar with?
   - Discuss the situations where you have used the software.
   - Tell which functions help you save time.
6. Close the interview summarizing why you are perfect for an employment position in a business setting. Include any credentials you may hold.

Judging will be based on the following criteria:

1. Introduction is warm and engaging.
2. Voice quality, clarity, speed, tone, and eye contact with the remote audience is appropriate.
3. Interview setting is attractive and appropriate.
4. Lighting is professional.
5. All answers to questions are well thought out and complete.
6. Student handles himself/herself in a professional manner.
7. Student is dressed appropriately for a business interview.
8. Video is creative and professional. Consideration will be given for extraordinary creativity.
9. Video implements tasteful transitions.
10. Interview is closed in a professional manner.
11. Product is in DVD format.

Rating Scale:

3 POINTS Exceeds expectations; exceptional
2 POINTS Meets requirements; adequate
1 POINT Does not meet requirements; unsatisfactory

Employment – Resume GET THE INTERVIEW!

Scenario: You are applying for a business position requiring customer service ability, Microsoft Office suite software skills, and professional attitude. Assume the available job is in a team setting; the position relies on excellent communication and people skills. You have been asked to submit a resume to capture an interview for the job position. The Gregg Reference Manual, 10th edition, will be the standard for qualities listed below. Limit your resume to two pages. Submit three hard copies.

Judging will be based on the following criteria:

1. Contains relevant information present in logical sequence.
2. Contains applicable education and experience for the position.
3. Give insight into your skills and abilities.
4. Follows a consistent format that is appealing.
5. Makes attractive, professional layout, drawing attention to the content and enhancing readability.
6. Accurate and consistent grammar.
7. Correct spelling, punctuation, number usage, and capitalization
8. Attracting and impressing potential employer(s).

Rating Scale:

3 POINTS Exceeds expectations; exceptional
2 POINTS Meets requirements; adequate
1 POINT Does not meet requirements; unsatisfactory

LIVE Competition

EARLY CHILDHOOD

AREA OF ENTRY

Early Childhood 100 Early Childhood – Activity Presentation

DESCRIPTION OF EVENT

Students present an early childhood activity appropriate for children ages 3-5 years old centered around ONE of the following early childhood books:

1. Chick a Chick a Boom Boom by Bill Martin, Jr. and John Archambault
2. Hats, Hats, Hats by Ann Morris
3. Red-Eyed Tree Frog by Joy Cowley
4. The Very Hungry Caterpillar by Eric Carle
5. If You Give a Pig a Pancake by Laura Numeroff
6. Swimmy by Leo Lionni
7. The Tortilla Factory by Gary Paulsen
8. Brown Bear Brown Bear What Do You See by Bill Martin, Jr.
9. Good Night Moon by Margaret Wise Brown
10. OR other F.A.C.E. teacher approved early education book

SET UP

The book, all props, and any extra materials should fit in a clean, child-safe tote bag or box. A presentation chair and flannel board on a tripod will be supplied. Presentation will begin after a short introduction and welcoming words from the Early Childhood Faculty. Only the participant and judging team will be present in the room. Presentations will be timed and limited to 15 minutes each.

The Activity should include the following components:

1. **Gathering activity:** Use a gathering activity to encourage children to come to the presentation area. Think about using a technique or activity that would gain children's attention and prepare them to listen. For example, a song or finger play, music, bells, etc.
2. **Introduce the book:** Begin by engaging your audience with a warm and thoughtful introduction of the book you will be reading. Creatively employ a related prop of some kind, in addition to the book. For example, the first book is Chick a Chick a Boom Boom. You could have some sort of palm tree, letters, etc., to go along with the story or put on a hat to read the book Hats, Hats, Hats.
3. **Read the book:** Pay attention to voice quality and clarity, speed, tone and eye contact with the audience. Hold the book appropriately so all can see. You do not need to memorize the book, but rehearse sufficiently that you can maintain good eye contact with the audience. Ask appropriate questions during the reading of the book. Conclude by introducing the next activity.
4. **Present a flannel board story, flannel board poem, or flannel board verse:** The flannel board should relate to the topic of the book. Cue cards may be used as a guide. Please do not read only and directly from the cards, rather use them as needed. Involve the audience. For example, children (or the audience) should be activity involved by putting pieces on or off the flannel board or becoming a character, etc.
5. **Transition activity:** Rather than sending young children to the next activity as a group, plan an educational transition activity that will help children move to the next event on the schedule. Since young children will not actually be present, be prepared to describe how this activity would be carried out, and show the props or materials that would be used, if any. An example of a transition might: "if you are wearing purple like the horse, you can stand up and walk....."

