**MTH202A** – Mathematical Analysis 2 *Prerequisite: MTH201A Prerequisite to: STT220A, STT202A*

*STT300A*

**Instructor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Consultation Hours: \_\_\_\_\_\_\_\_\_\_\_\_\_**

**Contact details: \_\_\_\_\_\_\_\_\_\_\_\_\_  
Class Schedule and Room: \_\_\_\_\_\_\_\_**

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| **Course Description** |
| **This is second course in Calculus . It covers techniques of integration, indeterminates, improper integrals, sequences and series, parametric equations, polar coordinates, cylindrical surfaces, surfaces of revolutions and quadric surfaces, limits and continuity of functions of several variables, partial derivatives and total differentials.** |

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| **Learning Outcomes** |
| On completion of this course, the student is expected to present the following learning outcomes in line with the Expected Lasallian Graduate Attributes (ELGA) and the outcomes prescribed by the CHED Memorandum Order for the BS Statistics program.   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | ELGA | Learning Outcome | Program Outcome | | | | | | | | | | | | | | | Critical and Creative Thinker  Effective Communicator  Lifelong Learner | At the end of the course, the student will | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | | apply appropriate statistical concepts, methodologies and technologies in organizing, analyzing and interpreting various real-world situations and in coming up with relevant decisions. |  | 🗸 |  | 🗸 | 🗸 | 🗸 |  | 🗸 |  |  |  |  |  |  | |

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| **Program Outcomes (BS Statistics)** |
| A graduate of the program should be able to |
| 1. Demonstrate broad and coherent knowledge and understanding of the core areas of statistical theory and statistical modeling . |
| 2.Apply critical and problem solving skills using the scientific method. |
| 3.Interpret scientific data and make judgments that include reflection on relevant scientific and ethical issues. |
| 4.Carry out basic mathematical and statistical computations and use appropriate technologies in (a) the analysis of data; and ( b) In pattern recognition, generalization, abstraction, critical analysis and problem solving. |
| 5.Communicate information, ideas problems and solutions, both, orally and in writing, to other scientists, decision makers and the public. |
| 6.Relate science and mathematics with other disciplines. |
| 7.Design and perform safe and responsible techniques and procedures in laboratory or field practices. |
| 8.Critically evaluate input from others. |
| 9.Appreciate the limitations and implications of science in everyday life. |
| 10.Commit to the integrity of data. |
| 11.Demonstrate broad and coherent knowledge and understanding in the core areas of statistics, computing and mathematics. |
| 12.Generate information involving the conceptualization of a strategy for generating timely and accurate/reliable data, organizing a process for putting together or compiling the needed data, and transforming available data into relevant and useful forms. |
| 13.Translate real-life problems into statistical problems. |
| 14.Identify appropriate statistical tests and methods and their proper use for the given problems, select optimal solutions to problems and make decision in the face of uncertainty. |

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| **Rubric for assessment for compilation of solutions to problems** |
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| **Requirements** | |
| **Grading System** | |
| |  |  |  |  | | --- | --- | --- | --- | |  | **FOR EXEMPTED STUDENTS**  **(w/out Final Exam)** | **FOR STUDENTS**  **with FINAL EXAM** | | | *with*  *no missed quiz* | *With*  *one missed quiz* | | Average of quizzes | 90% | 60% | 55% | | Project Output | 10% | 10% | 10% | | Final exam | - | 30% | 35% | | **Scale:**  95-100% 4.0  89-94% 3.5  83-88% 3.0  78-82% 2.5  72-77% 2.0  66-71% 1.5  60-65% 1.0  <60% 0.0 |

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| **Requirements** |
| At least 5 quizzes, 1 final exam, Seatwork, Assignments, Recitation, Group Work |

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| **Learning Plan** |
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\*Problem sets are given weekly and the students are expected to work on the solutions for their fourth hour activity. At the end of the term, the solutions to the problems will be compiled and submitted as course outputs.

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| **References** |
| Anton, H., Biven, I.C., and Davis, S., *Calculus* (10th ed.) Wiley, 2012  Edwards, C.H. and Penney, D.E. (2008) *Calculus: Early Transcendentals* (7th ed.) Upper Saddle River, NJ: Pearson/Prentice Hall, 2007  **Etgen, G., Salas, S., Hille, E., *Calculus: One and Several Variables,* (10th ed.), John Wiley and Sons, Inc. 2007**  Larson, R.E, Hostetler, R. & Edwards, B.H. (2008) *Essential Calculus: Early Transcendental Functions*. Boston: Houghton Mifflin  Larson, R., Edwards, B., *Calculus* (10th ed.) Brooks/Cole, 2014  **Leithold, L. (2002) *The Calculus 7* (Low Price Edition) Addison-Wesley**  Simmons, G.F. (1996) *Calculus with Analytic Geometry* (2nd ed.) New York: McGraw-Hill  Smith, Robert T., Minton, Roland B. (2012), *Calculus* , New York : McGraw Hill  Tan, Soo T. (2012) *Applied Calculus for the Managerial, Life, and Social Sciences : A Brief Approach*, Australia : Brooks/Cole Cengage Learning  Stewart, J., *Calculus: Early Transcendentals* (8th ed.) Brooks/Cole, 2011 |
| **Online Resources** |
| *Free Calculus Tutorials and Problems* Accessed October 11, 2012 from <http://analyzemath.com/calculus/>  *Visual* Calculus Accessed October 11, 2012 from <http://archives.math.utk.edu/visual.calculus>  tutorial.math.lamar.edu  Dawkins, P. (2012) *Paul’s Online Math Notes* Accessed October 11, 2012 from <http://tutorial.math.lamar.edu> |

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| **Class Policies** |
| 1. The required minimum number of quizzes for a 3-unit course is 3, and 4 for 4-unit or 5 unit course. No part of the final exam may be considered as one quiz. 2. Cancellation of the lowest quiz is not allowed even if the number of quizzes exceeds the required minimum number of quizzes. 3. As a general policy, no special or make-up tests for missed exams other than the final examination will be given. However, a faculty member may give special exams for 4. approved absences (where the student concerned officially represented the University at some function or activity). 5. absences due to serious illness which require hospitalization, death in the family and other reasons which the faculty member deems meritorious. 6. If a student missed two (2) examinations, then he/she will be required to take a make up for the second missed examination. 7. If the student has no valid reason for missing an exam (for example, the student was not prepared to take the exam) then the student receives 0% for the missed quiz. 8. Students who get at least 89% in every quiz are exempted from taking the final examination. Their final grade will be based on the average of their quizzes and other prefinal course requirements. The final grade of exempted students who opt to take the final examination will be based on the prescribed computation of final grades inclusive of a final examination. Students who missed and/or took any special/make-up quiz will not be eligible for exemption. 9. Learning outputs are required and not optional to pass the course. 10. Mobile phones and other forms of communication devices should be on silent mode or turned off during class. 11. Students are expected to be attentive and exhibit the behavior of a mature and responsible individual during class. They are also expected to come to class on time and prepared. 12. Sleeping, bringing in food and drinks, and wearing a cap and sunglasses in class are not allowed. 13. Students who wish to go to the washroom must politely ask permission and, if given such, they should be back in class within 5 minutes. Only one student at a time may be allowed to leave the classroom for this purpose. 14. Students who are absent from the class for more than 5 meetings will get a final grade of 0.0 in the course. 15. Only students who are officially enrolled in the course are allowed to attend the class meetings. |

Approved by:

**DR. JOSE TRISTAN F. REYES**

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