



Dr. Debbie O'Doan
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Ignite Your STEM: Foundations

Course Description:

This is the **first** course in the K-5 STEM Series offered through DIAL. It is a beginner level course covering Foundations of STEM. The course is based on the work of teacher and author, Chris Woods. This course will help explain “why” STEM and help teachers know where to start. According to Chris Woods’ idea that “*STEM is not a class you teach. It’s a culture you build.*” This course will give teachers a basic understanding of STEM and a place to begin. This book and course will also show integration of other subjects such as Art, Literacy, Math, Careers, and promotes using STEM in the real world. It lays the foundation for teachers begin to build a STEM culture. Topics include why stem is important, how to start, STEM careers, STEM literacy, integration, sustainability, and many more. Teachers will develop and share an integrated STEM lesson plan at the end of this course. Teachers will be encouraged to take this course with other teachers in their school so they have school discussions and building support in addition to the online collaboration in the course.

Course Objectives:

Participants will:

- Gain confidence in teaching and integrating STEM lessons
- Expand awareness of STEM Resources
- Learn new concepts and build STEM knowledge and skills
- Apply Stem Fundamentals and concepts to lesson plans
- Plan for implementing and teaching STEM lessons
- Get students excited about learning STEM
- Collaborate and share STEM ideas with each other
- Connect with a community of fellow educators committed to teaching STEM

Textbook Resource (provided to DIAL Members):

Teachers from DIAL member schools that participate in the Ignite Your STEM! grant will receive a free copy of the text. Teachers who are not from DIAL member schools will need to order their own text.

Citation:

Woods, Chris. *Daily STEM: How to Create a STEM Culture in Your Classrooms & Communities. Code Breaker, 2020.*

Resources provided in the course by instructor:

SAMR Technology Integration Model, STEM websites, including www.dailystem.com

Online videos & podcasts created by the author

Other possible tools used to support teachers:

Zoom, Google Meet, Teams, Email, Mobile Phones, etc.



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Attendance Policy:

This is a 5-week long asynchronous online course, with 1 week break for Easter. Participants may choose to complete work during the break. Participation and completion of activities is expected weekly, so that participants can collaborate and share ideas with each other.

Course Activities:

Participants will be required to read the Daily STEM text, watch short videos, post discussions, create a STEM lesson plan, and complete a final reflection. Course assignments will be housed in Google Classroom or Wix.

Course Timeline:

March 15- April 26	
Assignments	Due Date
Read Introduction: Not a Class Read Ch. 1: Why STEM Read Ch. 2: How to Start Watch Author Videos: Intro, Ch. 1, Ch. 2 Post Reflection to Discussion Questions	March 15- March 21
Read Ch. 3: STEM & STEAM Read Ch. 4: STEM & Making Read Ch. 5: STEM Literacy Watch Author Videos: Ch. 3, Ch. 4, Ch. 5 Post Reflection to Discussion Questions	March 22- March 28
Read Ch. 6: STEM & Other Subjects Read Ch. 7: STEM & Careers Read Ch. 8: STEM & Words Watch Author Videos: Ch. 6, Ch. 7, Ch. 8 Post Reflection to Discussion Questions	March 29- April 4
Easter Break: Catch-up or Work ahead	April 5- April 11
Read Ch. 9: STEM & Superheroes, Ch. 10: & Families/Communities Read Conclusion: STEM & What's Next Author Videos: Ch. 9, Ch. 10, Conclusion-Next Post Reflection to Discussion Questions	April 12- April 18
Create STEM Integrated Lesson Plan Final Reflection Evaluation of Course	April 19-April 26
Final Assignments – All assignments due	April 26



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Evaluation:

The course is a Pass or No Pass course. Participants who complete the course work will receive a passing grade. Evaluation will be as follows:

Assignments	Points	Weight
Introduction Activities	20	10%
Reflection/Discussion Questions	80 (20 each)	40%
Integrated STEM Lesson Plan	60	30%
Final Reflection	40	20%
Total Points:	200	100%

Participant Behavior, Academic and Plagiarism Policy:

Ethical behavior, honesty and integrity are expected by all participants in this course and plagiarism will not be tolerated.