FOR MORE INFORMATION

Contact: Pachia Moua, (920) 498-6373 or pachia.moua@nwtc.edu

REFERENCE

Use these references for information on flannel board activities: www.preschooleducation.com/felt.shtml (Additional story ideas) http://www.amug.org/~jbpratt/education/mypages/flannelstories.html

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SCORING STANDARD

You must achieve a rating of at least 2 or yes on each criterion to demonstrate competence. Each participant will receive a numerical score, based on the sum of the points received.

3: Meets expectations competently and effectively
2: Adequate: meets requirements, but some revision may be needed
1: Unsatisfactory: major revisions are needed
0: Did not complete, or does not meet criterion

RATING SCALE

Criteria	Ratings
Book is from list offered by NWTC or F.A.C.E. teacher approved.	Yes (1) No (0)
Introduction is warm and engaging and appropriate for 3-5 year olds and likely to capture child's attention and interest.	3 2 1
Title author and illustrator of the book are stated.	Yes (1) No (0)
An attractive, child appropriate prop is used to interest audience in the topic of the book.	3 2 1
Book is held in such a way that audience can see throughout the entire story.	3 2 1
Voice quality and clarity, speed, tone and eye contact with the audience is appropriate. It is apparent that the reading is well rehearsed.	Yes (1) No (0)
The reader uses questions and comments during the reading of the book to engage and interest the audience.	3 2 1
Flannel board activity is related to the book topic.	Yes (1) No (0)
Flannel board pieces are attractive and well made, using child safe materials.	3 2 1
Good eye contact is made with the audience during the flannel board activity. Presenter seeks to include audience (pretend group of children).	3 2 1
Flannel pieces are placed on the flannel board from right to left, and from top to bottom (like we read).	3 2 1
It is apparent that the flannel board story is well rehearsed. Cards may be used as a guide. Please do not read entirely from the cards.	Yes (1) No (0)
Transition activity is well thought out, relates to the book topic, and results in an orderly movement of children to the next activity.	3 2 1
Presenter is professionally and appropriately dressed for employment in an early care and education setting. Please refrain from gum chewing.	3 2 1
Presentation exceeded expectations-Bonus points.	3 2 1
Complete Score and Comments:	_____ / 32 points _____ / 3 bonus

LIVE Competition

HEALTH SCIENCES

AREA OF ENTRY

Health Sciences

300 Med Term Millionaire (Limit 10 Students)

DESCRIPTION OF EVENT

This event will test student Medical Terminology skills in a game type competition (Limit 10 Students).

FOR MORE INFORMATION

Contact Malinda Cherry, Health Science Department, (920) 498-6822 or (800) 422-NWTC, ext. 6822; or email malinda.cherry@nwtc.edu

MATHEMATICS

AREA OF ENTRY

Mathematics

400 Technical Mathematics

DESCRIPTION OF EVENT

This event will test the competencies in the areas of algebra, trigonometry, geometric skills plus applied problems. Time limit is 50 minutes. **Students must bring pencils and a scientific calculator.**

FOR MORE INFORMATION

Contact General Studies, (920) 498-5421 or (800) 422-NWTC, ext. 5421.

SCIENCE

AREAS OF ENTRY

Science

401 Anatomy/Physiology Skills Test

402 General Science Test

DESCRIPTION OF EVENTS

401 Anatomy/Physiology Skills Test

This event is designed to measure the competency of high school students in certain areas of Anatomy/Physiology. It is not considered a comprehensive exam. Students will answer questions regarding the circulatory, digestive, nervous, reproductive, respiratory and skeletal systems. **This event is limited to one session of 75 students.**

402 General Science Test

This event will measure students' knowledge of science principles and basic physical concepts. The test will cover mechanics, properties of matter, sound, light, heat and electricity. Although some formulas might be used, the questions will deal with understanding of the basic concepts of physics. This test will require one hour. **Students should bring calculators.**

FOR MORE INFORMATION

General Studies for Anatomy/Physiology and the General Science Test., (920) 498-5442 or (800) 422-NWTC, ext. 5442

Trades & Engineering Technologies

500 DIESEL TECHNICIAN COMPETITION

SPONSORED BY WFMC MEMBERS

Limit 2 (Graduating Seniors) Students per High School may compete

The winner of this contest will be awarded a $2500 Tuition Assistance Scholarship to attend the Diesel Technician Program at Northeast Wisconsin Technical College - Sturgeon Bay. The scholarship is redeemable for the academic year following graduation.

Contest Rules:

1. Must be a graduating senior to enter.
2. Students must be enrolling in the Diesel Program at NWTC–Sturgeon Bay campus.
3. Students are required to supply their own safety glasses.
4. No tools are required.
5. This contest will take most of the day.

