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## **KEY=GUIDE - CAMRYN CHARLES**

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### **BEGINNER'S GUIDE TO SOLIDWORKS 2021 - LEVEL I**

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**SDC Publications This book is intended to help new users learn the basic concepts of SOLIDWORKS and good solid modeling techniques in an easy to follow guide that includes video instruction. It is a great starting point for those new to SOLIDWORKS or as a teaching aid in classroom training to become familiar with the software's interface, basic commands and strategies as users complete a series of models while learning different ways to accomplish a particular task. At the end of this book, you will have a fairly good understanding of the SOLIDWORKS interface and the most commonly used commands for part modeling, assembly and detailing after completing a series of components and their 2D drawings complete with Bill of Materials. The book focuses on the processes to complete the modeling of a part, instead of focusing on individual software commands or operations, which are generally simple enough to learn. Throughout this book the author introduces you to new commands that are required to pass the Certified SOLIDWORKS Associate exam, as listed on the SOLIDWORKS website. A dedicated chapter provides you with details about the exam, as well as a practice test to help you prepare for the actual exam. SOLIDWORKS is an easy to use CAD software that includes many time saving tools that will enable new and experienced users to complete design tasks faster than before. Most commands covered in this book have advanced options, which may not be covered in this book. This is meant to be a starting point to help new users to learn the basic and most frequently used commands.**

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## **SOLIDWORKS**

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## **TEACHER GUIDE AND STUDENT COURSEWARE**

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### **SOLIDWORKS 2001**

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#### **TEACHER GUIDE**

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#### **INTRODUCTION TO SOLIDWORKS**

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#### **A COMPREHENSIVE GUIDE WITH APPLICATIONS IN 3D PRINTING**

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CRC Press This senior undergraduate level textbook is written for Advanced Manufacturing, Additive Manufacturing, as well as CAD/CAM courses. Its goal is to assist students in colleges and universities, designers, engineers, and professionals interested in using SolidWorks as the design and 3D printing tool for emerging manufacturing technology for practical applications. This textbook will bring a new dimension to SolidWorks by introducing readers to the role of SolidWorks in the relatively new manufacturing paradigm shift, known as 3D-Printing which is based on Additive Manufacturing (AM) technology. This new textbook: Features modeling of complex parts and surfaces Provides a step-by-step tutorial type approach with pictures showing how to model using SolidWorks Offers a user-Friendly approach for the design of parts, assemblies, and drawings, motion-analysis, and FEA topics Includes clarification of connections between SolidWorks and 3D-Printing based on Additive Manufacturing Discusses a clear presentation of Additive Manufacturing for Designers using SolidWorks CAD software "Introduction to SolidWorks: A Comprehensive Guide with Applications in 3D Printing" is written using a hands-on approach which includes a significant number of pictorial descriptions of the steps that a student should follow to model parts, assemble parts, and produce drawings.

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### **LEARN SOLIDWORKS 2020**

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#### **A HANDS-ON GUIDE TO BECOMING AN ACCOMPLISHED SOLIDWORKS ASSOCIATE AND PROFESSIONAL**

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Packt Publishing Ltd Explore a practical and example-driven approach to understanding SOLIDWORKS 2020 and achieving CSWA and CSWP certification Key Features Gain comprehensive insights into the core aspects of mechanical part modeling Get up to speed with generating assembly designs with both standard and advanced mates Focus on design practices for both 2D as well as 3D modeling and prepare to achieve CWSP and CWSA certification Book Description SOLIDWORKS is the leading choice for 3D engineering and product design applications across industries such as aviation, automobiles, and consumer product design. This book takes a practical approach to getting you up and running with SOLIDWORKS 2020. You'll start with the basics, exploring the software interface and working with drawing files. The book then guides you through topics such as

sketching, building complex 3D models, generating dynamic and static assemblies, and generating 2D engineering drawings to equip you for mechanical design projects. You'll also do practical exercises to get hands-on with creating sketches, 3D part models, assemblies, and drawings. To reinforce your understanding of SOLIDWORKS, the book is supplemented by downloadable files that will help you follow up with the concepts and exercises found in the book. By the end of this book, you'll have gained the skills you need to create professional 3D mechanical models using SOLIDWORKS, and you'll be able to prepare effectively for the Certified SOLIDWORKS Associate (CSWA) and Certified SOLIDWORKS Professional (CSWP) exams. What you will learn

- Understand the fundamentals of SOLIDWORKS and parametric modeling
- Create professional 2D sketches as bases for 3D models using simple and advanced modeling techniques
- Use SOLIDWORKS drawing tools to generate standard engineering drawings
- Evaluate mass properties and materials for designing parts and assemblies
- Understand the objectives and the formats of the CSWA and CSWP exams
- Discover expert tips and tricks to generate different part and assembly configurations for your mechanical designs

Who this book is for  
This book is for aspiring engineers, designers, drafting technicians, or anyone looking to get started with the latest version of SOLIDWORKS. Anyone interested in becoming a Certified SOLIDWORKS Associate (CSWA) or Certified SOLIDWORKS Professional (CSWP) will also find this book useful.

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## **COMMANDS GUIDE TUTORIAL FOR SOLIDWORKS 2013**

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SDC Publications The Commands Guide Tutorial for SolidWorks 2013 is a comprehensive reference book written to assist the beginner to intermediate user of SolidWorks 2013. SolidWorks is an immense software package, and no one book can cover all topics for all users. This book provides a centralized reference location to address many of the tools, features and techniques of SolidWorks 2013. This book covers the following:

- System and Document properties
- FeatureManagers
- PropertyManagers
- ConfigurationManagers
- RenderManagers
- 2D and 3D Sketch tools
- Sketch entities
- 3D Feature tools
- Motion Study
- Sheet Metal
- Motion Study Sustainability
- Sustainability Xpress
- FlowXpress
- PhotoView 360
- Pack and Go
- Intelligent Modeling techniques and more.

Chapter 1 provides a basic overview of the concepts and terminology used throughout this book using SolidWorks 2013 software. If you are completely new to SolidWorks, you should read Chapter 1 in detail and complete Lesson 1, Lesson 2 and Lesson 3 in the SolidWorks Tutorials. If you are familiar with an earlier release of SolidWorks, you still might want to skim Chapter 1 to become acquainted with some of the commands, menus and features that you have not used; or you can simply jump to any section in any chapter. Each chapter (18 total) provides detailed PropertyManager information on key topics with individual stand alone

short tutorials to reinforce and demonstrate the functionality and ease of the SolidWorks tool or feature. All models for the 240 plus tutorials are located on the enclosed book CD with their solution (initial and final). Learn by doing, not just by reading! Formulate the skills to create, modify and edit sketches and solid features. Learn the techniques to reuse features, parts and assemblies through symmetry, patterns, copied components, design tables, configurations and more. The book is design to compliment the Online Tutorials and Online Help contained in SolidWorks 2013. The goal is to illustrate how multiple design situations and systematic steps combine to produce successful designs. The authors developed the tutorials by combining their own industry experience with the knowledge of engineers, department managers, professors, vendors and manufacturers. These professionals are directly involved with SolidWorks everyday. Their responsibilities go far beyond the creation of just a 3D model.

