

**PHYS 7 Course Outline as of Fall 2021****CATALOG INFORMATION**

Dept and Nbr: PHYS 7 Title: STEM CAREERS

Full Title: Introduction to STEM Careers

Last Reviewed: 10/9/2023

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	1.00	Lecture Scheduled	1.00	17.5	Lecture Scheduled	17.50
Minimum	1.00	Lab Scheduled	0	6	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	1.00		Contact Total	17.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 35.00

Total Student Learning Hours: 52.50

Title 5 Category: AA Degree Applicable

Grading: Grade or P/NP

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly: PHYS 63

**Catalog Description:**

This course covers the methods for development of career pathways in fields such as science, technology, engineering, and mathematics (STEM). Students will learn to use STEM related job-search tools, identify key job skills, develop a plan for acquiring those skills, and how to use science communication skills related to a particular career or area of research in which the student has an interest.

**Prerequisites/Corequisites:**

Course Completion of BIO 10 OR CHEM 42 OR ENGR 10 OR MATH 25 OR MATH 58 OR MATH 27 or higher (MATH); or AB705 placement into [Math Tier 4](https://assessment.santarosa.edu/understanding-your-math-placement)

**Recommended Preparation:**

Eligibility for ENGL 1A or equivalent

**Limits on Enrollment:****Schedule of Classes Information:**

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as science, technology, engineering, and mathematics (STEM). Students will learn to use STEM related job-search tools, identify key job skills, develop a plan for acquiring those skills, and how to use science communication skills related to a particular career or area of research in which the student has an interest. (Grade or P/NP)

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Math Tier 4

Recommended: Eligibility for ENGL 1A or equivalent

Limits on Enrollment:

Transfer Credit: CSU;UC.

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:

<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
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<b>CSU Transfer:</b>	Transferable	Effective:	Fall 2018	Inactive:
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<b>UC Transfer:</b>	Transferable	Effective:	Fall 2019	Inactive:
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### **CID:**

### **Certificate/Major Applicable:**

Not Certificate/Major Applicable

## **COURSE CONTENT**

### **Student Learning Outcomes:**

At the conclusion of this course, the student should be able to:

1. Understand skills and educational needs required to be employed in their chosen STEM career and research interests
2. Align extracurricular plan with their chosen STEM career and research interests
3. Develop STEM related communication skills relevant to their chosen STEM career and research interests

### **Objectives:**

At the conclusion of this course, the student should be able to:

1. Identify skills necessary in their field of STEM
2. Create a plan for acquiring these skills either through their coursework or extracurricular work
3. Investigate career and research pathways in their field of STEM
4. Plan implementation of career pathway
5. Identify communication skills necessary for their chosen STEM career and research interests
6. Practice creating examples of communication skills pertinent to their chosen STEM career and research interests

### **Topics and Scope:**

- I. Education and Job Skills
  - A. Scientific fields and career options
    - 1. Research
    - 2. Applied science
    - 3. Careers outside of science for STEM students
  - B. Skills necessary for success in
    - 1. Applied vs. research careers
    - 2. Biology, Chemistry, Physics, or Mathematics
  - C. How to build desired skill set from
    - 1. Coursework and education
    - 2. Extracurricular internships, volunteering, work, and independent study
- II. Occupational Information
  - A. Pathways to successful chosen STEM field
    - 1. In research
    - 2. In applied science careers
    - 3. In careers outside of science for STEM students
  - B. Role of internships
  - C. Role of undergraduate research
  - D. Role of networking
- III. Scientific Communication
  - A. Professional
    - 1. Communicating with professors
    - 2. Applying for internships
    - 3. Job applications
  - B. Research
    - 1. Scientific papers
    - 2. Poster presentations
    - 3. Grant proposals

**Assignment:**

- 1. Weekly reading in text and other sources (5-10 pages)
- 2. Written and oral assignments (4-8), which may include:
  - a. Analysis of education and transfer plan
  - b. Career goals
  - c. Research and applied career options for chosen STEM field and optimal skill sets
  - d. Letters of introduction
  - e. Implement small scale career network
  - f. Analyze or write scientific paper or presentation
- 3. Outside activities (2-4), which may include
  - a. Job shadow
  - b. Informational interview
  - c. Club officer

**Methods of Evaluation/Basis of Grade:**

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Written assignments

Writing  
50 - 75%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

None

Problem solving  
0 - 0%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None

Skill Demonstrations  
0 - 0%

**Exams:** All forms of formal testing, other than skill performance exams.

None

Exams  
0 - 0%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

Oral assignments and outside activities

Other Category  
25 - 50%

**Representative Textbooks and Materials:**

What Color is Your Parachute? Bolles, Richard. Ten Speed Press. 2017

The Art of Work. Goin, Jeff. Thomas Nelson. 2015

Guide to Life Science Careers. Peterson, Karen. NPG Education. 2010 (classic)