This event will consist of 3 parts:

Part I: Written Test

A. This test will cover the basics of the following areas:
   1. Differences between gas and diesel engines
   2. Basic diesel engine theory and operation
   3. Diesel engine construction
   4. Diesel engine applications

This will be a 40 question test consisting of short answer, true/false and multiple choice questions (50 minutes allowed).

Part II: Parts Identification

A. The contestant will have 15 minutes to correctly identify basic engine and related systems components.

Part III: Basic Diesel Engine Troubleshooting

This portion of the contest will involve working with a "live," running 2-cylinder diesel engine.

A. The contestant will be required to follow a pre-start checklist (i.e. check oil, locate controls, etc.)
B. Trouble-shoot a "no start" condition on the engine described above. (Engine cranks but will not start).
C. The contestant will have 15 minutes to complete this portion of the contest.

WFMC Members Scholarship

A $2500 Scholarship will be awarded in the Diesel Technician event, courtesy of the Wisconsin Fleet Maintenance Council (WFMC)-Green Bay. The winner must be enrolling in the Diesel Technician program at the NWTC-Sturgeon Bay campus the following fall semester.

The WFMC Members scholarship program was established to provide assistance to students entering the Diesel and Heavy Equipment Technical Program at Northeast Wisconsin Technical College – Sturgeon Bay campus. The scholarship will include all of the following: $2500 tuition assistance, uniforms to be worn during school and work, the use of tools during school, a career opportunity with WFMC Members.

Awards will be based on overall performance, including academic standings, internship, and attitude through completion of the program. $1250 will be awarded after successful (3.0 GPA) completion of the first academic year and a summer internship. Summer internships will be with WFMC-Green Bay member and will be determined near the end of the students 2nd semester. The remaining $1250 will be awarded upon successful completion of the program.

About the WFMC… the Council was founded in 1977 with the purpose of improving professional knowledge, the exchange of ideas and practices in the trucking and equipment maintenance field The Green Bay chapter of WFMC meets monthly with many NWTC diesel students attending these informational meetings.

FOR MORE INFORMATION Contact: Jon Sowl of the Sturgeon Bay Campus at (920) 746-4917 or (800) 422-NWTC, ext. 4917;
NWTC–Sturgeon Bay Campus, 229 N. 14th Ave., Sturgeon Bay, WI 54235-1317

LIVE Competition

Trades & Engineering Technologies

AREAS OF ENTRY

Trades & Engineering Technologies

500 Diesel Technician Competition
501 Auto Technician - Problem Diagnosis
502 Auto Collision - Repair Technique
503 Welding
504 Architectural Design
505 Computer Aided Drafting (CAD) - Technical
506 Solid Modeling

DESCRIPTION OF EVENTS

501 Auto Technician-Problem Diagnosis

This event is organized into three separate sections. Section One will consist of the actual testing of typical automotive electrical/ electronic components using common electrical testing equipment. Section Two of the event will consist of the identification and evaluation of typical automotive mechanical components. Common evaluation tools will be used for this section. Section Three of this event is a written exam consisting of questions relating to typical automotive systems operation, diagnosis and service. TOOLS WILL NOT BE REQUIRED FOR THIS EVENT. Students will need to supply their own safety glasses. **This event is limited to 2 groups of 20 students or a total of 40 registrants.**

502 Auto Collision - Repair Technique

The participant will be challenged to demonstrate hands on skill during a timed event, repairing two dents in a provided sheet metal panel to pre-primed status. One dent will be metal finished to contour. One dent will be roughed out to contour and finished to final contour using plastic filler. Both repair areas will be finished to pre primed status with the tools and materials provided. Students will need to provide their own safety glasses. Each participant will work on his/her provided panel. **This event is limited to the first 10 registrants.**

503 Welding

This event will consist of 3 parts:

Part 1: Oxy-Fuel Cutting

1. Perform oxy-acetylene cutting on 3/8" plate from supplied print.
   a. Straight line cut
   b. Bevel cut
   c. Pierce hole and cut circle

Part 2: Shielded Metal Arc Welding

1. 3/4" plate A-36 (1G) Flat position V-groove with backing
2. 1/8" E7018 electrode, 120-140 Amps, D.C.R.P.
3. Evaluation: Visual exam to AWS D1.1 (Table 6.1)

Part 3: Gas Metal Arc Welding

1. 3/8" plate A-36 (2G) horizontal position V-groove without backing
2. .035" ER705-6 electrode, 110-135 Amps, 17-19 Arc
3. Volts, C25 Shielding Gas

(continued on next page)

FOR MORE INFORMATION

Contact: Trades & Engineering Technologies Department, (920) 498-5461 or (800) 422-NWTC, ext. 5461.