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## **MASTERING SOLIDWORKS®**

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### **THE DESIGN APPROACH**

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Peachpit Press Mastering SolidWorks: The Design Approach, Second Edition is entirely updated for SolidWorks 2014 and presents SolidWorks as a design system rather than a software program, using design, modeling, and drafting concepts as the building blocks, instead of focusing on menus and commands. It describes design approaches, methodologies, and techniques to help CAD designers/engineers and draftspersons achieve their engineering tasks in the fastest, easiest, and most effective way. It develops command sequences to achieve CAD and modeling tasks, providing SolidWorks syntax and details. Starting with a CAD task to accomplish, the book then goes about how to accomplish it, motivating students to learn more than simply going through layers of menus and commands. Intended for design courses, the book uses a minimal amount of mathematical concepts, covering basic math in Chapter 8 (Curves), Chapter 9 (Surfaces), and Chapter 13 (Analysis Tools). Intended for design courses, the book uses a minimal amount of mathematical concepts, covering basic math in Chapter 8 (Curves), Chapter 9 (Surfaces), and Chapter 13 (Analysis Tools). \* Shows concepts to those who are curious about how CAD/CAM systems work "under the hood." \* Broadens the book appeal to many students, professors, and readers. \* The coverage of math in chapters 8, 9, and 13 may be ignored without affecting the continuity of the material in those chapters. Step-by-Step instructions help students learn SolidWorks as a design system rather than a software program. \* Ample illustrations guide students as they learn. Tutorials offer comprehensive coverage of a full design task. \* Each tutorial ends with a hands-on exercise that both challenges the student's understanding and extends it. Examples with Solutions cover a single concept in detail. \* Each example offers a hands-on exercise that builds on the previous example,

ensuring the student has gone through each example. Each chapter includes challenging modeling and design examples and problems. \* The book's unique approach covers the theoretical concepts behind the various functions of SolidWorks. \* This sheds light about why things work the way they do, as well as explains their limitations and uses.

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## **SOLIDWORKS 2021**

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### **A POWER GUIDE FOR BEGINNERS AND INTERMEDIATE USERS**

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Independently Published **SOLIDWORKS 2021: A Power Guide for Beginners and Intermediate User** textbook has been designed for instructor-led courses as well as self-paced learning. It is intended to help engineers and designers interested in learning **SOLIDWORKS** for creating 3D mechanical design. This textbook is a great help for new **SOLIDWORKS** users and a great teaching aid in classroom training. This textbook consists of 14 chapters, with a total of 798 pages covering the major environments of **SOLIDWORKS** such as Sketching environment, Part modeling environment, Assembly environment, and Drawing environment. This textbook teaches users to use **SOLIDWORKS** mechanical design software for creating parametric 3D solid components, assemblies, and 2D drawings. This textbook also includes a chapter on creating multiple configurations of a design. This textbook not only focuses on the usage of the tools and commands of **SOLIDWORKS** but also on the concept of design. Every chapter in this textbook contains tutorials that provide users with step-by-step instructions for creating mechanical designs and drawings with ease. Moreover, every chapter ends with hands-on test drives which allow users to experience the user friendly and technical capabilities of **SOLIDWORKS**.  
Table of Contents: Chapter 1. Introduction to **SOLIDWORKS** Chapter 2. Drawing Sketches with **SOLIDWORKS** Chapter 3. Editing and Modifying Sketches Chapter 4. Applying Geometric Relations and Dimensions Chapter 5. Creating First/Base Feature of Solid Models Chapter 6. Creating Reference Geometries Chapter 7. Advanced Modeling - I Chapter 8. Advanced Modeling - II Chapter 9. Patterning and Mirroring Chapter 10. Advanced Modeling - III Chapter 11. Working with Configurations Chapter 12. Working with Assemblies - I Chapter 13. Working with Assemblies - II Chapter 14. Working with Drawings  
Main Features of the Textbook  
Comprehensive coverage of tools  
Step-by-step real-world tutorials with every chapter  
Hands-on test drives to enhance the skills at the end of every chapter  
Additional notes and tips  
Customized content for faculty (PowerPoint Presentations)  
Free learning resources for faculty and students  
Additional student and faculty projects  
Technical support for the book by contacting [info@cadartifex.com](mailto:info@cadartifex.com)

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## **THE COMPLETE GUIDE TO MOLD MAKING WITH SOLIDWORKS 2022**

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## **BASIC THROUGH ADVANCED TECHNIQUES**

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**SDC Publications The Complete Guide to Mold Making with SOLIDWORKS 2022 is a quick paced book written to provide experienced SOLIDWORKS users with in-depth knowledge of the mold tools provided by SOLIDWORKS. Throughout this book you will learn the procedures necessary for using these tools to create and analyze effective mold designs. Utilizing step-by-step instructions, each chapter of this book will guide you through different tasks, from designing or repairing a mold, to developing complex parting lines; from making a core in the part mode to advancing through more complex tasks in the assembly mode. Throughout this book you will be introduced to using surfacing tools to repair models and prepare them for the mold making process. Towards the end of this book, you will learn how to work with SOLIDWORKS Plastics and Flow Simulation to simulate the way melted plastics flow during the injection molding process. You will also learn to analyze the thick-thin wall regions to predict defects on plastic parts and molds. Learning how to analyze plastic parts for errors and correct them early in the design stage is a valuable skill, which can save a significant amount of time throughout the span of the entire design process. Every project in this book is based on real world products. Each of these projects have been broken down and developed into simple, comprehensible steps. Furthermore, every mold design is explained very clearly in short chapters, ranging from 15 to 25 pages. Each step comes with the exact screen shot to help you understand the main concept of the design. Learn the mold designs at your own pace, as you progress from simple core and cavity creation to more complex mold design challenges. This book will also teach you to use various surfacing tools such as: • Ruled Surface • Planar Surface • Knit Surface • Filled Surface • Extend Surface • Trim Surface • Lofted Surface**

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## **THE COMPLETE GUIDE TO MOLD MAKING WITH SOLIDWORKS 2021**

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**SDC Publications The Complete Guide to Mold Making with SOLIDWORKS 2021 is a quick paced book written to provide experienced SOLIDWORKS users with in-depth knowledge of the mold tools provided by SOLIDWORKS. Throughout this book you will learn the procedures necessary for using these tools to create and analyze effective mold designs. Utilizing step-by-step instructions, each chapter of this book will guide you through different tasks, from designing or repairing a mold, to developing complex parting lines; from making a core in the part mode to advancing through more complex tasks in the assembly mode. Throughout this book you will be introduced to using surfacing tools to repair models and prepare them for the mold making process. Towards the end of this book, you will learn how to work with SOLIDWORKS Plastics and Flow Simulation to simulate the way melted plastics flow during the injection molding process. You will also learn to analyze the thick-thin wall regions to predict defects on plastic parts and molds. Learning how to analyze plastic parts for errors**

and correct them early in the design stage is a valuable skill, which can save a significant amount of time throughout the span of the entire design process. Every project in this book is based on real world products. Each of these projects have been broken down and developed into simple, comprehensible steps. Furthermore, every mold design is explained very clearly in short chapters, ranging from 15 to 25 pages. Each step comes with the exact screen shot to help you understand the main concept of the design. Learn the mold designs at your own pace, as you progress from simple core and cavity creation to more complex mold design challenges. This book will also teach you to use various surfacing tools such as: • Ruled Surface • Planar Surface • Knit Surface • Filled Surface • Extend Surface • Trim Surface • Lofted Surface Who This Book Is For This book is for users already familiar with SOLIDWORKS who want to expand their knowledge of mold design. To get the most out of this mold design book, it is strongly recommended that you have completed all the lessons in the SOLIDWORKS Advanced Techniques book or have comparable knowledge. More CAD literate individuals, who want to expand their knowledge of the different features that SOLIDWORKS 2021 has to offer, will also find this book to be a great resource.

