**Common Rubric Criteria for ITCO 341**

**Expectations:** Student work at the undergraduate level is expected to focus on a broad overview of an academic discipline, along with—where appropriate— basic theoretical frameworks of professional practices and familiarity with discipline‐specific tools and their application. Blooms taxonomy levels only apply for IT content criteria.

*Version 5.0 – October 2017*

*DNS = Did Not Submit N/A = Not Applicable to Assignment*

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| **Criteria** | **Exemplary (5)** | **Accomplished (4)** | **Proficient (3)** | **Partially Proficient (2)** | **Unacceptable (1)** |
| **QUANTITATIVE LITERACY**  **UNDERSTANDING APPLICATION OF DISCRETE MATHEMATICS**  *[APPL DISCRETE MATH]* | Demonstrates outstanding or exemplary ability to provide accurate understanding and explanations of the three important topics in discrete mathematics: logic, sets, and functions. For example, accurately explains the rules of logic that specifies the meaning of mathematical statements; understands what makes up a correct mathematical argument, such as proof used for program verification and algorithm correctness.  Calculations attempted are essentially successful and sufficiently comprehensive to solve the problem. | Demonstrates sound or accomplished ability to provide accurate understanding and explanations of the three important topics in discrete mathematics: logic, sets, and functions. For example, accurately explains the rules of logic that specifies the meaning of mathematical statements; understands what makes up a correct mathematical argument, such as proof used for program verification and algorithm correctness.  Calculations attempted are mostly successful and sufficiently comprehensive to solve the problem. | Demonstrates adequate or proficient ability to provide somewhat accurate understanding and explanations of the three important topics in discrete mathematics: logic, sets, and functions, but occasionally makes minor errors related to application of functions or logic. For instance, accurately explains the rules of logic that specifies the meaning of mathematical statements; understands what makes up a correct mathematical argument, such as proof used for program verification and algorithm correctness.  Calculations attempted are often successful and sufficiently comprehensive to solve the problem | Attempts to understand and explain the three important topics in discrete mathematics: logic, sets, and functions, but draws incorrect conclusions about what these important concepts means. For example, attempts to explain the rules of logic that specifies the meaning of mathematical statements, but will frequently misinterpret what makes up a correct mathematical argument, such as proof used for program verification and algorithm correctness, perhaps by confusing the logic and functions.  Calculations attempted are either unsuccessful or represent only a portion of the calculations required to comprehensively solve the problem. | Understanding and explanations of the three important topics in discrete mathematics, including logic, sets, and functions are unacceptable, with consistently incorrect conclusions about what these important concepts means. For example, attempts to explain the rules of logic that specifies the meaning of mathematical statements, but will consistently misunderstand and misinterpret what makes up a correct mathematical argument, such as proof used for program verification and algorithm correctness.  Calculations may be attempted but are both unsuccessful and are incomprehensive. |

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| **Criteria** | **Exemplary (5)** | **Accomplished (2)** | **Proficient (3)** | **Partially Proficient (2)** | **Unacceptable (1)** |
| **QUANTITATIVE LITERACY**  **UNDERSTANDING APPLICATION OF STATISTICS TECHNIQUES**  *[APPL STATISTICS TECH]* | Demonstrates outstanding ability to provide accurate understanding and explanations of statistical concepts and applications. For example, accurately explains standard deviation and variance, tendency and dispersion, and shows statistical trends in charts and graphs, and makes reasonable predictions regarding what the data suggest about future events.  Calculations attempted are essentially all successful and sufficiently comprehensive to solve the problem. | Demonstrates sound or accomplished ability to provide accurate understanding and explanations of statistical concepts and applications. For example, accurately explains the standard deviation and variance, tendency, dispersion, and shows statistical trends in charts and graphs, and makes reasonable predictions regarding what the data suggest about future events.  Calculations attempted are mostly successful and sufficiently comprehensive to solve the problem. | Demonstrates adequate or proficient ability to provide somewhat accurate understanding and explanations of statistical concepts and applications, but occasionally makes minor errors related to statistical concepts and application, including functions and data interpretation. For instance, accurately explains standard deviation and variance, tendency and dispersion, and shows statistical trends in charts and graphs, and makes reasonable predictions regarding what the data suggest about future events, but may miscalculate and misinterpret these statistical concepts.  Calculations attempted are often successful and sufficiently comprehensive to solve the problem. | Attempts to understand and explain statistical concepts and applications, but draws incorrect conclusions what these important statistical concepts mean, including standard deviation and variance, tendency and dispersion. For example, attempts to explain the statistical trends in charts and graphs, but will frequently misinterpret the nature of such trends, confusing statistical functions and incorrectly predicting what the data suggest about future events.  Calculations attempted are either unsuccessful or represent only a portion of the calculations required to comprehensively solve the problem. | Understanding and explanations of statistical concepts and applications are unacceptable, with consistently incorrect conclusions about what these important statistical concepts mean, including standard deviation and variance, tendency and dispersion. For example, attempts to explain the statistical trends in charts and graphs, but will consistently misinterpret the nature of such trends, confusing statistical functions and incorrectly predicting what the data suggest about future events.  Calculations may be attempted but are both unsuccessful and are not comprehensive. |

