Plan for the Session...

- Introduction
- Goals vs. Objectives
- Bloom’s Taxonomy
- Group Activity
- Tips & Tricks
- Questions & Wrap Up
Session Goals

- Have at least ONE well written, MEASURABLE goal for your chosen course
- Have at least ONE assignment/assessment created that MAPS directly to your written goal
- Learn about various other classroom techniques that can be employed to achieve goals and objectives
Goals vs. Objectives

**Goals vs. Objectives** → Bloom’s Taxonomy → Group Activity → Tips & Tricks → Questions/Wrap Up

- **Goals**
  - Describe what you purpose to achieve in the class.
  - Use language that is understandable by students.
  - Class should have 1-3 Goals.

- **Example:**
  Students by the end of the semester will be able to analyze and evaluate client requirements to choose the proper elements in constructing an Information System through the Conceptual, Logical, and Physical Schemas.
Goals vs. Objectives

Objectives
- Provide evidence of student learning.
- Describe the aspects or tasks to a goal.
- Assignments are linked to a goal.
- Use measurable language for assessment.

Example:
- Analyze requirements and solicit information to design a Conceptual Schema using an Entity Relationship Diagram (ERD).
- Demonstrate the ability to write advanced SQL queries to retrieve data from a SQL database and format the output data.
Bloom’s Taxonomy

Goals vs. Objectives → Bloom’s Taxonomy → Group Activity → Tips & Tricks → Questions/Wrap Up
Bloom’s Taxonomy

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• Bloom et al., 1956 – 1965, development continues

• A guide for writing measurable educational objectives

• Basic skills lead to complex skills (prerequisites)

• Helpful for finding mis-alignment at the program level
Bloom’s Taxonomy

Type of Learning

- Remembering
- Understanding
- Applying
- Analyzing
- Evaluating
- Creating
## Bloom’s Taxonomy

Goals vs. Objectives → **Bloom’s Taxonomy** → Group Activity → Tips & Tricks → Questions/Wrap Up

<table>
<thead>
<tr>
<th>Type of Learning</th>
<th>Definition</th>
<th>Example Action Words</th>
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**Type of Learning**

1. **Remembering**
   - Recalling information
   - Example Action Words: Recognize, name, retrieve, describe, list, define, identify, outline, reproduce

2. **Understanding**
   - Example Action Words: Explain, interpret, summarize, discuss

3. **Applying**
   - Example Action Words: Apply, implement, use, demonstrate

4. **Analyzing**
   - Example Action Words: Analyze, compare, contrast, evaluate

5. **Evaluating**
   - Example Action Words: Judge, assess, rate, measure

6. **Creating**
   - Example Action Words: Create, design, produce, invent

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**INDIANA UNIVERSITY BLOOMINGTON**

**SCHOOL OF INFORMATIONS AND COMPUTING**
## Bloom’s Taxonomy

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<td>Generating new ideas, products, or ways of viewing things</td>
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Bloom’s Taxonomy (Examples)

Goals vs. Objectives → **Bloom’s Taxonomy** → Group Activity → Tips & Tricks → Questions/Wrap Up

- **I130 – Introduction to Cybersecurity**
  - **Course Goal**
    - Students will be able to read and discuss material covering computer security
  - **Learning Objectives:**
    - Students who complete the course should be able to:
      - **Recognize** and be able to **explain** basic terminology in computer security
      - Read a scholarly paper in security and **summarize** the topics covered
      - **Discuss** malware, authentication, botnets, pervasive computing, anonymity, and privacy
      - When presenting material, correctly **use** fundamental concepts of security
Bloom’s Taxonomy (Examples)

Goals vs. Objectives → Bloom’s Taxonomy → Group Activity → Tips & Tricks → Questions/Wrap Up

- I210 – Introduction to Programming with Python
  - Course Goal
    • Students will become efficient programmers in a team, using Python
  - Learning Objectives:
    • Students who complete the course should be able to
      • **Compose** an algorithm that will solve a specific, definite problem
      • From an algorithm, **produce** a programmatic solution in Python
      • **Debug** Python code written by themselves or others
      • **Examine** two programs that accomplish the same task and **discuss** their comparative efficiencies
      • **Carry out** their responsibilities as part of a team

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Group Activity

Goals vs. Objectives → Bloom’s Taxonomy → **Group Activity** → Tips & Tricks → Questions/Wrap Up

- Each table will be a break-out group.
- One of the presenters will come to your table with worksheets.
- **Goals:**
  - Using the worksheet, write ONE measurable course objective with at least ONE goal.
  - Share your objective/goal with your group and work together to revise it.
  - Select a current assignment or “create” an assignment that maps directly to your written goal.
Tips & Tricks

Goals vs. Objectives → Bloom’s Taxonomy → Group Activity → Tips & Tricks → Questions/Wrap Up

• Write the objective from the point of view of the student - what the student will be able to do as a result of participating in the activity.
• Always keep other aspects of your students in mind:
  – Subject-matter Competence
  – Attitudes
  – Language
  – Skills
• Outcome of the learning should be observable and measurable.
• Outcome is achievable within the scope of the program/course: both in level of learning and within timeframe.
• Each objective should describe only one (1) behavior or outcome.
• Remember: Learning Objectives Focus on **Action**.
• Consider Breaking Your Learning Objectives into Sub Categories.
Special Thanks to:

• School of Informatics and Computing
  – http://soic.indiana.edu/

• IUB Center for Innovative Teaching and Learning
  – http://citl.indiana.edu/
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