DESCRIPTION OF EVENTS

4. 1/16-1/8 root opening, 1/16-3/32 root face and 70_ included groove angle
5. Evaluation: Visual exam to AWS D1.1 (Table 6.1)

This event will take 2-1/2 hours. Students are required to supply their own safety glasses, welding gloves and wear appropriate clothing.

This event is limited to the first 40 registrants.

504 Architectural Design

This event will be a computerized architectural drafting challenge. **Students will generate a floor plan using either AutoCAD or Revit Architecture software. This event is limited to the first 16 students.**

505 Computer Aided Drafting (CAD) - Technical

This event will be run on a PC using AutoCAD 2010 software. The participant will be given a pictorial view of an object and be required to generate a completely dimensioned orthographic drawing of the object per ANSI standards. Proficiency in orthographic projection and use of AutoCAD software required. Judging will be based on accuracy, template drawing, layers, colors, and linetypes.

Time limit is 1-1/2 hours. This event is limited to the first 16 registrants.

506 Solid Modeling

The student will create a basic solid model and a fully dimensional "B" sized drawing of the model per ANSI specifications using Solidworks 2010 Education Edition software.

Time limit is 1-1/2 hours. This event is limited to the first 18 registrants.

DISPLAY Competition

HEALTH

AREA OF ENTRY

Health 3000 Research Display

DESCRIPTION OF EVENT

Students may create a research display on a specific disease or disorder of their choice. The following items must be represented on the display:

- Definition of the disease or disorder
- Cause(s) of the disease or disorder
- Populations/age groups affected
- Overview of testing and medical treatment typical of the disease or disorder
- Overview of therapy and technologies used in treatment of the disease or disorder
- Health professionals involved in the diagnosis, treatment, and overall care of the individual
- The impact of the disease or disorder on the individual's daily life and ability to function (communication, cognition, self-help skills, physical abilities, emotional, etc...)

Students must submit a bibliography of resources used with the display as a separate handout. The bibliography handout must minimally include:

- 4 internet sources
- 4 book or magazine sources

The entry must be on a tri-fold display board and will be judged using a Scoring Guide to assess the content, quality, professionalism, and creativity of the product. Students are encouraged to supplement their research display by placing visuals (books, assistive devices, models, etc.) that relate to the disease or disorder.

Topic Suggestions:

Students may choose a disease or disorder from the following list, or may choose a disease or disorder of special personal interest.

Parkinson's Disease
Multiple Sclerosis
Amyotrophic Lateral Sclerosis
Cerebral Palsy
Anxiety
Depression
Obsessive-Compulsive Disorder
Autism
Asperger's Syndrome
Down's Syndrome
Cerebral Vascular Accident
Traumatic Brain Injury
Cardiovascular Disease
Diabetes
Asthma
Congestive Heart Failure
Osteoporosis
Rheumatoid Arthritis
Cystic Fibrosis
Post-Partum Depression
Cardiomyopathy
Peripheral Vascular Disease

SCORING GUIDE RATING SCALE

4: Excellent – exceeds expectations with high quality workmanship and materials
3: Good – meets expectations competently and effectively
2: Fair – adequate work yet may require revision to meet expectation
1: Unsatisfactory – major revisions required to meet expectation
0: Does not standard or item was not addressed

FOR MORE INFORMATION

Contact Malinda Cherry, Health Science Department, (920) 498-6822 or (800) 422-NWTC, ext. 6822; or email malinda.cherry@nwtc.edu

Criteria	Ratings
Display is on a tri-fold table-top display board.	Yes (1) No (0)
Professionalism	
Display is visually appealing and has a neat appearance.	4 3 2 1 0
Display is creative.	4 3 2 1 0
Display has high quality and detail.	4 3 2 1 0
Correct grammar, spelling, and punctuation are used.	4 3 2 1 0
Writing is organized, fluid, and concise.	4 3 2 1 0
Content	
Disease/disorder is clearly and accurately defined.	4 3 2 1 0
Cause(s) of the disease/disorder are accurately identified.	4 3 2 1 0
Levels of severity are clearly outlined.	4 3 2 1 0
Populations and age groups affected are clearly outlined.	4 3 2 1 0
An overview of the medical management of the disease/disorder is detailed and accurate.	4 3 2 1 0
An overview of the therapies and/or technologies related to the treatment of the disease/disorder are outlined.	4 3 2 1 0
The health care professionals involved with the care of the disorder/disease are identified and their role is briefly described.	4 3 2 1 0
An overview of the impact on an individual's daily life is outlined.	4 3 2 1 0
Visual aids or models are of good quality and relate to content of display.	4 3 2 1 0
Bibliography Handout	
4 internet sources are cited on the bibliography.	4 3 2 1 0
4 book or magazine sources are cited on the bibliography.	4 3 2 1 0
WOW Factor	
The WOW Factor indicates how the display captured the reviewer's attention and the overall impression of the project using the following ratings:	
1 = Good effort 2 = Nice work 3 = Great job 4 = Spectacular! 5 = WOW! AWESOME!	

