MAT-223: INTERNSHIP EXPERIENCE - QUANTITATIVE ANALYSIS (135-300 HOURS)

Time Stamp:

Fri Jun 30 2023 14:07:46 GMT-0500 (CDT)

Approval Path

a. Wed, 02 Nov 2022 17:51:09 GMT
   Alexis Thurman (athurman): Approved for MATH Chair
b. Wed, 02 Nov 2022 19:29:23 GMT
   Melissa Kasmin (mkasmin): Approved for BMET Dean
c. Wed, 15 Feb 2023 20:03:43 GMT
   Christine Kelly (ckelly): Approved for Curriculum Committee Chair
d. Tue, 21 Feb 2023 19:39:43 GMT
   Patrick Enright (penright): Approved for VPAA
e. Fri, 21 Apr 2023 20:02:30 GMT
   Joanne Hugues (jhugues): Approved for College Council Chair
f. Mon, 24 Apr 2023 19:00:36 GMT
   Shew-Mei Chen (schen): Approved for Academic Services (Datatel Entry)

New Course Proposal

Date Submitted: Wed, 28 Sep 2022 14:36:21 GMT

Last edit: Wed, 15 Feb 2023 20:03:20 GMT

Course Type:

Credit

Credit Type:

Institutional

Course Prefix:

MAT

Course Number:

223

Course Capacity:

20

General Education?

No

Department:

Mathematics (MATH)

Division:

School of Business, Mathematics, Engineering and Technologies

Course Title:

Internship Experience - Quantitative Analysis (135-300 Hours)

Abbreviated Course Title:

Intern-QuantAnalysis(135-300)

Proposed Effective Date:

Spring 2023

Credit Hours:
Lecture:
Lab:
Recitation:
Clinical:
Cooperative: 3
Studio:
TOTAL: 3

Catalog Credits:
3

Course Fee:
No

Catalog Course Description:
This course provides students with job training and practical experience in a work environment prior to permanent employment, amounting to between 135-300 hours in duration. Students will gain experience working with industry partners and developing both technology and soft skills required to work in a quantitative discipline such as a mathematician, statistician, or data scientist. Students will engage in the data science process that should consist of quantitative or statistical analysis in an industry setting. Students desiring to participate in this experience should make their intention known to the Department Chairperson or the Faculty Coordinator prior to the beginning of semester.

Catalog Prerequisites:
CMP-131 or MAT-114 or MAT-130 or permission from department Chairperson

Corequisites:
None

Crosslisted
No

Supplemental Materials:
None

Specialized equipment, supplies, facilities, for classes limited by enrollment or restricted by accreditation and/or equipment limitations:
(Information will be used to determine differential funding category.)

Course Content:
Topics
Observes the data science life cycle in an industry setting
Initiates a project and sets realistic goals
Sources industry data
Transforms industry data
Analyzes industry data using quantitative methods and visualizations
Closes out the project and communicates analysis effectively
On the job technology skills which include: R, Python, Tableau, Excel, SQL, other
On the job soft skills which include: attitude, initiative, maturity, dependability, relations with others, punctuality, time management

Statement of Course Learning Outcomes:

Learning Outcomes
The statement of course learning outcomes were created based off: Malyn-Smith, J., & Ippolito, J. (2018). Tools for building a big data career pathway (NSF-ATE DUE 1501927). Oceans of Data Institute, Education Development Center. Retrieved from: http://oc eansofda ta.org/sites/oc eansofda ta.org/files/Tools%20for%20Building% 20a %20Big% 20 Data%20Career%20P ath.pdf The learning outcomes were created with the focus on students leaning how "the profile of a Data Practitioner articulates the work expected of a middle skill data worker. The profile is grounded in an occupational definition developed by an expert panel. It reads: The Data Practitioner, in service of an organization and/ or stakeholders, supports the data life cycle by collecting, transforming, and analyzing data, and communicating results in order to inform and guide decision-making. Based upon that definition, the profile organizes the work expected of an effective Data Practitioner into major and minor responsibilities, referred to as duties and tasks respectively. Employers looking for student internships, will want to know the extent to which students are prepared to perform these work activities." Quantitative, mathematical, or statistical analysis should be performed as part of the data science process.

• Identify, apply for, and acquire an approved paid or unpaid internship with a firm.

• Fulfill the 135-300 work hours in the position and report these hours regularly to the office of Career Services and Student Employment.

• Demonstrate knowledge of the data science life cycle by collecting, transforming, and analyzing data, and communicating results to inform and guide decision-making.

• Demonstrate knowledge of quantitative, statistical, or mathematical concepts as they apply to industry.

• Demonstrate knowledge of industry used technology or software.

• Accomplish defined goals, as agreed and assessed by the supervisor.

Learning Activities: Describe, on a regular basis, the results of their learning goals and objectives based on quantitative analysis, or the data science life cycle will be documented, in the form of a Blackboard discussion post. Explain, in writing, how technology was applied to the data science process or quantitative analysis.

Assessment: Student discussion board entries will be critiqued and graded according to how thoroughly and specifically they describe their knowledge in quantitative analysis and how it applies to the data science lift cycle and enhanced knowledge of industry technology. At the end of the internship, the employer and the student will evaluate student achievement of the learning outcomes in the form of an Employer Final Assessment checklist, that is based on the profile of a Data Practitioner which articulates the work expected of a middle skill data worker or analyst.

Statement of Relation to Curriculum(s):

This course will provide students the opportunity to use their skills, knowledge and technologies they have learned in class and apply them to real world industry applications.

Format for offering the course:

(check all that apply)

Traditional

Key: 11127