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## **OFFICIAL CERTIFIED SOLIDWORKS ASSOCIATE (CSWA) EXAMINATION GUIDE**

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SDC Publications Most CAD professionals today recognize the need to become certified to prove their skills, prepare for new job searches, and to learn new skills while at their existing job. Specifying a Certified SolidWorks Associate (CSWA) certification on your resume is a great way to increase your chances of landing a new job, getting a promotion, or looking more qualified when representing your company on a consulting job. The primary goal of this book is not only to help you pass the CSWA exam, but also to ensure that you understand and comprehend the concepts and implementation details of the CSWA process. The second goal is to provide the most comprehensive coverage of CSWA exam related topics available, without too much coverage of topics not on the exam. The third and ultimate goal is to get you from where you are today to the point that you can confidently pass the CSWA exam. DS SolidWorks Corp. offers various stages of certification. Each stage represents increasing levels of expertise in 3D CAD design as it applies to engineering: Certified SolidWorks Associate CSWA, Certified SolidWorks Professional CSWP and Certified SolidWorks Expert CSWE along with specialty fields in Simulation, Sheet Metal, and Surfacing. The CSWA Certification indicates a foundation in and apprentice knowledge of 3D CAD design and engineering practices and principles. The main requirement for obtaining the CSWA certification is to take and pass the on-line proctored 180 minute exam (minimum of 165 out of 240 points). The new CSWA exam consists of fourteen questions in five categories. Passing this exam provides students the chance to prove their

knowledge and expertise and to be part of a worldwide industry certification standard.

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## **INTRODUCTION TO SOLIDWORKS**

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### **A COMPREHENSIVE GUIDE WITH APPLICATIONS IN 3D PRINTING**

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**CRC Press** This senior undergraduate level textbook is written for Advanced Manufacturing, Additive Manufacturing, as well as CAD/CAM courses. Its goal is to assist students in colleges and universities, designers, engineers, and professionals interested in using SolidWorks as the design and 3D printing tool for emerging manufacturing technology for practical applications. This textbook will bring a new dimension to SolidWorks by introducing readers to the role of SolidWorks in the relatively new manufacturing paradigm shift, known as 3D-Printing which is based on Additive Manufacturing (AM) technology. This new textbook: Features modeling of complex parts and surfaces Provides a step-by-step tutorial type approach with pictures showing how to model using SolidWorks Offers a user-Friendly approach for the design of parts, assemblies, and drawings, motion-analysis, and FEA topics Includes clarification of connections between SolidWorks and 3D-Printing based on Additive Manufacturing Discusses a clear presentation of Additive Manufacturing for Designers using SolidWorks CAD software "Introduction to SolidWorks: A Comprehensive Guide with Applications in 3D Printing" is written using a hands-on approach which includes a significant number of pictorial descriptions of the steps that a student should follow to model parts, assemble parts, and produce drawings.

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### **SPACE MODELING WITH SOLIDWORKS AND NX**

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**Springer** Through a series of step-by-step tutorials and numerous hands-on exercises, this book aims to equip the reader with both a good understanding of the importance of space in the abstract world of engineers and the ability to create a model of a product in virtual space - a skill essential for any designer or engineer who needs to present ideas concerning a particular product within a professional environment. The exercises progress logically from the simple to the more complex; while Solid Works or NX is the software used, the underlying philosophy is applicable to all modeling software. In each case, the explanation covers the entire procedure from the basic idea and production capabilities through to the real model; the conversion from 3D model to 2D manufacturing drawing is also clearly explained. Topics covered include modeling of prism, axisymmetric, symmetric and sophisticated shapes; digitization of physical models using modeling software; creation of a CAD model starting from a physical model; free form surface modeling; modeling of product assemblies following bottom-up and top-down principles; and the presentation of a product in accordance with the rules

of technical documentation. This book, which includes more than 500 figures, will be ideal for students wishing to gain a sound grasp of space modeling techniques. Academics and professionals will find it to be an excellent teaching and research aid, and an easy-to-use guide.

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### **SOLIDWORKS 2021: A STEP-BY-STEP TUTORIAL GUIDE FOR BEGINNERS (MIXED UNITS)**

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Sdcad Academy **SOLIDWORKS 2021: A Step-By-Step Tutorial Guide for Beginners (Mixed Units)** textbook is intended to help students, designers, engineers, and professionals who are interested in learning **SOLIDWORKS** step-by-step for creating real world 3D mechanical designs. It is a great starting point for new users of **SOLIDWORKS** and for those moving from other CAD software. This textbook contains tutorials that provide users with step-by-step instructions for creating parametric 3D solid components, assemblies, and 2D drawings with ease. Every tutorial in this textbook is created based on real-world projects. This textbook consists of 11 chapters, a total of 428 pages covering major environments of **SOLIDWORKS** such as Part modeling environment, Assembly environment, and Drawing environment including configurations. Every chapter ends with exercises that allow users to experience for themselves the user friendly and powerful capacities of **SOLIDWORKS**, which help users to assess their knowledge.

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### **SOLIDWORKS 2021: A POWER GUIDE FOR BEGINNERS AND INTERMEDIATE USERS**

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CADArtifex **SOLIDWORKS 2021: A Power Guide for Beginners and Intermediate Users** textbook has been designed for instructor-led courses as well as self-paced learning. It is intended to help engineers and designers interested in learning **SOLIDWORKS** for creating 3D mechanical design. This textbook is a great help for new **SOLIDWORKS** users and a great teaching aid in classroom training. This textbook consists of 14 chapters, with a total of 798 pages covering the major environments of **SOLIDWORKS** such as Sketching environment, Part modeling environment, Assembly environment, and Drawing environment. This textbook teaches users to use **SOLIDWORKS** mechanical design software for creating parametric 3D solid components, assemblies, and 2D drawings. This textbook also includes a chapter on creating multiple configurations of a design. This textbook not only focuses on the usage of the tools and commands of **SOLIDWORKS** but also on the concept of design. Every chapter in this textbook contains tutorials that provide users with step-by-step instructions for creating mechanical designs and drawings with ease. Moreover, every chapter ends with hands-on test drives which allow users to experience the user friendly and technical capabilities of **SOLIDWORKS**.

