COMPUTER AIDED GEOMETRIC DESIGN:

ADVANCED GEOMETRY LABORATORY:

3D PRINTER MODEL CATALOGUE BOOK

WITH QR VIDEO GALLERY

Author and Editor

Assoc. Prof. Hatice KUŞAK SAMANCI

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Author and Editor
Hatice KUŞAK SAMANCI
ORCID iD: 0000-0001-6685-236

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Assoc. Prof. Hatice KUŞAK SAMANCI

PREFACE

This book has been specifically designed for departments such as Mathematics, Mathematics-Computer, Mathematics Teaching, Mathematical Engineering, Computer Engineering, 3D Production Engineering, Geomatics Engineering, Digital Art, Graphic Design, and Digital Graphic Design, where courses such as Differential Geometry, Special Curves and Surfaces, Analytical Geometry, and Space Geometry are taught. It aims to provide a better understanding of three-dimensional surfaces and the ability to observe them concretely. In addition, it is believed that it will be helpful to use it in courses such as Analytical Geometry or Space Geometry, which are included in the elementary and high school curricula, as it will provide a better understanding of solid objects and some special surfaces that students often find challenging to visualize. Therefore, Prisms, Pyramids, and Quadratic Surfaces are also included in the content of the book. This book, which is a first in the field of geometry in Türkiye, is actually a first step towards the "Advanced Geometry Laboratory and Workshop" project, which is planned to be created in the future. This book has been created with the idea of paving the way for the development of basic sciences in our country and making our students love basic sciences. I can say that I embarked on this arduous journey of publishing this book to contribute to the efforts of our students and future generations to love and understand geometry in the fast-growing world of technology and science. Although it is currently an individual scientific study, I'm planning to enrich our work with the students in the Computer-Aided Geometric Design Club we have established at our university and with all students from elementary to graduate level who are willing to volunteer in our country. To appeal to anyone interested in geometry at any level, this book includes only visuals and video presentations of three-dimensional surfaces. Additionally, with this book, as an academician, I aim to increase my students' interest and love for geometry in the geometry courses I teach, as well as introduce them to the world of digital design. I aim to apply the modeling techniques I learned from my respected professors in their field during my undergraduate education to the Computer-Aided Geometric Design course that I teach at our university. Additionally, I aim to increase my students' motivation toward new-generation technologies by producing three-dimensional prints of the objects we design. As an academician, I am excited to

convey the beauty of the mysterious and enchanting world of geometry to my students and future generations, aiming to inspire them as much as possible. We aspire to serve as an inspiration to the many scientists who will flourish in our country...

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