DISPLAY Competition

JEWELRY

AREAS OF ENTRY

Jewelry

6000 Cast
6001 Fabricated (Constructed/ Assembled)
6002 Forged (Shaped through hammering)
6003 Jewelry Item with Set Stone(s)
6004 Jewelry Design Rendering

DESCRIPTION OF EVENTS

Projects (3201-3204) submitted must be WEARABLE ITEMS

6000 Cast
6001 Fabricated (Constructed/Assembled)
6002 Forged (Shaped through hammering)

6003 Jewelry Item with Set Stone(s)
Materials used, i.e. stones, metal, etc. should be listed on a 3" x 5" card attached to entry item.

6004 Jewelry Design Rendering
Submit an 8" x 10", finished, matted drawing on white drawing paper using colored or graphite pencils. Judging will be based on creativity, originality, aesthetic appeal as well as basic drawing and design principles.

SET UP

Display Location A - See page 21.

FOR MORE INFORMATION

Contact: Trades & Engineering Technologies Department, (920) 498-5461 or (800) 422-NWTC, ext. 5461.

DISPLAY Competition

MARKETING COMMUNICATIONS AND PRINT MEDIA

DESCRIPTION OF EVENTS

Marketing Communications

5000 Desktop Publishing

Create a computer-generated 8 1/2 x 11 brochure about yourself. The final project must be two-sided and include: pictures and text of yourself, actual projects you have created, activities you participated in and your accomplishments.

5001 Computer Generated Artwork

Create a digital image using either a PC or Macintosh computer. Include a short description of the software and processes used. **Artwork must be original, no web images.** High resolution output.

Print Media

5002 1-Color Jobs

5003 Multiple spot color jobs

Students may enter a maximum of one project in each category. All projects must include:

1. Camera ready original artwork
2. Stripped-up negatives or plates
3. An uncut press sample of the finished printed piece must be provided.

JUDGING

Judging will be based on the following criteria:

1. Design/complexity
2. Quality of the finished product
3. Guidelines followed for final presentation.
4. No web images, only original images may be submitted

SET UP

Display Location A - See page 21.

AREAS OF ENTRY

Marketing Communications

5000 Desktop Publishing

5001 Computer Generated Artwork

Print Media

5002 1-Color Jobs

5003 Multiple spot color jobs

FOR MORE INFORMATION

Contact John Reinders, (920) 498-5715 Press Technician Instructor.

DISPLAY Competition

Trades & Engineering Technologies

AREAS OF ENTRY

Drafting Projects

Architectural

8000 Residence Under 1800 sq. ft. Living Space

8001 Residence Over 1800 sq. ft. Living Space

8002 Renderings and Perspectives

Mechanical

8003 Working Drawings

8004 Solid Models*

Electricity

9000 Lighting and Branch Circuit

9001 Motor Control Circuit

Industrial Trades

2000 Machine Tool Project - Conventional

(continued)

DESCRIPTION OF EVENTS

Drafting Projects

Architectural

8000 Residence Under 1800 sq. ft. Living Space
8001 Residence Over 1800 sq. ft. Living Space
8002 Renderings and Perspectives

Minimum requirements-One major floor plan and elevations. **Drawings will be judged on creativity, functionality, sustainability and drafting skills.**

Mechanical

8003 Working Drawings
8004 Solid Models*

Drawings will be judged on proportion and neatness, consistency, clarity and readability. Submit originals and prints. Drawings should be fully dimensioned working drawings to include details and assemblies. Working drawings package should consist of a simple assembly that includes moving parts. *Submit an isometric view of the model.

SET UP

All Drafting projects will be located at Display Location A. See page 21.

Electricity

9000 Lighting and Branch Circuit

120/240 Volt Single Phase Lighting and Branch Circuit from Load Panel. Schematic drawing/print to accompany project (print will not be judged).

9001 Motor Control Circuit

120/240 Volt Single Phase AC Motor Control Circuit OR Battery-Operated DC Motor Control Circuit Schematic Drawing/Print to accompany project (print will not be judged). Relay logic only, not PLC.

SET UP

All Electronics based projects will be set up in Display Location A. See page 21.

FOR MORE INFORMATION

Contact: Trades & Engineering Technologies Department, (920) 498-5461 or (800) 422-NWTC, ext.5461.

Industrial Trades

2000 Machine Tool Project - Conventional

(Assembled-Machined, with Shaft, Bushings, etc.)