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## **INTRODUCTION TO FINITE ELEMENT ANALYSIS USING SOLIDWORKS SIMULATION 2011**

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**SDC Publications** The primary goal of Introduction to Finite Element Analysis Using SolidWorks Simulation 2011 is to introduce the aspects of Finite Element Analysis (FEA) that are important to engineers and designers. Theoretical aspects of Finite Element Analysis are also introduced as they are needed to help better understand the operation. The primary emphasis of the text is placed on the practical concepts and procedures needed to use SolidWorks Simulation in performing Linear Static Stress Analysis and basic Model Analysis. This text covers SolidWorks Simulation and the lessons proceed in a pedagogical fashion to guide you from constructing basic truss elements to generating three-dimensional solid elements from solid models. This text takes a hands-on, exercise-intensive approach to all the important Finite Element Analysis techniques and concepts. This textbook contains a series of thirteen tutorial style lessons designed to introduce beginning FEA users to SolidWorks Simulation. The basic premise of this book is that the more designs you create using SolidWorks Simulation, the better you learn the software. With this in mind, each lesson introduces a new set of commands and concepts, building on previous lessons.

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## **ANALYSIS OF MACHINE ELEMENTS USING SOLIDWORKS SIMULATION 2016**

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**SDC Publications** Analysis of Machine Elements Using SOLIDWORKS Simulation 2016 is written primarily for first-time SOLIDWORKS Simulation 2016 users who wish to understand finite element analysis capabilities applicable to stress analysis of mechanical elements. The focus of examples is on problems commonly found in an introductory, undergraduate, Design of Machine Elements or similarly named courses. In order to be compatible with most machine design textbooks, this text begins with problems that can be solved with a basic understanding of mechanics of materials. Problem types quickly migrate to include states of stress found in more specialized situations common to a design of mechanical elements course. Paralleling this progression of problem types, each chapter introduces new software concepts and capabilities. Many examples are accompanied by problem solutions based on use of classical equations for stress determination. Unlike many step-by-step user guides that only list a succession of steps, which if followed correctly lead to successful solution of a problem, this text attempts to provide insight into why each step is performed. This approach amplifies two fundamental tenets of this text. The first is that a better understanding of course topics related to stress determination is realized when classical methods and finite element solutions are considered together. The second tenet is that finite element solutions should always be verified by checking, whether by

classical stress equations or experimentation. Each chapter begins with a list of learning objectives related to specific capabilities of the SOLIDWORKS Simulation program introduced in that chapter. Most software capabilities are repeated in subsequent examples so that users gain familiarity with their purpose and are capable of using them in future problems. All end-of-chapter problems are accompanied by evaluation "check sheets" to facilitate grading assignments.

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## **ANALYSIS OF MACHINE ELEMENTS USING SOLIDWORKS SIMULATION 2020**

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SDC Publications Analysis of Machine Elements Using SOLIDWORKS Simulation 2020 is written primarily for first-time SOLIDWORKS Simulation 2020 users who wish to understand finite element analysis capabilities applicable to stress analysis of mechanical elements. The focus of examples is on problems commonly found in introductory, undergraduate, Design of Machine Elements or similarly named courses. In order to be compatible with most machine design textbooks, this text begins with problems that can be solved with a basic understanding of mechanics of materials. Problem types quickly migrate to include states of stress found in more specialized situations common to a design of mechanical elements course. Paralleling this progression of problem types, each chapter introduces new software concepts and capabilities. Many examples are accompanied by problem solutions based on use of classical equations for stress determination. Unlike many step-by-step user guides that only list a succession of steps, which if followed correctly lead to successful solution of a problem, this text attempts to provide insight into why each step is performed. This approach amplifies two fundamental tenets of this text. The first is that a better understanding of course topics related to stress determination is realized when classical methods and finite element solutions are considered together. The second tenet is that finite element solutions should always be verified by checking, whether by classical stress equations or experimentation. Each chapter begins with a list of learning objectives related to specific capabilities of the SOLIDWORKS Simulation program introduced in that chapter. Most software capabilities are repeated in subsequent examples so that users gain familiarity with their purpose and are capable of using them in future problems. All end-of-chapter problems are accompanied by evaluation "check sheets" to facilitate grading assignments.

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## **ANALYSIS OF MACHINE ELEMENTS USING SOLIDWORKS SIMULATION 2021**

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SDC Publications • Designed for first-time SOLIDWORKS Simulation users • Focuses on examples commonly found in Design of Machine Elements courses • Many problems are accompanied by solutions using classical equations • Combines step-by-step tutorials with detailed explanations of

why each step is taken **Analysis of Machine Elements Using SOLIDWORKS Simulation 2021** is written primarily for first-time SOLIDWORKS Simulation 2021 users who wish to understand finite element analysis capabilities applicable to stress analysis of mechanical elements. The focus of examples is on problems commonly found in introductory, undergraduate, Design of Machine Elements or similarly named courses. In order to be compatible with most machine design textbooks, this text begins with problems that can be solved with a basic understanding of mechanics of materials. Problem types quickly migrate to include states of stress found in more specialized situations common to a design of mechanical elements course. Paralleling this progression of problem types, each chapter introduces new software concepts and capabilities. Many examples are accompanied by problem solutions based on use of classical equations for stress determination. Unlike many step-by-step user guides that only list a succession of steps, which if followed correctly lead to successful solution of a problem, this text attempts to provide insight into why each step is performed. This approach amplifies two fundamental tenets of this text. The first is that a better understanding of course topics related to stress determination is realized when classical methods and finite element solutions are considered together. The second tenet is that finite element solutions should always be verified by checking, whether by classical stress equations or experimentation. Each chapter begins with a list of learning objectives related to specific capabilities of the SOLIDWORKS Simulation program introduced in that chapter. Most software capabilities are repeated in subsequent examples so that users gain familiarity with their purpose and are capable of using them in future problems. All end-of-chapter problems are accompanied by evaluation "check sheets" to facilitate grading assignments. Table of Contents Introduction 1. Stress Analysis Using SOLIDWORKS Simulation 2. Curved Beam Analysis 3. Stress Concentration Analysis 4. Thin and Thick Wall Pressure Vessels 5. Interference Fit Analysis 6. Contact Analysis 7. Bolted Joint Analysis 8. Design Optimization 9. Elastic Buckling 10. Fatigue Testing Analysis 11. Thermal Stress Analysis Appendix A: Organizing Assignments Using MS Word Appendix B: Alternate Method to Change Screen Background Color Index

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## **ANALYSIS OF MACHINE ELEMENTS USING SOLIDWORKS SIMULATION 2018**

