

October 2019

Fall Festival Overview

GREATNESS[®]
STEMS
FROM IOWANS

Drake
UNIVERSITY
SOUTH CENTRAL IOWA REGION
GOVERNOR'S STEM ADVISORY COUNCIL



Contact Information:

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Calendar: Calendar of Events

Hashtag: #STEMinYourWorld



Hub Partners with DMACC for Annual STEM Fest



Above: This festival is perfect for the curious minds at your house! Here's a photo gallery from last year's event. With over 60 presenters and exhibitors, this year promises dozens of hands-on learning opportunities.

Register [HERE](#) to Attend

DMACC-Ankeny Campus and the SC STEM Hub will host the sixth annual STEM Festival on Monday, **October 28**. The event is free, family-friendly, open to the public and will take place from **6 to 8 p.m. in the FFA Enrichment Center**.

Registration is appreciated, but walk-ins are welcome. Those who pre-register will receive a bag. The event is targeted for grades 3-8, but, with a little grown-up assistance, it's perfect for the whole family.

"This year's STEM festival will showcase a record number of exhibitors and workshops, all of which will offer fun, interactive activities

A-Z Exhibitors & Presenters

Thanks for volunteering your time and resources for Iowa's kids!

- ACSD -- Extended Learning Program
- Ankeny Centennial High School Robotics Team
- Ankeny Prairie Trail Hy-Vee
- APEX-Waukee/Accumold
- ASHRAE
- Blank Park Zoo
- Circuit Breakers Team #10453
- Collins Aerospace
- Cummins Sales and Service
- Des Moines Astronomical Society
- DMACC Biotechnology
- DMACC Chemistry
- DMACC Criminal Justice
- DMACC Electronics Engineering Technology
- DMACC EMS/Fire Science
- DMACC Math Education
- DMACC Med Lab Tech

for young people to explore STEM concepts and careers within STEM areas." said DMACC Work-Based Learning Coordinator Amy Steenhoek.

Interactive Exhibits

There will be nearly 60 booths featuring interactive learning activities, hands-on demonstrations and make-and-takes. Presenters come from local business and industry, high schools and colleges, student and professional groups, and non-profit entities.

Special Workshops Added

In addition to the exhibits, the festival will feature three incredible workshop sessions for kids and grown-ups to attend together. Sign up for these special sessions upon arrival at the festival. First come, first serve. All sessions offered twice, from 6:30 - 7:00 p.m. and 7:15 - 7:45 p.m.

- **"The Problem of Fake News: How to Be a Better Information Consumer"** by Dan Chibnall, Drake University
- **"Eggtastic Failure: Embrace Messy Mistakes to Learn and Grow"** by Allie Gardner, The Ray Center
- **"Robotics: How to Help Kids Become Innovators"** by Annie Barrows, Innovators Academy

Festival Transportation

We know getting kids places is hard! Here are a few ways to attend the festival.

1. If you'd like to bring a BUS of KIDS to this event, email us with your plans at lisa.morlock@drake.edu.
2. There's plenty of free parking on DMACC's campus. **Here's an online map.**
3. Des Moines' DART public transportation system stops right on DMACC's campus. Check out their **trip-planner link.**

The festival is an effort to introduce Iowans to educational and career opportunities offered

- DMACC Medical Assistant
 - DMACC Respiratory Therapy
 - DMACC STEM Club
 - DMACC Surgical Technology
 - Drake Ray Center
 - Drake STEM Library
 - Drake College of Pharmacy & Health Sciences Ambassadors
 - Drake Women in STEM
 - FRC Team 4646 Team ASAP
 - FTC 9974 T.H.O.R.
 - Girl Scouts of Greater Iowa
 - Grand View University
 - Greater Des Moines
 - Botanical Garden Green
 - Iowa AmeriCorps
 - IEEE Central Iowa Section
 - Innovators Academy
 - Iowa 4-H Youth FLEEx FORWARD
 - Iowa Children's Water Festival
 - Iowa Public Television
 - Iowa Speedway
 - ISU Crop Sciences
 - ISU Extension and Outreach-Polk County
 - ISU Women in Science and Engineering (WiSE)
 - Jewels Academy
 - Johnston Comm Ed FLL
 - Johnston CSD FTC
 - Kirkendall Public Library
 - Library - Iowa Department for the Blind
 - Mathnasium of Ankeny
 - Multicultural Educational Programs
 - NASA JPL Solar System Ambassador
 - Next Step Adventure
 - Norwalk RoboWarriors FTC Teams 12783 & 14568
 - Pathfinders Robotics
 - Polk County Conservation
 - Science Center of Iowa
 - STEM Effect
 - Sylvan Learning of Ames
 - Tech Journey Inc.
 - TigerLily STEM
 - UnityPoint Health Des Moines
 - Vermeer
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in STEM. For more info, please visit the South Central STEM Hub's website at <https://scstemhub.drake.edu/>.

