**UNIVERSITI TEKNOLOGI MARA**

**MAT093: FOUNDATION MATHEMATICS I**

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| **Course Name (English)** | FOUNDATION MATHEMATICS I APPROVED |
| **Course Code** | MAT093 |
| **MQF Credit** | 5 |
| **Course Description** | This is the first of the two-semester course in Foundation Mathematics for students at the Centre of Foundation Studies. This 5 credit course is focuses on the basic knowledge of number system, polynomials, matrices and system of linear equations, vectors, functions, trigonometric functions and data description that prepared students for the study of calculus. Applications in various areas will be discussed. The purpose of this course is to provide students with strong mathematical concepts, analytical and problem-solving skills; and to expose students to the analytical statistical big data analysis in order to develop long-term retention of principles and practice needed in their future studies by thorough guidance methods, in-class exercises and group project. By the end of this course, students are expected to acquire and apply knowledge of mathematics to respective fields of medicine, health, environment, agriculture, industry and engineering. |
| **Transferable Skills** | Mastered fundamental knowledge and skills and able to further acquire new knowledge and skills in their field of study; integrate values, attitudes, professionalism and social skills in the environment of higher learning institutions; communicate effectively and taking alternate role as a leader and a team member in addressing issues scientifically; and proactively acquire knowledge and innovatively manage resources and information to face the challenges at the higher learning institutions. |
| **Teaching Methodologies** | Lectures, Case Study, Tutorial, Collaborative Learning |
| **CLO** | CLO1 Use appropriate and relevant algebraic and trigonometric principles in assessing conceptual understanding of algebraic and trigonometric concepts.<br>CLO2 Integrate algebraic and trigonometric theoretical and analytical skills in solving a variety of problems involving contemporary applications of algebra and trigonometry.<br>CLO3 Demonstrate the ability to retrieve and manage information relating to descriptive statistics for selected statistical case study.<br>CLO4 Present good managerial skills in presenting a precise descriptive statistics analysis for selected statistical case study. |
| **Pre-Requisite Courses** | No course recommendations |

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| **Reading List** | **Recommended Text** | • **Ainon Zarina Mohamed Nadzri et. al. 2020, *Foundation Mathematics I*, 1st Edition Ed., Djuta Dallek Interprise Malaysia [ISBN: 9789671609347]**<br>• **Ong Beng Sim et. al. 2016, *Mathematics for Matriculation Semester 1*, 5th Edition Ed., Oxford Fajar Malaysia [ISBN: 9789834718022]**<br>• **Abdul Hadi Yaakub et. al. 2016, *Mathematics for Matriculation Semester 2*, 5th Edition Ed., Oxford Fajar Malaysia [ISBN: 9789834714123]** |
| | **Reference Book Resources** | • **Anton, H., et.al. 2016, *Calculus*, 11th edition Ed., Wiley USA [ISBN: 978-111888613]**<br>• **Stewart, J. 2011, *Calculus*, 8th Edition Ed., Cengage Learning [ISBN: 9780538497817]**<br>• **Stewart, J.,Retlin, L. & Watson, S. 2016, *Precalculus: Mathematics for Calculus*, 7th Edition Ed., Brooks/Cole Pub** |

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| | Co USA [ISBN: 978-130507175]<br>• Cohen, D., Lee, T.B., & Sklar, D. 2017, *Precalculus*, 7th Edition Ed., Cengage Learning USA [ISBN: 978-084006942]<br>• Friedberg, S.H., Insel, A.J., & Spence, L.E. 2014, *Linear Algebra*, 4th Edition Ed., Pearson USA [ISBN: 978-013008451]<br>• Bluman, A.G. 2016, *Elementary Statistics A Step By Step Approach*, 9th Edition Ed., Mc Graw Hill USA [ISBN: 978-007813633] |
| **Article/Paper List** | This Course does not have any article/paper resources |
| **Other References** | This Course does not have any other resources |