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SDC Publications **Analysis of Machine Elements Using SOLIDWORKS Simulation 2018** is written primarily for first-time SOLIDWORKS Simulation 2018 users who wish to understand finite element analysis capabilities applicable to stress analysis of mechanical elements. The focus of examples is on problems commonly found in introductory, undergraduate, Design of Machine Elements or similarly named courses. In order to be compatible with most machine design textbooks, this text begins with

problems that can be solved with a basic understanding of mechanics of materials. Problem types quickly migrate to include states of stress found in more specialized situations common to a design of mechanical elements course. Paralleling this progression of problem types, each chapter introduces new software concepts and capabilities. Many examples are accompanied by problem solutions based on use of classical equations for stress determination. Unlike many step-by-step user guides that only list a succession of steps, which if followed correctly lead to successful solution of a problem, this text attempts to provide insight into why each step is performed. This approach amplifies two fundamental tenets of this text. The first is that a better understanding of course topics related to stress determination is realized when classical methods and finite element solutions are considered together. The second tenet is that finite element solutions should always be verified by checking, whether by classical stress equations or experimentation. Each chapter begins with a list of learning objectives related to specific capabilities of the SOLIDWORKS Simulation program introduced in that chapter. Most software capabilities are repeated in subsequent examples so that users gain familiarity with their purpose and are capable of using them in future problems. All end-of-chapter problems are accompanied by evaluation "check sheets" to facilitate grading assignments. New in the 2018 Edition The 2018 edition of this book features a new chapter exploring fatigue analysis using stress life methods. Understanding the fatigue life of a product is a critical part of the design process. This chapter focuses on the inputs needed to define a fatigue analysis in SOLIDWORKS Simulation and the boundary conditions necessary to obtain valid results.

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## **ANALYSIS OF MACHINE ELEMENTS USING SOLIDWORKS SIMULATION 2017**

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SDC Publications Analysis of Machine Elements Using SOLIDWORKS Simulation 2017 is written primarily for first-time SOLIDWORKS Simulation 2017 users who wish to understand finite element analysis capabilities applicable to stress analysis of mechanical elements. The focus of examples is on problems commonly found in an introductory, undergraduate, Design of Machine Elements or similarly named courses. In order to be compatible with most machine design textbooks, this text begins with problems that can be solved with a basic understanding of mechanics of materials. Problem types quickly migrate to include states of stress found in more specialized situations common to a design of mechanical elements course. Paralleling this progression of problem types, each chapter introduces new software concepts and capabilities. Many examples are accompanied by problem solutions based on use of classical equations for stress determination. Unlike many step-by-step user guides that only list a succession of steps, which if followed correctly lead to successful solution of a problem, this text attempts to provide insight into

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## **ANALYSIS OF MACHINE ELEMENTS USING SOLIDWORKS SIMULATION 2019**

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SDC Publications Analysis of Machine Elements Using SOLIDWORKS Simulation 2019 is written primarily for first-time SOLIDWORKS Simulation 2019 users who wish to understand finite element analysis capabilities applicable to stress analysis of mechanical elements. The focus of examples is on problems commonly found in introductory, undergraduate, Design of Machine Elements or similarly named courses. In order to be compatible with most machine design textbooks, this text begins with problems that can be solved with a basic understanding of mechanics of materials. Problem types quickly migrate to include states of stress found in more specialized situations common to a design of mechanical elements course. Paralleling this progression of problem types, each chapter introduces new software concepts and capabilities. Many examples are accompanied by problem solutions based on use of classical equations for stress determination. Unlike many step-by-step user guides that only list a succession of steps, which if followed correctly lead to successful solution of a problem, this text attempts to provide insight into why each step is performed. This approach amplifies two fundamental tenets of this text. The first is that a better understanding of course topics related to stress determination is realized when classical methods and finite element solutions are considered together. The second tenet is that finite element solutions should always be verified by checking, whether by classical stress equations or experimentation. Each chapter begins with a list of learning objectives related to specific capabilities of the SOLIDWORKS Simulation program introduced in that chapter. Most software capabilities are repeated in subsequent examples so that users gain familiarity with their purpose and are capable of using them in future problems. All end-of-chapter problems are accompanied by evaluation "check sheets" to facilitate grading assignments.

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## **ANALYSIS OF MACHINE ELEMENTS USING SOLIDWORKS SIMULATION 2022**

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**SDC Publications Analysis of Machine Elements Using SOLIDWORKS Simulation 2022 is written primarily for first-time SOLIDWORKS Simulation 2022 users who wish to understand finite element analysis capabilities applicable to stress analysis of mechanical elements. The focus of examples is on problems commonly found in introductory, undergraduate, Design of Machine Elements or similarly named courses. In order to be compatible with most machine design textbooks, this text begins with problems that can be solved with a basic understanding of mechanics of materials. Problem types quickly migrate to include states of stress found in more specialized situations common to a design of mechanical elements course. Paralleling this progression of problem types, each chapter introduces new software concepts and capabilities. Many examples are accompanied by problem solutions based on use of classical equations for stress determination. Unlike many step-by-step user guides that only list a succession of steps, which if followed correctly lead to successful solution of a problem, this text attempts to provide insight into why each step is performed. This approach amplifies two fundamental tenets of this text. The first is that a better understanding of course topics related to stress determination is realized when classical methods and finite element solutions are considered together. The second tenet is that finite element solutions should always be verified by checking, whether by classical stress equations or experimentation. Each chapter begins with a list of learning objectives related to specific capabilities of the SOLIDWORKS Simulation program introduced in that chapter. Most software capabilities are repeated in subsequent examples so that users gain familiarity with their purpose and are capable of using them in future problems. All end-of-chapter problems are accompanied by evaluation "check sheets" to facilitate grading assignments.**

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## **ANALYSIS OF MACHINE ELEMENTS USING SOLIDWORKS SIMULATION 2015**

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**SDC Publications Analysis of Machine Elements Using SOLIDWORKS Simulation 2015 is written primarily for first-time SOLIDWORKS Simulation 2015 users who wish to understand finite element analysis capabilities applicable to stress analysis of mechanical elements. The focus of examples is on problems commonly found in an introductory, undergraduate, Design of Machine Elements or similarly named courses. In order to be compatible with most machine design textbooks, this text begins with problems that can be solved with a basic understanding of mechanics of materials. Problem types quickly migrate to include states of stress found in more specialized situations common to a design of mechanical elements course. Paralleling this progression of problem types,**

each chapter introduces new software concepts and capabilities. Many examples are accompanied by problem solutions based on use of classical equations for stress determination. Unlike many step-by-step user guides that only list a succession of steps, which if followed correctly lead to successful solution of a problem, this text attempts to provide insight into why each step is performed. This approach amplifies two fundamental tenets of this text. The first is that a better understanding of course topics related to stress determination is realized when classical methods and finite element solutions are considered together. The second tenet is that finite element solutions should always be verified by checking, whether by classical stress equations or experimentation. Each chapter begins with a list of learning objectives related to specific capabilities of the SolidWorks Simulation program introduced in that chapter. Most software capabilities are repeated in subsequent examples so that users gain familiarity with their purpose and are capable of using them in future problems. All end-of-chapter problems are accompanied by evaluation "check sheets" to facilitate grading assignments.

