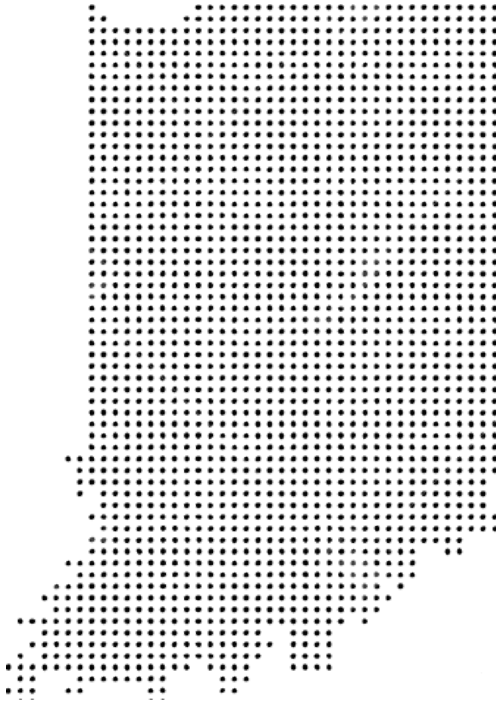

Indiana Department of Education STEM School Certification Guide 2020-2021

STEM Leadership Cadre

Tracy Ballinger, Plainfield Community School Corporation
Melissa Bardack, Center Grove Community School Corporation
Justin Earl, Jennings County School Corporation
Dr. Chris Edwards, Hamilton Southeastern Schools
Jerome Flewelling, Crown Point Community School Corporation
Ralph Gee, Michigan City Area Schools
Dr. Timothy Hanson, MSD of Warren Township
Dr. Carolyn Hayes, Hoosier Association of Science Teachers, Inc.
Sara Hoover, School City of Mishawaka
Jared Knipper, Central Noble Community Schools
Tamara Markey, MSD of Lawrence Township
Kris McAloon, MSD of Lawrence Township
Matt Modlin, South Bend Community School Corporation
Kyle Mullins, Scott County Schools
Lisa Roberts, Monroe County Community School Corporation
Justin Smith, MSD of Pike Township
Katy Sparks, Monroe County Community School Corporation
Shelly Sparrow, School City of Mishawaka

Additional Contributors

Dr. Lynn Bryan, Purdue University
Dr. William Walker, Purdue University
Dr. Siddika Selcen Guzey, Purdue University
Dr. Jeff Butts, MSD of Wayne Township
John Taylor, MSD of Wayne Township
Chip Mehaffey, Loogootee Community Schools
Dara Chezem, Loogootee Community Schools

Indiana Department of Education (IDOE) Staff Support

Dr. Jennifer McMormick, Superintendent of Public Instruction
Kelly Wittman, Chief of Staff
Robin LeClaire, Chief Academic Officer
Dr. Jenifer Jensen, Director of Teaching & Learning
Shannon Dick, Innovation Specialist
Dr. Christy Hilton, STEM Specialist
Jacob Koressel, Computer Science Specialist

Indiana STEM School Summary

Vision: All Indiana students in grades K-12 will graduate with critical thinking skills and be prepared for an innovation-driven economy by accessing quality, world-class science, technology, engineering, and mathematics (STEM) education every day in the classroom by 2025.

Mission: Ensure Indiana teachers are prepared to provide every student in grades K-12 with an evidence-based, effective STEM education by 2025.

STEM Education Defined: STEM education is the integration of science, technology, engineering, and math disciplines with the goal of deploying problem-based and inquiry-based approaches to teaching and learning in the classroom, while developing critical thinking skills and creating pathways to postsecondary readiness and career opportunities.

STEM Classroom Defined: The STEM classroom is a non-traditional classroom that shifts students away from learning discrete bits and pieces of phenomena and rote procedures, and works toward investigating and questioning the interrelated facets of the real world. STEM education aims to develop a student's ability to think logically, solve problems, innovate in both academic and real-world contexts, engage in inquiry, collaborate with peers, and self-motivate. When explicit instruction does not make connections across STEM disciplines, isolated courses and coursework may prevent our students from building necessary competencies and connections among the four STEM disciplines. STEM education intentionally makes the connections across subjects where appropriate. It requires a pedagogical shift in instruction that connects education to students' own interests and experiences. STEM education is also meant to be equitable, providing all students' opportunities to learn, develop, and acquire skills that will provide success in life.

The IDOE has recognized and supported the critical contributions made by our STEM programs and schools throughout the state for many years. It is for this reason that in 2015, Indiana began the effort to identify and certify those exemplary schools, by offering an opportunity for schools to apply for recognition as a STEM Certified School.

Evolving into a STEM school environment is much more than introducing a program. For schools, this requires establishing a common local agenda to significantly improve student performance, incorporating STEM education at all levels, engaging local business and the community, and adopting new curriculum and instructional practices. A school's success depends on prioritizing STEM and putting in place effective models that best meet student needs. The Indiana Department of Education (IDOE) identifies three main levels of STEM school immersion and the components that are necessary to become a STEM model school in the STEM School Evaluation Rubric. The rubric serves as a guide for identifying and creating a STEM environment that ranges from developing to approaching to innovating. Prior to applying, be sure to refer to the STEM School Evaluation Rubric to determine eligibility.

Members of IDOE's Department of Workforce & Innovation collaborated with the State's STEM Leadership Cadre to update the STEM School Evaluation Rubric for the 2019-2020 school year.

