



DEPARTMENT OF
HIGHER EDUCATION &
WORKFORCE DEVELOPMENT

New Program Report

Date Submitted:

02/25/2020

Institution

Rockhurst University

Site Information

Implementation Date:

8/1/2019 12:00:00 AM

Added Site(s):

Selected Site(s):

Rockhurst University, 1100 Rockhurst Road, Kansas City, MO, 64110

CIP Information

CIP Code:

401001

CIP Description:

A program that focuses on the general application of mathematical and scientific principles to the analysis and evaluation of the characteristics and behavior of solids, including internal structure, chemical properties, transport and energy flow properties, thermodynamics of solids, stress and failure factors, chemical transformation states and processes, compound materials, and research on industrial applications of specific materials.

CIP Program Title:

Materials Science

Institution Program Title:

Materials Science

Degree Level/Type

Degree Level:

Bachelor's Degree

Degree Type:

Bachelor of Science

Options Added:

Collaborative Program:

N

Mode of Delivery

Current Mode of Delivery

Classroom

Student Preparation

Special Admissions Procedure or Student Qualifications required:

No special preparation required



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New Program Report

Specific Population Characteristics to be served:

n/a

Faculty Characteristics

Special Requirements for Assignment of Teaching for this Degree/Certificate:

Masters degree or PhD degree in Chemistry, Physics or Engineering OR relevant industry experience in materials science in industry.

Estimate Percentage of Credit Hours that will be assigned to full time faculty:

75% full-time faculty

Expectations for professional activities, special student contact, teaching/learning innovation:

Full-time faculty will engage in expected levels of teaching, scholarship, service, and advising.

Student Enrollment Projections Year One-Five

Year 1	Full Time: 1	Part Time: 0	
Year 2	Full Time: 2	Part Time: 0	
Year 3	Full Time: 2	Part Time: 0	Number of Graduates: 0
Year 4	Full Time: 2	Part Time: 0	
Year 5	Full Time: 2	Part Time: 0	Number of Graduates: 2

Percentage Statement:

n/a

Program Accreditation

Institutional Plans for Accreditation:

There are no plans to seek special accreditation. The university is accredited by HLC to offer BS degrees. Since most graduates will not become professional engineers, there is no need to for professional licensure; accreditation for that purpose is not necessary.

Program Structure

Total Credits:

128

Residency Requirements:

The university requires the last 30 hours to be completed at Rockhurst, as well as half of the upper-level courses in the major.

General Education Total Credits:

50

Major Requirements Total Credits:

65

Course(s) Added

COURSE NUMBER	CREDITS	COURSE TITLE
PH 4320	3	Strength of Materials



DEPARTMENT OF
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New Program Report

Free Elective Credits:

13

Internship or other Capstone Experience:

none

Assurances

I certify that the program will not unnecessarily duplicate an existing program within the geographically applicable area.

I certify that the program will build upon existing programs and faculty expertise.

I certify that the institution has conducted research on the feasibility of the proposal and it is likely the program will be successful. Institutions' decision to implement a program shall be based upon demand and/or need for the program in terms of meeting present and future needs of the locale, state, and nation based upon societal needs, and/or student needs.

Contact Information

First and Last Name: MICHAEL
CLUMP

Email: Michael.clump@rockhurst.edu

Phone: 816-501-4104

Student ID: _____
 Student Name: _____
 Advisor Name: _____

Catalog: 2019-2020 Undergraduate Catalog
 Program: Materials Science, B.S.

Materials Science, B.S.

Materials Science is an interdisciplinary major that blends the curriculum of both chemistry and physics programs of study, with an emphasis on applying the principles of both disciplines to solve problems across a wide range of industries.

Lower Division Courses

Course Name	Credits:	Term Taken	Grade	Gen Ed
MT 1800 - Calculus I	(4)			
MT 1810 - Calculus II	(4)			
CH 2610 - General Chemistry I	(3)			
CH 2620 - General Chemistry Laboratory I	(1)			
CH 2630 - General Chemistry II	(3)			
CH 2640 - General Chemistry Laboratory II	(1)			
CH 2710 - Organic Chemistry I	(3)			
CH 2720 - Organic Chemistry Laboratory I	(1)			
PH 2850 - Physics for Scientists and Engineers I	(3)			
PH 2860 - Physics for Scientists and Engineers Laboratory I	(1)			
PH 2940 - Physics for Scientists and Engineers II	(3)			
PH 2920 - Physics for Scientists and Engineers Laboratory II	(1)			
Total lower division hours: 28				

Upper Division Courses

Course Name	Credits:	Term Taken	Grade	Gen Ed
PH 3500 - Statics	(3)			
CH 3510 - Physical Chemistry I: Thermodynamics and Kinetics OR	(3)			
PH 3510 - Physical Chemistry I: Thermodynamics and Kinetics OR	(3)			
PH 3400 - Thermodynamics	(3)			
CH 3530 - Physical Chemistry II: Quantum Mechanics and Spectroscopy OR	(3)			
PH 3530 - Physical Chemistry II: Quantum Mechanics and Spectroscopy	(3)			
CH 3560 - Physical Chemistry Laboratory OR	(1)			
PH 3560 - Physical Chemistry Laboratory	(1)			
PH 3710 - Mathematical Methods in Physics OR	(3)			
MT 3700 - Differential Equations	(3)			
CP 3910 - Co-op Work Projects I (choose 1 cr hr option)	(1-3)			
OR CH 3990 Independent Study (1)				
OR PH 3990 Independent Study (1)				
PH 4000 - Electric Circuits	(3)			
PH 4320 - Strength of Materials	(3)			
CH 4430 - Applied Instrumental Methods of Analysis I	(3)			
CH 4450 - Applied Instrumental Methods of Analysis II	(3)			
PH 4500 - Modern Physics	(3)			
CH 4650 - Inorganic Chemistry	(3)			
CH 4200 - Materials Science	(4)			

OR				
PH 4200 - Materials Science	(4)			
Total upper division hours: 36				
Total Program Hours: 64				
Notes:				