



# AIM Teacher

## Advanced Innovation Methodology

Save **precious planning time** by using our **proven curriculum!**

*Detailed Lessons Supporting Advanced Authentic Research/Innovation Instruction*

**Advanced Innovation Methodology (AIM) Teacher** provides detailed lessons and associated content for teaching advanced authentic research and innovation. It is primarily designed for secondary students, but has also been used for lower grade levels. Its features include:

- ✓ Step-by-step **downloadable/modifiable** lesson plans, rubrics, classroom activities, and associated instructional materials.
- ✓ Content built around the **5E** Model of Instruction and mapped to **NGSS**, Science and Engineering Practices (SEP), and Cross Cutting Concepts (CCC).
- ✓ Clear objectives and **timelines** to guide student innovators to successful science research projects.
- ✓ Deployed via **Canvas** at your school, or through our Canvas installation.

### Organized Research Teacher Instruction Made EASY

**Ideal for:**

- Curriculum for dedicated research classes, Gifted Programs, after school clubs, or for existing classes that feature independent research projects
- Framework for invention education instruction

### AIM Teacher and AIM Student are better together

**AIM Student** contains all of the student-facing content that aligns with **AIM Teacher** and is implemented in Canvas, including:

- ✓ Aligned lesson objectives
- ✓ Independent learning
- ✓ Auto-graded assessments

“As an experienced research teacher, I find AIM Teacher very helpful because it organizes instruction into easy to use modules that can be used independently or in sequence. I wish I had this when I started teaching!”

– JENNIFER HESS –  
Wentzville, Holt High School

## LEARN MORE

### AIM Teacher

\$1,250/License Year 1  
\$500 Renewal/Year

### AIM Student

\$75/Student/Year



### EMAIL

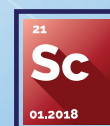
Sales@ScienceCoach.org

### CALL

314-472-3302

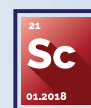
### VISIT

Sciencecoach.org/aimteacher



# AIM Teacher Modules

Delivered via Canvas by Instructure



**Science Coach**  
EDUCATE · INNOVATE · ACHIEVE

## Module 0: Introduction to Innovation

- Creativity and Innovation
- Working within a Team
- Characteristics of Innovators
- Design Thinking

## Module 1: Introduction To Research

- Why Conduct a Research Project
- Exploring Science Competitions
- Scientific Research Changes the World
- Sharing Research Findings
- Where Can Research Be Conducted?

## Module 3: Conducting A Literature Review

- What is Scientific Literature
- What is a Literature Review
- Literature Review Databases
- Potential Problems with Literature Reviews
- Conducting Your Literature Review
- Writing Your Hypothesis

## Module 4: Research Ethics & Integrity

- Intro To Ethics and Integrity In Research
- Ethical Issues With Living Beings
- Ethical Issues With Handling Information
- Governing Bodies of Ethics
- Ethical Scenarios

## Module 5: Study Design I

- Types of Variables
- Writing a Procedure
- Quantitative and Qualitative Studies
- Mixed Methods Study Designs
- Designing Quantitative and Qualitative Studies
- Study Design Implementation
- Student Presentations

## Module 6: Study Design II

- Types of Qualitative and Quantitative Studies
- Observational and Survey Study Designs
- Surveys and Focus Groups
- Applying Observational, Survey and Focus Group Study Designs
- Correlation and Causation
- Correlation Study Design
- Quasi-Experimental – Experimental Study Designs
- Applying Experimental Study Designs
- Designing Your Experiment

## Module 7: Conducting Your Experiment

- Bias and Sample Sizes
- Designing Your Data Collection
- Materials Lists and Laboratory Safety
- Aseptic Technique and Sterile Workspaces
- Refining Your Procedure
- Carrying Out Your Procedure

## Module 8: Data Analysis Using Descriptive Statistics

- Descriptive Statistics
- Applying Real World Data
- Analyzing Data Using Google Sheets
- Analyzing Real World Data Using Google Sheets

## Module 9: Data Analysis Using Statistical Analysis

- Introduction to Statistical Analysis
- p Values
- Significance Testing, T-Tests
- Chi Square
- Linear Regression
- Analysis of Variance Test (Anova)
- Applying the Appropriate Tests
- What Bad Statistics Can Do

## Module 10: Results & Conclusions

- Constructing Graphs
- Applying Data Organizational Skills
- Interpreting Graphs
- Developing A Conclusion And Discussion
- Developing Your Conclusion And Discussion

## Module 11: Writing a Scientific Paper

- Parts of a Scientific Paper
- Writing a Scientific Paper
- Literature Review, Procedures, and Materials
- Results, Discussion, and Conclusion
- References and Apa Format
- Abstracts

## Module 12: Presenting Results

- Creating Your Presentation or Demonstration
- Creating Your Speech
- Using Props and Visual Aids
- Speaking Techniques
- Practicing Your Speech
- Presenting Your Project Virtually

## Module 13: Reflection

- Successes and Failures
- Future Goals
- Making a Plan to Continue this Project for Next Year's Research

AIM Teacher development was graciously supported by the Tracy Family Foundation, The Saigh Foundation & Science Coach Benefactors.

Science Coach is a non-profit offering year-long, job embedded professional development and advanced authentic research programming for 6-12th grade students and teachers from U.S. public, private, and homeschools. We are creating the next generation of STEM professionals. Complete our no-obligation application today and see if you qualify: <https://bit.ly/applysciencecoach>