A detailed sketch or blueprint is required with each entry. Project will be checked to the blueprint reading using industry unspecified tolerances for dimensions:

Decimal	.xx+/-.02
	.xxx+/-.005
Fractional	+/- 1/64
Angular	+/- 1/2 degree

Judging will be based on fit, finish and workmanship. Blueprint will NOT be judged.

SET UP

All Machining projects will be located at Display Location B. See page 21.

Metal Fabrication and/or Welding

2001 Functional Items

Metal fabrications that are designed and built to produce a function. Example: a can crusher or a snowmobile trailer.

2002 Creative Items

Metal fabrications that are designed and built for decoration or aesthetic. Example: an end table or a metal sculpture.

A detailed sketch or blueprint is required with each entry. Blueprints will NOT be judged.

SET UP

All Metal Fabrication and/or Welding project will be located at Display Location B. See page 21.

Prototype and Design

7000 Architectural

A three-dimensional scale model of a residential or commercial building. This could be a presentation model or a "stick built" model representing the frame structure of a building. Materials used can be wood, paper, cardboard, or plastic.

7001 Prototype

An original model or finished creation that is the "first of its kind" of any type of product, appliance, device, vehicle, mechanism or invention. This can be full size or scaled up or down. A wide variety of materials can be used such as wood, metal, or plastic. Any combination of various processes such as welding or machine work can be used.

7002 Special Design

This is an open division that can include special models such as dioramas (this is a three dimensional miniature model with detailed figures and/or vehicles that recreates an action scene),

Trades & Engineering Technologies description listing (continued on page 20)

AREAS OF ENTRY *(con.)*

Metal Fabrication and/or Welding

2001 Functional Items

2002 Creative Items

Prototype and Design

7000 Architectural

7001 Prototype

7002 Special Design

7003 3D CAD (Virtual) Models

Wood Tech Projects

1000 Laminating - Combination Wood and Other Materials

1001 Material cost is Under $15

1002 Material cost is $15 to $30

1003 Material cost is $30 to $50

1004 Material cost is $50 to $100

1005 Material cost is $100 to $150

1006 Material cost is OVER $150

1007 Wood Turning

1008 Wood Carving

DESCRIPTION OF EVENTS

Trades & Engineering Technologies description listing (continued from page 19)

or special effects models (this would be a type of model that may be used in the movie industry such as latex masks, or action figures, and/or vehicles). Kit models would be discouraged unless substantial modification has been made to the model itself.

The "special" category can also include any other three dimensional design that does not seem to fit in the architectural or prototype category.

7003 3D CAD (Virtual) Models
Virtual models created on one of the following 3D modeling software packages: Only Solidworks, Inventor, or Auto CAD. Must be submitted on a CD or flash drive.

SET UP

All Prototype and Design projects will be located at Display Location A. See page 21.

Wood Tech Projects (Based on retail material cost for total project)

1000 Laminating - Combination Wood and Other Materials (Bows, Snowshoes, Furniture, etc.)
1001 Material cost is Under $15
1002 Material cost is $15 to $30
1003 Material cost is $30 to $50
1004 Material cost is $50 to $100
1005 Material cost is $100 to $150
1006 Material cost is OVER $150
1007 Wood Turning
1008 Wood Carving

A detailed sketch or blueprint is required with each entry. Blueprint will NOT be judged.

SET UP

All Wood Tech projects will be located at Display Location B. See page 21.

FOR MORE INFORMATION

Contact: Trades & Engineering Technologies Department, (920) 498-5461 or (800) 422-NWTC, ext. 5461.

DISPLAY COMPETITION PROJECT LOCATION GUIDE

CAMPUS MAP ENHANCED VISUAL

DISPLAY LOCATION A

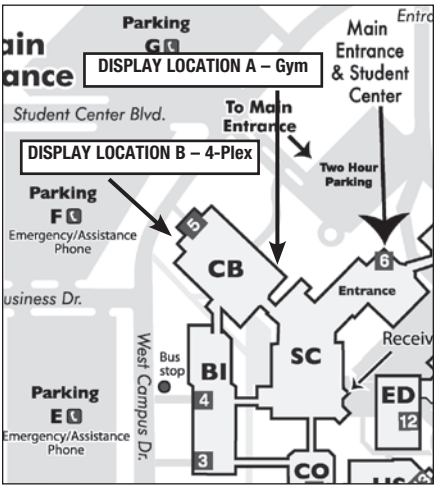
Gym – CB Building, level 1
(use service entrance behind building)

DISPLAY LOCATION B

CB 4-Plex – CB Building

DISPLAY PROJECTS

SET UP: 7:30 - 10:00 a.m.
JUDGING: 10:00 a.m. - Noon
VIEWING: Noon - 12:30 p.m.
PICK UP: 12:30 - 2:00 p.m.



