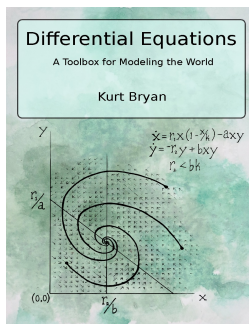


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SIMIODE ONLINE DIGITAL AND IN PRINT TEXT ***DIFFERENTIAL EQUATIONS: A TOOLBOX FOR MODELING THE WORLD***



Get your copy of this 600 page paperback and digital text and use the exciting approach with students at the next teaching opportunity as well as recommend it to colleagues who teach differential equations. Students purchase your copy for project ideas, challenging and exciting modeling applications, and motivation to study and apply differential equations. The exposition is clear, engaging, and rich. Enjoy and marvel at the fascinating applications of differential equations.

Complete information about text, reviews, supporting materials, and how to get your personal copy.

[Third party sales information](#) for resellers, bookstores, and purchasers.

[Table of Contents and Chapter 1](#) to preview our commitment to a modeling first and throughout approach.

Hundreds of colleagues have purchased this text and a good number are using it in their teaching.

The author, Dr. Kurt Bryan, Rose-Hulman Institute of Technology, Terre Haute IN USA, takes a modeling first and throughout approach to motivate the study and learning of differential equations in the spirit of SIMIODE, while linking to many SIMIODE Modeling Scenarios and other original activities.

Dr. Glenn Ledder, University of Nebraska, Lincoln NE USA, says in his review in *The UMAP Journal*, "This book is the **only one this reviewer is aware of that presents differential equations in a modeling context** rather than merely adding a bit of modeling to the standard presentation. **If you want to study the mathematics of differential equations in a modeling context, you are in the right place.**"

The text offers some 600 pages of rich modeling motivated materials with support in SIMIODE for Students and Teachers and some 400 additional pages of materials (solutions, hints, project ideas, data, computer code, forums, collaborative project space, etc.) to help teacher and student.

[Purchase this textbook](#), use SIMIODE resources, join SIMIODE, enjoy the read, and adopt the text for your course on behalf of your students.

Three Options - all include complete text resources for Students - hints, solutions, projects; Maple, Mathematics, Matlab, and Sage code; and Instructor solutions as appropriate.

- **AVAILABLE 1 October 2022.** \$79.00USD - Purchase paperback text for delivery in 2-8 days and immediate download access of complete text pdf.
- **AVAILABLE NOW.** \$39.00USD - Purchase immediate download access of complete text pdf.
- **AVAILABLE 1 October 2022.** \$45.00USD - Purchase paperback text delivery in 2-8 days for previous text pdf purchasers.

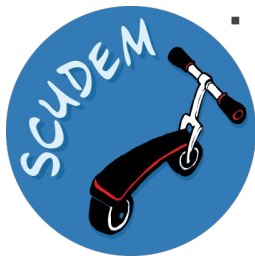
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ANNOUNCING SCUDEM VII 2022

SCUDEM — SIMIODE Challenge Using Differential Equations Modeling is a 3-student group modeling challenge that runs over multiple days culminating in a 10 minute video which is reviewed by judges. Team submissions will be judged *Outstanding*, *Meritorious*, or *Successful*. In SCUDEM VI 2021 each team received, on average, 10+ judge reports for constructive feedback!

Teams choose one of the Challenge Problems provided in the areas of

- physics/engineering,
- chemistry/life sciences,



- social sciences/humanities,

and develop a model using differential or difference equations and a presentation.

Registration is open 1 September 2022 through 21 October 2022 and the Challenge Period for work on problems is 22 October - 13 November 2022. Registration is \$20 USD/student

Watch presentations from **SCUDEM VI 2021 Outstanding Team Videos** at SIMIODE's YouTube playlist. Read the full details about all our past events, including problem statements and results, in our wiki. See [Complete Rules](#) for details of the challenge.

We need volunteer [Coaches](#) and [Judges](#) so please volunteer.

SCUDEM is administered by SIMIODE.

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SIMIODE MIGRATES TO QUBES

SIMIODE is moving its HUBZero platform and community to QUBES. QUBES is a BioQuest Project community of organizations and groups to help accelerate positive change in STEM education. SIMIODE is proud to be a member organization of that community. While we are still moving in we do have complete information already posted on our [SIMIODE EXPO Conference - Fall 2022](#), [SIMIODE Textbook](#) - right now, and [SIMIODE SCUDEM event - Winter 2023](#).