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## **THE COMPLETE GUIDE TO MOLD MAKING WITH SOLIDWORKS 2020**

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SDC Publications The Complete Guide to Mold Making with SOLIDWORKS 2020 is a quick paced book written to provide experienced SOLIDWORKS users with in-depth knowledge of the mold tools provided by SOLIDWORKS. Throughout this book you will learn the procedures necessary for using these tools to create and analyze effective mold designs. Utilizing step-by-step instructions, each chapter of this book will guide you through different tasks, from designing or repairing a mold, to developing complex parting lines; from making a core in the part mode to advancing through more complex tasks in the assembly mode. Throughout this book you will be introduced to using surfacing tools to repair models and prepare them for the mold making process. Towards the end of this book, you will learn how to work with SOLIDWORKS Plastics and Flow Simulation to simulate the way melted plastics flow during the injection molding process. You will also learn to analyze the thick-thin wall regions to predict defects on plastic parts and molds. Learning how to analyze plastic parts for errors and correct them early in the design stage is a valuable skill, which can save a significant amount of time throughout the span of the entire design process. Every project in this book is based on real world products. Each of these projects have been broken down and developed into simple, comprehensible steps. Furthermore, every mold design is explained very clearly in short chapters, ranging from 15 to 25 pages. Each step comes with the exact screen shot to help you understand the main concept of the design. Learn the mold designs at your own pace, as you progress from simple core and cavity creation to more complex mold design challenges. This book will also teach you to use various surfacing tools such as: Ruled Surface Planar Surface Knit Surface Filled Surface Extend Surface Trim

**Surface Lofted Surface Who This Book Is For** This book is for users already familiar with SOLIDWORKS who want to expand their knowledge of mold design. To get the most out of this mold design book, it is strongly recommended that you have completed all the lessons in the SOLIDWORKS Advanced Techniques book or have comparable knowledge. More CAD literate individuals, who want to expand their knowledge of the different features that SOLIDWORKS 2020 has to offer, will also find this book to be a great resource.

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## **ANALYSIS OF MACHINE ELEMENTS USING SOLIDWORKS SIMULATION 2014**

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SDC Publications Analysis of Machine Elements Using SolidWorks Simulation 2014 is written primarily for first-time SolidWorks Simulation 2014 users who wish to understand finite element analysis capabilities applicable to stress analysis of mechanical elements. The focus of examples is on problems commonly found in an introductory, undergraduate, Design of Machine Elements or similarly named courses. In order to be compatible with most machine design textbooks, this text begins with problems that can be solved with a basic understanding of mechanics of materials. Problem types quickly migrate to include states of stress found in more specialized situations common to a design of mechanical elements course. Paralleling this progression of problem types, each chapter introduces new software concepts and capabilities. Many examples are accompanied by problem solutions based on use of classical equations for stress determination. Unlike many step-by-step user guides that only list a succession of steps, which if followed correctly lead to successful solution of a problem, this text attempts to provide insight into why each step is performed. This approach amplifies two fundamental tenets of this text. The first is that a better understanding of course topics related to stress determination is realized when classical methods and finite element solutions are considered together. The second tenet is that finite element solutions should always be verified by checking, whether by classical stress equations or experimentation. Each chapter begins with a list of learning objectives related to specific capabilities of the SolidWorks Simulation program introduced in that chapter. Most software capabilities are repeated in subsequent examples so that users gain familiarity with their purpose and are capable of using them in future problems. All end-of-chapter problems are accompanied by evaluation "check sheets" to facilitate grading assignments.

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## **ENGINEERING DESIGN WITH SOLIDWORKS 2021**

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SDC Publications Engineering Design with SOLIDWORKS 2021 is written to assist students, designers, engineers and professionals. The book provides a solid foundation in SOLIDWORKS by utilizing projects with step-by-step

instructions for the beginner to intermediate SOLIDWORKS user featuring machined, plastic and sheet metal components. Desired outcomes and usage competencies are listed for each project. The book is divided into five sections with 11 projects. Project 1 - Project 6: Explore the SOLIDWORKS User Interface and CommandManager, Document and System properties, simple and complex parts and assemblies, proper design intent, design tables, configurations, multi-sheet, multi-view drawings, BOMs, and Revision tables using basic and advanced features. Additional techniques include the edit and reuse of features, parts, and assemblies through symmetry, patterns, configurations, SOLIDWORKS 3D ContentCentral and the SOLIDWORKS Toolbox. Project 7: Understand Top-Down assembly modeling and Sheet Metal parts. Develop components In-Context with InPlace Mates, along with the ability to import parts using the Top-Down assembly method. Convert a solid part into a Sheet Metal part and insert and apply various Sheet Metal features. Project 8 - Project 9: Recognize SOLIDWORKS Simulation and Intelligent Modeling techniques. Understand a general overview of SOLIDWORKS Simulation and the type of questions that are on the SOLIDWORKS Simulation Associate - Finite Element Analysis (CSWSA-FEA) exam. Apply design intent and intelligent modeling techniques in a sketch, feature, part, plane, assembly and drawing. Project 10: Comprehend the differences between additive and subtractive manufacturing. Understand 3D printer terminology along with a working knowledge of preparing, saving, and printing CAD models on a low cost printer. Project 11: Review the Certified SOLIDWORKS Associate (CSWA) program. Understand the curriculum and categories of the CSWA exam and the required model knowledge needed to successfully take the exam. The author developed the industry scenarios by combining his own industry experience with the knowledge of engineers, department managers, vendors and manufacturers. These professionals are directly involved with SOLIDWORKS every day. Their responsibilities go far beyond the creation of just a 3D model.

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## **SOLIDWORKS 2022 AND ENGINEERING GRAPHICS**

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### **AN INTEGRATED APPROACH**

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SDC Publications SOLIDWORKS 2022 and Engineering Graphics: An Integrated Approach combines an introduction to SOLIDWORKS 2022 with a comprehensive coverage of engineering graphics principles. Not only will this unified approach give your course a smoother flow, your students will also save money on their textbooks. What's more, the exercises in this book cover the performance tasks that are included on the Certified SOLIDWORKS Associate (CSWA) Examination. Reference guides located at the front of the book and in each chapter show where these performance tasks are covered. The primary goal of SOLIDWORKS 2022 and Engineering Graphics: An Integrated Approach is to introduce the aspects of Engineering Graphics with the use of modern Computer Aided Design

package - SOLIDWORKS 2022. This text is intended to be used as a training guide for students and professionals. The chapters in this text proceed in a pedagogical fashion to guide you from constructing basic shapes to making complete sets of engineering drawings. This text takes a hands-on, exercise-intensive approach to all the important concepts of Engineering Graphics, as well as in-depth discussions of parametric feature-based CAD techniques. This textbook contains a series of sixteen chapters, with detailed step-by-step tutorial style lessons, designed to introduce beginning CAD users to the graphics language used in all branches of technical industry. This book does not attempt to cover all of SOLIDWORKS 2022's features, only to provide an introduction to the software. It is intended to help you establish a good basis for exploring and growing in the exciting field of Computer Aided Engineering.

