To whom it may concern:

University of Oregon Real Solutions provides online professional development courses to help teachers become and remain effective. Our courses are designed to meet national standards, but your district must determine if a course meets specific district or state standards.

Your teacher, __________________________________________________ requests that you please review the course “NGSS (New Generation Science Standards).” A syllabus is attached to help you determine if this course meets your requirements.

Real Solutions research-based courses are brought to you by University of Oregon, a Tier 1 institution you know and trust to provide the highest quality educational content. Our courses are fully online, self-paced curriculum that is anticipated to take 20 hours to complete.

Teachers complete weekly assignments at their own pace and take part in online discussions. A trained facilitator keeps the learners and discussions on track. Courses are available for teachers at every grade level–Pre-K to 12.

All courses:

- Are facilitated by highly qualified educators and experts in their field who currently teach at the University of Oregon. All facilitators hold doctorate degrees.
- Use best practices for integrating technology into the curriculum.
- Incorporate research-based instructional design.
- Contain standards-based content from recognized experts in the field.
- Demonstrate teaching practices modeled with classroom video segments.
- Feature authentic tasks with real-world applications.

For more information about Real Solutions—including group sales—please contact us at 541-600-5473 or visit https://realsolutions.uoregon.edu.

"Both the approach to learning and the delivery method are exactly what is needed by teachers today. This program is going to become the ‘go to’ for professional development in the state of Oregon." — Kim Finch, STEM Education Administrator, Eugene School District 4J
Course Title: UO Real Solutions for NGSS Science Teaching (Non-Credit)

20 PDUs

Location: Online at UO AE Oba: https://uoae.obaverse.net

Instructor Contact Information

Bryan Rebar, PhD, Associate Director, UO STEM CORE

Academic Extension Contact:
Phone: (844) 944-2223
Email: realsolutions@uoregon.edu
Email inquiries will be returned within 24 hours on regular business days, Monday–Friday

Cost

$69 per module
$199 per subscription

Modules

Module 1: Introduction to the Three Dimensions of Science Learning
1. Understanding NGSS Core Concepts
2. Introduction to the Three Dimensions of Science Learning
3. NGSS Performance Assessments
4. NGSS Paradigm Shift

Module 2: Students as Scientists
1. Scientific and Engineering Practices
2. Focus on Engineering
3. Applying Cross-Cutting Concepts
4. Anchoring Phenomena

Module 3: Strategies and Solutions for NGSS for All Audiences
1. Implications for Scope and Sequence of Curriculum Design
2. Universal Design
3. Supporting ELLs
4. Resources for Selecting Curriculum

Module 4: NGSS Across the Curriculum – Connecting with Other Disciplines
1. Project-based Learning
2. Common Core: Math and Engineering
3. Connecting to Careers/Partnering with Professionals
4. Collegial Co-Creation

Course Description

The four self-paced modules, each of which can stand alone, are designed for K-12 teachers and administrators interested in developing a deep understanding of the Next Generation Science Standards’ (NGSS) and applying them in their science lessons. Activities prepare participants to design and lead lessons that engage students in the three dimensions of science teaching and learning. Each module

*The Next Generation Science Standards is a registered trademark of Achieve. Neither Achieve nor the lead states and partners that developed the Next Generation Science Standards were involved in the production of this product, and do not endorse it.
addresses different topics of NGSS and is comprised of short videos, readings, learning activities, evidence-based practices and tools for implementing aspects of NGSS. Participants will be able to build an online portfolio through their participation in each module and engage with peers in the Teachers' Lounge discussion board.

**Curriculum Goals**

This curriculum is intended to provide practicing teachers, educators, and administrators with the support needed to become NGSS experts. The ultimate goals of this curriculum sequence are: (1) teachers who have a deep understanding for how three-dimensional science teaching and learning looks and feels and (2) are continually improving their practice to implement NGSS-aligned curricula.

**Learning Objectives**

Throughout the curriculum, participants will practice and demonstrate the abilities to:

1. Identify, modify, and develop standards-aligned lessons that engage students in the three dimensions of science learning.
2. Incorporate evidence-based practices for effective science teaching, including the utilization of current technologies and community resources to address the interests and needs of all students.
3. Reflect on one's own teaching practices to make incremental improvements.
4. Collaborate with other teachers, educators, and professionals in the development of NGSS-aligned curricula.

**Curriculum Format**

All modules are delivered online using Oba, a UO-developed learning management system (LMS) which allows you to complete classwork anywhere, anytime on your computer or other internet-enabled device. All materials needed for success in each module are included on the site along with a Teachers' Lounge discussion board and a separate module of additional, targeted resources.

This is a fully online self-paced series of modules. Participants will complete readings, view videos, and take part in journaling activities. Learning activities provide deeper dives into the topics, and most will be shared with peers for feedback and enrichment.

**Getting Help**

For technical issues related to Oba you'll find a red “Help” button on the lower left hand corner of every page of the learning management system, where you can search for help or send a message and get a response within 24 hours from the Oba support team.

For other issues related to registration, login information or content questions, e-mail http://realsolutions@uoregon.edu or call toll-free, (844) 944-2223.

**Getting Started**

Upon log-in to Oba, select the My Courses tab. From the My Courses page, select your module(s) and view the Course Tour Video, which provides a navigational tour and answers many questions about getting started. It is **very important** that you read and agree to the Honor Code, by manually checking the checkbox to the right of the text. This is the **only way** you will have access to the remaining content. **Please note** that the curriculum is designed as independent modules, so it will be necessary to check the Honor Code checkbox for every module if you have registered for the entire series. Each module also includes a separate preview video that outlines the topics for that module.

