

# DESIGN & DELIVERY OF HYBRID DIFFERENTIAL EQUATIONS

Chris Oehrlein, Oklahoma City  
Community College

*coehrlein@occc.edu*

# What a Hybrid Course Is NOT

- Way to Save Time
- Online Course w/ Once-a-Week Q&A
- Online Lectures w/ Quizzes and/or HW Practice In-Class
- F2F Course Materials Split btw In-Class and Online

# Hybrid Course: In-Class Lecture

- $\approx 30$  Minutes (Better: Two 15-20 minute mini-lectures)
- Theory  $\longleftrightarrow$  Problem Solving
- Mechanics  $\longleftrightarrow$  Visual/Geometric

# Extend “Lecture” Online

Static (Notes) and

Dynamic (Video, Podcast, Pencast)

Links to Websites

Post Your Own

# STUDENTS: Guided Class Prep

Play

Explore

Conjecture

Apply

Applets

Notes

Videos

Text

# In-Class Activities: VARIETY!

- Individual, Collaborative and Class-Interactive (Response Technology)
- Formal and Informal
- Computational Practice and Concept Discovery/Development

# ASSESSMENT: HW & Tests

## TESTS

- Basic Skills
- Direct Application of Concepts
- Quantitative AND Qualitative
- Applets (Screen Captures)

## HOMEWORK

- Depth
- Computational Complexity
- Conjecture
- Writing