QUANTITATIVE REASONING — MATS 1240

A. Course Description

- **Credits:** 4.00
- **Lecture Hours/Week:** 2.00
- **Lab Hours/Week:** 2.00
- **OJT Hours/Week:** 0
- **Prerequisites:**
  - MATS 0310: Algebra Skills Lab
  - MATS 0640: Mathematical Literacy
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- **Corequisites:** None
- **MnTC Goals:**
  - 04 – Mathematical/Logical Reasoning

A project-based course using Microsoft Excel, emphasizing conceptual understanding and application of elementary mathematics as it is used and communicated in a variety of everyday contexts (no prior experience with Excel is necessary). Mathematical topics include ratios, rates, percentages, units, descriptive statistics, linear and exponential modeling, correlation, logic, and probability; contexts include (but are not limited to) personal fin

B. Course Effective Dates: 1/31/19 – Present

C. Outline of Major Content Areas

As noted on course syllabus

D. Learning Outcomes

1. Understand, work with, and communicate using ratios and rates
2. Develop confidence with personal finance
3. Understand, work with, and communicate using percentages
4. Interpret and convert among analytic representations
5. Calculate, interpret, and communicate with descriptive statistics
6. Understand, work with, and communicate linear growth patterns
7. Understand, work with, and communicate exponential growth patterns
8. Understand and explain what constitutes a valid argument
9. Develop proficiency with Microsoft Excel for basic quantitative analyses and presentations
10. Communicate mathematically

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

Goal 04 — Mathematical/Logical Reasoning

1. Illustrate historical and contemporary applications of mathematical/logical systems.
2. Clearly express mathematical/logical ideas in writing.
3. Explain what constitutes a valid mathematical/logical argument (proof).
4. Apply higher-order problem-solving and/or modeling strategies.

F. Learner Outcomes Assessment

As noted on course syllabus

G. Special Information

None noted