Applied Mathematics which Deals with the Application of Mathematical Knowledge

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Received: November 30, 2022, Manuscript No. MATHLAB-23-86766; **Editor assigned:** December 2, 2022, PreQC No. MATHLAB-23-86766 (PQ); **Reviewed:** December 16, 2022, QC No MATHLAB-23-86766; **Revised:** December 21, 2022, Manuscript No. MATHLAB-23-86766 (R); **Published:** December 28, 2022

Description

We see applied mathematics as the application of mathematics to real-world problems with the dual purpose of explaining observed phenomena and predicting new phenomena that have not yet been observed. The focus is therefore on both mathematics and, for example, the development of new problems and new methods for dealing with real-world challenges. The Bachelor of Applied Mathematics emphasizes knowledge and awareness of: Differential and integral calculations for one or more variables, vector spaces and matrix algebra, Ordinary and Partial Differential Equations, At least one programming language, At least one application software package in mathematics or statistics, Complex variable methods used in applications. When Numerical solution of linear and nonlinear problems. Additionally, graduates with a degree in Applied Mathematics will obtain: In-depth knowledge of the application domain (engineering or scientific discipline, or one of the quantitative domains of economics), Knowledge of techniques and strategies for problem formulation, problem solving, and modeling central to the application. Ability to communicate analytical arguments clearly and concisely, both orally and in writing. The term applied mathematics is sometimes used to distinguish between traditional applied mathematics, which developed along with physics, and the many branches of mathematics that can be applied to real-world problems today, but the exact definition is No consensus. Mathematicians often distinguish between "applied mathematics" on the one hand and "applied mathematics" or "applied mathematics" within and outside the natural and engineering sciences on the other. Some mathematicians emphasize the term applicable mathematics to separate or distinguish conventional fields of application from new applications arising from fields formerly thought of as pure mathematics. From this perspective, for example, ecologists and geographers who apply known mathematics using population models are doing applied mathematics, not applied mathematics. Also, areas like number theory, which are part of pure mathematics and are not generally considered part of applied mathematics per se, have gained importance in applications (such as cryptography). Such descriptions lead to a view of mathematics that can be applied as a set of mathematical techniques such as real number analysis, linear algebra, mathematical modeling, optimization, combinatorics, probability, statistics, etc. Useful and not specific to mathematical physics. Other authors prefer to describe applied mathematics as a combination of "new" mathematical applications with the traditional fields of applied mathematics. Therefore, the terms applied mathematics and applied mathematics are interchangeable from this point of view. Nevertheless, almost all mathematical theories remained motivated by problems stemming from the real world or less abstract mathematical theories. Theory has come to be used mainly in applied fields such as physics and computer science. A famous early example is that Isaac Newton's law of universal gravitation implied that planets moved in orbits that were geometric curves, conic curves that had been studied in ancient times by Apollonius. It forms the basis of the RSA cryptosystem, which is widely used to secure Internet communications. It follows, therefore, that the distinction between pure and applied mathematics is now based more on the philosophical views or preferences of mathematicians than on rigid divisions of mathematics. In particular, some members of the Applied Mathematics Department often refer to themselves as pure mathematicians.

Acknowledgement

None.

Conflict of Interest

The authors are grateful to the journal editor and the anonymous reviewers for their helpful comments and suggestions.