

COLL 301: STEM ENRICHMENT CAMP

Originator

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Justification / Rationale

The STEM summer class provides a detailed review of science and its allied math topics which are taught in high school. The purpose of this course is to enhance student readiness in the area of STEM (Science, Technology, Engineering and Math) fields for incoming community college students. This course aims to also increase the recruitment, retention and completion rates for STEM programs.

Effective Term

Summer 2021

Credit Status

Noncredit

Subject

COLL - College

Course Number

301

Full Course Title

STEM Enrichment Camp

Short Title

STEM CAMP

Discipline**Disciplines List**

Chemistry

Mathematics

Biological Sciences

Engineering

Physics/ Astronomy

Modality

Face-to-Face

Catalog Description

The STEM enrichment camp is open to any student who wishes to explore and review science-related topics and their allied math components. Importance will be placed on difficult concepts and common pitfalls so that students will be more successful during the coming semester. This class is designed to improve student success rates and increase student interest and curiosity for STEM majors. The Stem enrichment camp is not a requirement for majoring in a STEM-related major. The class offers one-on-one time with a faculty member to practice skills as well as the opportunity for participation in science labs, demos, or projects.

Schedule Description

This class is designed to improve your success and increase your interest and curiosity in a STEM (Science, Technology, Engineering and Math) major. The STEM enrichment camp is open for any student who wishes to explore and review science-related topics and their allied math components.

Non-credit Hours

35

In-class Hours

35

Out-of-class Hours

0

Total Course Units

0

Total Semester Hours

35

Override Description

Noncredit override

Required Text and Other Instructional Materials**Resource Type**

Instructional Materials

Description

Instructor handouts

Class Size Maximum

32

Course Content

Review of topics in biology, chemistry, physics, geology, astronomy and math.

1. Biology
 - a. Structure and function of a cell
 - b. Ecosystem dynamics
 - c. Genetic inheritance
2. Astronomy
 - a. The solar system
 - b. Nebular theory
3. Geology
 - a. Mineralogy
 - b. Plate tectonics
4. Chemistry
 - a. Stoichiometry
 - b. Nomenclature
 - c. Common terminology
5. Physics
 - a. Kinematics
 - b. Sound
6. Math
 - a. Concept of functions and graphing
 - b. Problem solving and applications
 - c. Logic and proofs

Course Objectives

	Objectives
Objective 1	Review terminology in geology including mineralogy and plate tectonics.
Objective 2	Practice using stoichiometry, nomenclature, and terminology in chemistry.
Objective 3	Demonstrate an understanding about the formation of the solar system, characteristics of planetary systems, and nebular theory.
Objective 4	Recall important topics in biology, including the structure and function of a cell, ecosystem dynamics, and genetic inheritance.

Objective 5	Review basic concepts in kinematics and sound.
Objective 6	Review the concept of functions; emphasis given to domain, range, and graphing techniques.
Objective 7	Review techniques of problem solving to find solutions to application problems, including understanding and practicing unit conversions.
Objective 8	Outline basic introductory ideas of logic and proof.

Student Learning Outcomes

Upon satisfactory completion of this course, students will be able to:

Outcome 1	Review introductory topics in biology, chemistry, physics, math, geology, and astronomy.
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Methods of Instruction

Method	Please provide a description or examples of how each instructional method will be used in this course.
Lecture	Overview lectures reviewing high school science and math.
Activity	Small group work activities and peer-led discussion activities.

Methods of Evaluation

Method	Please provide a description or examples of how each evaluation method will be used in this course.	Type of Assignment
Written homework	Written homework will be given to gauge the comprehension on certain math or science topics.	In and Out of Class
Presentations/student demonstration observations	Students will present information that is reviewed to practice basic speech and improve comprehension.	In Class Only
Group activity participation/observation	Small groups discussion will be used to practice scientific terms and improve problem solving skills.	In Class Only

Assignments

Grade Methods

Pass/No Pass Only

MIS Course Data

CIP Code

32.0105 - Job-Seeking/Changing Skills.

TOP Code

493014 - Study Skills

SAM Code

E - Non-Occupational

Basic Skills Status

Basic Skills

Prior College Level

Not applicable

Cooperative Work Experience

Not a Coop Course

Course Classification Status

Non-Enhanced Funding

Approved Special Class

Not special class

Noncredit Category

Elem/Secondary Basic Skills

Funding Agency Category

Not Applicable

Program Status

Stand-alone

Transfer Status

Not transferable

Allow Audit

No

Repeatability

Yes

Repeatability Limit

NC

Repeat Type

Noncredit

Justification

Noncredit courses are repeatable. Students can participate multiple times.

Materials Fee

No

Additional Fees?

No

Approvals**Curriculum Committee Approval Date**

12/03/2019

Academic Senate Approval Date

12/12/2019

Board of Trustees Approval Date

01/17/2020

Chancellor's Office Approval Date

01/24/2020

Course Control Number

CCC000612258