

# NCBS 405: SUPPLEMENTAL INSTRUCTION: PHYSICAL SCIENCE, MATH & ENGINEERING

## Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2024
Units:	0
Hours:	60-360 hours laboratory total per quarter.
Degree & Credit Status:	Non-Degree-Applicable Non-Credit Course Basic Skills, 1 Level Below Transfer
Foothill GE:	Non-GE
Transferable:	None
Grade Type:	Non-Credit Course (Receives no Grade)
Repeatability:	Unlimited Repeatability

## Student Learning Outcomes

- Students can identify one study strategy to increase course success
- Students can identify one strategy to reduce anxiety in class and on exams

## Description

An open-entry, open-exit course for students who seek academic support, through supplemental instructions and use of computers, to fill in missing prerequisite knowledge and strengthen skills developed in a referring course or courses as follows: ACTG 1A-C, 1BH-CH, 51A-C, 52, 53, 54, 58, 59, 60, 64A-B, 65, 66, 67, 68A-C, 75, 76; ANTH 1; ASTR 10A-B, 10BH, 10L; BIOL 1A-D, 8, 9, 10, 12, 13, 14, 15, 28, 40A-C, 41, 45; CHEM 1A-C, 12A-C, 12AL-CL, 25, 30A-B; C S 1A-C, 2A-C, 3A-C, 8A, 10, 18, 20A, 22A, 30A-E, 31A, 40A, 48A, 49, 50A-C, 53A-D, 54D, 55A-D, 56B, 63A, 64A, 77A-B, 80A, 84A; ECON 1A-B, 9, 9H, 25, 54H; ENGR 6, 10, 11, 28, 35, 37, 37L, 45, 47, 61A, 61B; GEOG 1; MATH 1A-D, 1AH-BH, 1AHP-BHP, 2A-B, 10, 12, 17, 22, 33, 40A, 42, 44, 48A-C, 105, 180, 217, 248A; NCBS 403A-B; PHYS 2A-C, 2AM-CM, 4A-D, 6, 12, 12H.

## Course Objectives

The student will be able to:

- Use online course management system(s) to practice problem solving in Accounting, Anthropology, Astronomy, Biology, Chemistry, Computer Science, Economics, Engineering, Geography, Mathematics, or Physics courses.
- Identify and use appropriate computer software to generate assigned class reports for Accounting, Anthropology, Astronomy, Biology, Chemistry, Computer Science, Economics, Engineering, Geography, Mathematics, or Physics courses.
- Identify and use appropriate computer software to create additional practice problems for mastery of course content in Accounting, Anthropology, Astronomy, Biology, Chemistry, Computer Science, Economics, Engineering, Geography, Mathematics, or Physics.

- Use individualized instruction to enhance learning in Accounting, Anthropology, Astronomy, Biology, Chemistry, Computer Science, Economics, Engineering, Geography, Mathematics, or Physics courses.

## Course Content

A. Use online course management system(s), for example:

- Problem solving using software
  - Pearson product: MyMathLab, MyLabsPlus, MyLab, Mastering Chemistry
  - Wiley product: Wiley Plus
  - Cengage product: Webassign
  - McGraw-Hill product: ALEKS, McGraw-Hill Connect
  - Canvas

B. Identify and use appropriate computer software, for example:

- In-class reports generated by using software
  - Maple
  - Mathematica
  - Geometer's Sketchpad
  - Excel
  - SPSS
  - Graphical Analysis
  - SpartanView
  - Microsoft Word

C. Identify and use appropriate computer software, for example:

- Additional practice problems using software
  - Pearson product: MyMathLab, MyLabsPlus, MyLab, Mastering Chemistry
  - Wiley product: Wiley Plus
  - Cengage product: Webassign
  - McGraw-Hill product: ALEKS, McGraw-Hill Connect

D. Use individualized instruction

- Apply knowledge obtained to enhance learning in Accounting, Anthropology, Astronomy, Biology, Chemistry, Computer Science, Economics, Engineering, Geography, Mathematics, or Physics courses
  - Individualized instruction
  - Computer research
  - Use of software

## Lab Content

- Determining different approaches to solving problems.
- Exploring applications of scientific and mathematical rules and postulates.
- Determining limitations of software.

## Special Facilities and/or Equipment

- Internet access and computers.

## Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

- Completion of homework problems as assigned by course instructor.
- Completion of additional problems beyond those assigned by course instructor.
- Completion of lab reports.

## Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

- A. Work in groups
- B. Individualized instruction
- C. Work on computer

## **Representative Text(s) and Other Materials**

Students will use textbook(s) in the referring course(s).

## **Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments**

- A. Homework assignments:
  - 1. Problems are assigned by course instructor
  - 2. Completion of assignments both online and hand written
- B. Laboratory assignments:
  - 1. Problems are assigned by course instructor
  - 2. Completion of assignments both online and hand written
- C. Additional coursework:
  - 1. Practice worksheets provided by instructor that showcase basic and more challenging problems
  - 2. Reading textbook

## **Discipline(s)**

Accounting, Anthropology, Biological Sciences, Chemistry, Computer Information Systems, Computer Science, Economics, Engineering, Geography, Mathematics, Physics/Astronomy