Event No.	Event Name	Display Location
HEALTH		
3000	Reports or Displays	B
JEWELRY		
6000	Cast	A
6001	Fabricated	A
6002	Forged	A
6003	Jewelry Item Set with Stone(s)	A
6004	Jewelry Design Rendering	A
MARKETING COMMUNICATIONS		
5000	Desktop Publishing	A
5001	Computer Generated Artwork	A
PRINT MEDIA		
5002	1-Color Jobs	A
5003	Multiple spot color jobs	A
Trades & Engineering Technologies		
DRAFTING-ARCHITECTURAL		
8000	Residence Under 1800 sq. ft.	A
8001	Residence Over 1800 sq. ft.	A
8002	Renderings and Perspectives — Conventional Only	A
DRAFTING-MECHANICAL		
8003	Working Drawings	A
8004	Solid Models	

Event No.	Event Name	Display Location
ELECTRICITY		
9000	Lighting and Circuit	A
9001	Motor Board Circuit	A
INDUSTRIAL TRADES		
2000	Machine Tool – Conventional	B
METAL FABRICATION AND/OR WELDING		
2001	Functional Items	B
2002	Creative Items	B
PROTOTYPE AND DESIGN		
7000	Architectural	A
7001	Prototype	A
7002	Special Design	A
7003	3D CAD (Virtual) Models	A
WOOD TECH PROJECTS		
1000	Laminating, Combination of Wood and other Materials	B
1001	Material cost is Under $15	B
1002	Material cost is $15 to $30	B
1003	Material cost is $30 to $50	B
1004	Material cost is $50 to $100	B
1005	Material cost is $100 to $150	B
1006	Material cost is Over $150	B
1007	Wood Turning	B
1008	Wood Carving	B

NORTHEAST WISCONSIN TECHNICAL COLLEGE

TECH CHALLENGE

April 28, 2011

LIVE & DISPLAY COMPETITIONS

SPONSORED BY THE

Byron L. Walter Family Trust

TECH CHALLENGE 2011 REGISTRATION FORM

Please photocopy this 8.5" x 11" form in its entirety for individual participant registration

PLEASE PRINT (clearly)

ENTRY DEADLINE IS THURSDAY, MARCH 24, 2011

TECH CHALLENGE REGISTRATION FORMS MUST INCLUDE
YOUR BIRTHDATE, OR YOU WILL NOT BE REGISTERED

For questions, contact Julie Taylor at (920) 498-5586 or (800) 422-NWTC, ext. 5586; or e-mail julie.taylor@nwtc.edu

Name _____

Address _____

City _____ State _____ Zip _____

Phone _____ **Birthdate (REQUIRED)** _____

E-mail _____

High School _____ Graduation Year _____

Maximum of 3 events per student (includes Knowledge Bowl)

	ACTIVITY NO.	ACTIVITY NAME	H.S. INSTRUCTOR FOR ACTIVITY
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____

Northeast Wisconsin Technical College

www.nwtc.edu

Send completed registration forms to:

NORTHEAST WISCONSIN TECHNICAL COLLEGE
TECH CHALLENGE – Julie Taylor
2740 West Mason Street
P.O. Box 19042
Green Bay, WI 54307-9042

Please photocopy this 8.5" x 11" form in its entirety for individual participant registration

REGISTRATION FORM

PROJECT ID TAG SAMPLES

All projects must have a Project ID Tag on them with the upper half filled out by the student. The judges will fill out the bottom half as they are judging.

TRADES & ENGINEERING TECHNOLOGIES
PROJECT ID TAG

All projects must have a Project ID Tag on them with the **upper half filled out by the student**. The judges will fill out the bottom half as they are judging.

SAMPLE

PLEASE PRINT OR TYPE

Contestant _____

High School _____ Grade _____

Instructor _____

Event # _____ nt Ti_____

Project Description _____

JUDGE'S NAME: _____

JUDGING CRITERIA	A, B, C
Quality of Workmanship	
Attractive/Well Proportioned	
Originality	
Adherence to sound principles of construction	
Difficulty of construction or number of skills and operations involved	
Final Detailing	
Final Finish	

AWARDS

STAR FIRST	=	**Highest # of A's - minimum 4 A's to qualify**
GOLD	=	**Minimum 3 A's**
SILVER	=	**Minimum 4 B's**
BRONZE	=	**Minimum 3 B's**
RIBBON	=	**All entries not receiving a Star First, Gold, Silver or Bronze**

Judges please CIRCLE the award earned.

You can only enter one project per event

Attach WHITE & YELLOW copy to project
Judge retains yellow copy
Student gets pink copy

MARKETING COMMUNICATIONS-GRAPHICS
PROJECT ID TAG

All projects must have a Project ID Tag on them with the **upper half filled out by the student**. The judges will fill out the bottom half as they are judging.