One of the exceptional features in QUBES is a wonderful tag ontology to permit sophisticated search of [SIMIODE publications and resources](#). Come search for rich ideas and bring students and colleagues. Browse, download, and customize SIMIODE OER materials. We have over 300 Modeling Scenarios and Technique Narratives in many areas of application for your use, download, and customizable! We will be adding features throughout the summer and inviting our current SIMIODE members to join us in registering for SIMIODE at QUBES. Look for the invitation soon, but come and visit early!

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PRISON MATHEMATICS PROJECT

At the [SIMIODE EXPO 2022 Conference](#) there was an exceptional [Keynote talk](#) about the Prison Mathematics Project (PMP) which works towards a new understanding of the role of mathematics in self-identity and desistance among a demographic of prisoners who are actively exploring a higher education. The aim is to achieve positive changes in self-identity and desistance by providing knowledge, instilling a sense of community and culture, and establishing network connections to promote self-rehabilitation among participants through engagement of mathematics. Such engagement is nurtured through active mentorship by members of the mathematical community. See the current issue of the [Prison Math Newsletter 3](#).

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TWO GOOD MODELING SOURCES

Math Modeling Hub aims to facilitate the integration of mathematical modeling in classrooms, by providing resources for both students and educators. We also want to foster a community where teachers from pre-kindergarten onward can share these resources. The Hub offers a free repository of lesson plans, worksheets, and more. Users can also connect to a network of educators for faculty development, discussion, and mentorship. The funding of this site by COMAP, NCTM, and SIAM, creates the opportunity for network members to meet up in person at conferences hosted by these organizations.

This is an open group. To participate in the discussions, please log-in to your QUBES account, and request to join the group!

The NSF-funded **MODULE(S²)** project has published free curriculum materials that develop secondary prospective teachers' mathematical knowledge for teaching modeling. Intended for use in university content courses that include mathematical modeling, the materials are organized into 3 modules:

Module 1: The Process & Purpose of Mathematical Modeling

Module 2: Advancing Competency in Mathematical Modeling

Module 3: Diverse Perspectives in Mathematical Modeling

Each module takes about 4 weeks of class time, so collectively they could be used as the total curriculum for a 3-credit-hour semester-long class. Alternatively, each module is independent of the others, so the materials can be used flexibly. The project has also published similar materials that address Statistics, Geometry, and Algebra.

In addition to our curriculum materials, the project has created an online professional learning space to support users of the curriculum materials. It includes professional development resources as well as space for interacting with fellow instructors.

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PUBLISH YOUR CLASS EFFORTS IN SIMIODE

If you are teaching differential equations you have probably written and assigned projects. Consider publishing your materials online in SIMIODE using our peer reviewed, double blind referee system.

SIMIODE maintains a double-blind, peer-review process for quality online publication of Modeling Scenarios and Technique Narratives. However, we encourage authors to submit their ideas at any stage of development and/or class projects for immediate feedback of a less formal nature. We will render constructive support and encouragement as well as technical feedback. In the past the SIMIODE Director, Brian Winkel, as Founding Editor of the journal *PRIMUS*, found this to be a very good way to foster confidence, help prospective authors contribute to the broader community, and get their ideas published. Please drop us a note with your ideas and/or materials to Director@simiode.org. We will respond quickly!

You can see how to submit your materials at our **Author** tab. What you do is important to your students, but it is also worthy of sharing with colleagues and their students. Step up and write up your projects for SIMIODE and your colleagues. You will have an online refereed publication at SIMIODE. You will be pleased to know others are using your ideas, building on your success, and enjoying what you share with your students.

One purpose of SIMIODE is to offer colleagues solid, refereed teaching material on which they can base a modeling first course in differential equations. Thus, publishing your ideas and activities for students is a main objective of SIMIODE. However, it is reasonable to ask yourself, "Why should I prepare, submit, and publish in SIMIODE?" We give you many good reasons to publish in SIMIODE. Check them out and see that many fit you. Then join us by sending us your efforts.

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WORDS FROM THE DIRECTOR

SIMIODE is a Community of Practice which is alive, vibrant, and rich in resources and individual talents to assist colleagues who wish to teach differential equations using modeling to motivate students. There are a number of ways you can add to the community:

Contribute materials. You can learn more about this at our [Author Information](#) section and get even more details once you have signed into SIMIODE. There you will find types of materials and instructions on how to contribute and begin the process leading to publication in SIMIODE. Register to referee and review submitted materials. Good scholarship merits attention and our double-blind, peer-referee system affords quality reviews of submitted materials.

Post slides from your presentations, classes, or talks. When you give a talk you can post your slides, details of the talk or meeting, and comments. Now that you have spread the word beyond the SIMIODE community, bring it back home for SIMIODE members to see. As always please let us hear from you with your concerns, your news, and your activities. Contact us at Director@SIMIODE.org.

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