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## **SOLIDWORKS 2015 AND ENGINEERING GRAPHICS**

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### **AN INTEGRATED APPROACH**

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SDC Publications SOLIDWORKS 2015 and Engineering Graphics: An Integrated Approach combines an introduction to SOLIDWORKS 2015 with a comprehensive coverage of engineering graphics principles. Not only will this unified approach give your course a smoother flow, your students will also save money on their textbooks. What's more, the exercises in this book cover the performance tasks that are included on the Certified SOLIDWORKS Associate (CSWA) Examination. Reference guides located at the front of the book and in each chapter show where these performance tasks are covered. The primary goal of SOLIDWORKS 2015 and Engineering Graphics: An Integrated Approach is to introduce the aspects of Engineering Graphics with the use of modern Computer Aided Design package - SOLIDWORKS 2015. This text is intended to be used as a training guide for students and professionals. The chapters in this text proceed in a pedagogical fashion to guide you from constructing basic shapes to making complete sets of engineering drawings. This text takes a hands-on, exercise-intensive approach to all the important concepts of Engineering Graphics, as well as in-depth discussions of parametric feature-based CAD techniques. This textbook contains a series of fifteen chapters, with detailed step-by-step tutorial style lessons, designed to introduce beginning CAD users to the graphics language used in all branches of technical industry. This book does not attempt to cover all of SOLIDWORKS 2015's features, only to provide an introduction to the software. It is intended to help you establish a good basis for exploring and growing in the exciting field of Computer Aided Engineering.

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## **SOLIDWORKS 2019 AND ENGINEERING GRAPHICS**

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### **AN INTEGRATED APPROACH**

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SDC Publications SOLIDWORKS 2019 and Engineering Graphics: An

**Integrated Approach** combines an introduction to SOLIDWORKS 2019 with a comprehensive coverage of engineering graphics principles. Not only will this unified approach give your course a smoother flow, your students will also save money on their textbooks. What's more, the exercises in this book cover the performance tasks that are included on the Certified SOLIDWORKS Associate (CSWA) Examination. Reference guides located at the front of the book and in each chapter show where these performance tasks are covered. The primary goal of SOLIDWORKS 2019 and Engineering Graphics: An Integrated Approach is to introduce the aspects of Engineering Graphics with the use of modern Computer Aided Design package - SOLIDWORKS 2019. This text is intended to be used as a training guide for students and professionals. The chapters in this text proceed in a pedagogical fashion to guide you from constructing basic shapes to making complete sets of engineering drawings. This text takes a hands-on, exercise-intensive approach to all the important concepts of Engineering Graphics, as well as in-depth discussions of parametric feature-based CAD techniques. This textbook contains a series of sixteen chapters, with detailed step-by-step tutorial style lessons, designed to introduce beginning CAD users to the graphics language used in all branches of technical industry. This book does not attempt to cover all of SOLIDWORKS 2019's features, only to provide an introduction to the software. It is intended to help you establish a good basis for exploring and growing in the exciting field of Computer Aided Engineering.

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## **SOLIDWORKS 2016 AND ENGINEERING GRAPHICS**

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### **AN INTEGRATED APPROACH**

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**SDC Publications SOLIDWORKS 2016 and Engineering Graphics: An Integrated Approach** combines an introduction to SOLIDWORKS 2016 with a comprehensive coverage of engineering graphics principles. Not only will this unified approach give your course a smoother flow, your students will also save money on their textbooks. What's more, the exercises in this book cover the performance tasks that are included on the Certified SOLIDWORKS Associate (CSWA) Examination. Reference guides located at the front of the book and in each chapter show where these performance tasks are covered. The primary goal of SOLIDWORKS 2016 and Engineering Graphics: An Integrated Approach is to introduce the aspects of Engineering Graphics with the use of modern Computer Aided Design package - SOLIDWORKS 2016. This text is intended to be used as a training guide for students and professionals. The chapters in this text proceed in a pedagogical fashion to guide you from constructing basic shapes to making complete sets of engineering drawings. This text takes a hands-on, exercise-intensive approach to all the important concepts of Engineering Graphics, as well as in-depth discussions of parametric feature-based CAD techniques. This textbook contains a series of fifteen chapters, with detailed step-by-step tutorial style lessons, designed to introduce

beginning CAD users to the graphics language used in all branches of technical industry. This book does not attempt to cover all of SOLIDWORKS 2016's features, only to provide an introduction to the software. It is intended to help you establish a good basis for exploring and growing in the exciting field of Computer Aided Engineering.

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## **SOLIDWORKS 2020 AND ENGINEERING GRAPHICS**

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SDC Publications SOLIDWORKS 2020 and Engineering Graphics: An Integrated Approach combines an introduction to SOLIDWORKS 2020 with a comprehensive coverage of engineering graphics principles. Not only will this unified approach give your course a smoother flow, your students will also save money on their textbooks. What's more, the exercises in this book cover the performance tasks that are included on the Certified SOLIDWORKS Associate (CSWA) Examination. Reference guides located at the front of the book and in each chapter show where these performance tasks are covered. The primary goal of SOLIDWORKS 2020 and Engineering Graphics: An Integrated Approach is to introduce the aspects of Engineering Graphics with the use of modern Computer Aided Design package - SOLIDWORKS 2020. This text is intended to be used as a training guide for students and professionals. The chapters in this text proceed in a pedagogical fashion to guide you from constructing basic shapes to making complete sets of engineering drawings. This text takes a hands-on, exercise-intensive approach to all the important concepts of Engineering Graphics, as well as in-depth discussions of parametric feature-based CAD techniques. This textbook contains a series of sixteen chapters, with detailed step-by-step tutorial style lessons, designed to introduce beginning CAD users to the graphics language used in all branches of technical industry. This book does not attempt to cover all of SOLIDWORKS 2020's features, only to provide an introduction to the software. It is intended to help you establish a good basis for exploring and growing in the exciting field of Computer Aided Engineering.

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## **SOLIDWORKS 2021 AND ENGINEERING GRAPHICS**

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SDC Publications

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## **SOLIDWORKS 2014 AND ENGINEERING GRAPHICS - AN INTEGRATED APPROACH**

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SDC Publications SolidWorks 2014 and Engineering Graphics: An Integrated Approach combines an introduction to SolidWorks 2014 with a comprehensive coverage of engineering graphics principles. Not only will this unified approach give your course a smoother flow, your students will also save money on their textbooks. What's more, the exercises in this book cover the performance tasks that are included on the Certified SolidWorks Associate (CSWA) Examination. Reference guides located at the

front of the book and in each chapter show where these performance tasks are covered. The primary goal of **SolidWorks 2014 and Engineering Graphics: An Integrated Approach** is to introduce the aspects of Engineering Graphics with the use of modern Computer Aided Design package - SolidWorks 2014. This text is intended to be used as a training guide for students and professionals. The chapters in this text proceed in a pedagogical fashion to guide you from constructing basic shapes to making complete sets of engineering drawings. This text takes a hands-on, exercise-intensive approach to all the important concepts of Engineering Graphics, as well as in-depth discussions of parametric feature-based CAD techniques. This textbook contains a series of fifteen chapters, with detailed step-by-step tutorial style lessons, designed to introduce beginning CAD users to the graphic language used in all branches of technical industry. This book does not attempt to cover all of SolidWorks 2014's features, only to provide an introduction to the software. It is intended to help you establish a good basis for exploring and growing in the exciting field of Computer Aided Engineering.