This work was undertaken in order to more closely align the STEM Certification process with the Indiana STEM Six-Year Strategic Plan and to make the process more rigorous and objective. Based upon review of the implementation of the 2019-2020 rubric, members of IDOE's Teaching & Learning team collaborated with the State's STEM Leader Cadre to revise and refine the rubric for the 2020-2021 school year. In an effort to address the current and future landscape of education, three revisions were made to Domain I. "Continuity of Learning" was added to the list of elements and "School Schedules" and "Classroom Layout" were removed. Additionally, to provide clarity, indicators and recommendations of evidence were updated throughout the rubric, as needed.

Eligible entities for STEM Certification include Indiana K-12 schools (both public and private) and career and technical education centers. The STEM certification application process requires the creation of a Google Site (or an approved alternative), using the provided template, to document evidence of a school's STEM implementation and concludes with a site visit by an IDOE STEM Certification Review Team. This process is used for new schools to become STEM School Certified as well as for those that need to renew. The list of STEM Certified Schools, by cohort, can be found here. STEM School Certification is valid for five years. Schools with the goal to retain STEM School Certification must reapply following the timeline and process as described below.

Certification/Recertification Timeline

- **Application and materials released** - May 29, 2020
- **Application due** - October 30, 2020
- **Application reviewed by IDOE and STEM Cadre** - November 25, 2020
- **Feedback provided to schools** - December 11, 2020
- **Schools provide additional evidence** - January 15, 2020
- ***Site visits scheduled** - February 5, 2021
- ***Site visits completed** - April 2, 2021
- **Official Announcement of STEM Certified Schools** - May 7, 2021

**Not required for Recertification*

Application Process

DUE DATE: October 30, 2020

Step 1: School Leadership Team members conduct a self-evaluation using the 2020-2021 STEM School Evaluation Rubric. See "Key Terms" at the bottom of the rubric and/or the "References" tab of the rubric for clarification on the Elements.

Step 2: If able to document a minimum of 57 points, with a required score of three on all nine Essential Elements, on the STEM Evaluation Rubric, School Leadership Team members use the Google Sites Template (or approved alternative) to showcase evidence of elements in the STEM

School Evaluation Rubric. Complete this form to obtain the Google Sites Template. (Please note that if you are approved to use an alternative to Google Sites, because your district has a policy prohibiting the use of Google tools, you will still need to follow the format prescribed in the Google Sites template. You will also need to provide documentation of your school's Google policy).

Step 3: Someone from outside of your school building uses the STEM School Evaluation Rubric to evaluate your site. Someone from outside of your domain should check all links to ensure all evidence is accessible to anyone with the link.

Step 4: School Leadership Team submits the Google Site (or approved alternative) using this form by October 30, 2020.

Step 5: An IDOE STEM School Certification Review Team comprised of two IDOE staff members and two STEM Cadre members will review the Google Site (or approved alternative) using the 2020-2021 STEM School Evaluation Rubric. Schools who do not meet the requirements for a site visit will have the opportunity to provide additional evidence after reviewing the initial application score report.

Step 6: Submissions scored at a minimum of 57 points, with a required score of three on all nine Essential Elements, by IDOE's STEM School Certification Review Team, will be contacted to schedule a site visit. Submissions scored at 56 points or below will receive feedback on the submission from IDOE's STEM School Certification Team and will not receive a site visit. Recertification schools see Step 10.

Step 7: As a part of the site visit, an IDOE STEM School Certification Team will revisit your Google Site (or approved alternative) and compare it with the additional evidence and supporting documentation obtained that day. A preliminary score (and embargoed certification status) will be shared with the School Leadership Team at the conclusion of the site visit.

Step 8: IDOE STEM School Certification Review Team will provide a final report within one week of the site visit. Applications receiving an official score of 64 or below and/or who do not earn a score of three on all Nine Essential Elements, see Step 9. Applications receiving a minimum score of 65 and who earn a score of three on all Nine Essential Elements, see Step 10.

Step 9: Applications receiving an official score of 64 or below after a site visit may appeal the score by updating the Google Site with additional supporting evidence. A follow-up site visit will be scheduled for the following August or September to confirm the updated submissions. If the updated submissions and site visit indicate a score of 65 or more, the school will then receive designation as a STEM Certified School.

Step 10: Applications receiving a minimum score of 65 points, with a required score of three on all Nine Essential Elements, will be designated as a STEM Certified School by the IDOE STEM School Certification Review team. The designation will be embargoed until the official announcement is made via press release for the 2020-2021 school year.

Required Components of Application

- STEM Plan Executive Summary (Maximum of 1,500 Words)
- STEM Plan Vision Statement
- STEM Plan Mission Statement
- STEM School Leadership Team Biographies
- STEM School Leadership Team Chair Contact Information
- Principal Information
- Superintendent Information
- Domain 1: Culture
    a. Domain summary (Maximum of 500 Words)
    b. Short description of each piece of evidence with corresponding, uploaded documentation
- Domain 2: Curriculum
    a. Domain summary (Maximum of 500 Words)
    b. Short description of each piece of evidence with corresponding, uploaded documentation
- Domain 3: Instruction
    a. Domain summary (Maximum of 500 Words)
    b. Short description of each piece of evidence with corresponding, uploaded documentation
- Domain 4: Partnerships
    a. Domain summary (Maximum of 500 Words)
    b. Short description of each piece of evidence with corresponding, uploaded documentation
- Letter of Support from Principal
- Letter of Support from Superintendent
- Letter of Support from Community Partner

Questions: Please see IDOE's STEM page for contact information linked here.