Plan your festival time! Click this Button to Find a Website Hosting a PDF with Maps and Exhibit Details!



North Mahaska Grows Work-Based Learning Program



Members of the SC Advisory Board visited North Mahaska schools when the district hosted the monthly meeting. From the left: Amber Goemaat, principal; Mauree Hagge, board member; Alison Mohr, board member; Sarah Derry, Hub manager; Ryan Groom, featured teacher; T.J. Meyerholz, board member; and Angela Livezey, superintendent.

Welcome to the
North Mahaska
High School Store!

**Groom's Strategies
for Starting a
School Store**



From personalized Yeti cups to reflective signs, it's a one-stop place to create and shop thanks to industrial arts teacher Ryan Groom (pictured above).

When Groom began the district's work-based learning program six years ago, he simply wanted a laser cutter.

Now he has professional welding tools, a vinyl printer, a t-shirt press, an embroidery machine, and more. Students run and maintain them all, creating original merchandise for the community. It's a rare experience where the students make everything they sell, and they even take special orders.

"My students have built this place," said Groom, looking around his classroom and workshop, "the booths, hoods, tables, machines, even the carts that house them."

Store profits and donations are used to purchase, service, and upgrade all equipment. Groom spends his evenings and weekends learning how the machines work and creating curriculum, often by trial and error. "I love having my kids fail," said Groom. "The students figure out what went wrong, and they never make the error, again."

Turning the skills they learned in the classroom into local jobs, many of his students have gone on to careers in welding, manufacturing, industrial technology education, engraving, and more. He also works hard to find cross-curricular ties. For example, students in the school's business class balance the books. His hands-on approach engages all levels of learners, as they problem-solve and work together.

"You should see their confidence levels grow," Groom noted. "My hope is that this feeling follows them through the rest of their career." And that's the ultimate classroom takeaway.

If you have additional questions, **email Groom** or reach out to other **STEM BEST** models around the state.

1. Make sure there's a need for the product. We started with one item: laser engraved tiles.
2. Once you have a direction, let students drive the project. If the kids are excited, the community will follow.
3. Seek industry partners for expertise, equipment, and/or funding.
4. Find an ally in the administration. Be persistent and strategic.
5. Invite involvement from other cross-discipline teachers and clubs.
6. Structure project-based classes. Use checklists, process points and rubrics to guide grading.
7. Pace yourself. It takes a lot of time. Be prepared to either invest the time or slow it down *before* you become overwhelmed.
8. Look around the state for support. Check out **STEM BEST**, part of the Iowa STEM Council. Reach out to your **SC STEM Hub**.

STEM for All!



EDUCATORS



PARENTS



BUSINESS
PROFESSIONALS

Learn: Continuing Ed &
PD Credits

Make: Area 515 Learn to
Felt

Engage: Iowa Work-
Based Learning
Clearinghouse

Calendar of Events

October 28

DMACC-Ankeny STEM Fest

January TBD

I'll Make Me a World Education Day STEM Fest

February 11

Scale-Up Boot Camp (Registration open soon!)

February 19

STEM Day at the Capitol

March 26

Lucas County STEAM Fest

For more events and details, please visit our **website calendar**.

If you're hosting STEM events, please send the details our way. We can add them to our calendar and social media. Email **Dr. Sarah Derry** with specifics.



We're seeking exhibitors, volunteers, and attendees for the Lucas County STEAM Festival on March 26.

Click **HERE** to learn more about this exciting opportunity.

Got questions?
Email **Ronda Morrett** at
rmorett@iastate.edu
or the **Hub** at
lisa.morlock@drake.edu