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### **OFFICIAL CERTIFIED SOLIDWORKS PROFESSIONAL CERTIFICATION GUIDE (2018, 2019, 2020)**

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**SDC Publications** This book will provide you with a wealth of information about the three segments of the CSWP CORE exam. The intended audience for this book is a person who has passed the CSWA exam and who has eight or more months of SOLIDWORKS training and usage. This guide is not intended to teach you how to use SOLIDWORKS, but is written to provide you with CSWP exam tips, hints and information on sample questions and categories that are aligned with the exam. This guide is written to help you take and pass the CSWP exam. The book is organized into three chapters. Each chapter is focused on a segment of the CSWP CORE exam. This is not intended to be a step-by-step book. Goals of this book The primary goal is not only to help you pass the CSWP CORE exam, but also to ensure that you understand and comprehend the concepts and implementation details of the process. The second goal is to provide the most comprehensive coverage of CSWP CORE exam related topics available, without too much coverage of topics not on the exam. The third and ultimate goal is to get you from where you are today to the point that you can confidently pass all three segments of the CSWP CORE exam. Who this book is for The intended audience for this book and the CSWP exam is a person who has passed the CSWA exam and who has eight or more months of SOLIDWORKS training and usage. However, passing the CSWA exam is not a prerequisite for taking the CSWP exam if you are a commercial user in industry. For students that take the CSWP exam through their school, you must first pass the CSWA exam.

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## **BEGINNER'S GUIDE TO SOLIDWORKS 2020 - LEVEL II**

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SDC Publications Beginner's Guide to SOLIDWORKS 2020 - Level II starts where Beginner's Guide - Level I ends, following the same easy to read style and companion videoinstruction, but this time covering advanced topics and techniques. The purpose of this book is to teach advanced techniques including sheet metal, surfacing, how to create components in the context of an assembly and reference other components (Top-down design), propagate design changes with SOLIDWORKS' parametric capabilities, mold design, welded structures and more while explaining the basic concepts of each trade to allow you to understand the how and why of each operation. The author uses simple examples to allow you to better understand each command and environment, as well as to make it easier to explain the purpose of each step, maximizing the learning time by focusing on one task at a time. This book is focused on the processes to complete the modeling of a part, instead of focusing on individual software commands or operations, which are generally simple enough to learn. At the end of this book, you will have acquired enough skills to be highly competitive when it comes to designing with SOLIDWORKS, and while there are many less frequently used commands and options available that will not be covered in this book, rest assured that those covered are most of the commands used every day by SOLIDWORKS designers. The author strived hard to include many of the commands required in the Certified SOLIDWORKS Professional Advanced and Expert exams as listed on the SOLIDWORKS website.

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## **ENGINEERING & COMPUTER GRAPHICS WORKBOOK USING SOLIDWORKS 2017**

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SDC Publications Engineering & Computer Graphics Workbook Using SOLIDWORKS 2017 is an exercise-based workbook that uses step-by-step tutorials to cover the fundamentals of SOLIDWORKS 2017. The intended audience is college undergraduate engineering majors, but it could also be used in pre-college introductory engineering courses or by self learners. The text follows an educational paradigm that was researched and developed by the authors over many years. The paradigm is based on the concurrent engineering approach to engineering design in which the 3-D solid model data serves as the central hub for all aspects of the design process. The workbook systematically instructs the students to develop 3-D models using the rich tools afforded in SOLIDWORKS. The exercises then proceed to instruct the students on applications of the solid model to design analysis using finite elements, to assembly modeling and checking, to kinematic simulation, to rapid prototyping, and finally to projecting an engineering drawing. The workbook is ideally suited for courses in which a reverse engineering design project is assigned. This book contains clear and easy to understand instructions that enable the students to robustly learn the main features of SOLIDWORKS, with little or no instructor input.

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## **MASTERING SOLIDWORKS**

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**John Wiley & Sons** The complete SolidWorks reference-tutorial for beginner to advanced techniques Mastering SolidWorks is the reference-tutorial for all users. Packed with step-by-step instructions, video tutorials for over 40 chapters, and coverage of little-known techniques, this book takes you from novice to power user with clear instruction that goes beyond the basics. Fundamental techniques are detailed with real-world examples for hands-on learning, and the companion website provides tutorial files for all exercises. Even veteran users will find value in new techniques that make familiar tasks faster, easier, and more organized, including advanced file management tools that simplify and streamline pre-flight checks.

SolidWorks is the leading 3D CAD program, and is an essential tool for engineers, mechanical designers, industrial designers, and drafters around the world. User friendly features such as drag-and-drop, point-and-click, and cut-and-paste tools belie the software's powerful capabilities that can help you create cleaner, more precise, more polished designs in a fraction of the time. This book is the comprehensive reference every SolidWorks user needs, with tutorials, background, and more for beginner to advanced techniques. Get a grasp on fundamental SolidWorks 2D and 3D tasks using realistic examples with text-based tutorials Delve into advanced functionality and capabilities not commonly covered by how-to guides Incorporate improved search, Pack-and-Go and other file management tools into your workflow Adopt best practices and exclusive techniques you won't find anywhere else Work through this book beginning-to-end as a complete SolidWorks course, or dip in as needed to learn new techniques and time-saving tricks on-demand. Organized for efficiency and designed for practicality, these tips will remain useful at any stage of expertise. With exclusive coverage and informative detail, Mastering SolidWorks is the tutorial-reference for users at every level of expertise.

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## **OFFICIAL GUIDE TO CERTIFIED SOLIDWORKS ASSOCIATE EXAMS - CSWA, CSDA, CSWSA-FEA SOLIDWORKS 2015, 2014, 2013, AND 2012**

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**SDC Publications** The Official Guide to Certified SolidWorks Associate Exams: CSWA, CSDA, CSWSA-FEA is written to assist the SolidWorks user to pass the associate level exams. Information is provided to aid a person to pass the Certified SolidWorks Associate (CSWA), Certified Sustainable Design Associate (CSDA) and the Certified SolidWorks Simulation Associate Finite Element Analysis (CSWSA FEA) exams. There are three goals for this book. The primary goal is not only to help you pass the CSWA, CSDA and CSWSA-FEA exams, but also to ensure that you understand and comprehend the concepts and implementation details of the three certification processes. The second goal is to provide the most comprehensive coverage of CSWA, CSDA and CSWSA-FEA exam related topics available, without too much coverage of topics not on the exam. The

**third and ultimate goal is to get you from where you are today to the point that you can confidently pass the CSWA, CSDA and the CSWSA-FEA exam. The Certified SolidWorks Associate (CSWA) certification indicates a foundation in and apprentice knowledge of 3D CAD design and engineering practices and principles. Passing this exam provides students the chance to prove their knowledge and expertise and to be part of a worldwide industry certification standard. The Certified Sustainable Design Associate (CSDA) certification indicates a foundation in and apprentice knowledge of demonstrating an understanding in the principles of environmental assessment and sustainable design. The Certified SolidWorks Simulation Associate Finite Element Analysis (CSWSA-FEA) certification indicates a foundation in and apprentice knowledge of demonstrating an understanding in the principles of stress analysis, and finite element analysis. SolidWorks 2012 or higher is required to take the exam.**

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### **LESSON WITH QUESTIONS ...**

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