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| **Criteria** | **Exemplary (5)** | **Accomplished (2)** | **Proficient (3)** | **Partially Proficient (2)** | **Unacceptable (1)** |
| **QUANTITATIVE LITERACY**  **UNDERSTANDING, INTERPRETATION, AND CALCULATION**  ***PRACTICAL REASONING HUMAN PERSPECTIVES***  *[INTERPRETN/CALCULATN]* | Demonstrates outstanding ability to provide accurate understanding and explanations of information presented in mathematical forms. For example, accurately explains the trend data shown in a graph and makes reasonable predictions regarding what  the data suggest about future events.  Calculations attempted are essentially all successful and sufficiently comprehensive to solve the problem. | Demonstrates sound or accomplished ability to provide accurate understanding and explanations of information presented in mathematical forms. For instance, accurately explains the trend data shown in a graph.  Calculations attempted are mostly successful and sufficiently comprehensive to solve the problem. | Demonstrates adequate or proficient ability to provide somewhat accurate understanding and 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  Calculations attempted are often successful and sufficiently comprehensive to solve the problem | Attempts to understand and 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.  Calculations attempted are either unsuccessful or represent only a portion of the calculations required to comprehensively solve the problem. | Understanding and explanations of information presented in mathematical forms are unacceptable, with consistently incorrect conclusions about what the information means. For example, attempts to explain the trend data shown in a graph, but will consistently misunderstand the basic elements of the graph or the data.  Calculations may be attempted but are both unsuccessful and are not comprehensive. |

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| **General Education**  **Criteria** | **Exemplary (5)** | **Accomplished (4)** | **Proficient (3)** | **Partially Proficient (2)** | **Unacceptable (1)** |
| **CRITICAL THINKING** Synthesize different ideas, beliefs, perspectives, and approaches in the process of arriving at conclusions or solutions (includes ethical reasoning and awareness of cultural diversity)**.** | Demonstrates outstanding or exemplary ability to integrate different ideas, beliefs, perspectives and approaches in the process of arriving at conclusions or solutions as required by the assignment (includes issues related to ethical questions)  Demonstrates outstanding or exemplary ability to proactively seek and incorporate multiple and diverse perspectives when working with one’s own and other cultures (as applicable). | Demonstrates clear ability to integrate different ideas, beliefs, perspectives and approaches in the process of arriving at conclusions or solutions as required by the assignment (includes issues related to ethical questions).  Demonstrates clear ability to seek and incorporate multiple and diverse perspectives when working with one’s own and other cultures (as applicable). | Demonstrates adequate or proficient ability to integrate, different ideas, beliefs, perspectives and approaches in the process of arriving at conclusions or solutions as required by the assignment (includes issues related to ethical questions).  Demonstrates adequate ability to seek (when instructed), and incorporate multiple and diverse perspectives when working with one’s own and other cultures (as applicable). | Demonstrates inadequate or partially proficient ability to integrate, different ideas, thoughts, perspectives and approaches in the process of arriving at conclusions or solutions as required by the assignment (includes issues related to ethical questions).  Demonstrates partially proficient ability to incorporate multiple and diverse perspectives when working with one’s own and other cultures (as applicable). | Demonstrates limited ability to integrate different ideas, thoughts, perspectives and approaches in the process of arriving at conclusions or solutions as required by the assignment (includes issues related to ethical questions).  Demonstrates limited ability to incorporate multiple and diverse perspectives when working with one’s own and other cultures (as applicable). |

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| **General Education Criteria** | **Exemplary (5)** | **Accomplished (4)** | **Proficient (3)** | **Partially Proficient (2)** | **Unacceptable (1)** |
| **QUANTITATIVE REASONING**  Present solutions, in a variety of formats, to quantitative problems from a wide array of authentic contexts and everyday life situations. | Demonstrates outstanding or exemplary ability to apply the principles and methods of mathematics to solve quantitative problems. Provides accurate and comprehensive interpretation/analysis of quantitative information.  Presents solutions in format/s ideal to the context and situation. | Demonstrates clear ability to apply the principles and methods of mathematics to solve quantitative problems.  Provides accurate interpretation/analysis of quantitative information.  Presents solutions in format/s especially suited to the context and situation. | Demonstrates adequate or proficient ability to apply the principles and methods of mathematics to solve quantitative problems.  Provides mostly accurate interpretation/analysis of quantitative information.  Presents solutions in format/s appropriate to the context and situation. | Demonstrates inadequate or partially proficient ability to apply the principles and methods of mathematics to solve quantitative problems. Provides partially accurate interpretation/analysis of quantitative information.  Presents solutions in format/s somewhat appropriate to the context and situation. | Demonstrates limited ability to apply the principles and methods of mathematics to solve quantitative problems. Provides inaccurate or incorrect interpretation/analysis of quantitative information.  Presents solutions but the format used is not a good fit to the context and situation. |