SAMPLE

PLEASE PRINT OR TYPE

Contestant _____

High School _____ Grade _____

Instructor _____

Event # _____ nt Ti_____

Project Description _____

JUDGE'S NAME: _____

JUDGING CRITERIA	A, B, C
Difficulty of Project	
Number of Skills and Operation Involved	
Design Appeal	
Quality of Finished Project	

AWARDS

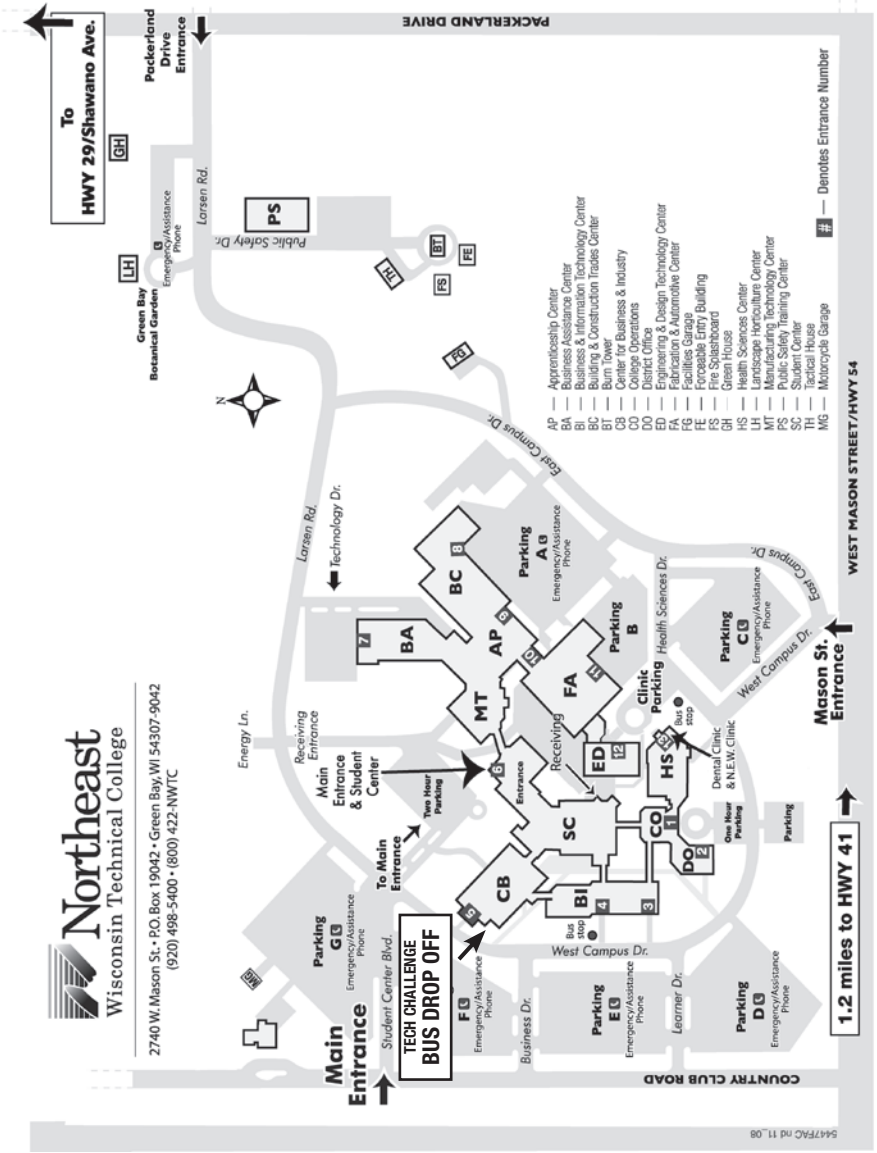
STAR FIRST	=	**Highest # of A's - minimum 3 A's to qualify**
GOLD	=	**Minimum 2 A's**
SILVER	=	**Minimum 3 B's**
BRONZE	=	**Minimum 2 B's**
RIBBON	=	**All entries not receiving a Star First, Gold, Silver or Bronze**

Judges please CIRCLE the award earned.

You can only enter one project per event

Attach BLUE & GREEN copy to project
Judge retains green copy
Student gets gold copy

MAP AND DIRECTIONS



DIRECTIONS Travel on Highway 41 to Green Bay. Take the Mason Street exit and go west. Travel approximately 1 mile to Country Club Road. You will see NWTC to your right (north). Turn right onto Country Club Road and take the third driveway. Enter and park in any of the designated parking areas.

7219ES nd 1_11

RECRUITMENT SC138

Northeast
Wisconsin Technical College
2740 West Mason Street
P O Box 19042
Green Bay, WI 54307-9042

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