Each module is designed to open in sequence as you work through it. To proceed, be sure to follow the directions, and to check the checkboxes for:

- Honor Code
- Preview videos (video lecture)
- Readings and Resources
- Learning Activities

The completion of these activities will reveal the self-check quiz for Topics 1 through 3, and the final exam in Topic 4.

**Required reading and video resources**

Assorted articles and book chapters and videos have been posted to each curriculum module in Oba. These readings and videos have been selected to enable learning and provide content for learning activities shared on the Teachers' Lounge discussion board. Furthermore, your module final exams and self-check quizzes will include questions focused on these readings and videos to confirm you have completed the assignments and have critically engaged with the resources. All opinions expressed in readings and videos are those of the authors and creators and not necessarily those of the University of Oregon, its employees or agents.
Evaluation
Self-Check Quizzes and Final Exams
All four modules have self-check quizzes and culminate in a final exam. The self-check quizzes are designed to anchor learning and prepare for the final exam. The final exam requires a passing grade of 80% within four attempts. Final exam attempts are limited to 30 minutes each. When you pass the exam with an 80%, the checkbox will automatically appear, alerting our staff to prepare your certificate of completion with your PDUs/CEUs-clock hours. You will receive your certificate at the end of the month in which you passed your exam.”

Attendance Requirements
Due to the self-paced nature of this course, students will have up to one year to complete the program.

Participant Survey
Each module includes a short participant survey, located after the final exam section. Please complete this survey, as it provides access to ongoing program updates and development. We welcome and appreciate your responses, thoughts and ideas.

Technology Requirements
If you do not yet have the following installed on your computer, please install them before beginning:

- Browsers: Chrome, Safari, or Firefox. Internet Explorer is not recommended.
- Microsoft Office Suite software, Mac’s Pages, Open Office Suite software, or a compatible word-processing suite.
- Adobe Reader software (available as a free download at http://get.adobe.com/reader/).
- Latest upgrades for Adobe Flash Player and Java.
- QuickTime player, VLC, or any other free video player download.
- Headphones for private listening to video lectures and resources.

We do not recommend the use of smart phones for participating in these modules.

Conflict Resolution
Should any conflict arise or if you have an issue to report, please contact our customer service team at (844) 944-2223 or e-mail at realsolutions@uoregon.edu for an expedited response and support for your situation.

Diversity
This curriculum and the University of Oregon celebrate open inquiry, freedom of expression, and respect for differences. As the instructor, I am committed to upholding these ideals by encouraging the exploration, engagement, and expression of divergent perspectives and diverse identities. By participating in this class, you affirm your commitment to these ideals as well.

Students with Disabilities
The University of Oregon is working to create inclusive learning environments. If there are aspects of the instruction or design of these modules that result in barriers to your participation, and/or you have a documented disability, please notify the Real Solutions staff immediately at realsolutions@uoregon.edu.

Online Classroom Behavior Expectations
Classroom expectations include:

- Participating in learning activities, which include the discussion board forum.
- Respecting the diversity of cultures, opinions, and viewpoints in the discussion board (Teachers’ Lounge). There will be no posting of spam or promotional items, mature content, or solutions to the final exams.
- Listening to fellow students with respect.
- Adhering to our published policy on netiquette, which can be found on the Teachers’ Lounge. Racist, homophobic, sexist, and other disrespectful comments will not be tolerated.
- Each participant will have the University of Oregon Honor Code statement on the home page of their registered module(s). Acceptance is required to gain access.

*The self-check quizzes and final exams will not become available until you have completed these essential components: Honor Code, Video Previews, Readings and Resources and Learning Activities, as mentioned above.
Academic Integrity

All participants are expected to complete assignments in a manner consistent with academic integrity. Participants must produce their own work, acknowledge when collaborative work is involved and describe their unique contributions, and properly acknowledge and document all sources (lessons, ideas, quotations, paraphrases). Participants can find more complete information about the University of Oregon’s Policy on Academic Dishonesty in the University of Oregon Student Handbook.

Equal Opportunity

We support Title IX and have a duty to report relevant information.

The UO is committed to providing an environment free of all forms of prohibited discrimination and sexual harassment, including sexual assault, domestic and dating violence and gender-based stalking. Any UO employee who becomes aware that such behavior is occurring has a duty to report that information to their supervisor or the Office of Affirmative Action and Equal Opportunity. The University Health Center and University Counseling and Testing Center can provide assistance and have a greater ability to work confidentially with students.

All UO employees are required to report to appropriate authorities when they have reasonable cause to believe that any child with whom they come in contact has suffered abuse or any person with whom they come in contact has abused a child.

Responsibility

You have one year to complete the work in the module for which you have registered.

If you have registered for the subscription (all four modules), you have one year to complete all four. One year from your registration date, your login will expire. It is your responsibility to keep track of your login expiration date to ensure that you have completed the work by the end of one year. You will receive an automatic e-mail notification two weeks before your login is due to expire.

Cancellation and Refunds

You may cancel your registration for the UO Real Solutions in Classroom Management online curriculum at any time prior to logging in to the Oba Learning Management System. A full refund minus a $25 per-module administrative fee will be credited. If you need to cancel your registration prior to logging in to the Oba Learning Management System, please contact our registration office via e-mail at realsolutions@uoregon.edu or by calling 800-824-2714.

Exceptions may be made for circumstances related to serious illness, death in the family, etc. Written documentation must be provided.