MODEL OF INSTRUCTION

STEM INNOVATION ACADEMY

THE STEM IA WAY

Collaboration
"We grow together by engaging openly with colleagues, students, and families, seeking feedback, sharing ideas, and co-designing learning that reflects our collective expertise and commitment to student success."

Professionalism
"We uphold a culture of excellence by modeling integrity, meeting school expectations with consistency, and continually refining our practice to provide an exceptional learning experience for every student."

Innovation
"We embrace an innovator's mindset, pursuing new ideas, taking informed risks, and connecting with industry and post-secondary partners to create learning that prepares students for a rapidly changing world."

STUDENT SUCCESS

Planning
How do I design learning in my classroom to ensure success for all students?

1.1 Adherence to Alberta Curriculum
1.2 Plan and Provide for the Needs of All Students
1.3 Embedded Literacy and Numeracy

Assessment
How will I use formative and summative assessment to enable student growth and inform my practice?

2.1 Assess Progress to Inform and Refine Teaching
2.2 Give Timely Feedback that Improves Learning
2.3 Blueprint Common Assessments

Self-Evaluation
How will I use data to inform my practice?

3.1 Data-Informed Instructional Design
3.2 Evaluate the Effectiveness of Lessons and Units
3.3 Evaluate the Effectiveness of Pedagogical Strategies and Behaviours

HIGH IMPACT INSTRUCTION

Visible Learning
How will I communicate all curricular outcomes?

4.1 Provide and Review Success Criteria

Strategies That Appear in All Lessons
How will I use a variety of effective strategies to integrate prior and new knowledge?

5.1 Preview Strategies
5.2 Direct Teaching Strategies
5.3 Review and Reinforce Learning
5.4 Assign Structured and Purposeful Practice
5.5 Organize Students to Interact
5.6 Leverage Technology for Learning
5.7 Probe Incorrect Ideas and Misconceptions
5.8 Effective and In-Depth Questioning
5.9 Examine Similarities and Differences
5.10 Examine Errors in Reasoning
5.11 Systems Thinking
5.12 Guided Inquiry

iSTEM
How will I thoughtfully incorporate integrated STEM into my lesson design?

6.1 Real World Problems and Applications
6.2 Engineering Design
6.3 Context Connections
6.4 STEM Integration
6.5 Authentic STEM Practice
6.6 Future Ready Skills
6.7 STEM Careers

CLASSROOM CULTURE

Engagement Strategies
How will I leverage strategies to increase student engagement?

7.1 Spark Curiosity with Engaging Prompts
7.2 Increase Response Rates
7.3 Use Physical Movement
7.4 Maintain a Lively Pace
7.5 Demonstrate Passion and Enthusiasm
7.6 Recognize and Respond to Disengagement

Classroom Management
How will I organize the learning environment to create the conditions for engagement and success?

8.1 Establish and Reinforce Classroom Expectations
8.2 Organise the Physical Layout of the Classroom
8.3 Demonstrate With-it-ness
8.4 Model High Expectations
8.5 Identify and Support Struggling Learners

Building Relationships
How do I build and maintain safe, caring, and respectful relationships with students?

9.1 Demonstrate Care, Value, and Respect
9.2 Understand Student Backgrounds and Interests
9.3 Display Objectivity and Control
9.4 Provide Opportunities for Students to Talk About Themselves

STEM IA Vision:
STEM Innovation Academy will be the premier learning community for the design and advancement of innovative science, technology, engineering and mathematics education.

STEM IA Mission:
Inspiring the next generation to be knowledgeable creators, innovators, and responsible leaders.