Quantitative Rubric

EIU graduates produce, analyze, interpret, and evaluate quantitative material by:

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|  | **Exemplary**  **4** | **Satisfactory**  **3** | **Partial**  **2** | **Minimal**  **1** |
| **Performing basic calculations and measurements** | Calculations and measurements attempted are essentially all successful and sufficiently comprehensive to solve the problem. Calculations and measurements are also presented elegantly (clearly, concisely, etc.) | Calculations and measurements attempted are essentially all successful and sufficiently comprehensive to solve the problem | Calculations and measurements attempted are either unsuccessful, incorrectly selected, or represent only a portion of the calculations required to comprehensively solve the problem | Calculations are attempted but are both unsuccessful and are not comprehensive |
| **Applying quantitative methods and using the resulting evidence to solve problems** | Uses the quantitative analysis of data as the basis for deep and thoughtful judgments, drawing insightful, carefully qualified conclusions from this work | Uses the quantitative analysis of data as the basis for competent judgments, drawing reasonable and appropriately qualified conclusions from this work | Uses the quantitative analysis of data as the basis for workmanlike (without inspiration or nuance, ordinary) judgments, drawing plausible conclusions from this work | Uses the quantitative analysis of data as the basis for tentative, basic judgments, although is hesitant or uncertain about drawing conclusions from this work |
| **Reading, interpreting, tables, graphs, charts, and other representations of quantitative material.** | Provides accurate explanations of information presented in mathematical forms. Makes appropriate inferences based on that information. *For example, accurately explains the trend data shown in a graph and makes reasonable predictions regarding what the data suggest about future events* | Provides accurate explanations of information presented in mathematical forms. *For instance, accurately explains the trend data shown in a graph* | Provides somewhat accurate explanations of information presented in mathematical forms, but occasionally makes minor errors related to computations or units. *For instance, accurately explains trend data shown in a graph, but may miscalculate the slope of the trend line* | Attempts to explain information presented in mathematical forms, but draws incorrect conclusions about what the information means. *For example, attempts to explain the trend data shown in a graph, but will frequently misinterpret the nature of that trend, perhaps by confusing positive and negative trends* |
| **Constructing tables, graphs, charts, and other representations of quantitative material.** | Skillfully converts relevant information into an insightful mathematical portrayal in a way that contributes to a further or deeper understanding | Competently converts relevant information into an appropriate and desired mathematical portrayal | Completes conversion of information but  resulting mathematical portrayal is only partially appropriate or accurate | Is unable to complete conversion of information or completes conversion of information but resulting mathematical portrayal is inappropriate or inaccurate |
| **Critically evaluating quantitative methodologies and data.** | Explicitly describes assumptions and provides compelling rationale for why each assumption is appropriate. Shows awareness that confidence in final conclusions is limited by the accuracy of the assumptions | Explicitly describes assumptions and provides compelling rationale for why assumptions are appropriate | Explicitly describes assumptions | Attempts to describe assumptions |
| **Constructing cogent arguments utilizing quantitative material** | Uses quantitative information in connection with the argument or purpose of the work, presents it in an effective format, and explicates it with consistently high quality | Uses quantitative information in connection with the argument or purpose of the work, though data may be presented in a less than completely effective format or some parts of the explication may be uneven | Uses quantitative information, but does not effectively connect it to the argument or purpose of the work | Presents an argument for which quantitative evidence is pertinent, but does not provide adequate explicit numerical support. (May use quasi-quantitative words such as "many," "few," "increasing," "small," and the like in place of actual quantities.) |
| **Using appropriate technology to collect, analyze, and produce quantitative materials** | Is able to adeptly select the appropriate mode of technology for the data (e.g., excel), masters the use of the technology, and interprets its output correctly | Is able to select the appropriate mode of technology for the data (e.g., excel) and either uses the technology or interprets its output with no more than minor problems or errors | Is able to select the appropriate mode of technology (e.g., excel) but does not fully comprehend its use or makes errors in using the technology or in interpreting its output (e.g., misinterpreting a spreadsheet) | Is unable to correctly select the appropriate mode of technology or program (e.g., excel) or is unable to use the selected technology appropriately |