CMT 285 Chemical Research

Course Description: Students complete a project in their technical specialty area, including developing a procedure, performing testing, applying statistical techniques, and incorporating the data into a formal report and oral presentation.

Prerequisites(s): CMT 220 **Corequisite(s):** CMT 230

Lecture Hours: 0	Lab Hours:	Credit Hours: 1
Lab Fee: 0	Supplemental Fee: 0	Purpose:
☐ Transfer Assurance Guide Course (TAG)	☐ Transfer Module Course (TM)	
Course Format: Lec/Lab	Grading: A/B/C/D/F/I	
Delivery Method: □ Web	□ Hybrid	☒ Classroom
Semesters Offered: □ Fall	☒ Spring	□Summer

Course Primary Text:

Title: N/A	Edition:
Author(s):	
Publisher:	

Supplemental Materials:

Program Outcomes:

1	Students will develop an ability to apply written, oral and graphical communication in both technical and non-technical environments and an ability to identify and use appropriate technical literature.
2	Students will be able to compile and evaluate experimental data.
3	Student will design and conduct an individual research project showing mastery of experimental design and project completion.

Course Outcomes:

1	Understand and perform all steps necessary for creation of a new instrumental analysis method (including preliminary research, sourcing materials, establishing timeline, performing a job hazard assessment, developing sample preparation and instrument methods, validating the method, documenting all work in a laboratory notebook, presenting final results in oral/written form.)

Course Topics:

Week 1	Proposals discussions and submission
Week 2	Job hazard assessment preparation
Week 3	Independent lab work
Week 4	Independent lab work
Week 5	Independent lab work
Week 6	Independent lab work
Week 7	Independent lab work
Week 8	Mid-term progress reports given, continue independent lab work
Week 9	Independent lab work
Week 10	Independent lab work
Week 11	Independent lab work
Week 12	Independent lab work
Week 13	Independent lab work
Week 14	Independent lab work
Week 15	Final oral presentations given and written reports submitted

Methods of Evaluation/Assessment

□ Formative: ☒ Summative

List assessment activities (e.g. quizzes, discussions, essays, research papers, debates, oral presentations, exams):

Written proposal
Written job hazard assessment
Midterm progress reports (oral or written)
Completed laboratory notebook
Final oral presentation
Final written report

CENTER FOR INNOVATIVE TECHNOLOGIES

MASTER COURSE DOCUMENT

Course Keeper: Ann Fallon

Date Completed: 7/14/20