Washtenaw Community College Comprehensive Report

SCI 103 Process and Professionalism in Science
Effective Term: Spring/Summer 2022

Course Cover

College: Math, Science and Engineering Tech
Division: Math, Science and Engineering Tech
Department: Physical Sciences
Discipline: Sciences
Course Number: 103
Org Number: 12340
Full Course Title: Process and Professionalism in Science
Transcript Title: Process&Prof in Sci
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Time Schedule , Web Page
Reason for Submission: Inactivation
Change Information:
   Consultation with all departments affected by this course is required.
Rationale: This course is no longer being offered, all parties involved confirmed this.
Proposed Start Semester: Winter 2022
Course Description: In this course, students will explore methods used and challenges faced by modern scientists in real-world research settings. The laboratory portion of the course is tailored to one of three STEM emphasis areas: natural/physical sciences, engineering, and computer/information sciences. Laboratory exercises will review and expand upon essential practical skills required for success in professional research environments.

Course Credit Hours

Variable hours: No
Credits: 2
Lecture Hours: Instructor: 15 **Student:** 15
Lab: Instructor: 45 **Student:** 45
Clinical: Instructor: 0 **Student:** 0

Total Contact Hours: Instructor: 60 **Student:** 60
Repeatable for Credit: NO
Grading Methods: Letter Grades
Audit
Are lectures, labs, or clinicals offered as separate sections?: NO (same sections)

College-Level Reading and Writing

College-level Reading & Writing

College-Level Math

No Level Required

Requisites

General Education

Request Course Transfer
Proposed For:

Student Learning Outcomes

1. Identify the components of good experimental design and the implementation strategies utilized to fund and publish research.
   Assessment 1
   Assessment Tool: TBD during development phase
   Assessment Date: Fall 2019
   Assessment Cycle: Every Two Years
   Course section(s)/other population: TBD during development phase
   Number students to be assessed: 25-30
   How the assessment will be scored: TBD during development phase
   Standard of success to be used for this assessment: TBD during development phase
   Who will score and analyze the data: TBD during development phase

2. Identify practical, philosophical, and ethical constraints on scientific research.
   Assessment 1
   Assessment Tool: TBD during development phase
   Assessment Date: Fall 2019
   Assessment Cycle: Every Two Years
   Course section(s)/other population: TBD during development phase
   Number students to be assessed: 27
   How the assessment will be scored: TBD during development phase
   Standard of success to be used for this assessment: TBD during development phase
   Who will score and analyze the data: Susan Dentel and Tracy Schwab

3. Demonstrate essential skills required for success in professional research environments.
   Assessment 1
   Assessment Tool: TBD during development phase
   Assessment Date: Fall 2019
   Assessment Cycle: Every Two Years
   Course section(s)/other population: TBD during development phase
   Number students to be assessed: 27
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   Who will score and analyze the data: Susan Dentel and Tracy Schwab

Course Objectives
1. List the stages of scientific process.
2. Recognize examples of good experimental design.
3. Assess the effectiveness of research funding proposals.
4. Discuss how scientific information is communicated in the world.
5. Differentiate between traditional, small research endeavors, non-profit and for profit research, high-tech "Big Science, Big Data" and crowdfunded/crowdsourced science.
6. Describe how multi-disciplined teams operate to perform research.
7. Describe what is meant by "publish or perish" in regards to the pressure to find and retain funding.
8. Analyze the factors that can bias research.
9. Describe the role of science in society and government.
10. Use equipment and tools correctly and safely.
11. Accomplish accurate measurement.
12. Construct quality lab reports and work logs.
13. Read and cite discipline-specific literature.
14. Develop discerning observation skills.

15. Execute written procedures.
16. Complete a multi-disciplined team project.

New Resources for Course

Course Textbooks/Resources
Textbooks
Manuals
Periodicals
Software

Equipment/Facilities
Level I classroom
Other: Lab portion: 1 chemistry lab room 1 computer workstations/lab 1 regular classroom

Reviewer	Action	Date
Faculty Preparer:		
Suzanne Albach	*Faculty Preparer*	*Oct 08, 2021*
Department Chair/Area Director:		
Suzanne Albach	*Recommend Approval*	*Oct 08, 2021*
Dean:		
Victor Vega	*Recommend Approval*	*Oct 12, 2021*
Curriculum Committee Chair:		
Randy Van Wagnen	*Reviewed*	*Nov 05, 2021*
Assessment Committee Chair:		
Vice President for Instruction:		
Kimberly Hurns	*Approve*	*Nov 10, 2021*

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Washtenaw Community College Comprehensive Report

SCI 103 Process and Professionalism in Science
Conditional Approval
Effective Term: Fall 2018

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Discipline: Sciences
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Org Number: 12340
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Transcript Title: Process&Prof in Sci
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Publish in the Following: College Catalog , Time Schedule , Web Page
Reason for Submission: New Course
Change Information:
Rationale: This course will be utilized by WCC STEM Scholars (LSAMP/SSTEM grants).
Proposed Start Semester: Fall 2018
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  Proposed For:

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Reviewer	Action	Date
Faculty Preparer:		
Susan Dentel	*Faculty Preparer*	*May 25, 2018*
Department Chair/Area Director:		
Kathleen Butcher	*Recommend Approval*	*Jun 02, 2018*
Dean:		
Kristin Good	*Request Conditional Approval*	*Jun 06, 2018*
Curriculum Committee Chair:		
Assessment Committee Chair:		
Vice President for Instruction:		
Kimberly Hurns	*Approve*	*Jun 27, 2018*