

Announcing CEBoK-S and a new
Software Cost Estimating Certification

2023 Professional Development
& Training Workshop Preview

ICEAAWorld

The magazine for the International Cost Estimating & Analysis Association



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International Cost Estimating & Analysis Association
Professional Development & Training Workshop



May 16-18, 2023

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**International Cost Estimating
& Analysis Association**

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The Magazine for the International Cost Estimating & Analysis Association

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The International Cost Estimating and Analysis Association is a 501(c)(6) international non-profit organization dedicated to advancing, encouraging, promoting and enhancing the profession of cost estimating and analysis, through the use of parametrics and other data-driven techniques.

ICEAA World is a publication of the International Cost Estimating and Analysis Association. Members of the association receive copies as a benefit of membership. Subscriptions for non-members are available on a yearly basis for \$30.00 per year.

Publication of materials is at the discretion of the editor and officers of the association. Opinions expressed by contributors are not necessarily those of the International Cost Estimating and Analysis Association. The association endorses no product or service, does not engage in any form of lobbying, and does not offer for sale any commercial product or service for a profit. All revenue received from the activities of the association are used solely for the professional benefit of its members.



President's Perspective

Bob Hunt, ICEAA International President

As my term as President of ICEAA draws to a close, I want to look back and discuss what it means to be a professional who is part of a professional society. I started my cost analysis career over 40 years ago as a GS 9 Statistician working for the Army. I rose to positions of senior leadership in government and industry. I recognized the benefits of membership in professional societies. I first joined the National Estimating Society. Later, I joined the Institute of Cost Analysts (ICA), the Society for Cost Analysis (SCEA), and the International Society of Parametric Analysts (ISPA). These cost societies eventually lead to the creation of ICEAA. I credit much of my professional success to membership in professional societies.

Membership in a relevant professional organization (ICEAA) is one of the things that separates a profession from a conventional job. It is a key element that defines a professional. Membership in ICEAA should be expected of all cost estimating and analysis professionals. Membership is important to support the advancement of the cost estimating and analysis profession and becoming a member of the professional organization is a part of that advancement. While remaining active in ICEAA (or its predecessors), I was active in professional organizations in the fields of aviation, environment, military operations, and construction cost estimating. Memberships in these organizations helped me be more effective in the cost profession.

Involvement with a ICEAA affords members the opportunity to network with other colleagues. Making connections with others who have similar interests reinforces why you are a cost analyst. Membership offers the opportunity to associate with senior members of the cost community and learn from them. Joining a ICEAA is

critical in keeping abreast of the latest knowledge and practices locally, regionally, and globally. ICEAA membership offers continuing education, seminars, and lectures along with other opportunities for learning. An active participant will have the opportunity to serve in professional development. Three summary reasons to join and be actively involved with ICEAA are listed below.

Reason #1: Professional Development. Are you looking for professional contacts? Do you need a mentor? Are you looking for educational opportunities, certifications and events that will further your knowledge? If you answered yes to any of these questions, you need to join and be actively involved in ICEAA. Don't just show up, volunteer! Attending chapter meetings and the annual workshop is part of your responsibility.

Reason #2: Look for Opportunities. Do you want to grow, acquire new skills, or even find great employment opportunities? To do this, you need to know the people and opportunities in your profession.

Reason #3: Find Your Passion. Becoming involved with something you feel passionate about is one way to make your life meaningful/enjoyable. There is an old saying, "Find something to do that you love, and you will never work a day in your life."

Regardless of your objective, becoming involved with ICEAA is about developing meaningful relationships from which you will learn and hopefully grow. This means a commitment of personal time and, oftentimes, resources in terms of membership fees.

The bottom line is that consistent and active involvement in ICEAA is a key to your professional success.



ICEAA OEM Forum & Networking Event

San Antonio ⚙ May 15, 2023 ⚙ 3:00-5:00 pm

OEM
COG

Business Office Update

Megan Jones, ICEAA Executive Director



You guys are not going to believe how much ICEAA has been up to in the past few months. I say months, but a lot of this has been brewing for years. The first thing you need to know is to enjoy any of the things I'm here to tell you about, you need to log on to the new ICEAA Portal: the place to find all the new cool stuff we have for you (and some of the stuff you already know and love, like CEBoK®2.0). Go to www.iceaaonline.com/login and update your password; your username is the email address to which you get your ICEAA-related emails. Once you're in, be sure to check out:

CEBoK® Training Videos.

In addition to FREE access for members to the new and improved CEBoK®2.0 with its interactive interface and easier-to-read Wikipedia-style layout, you can now purchase on-demand access to recorded video training sessions based on all 16 CEBoK® modules. Not everyone is a visual learner, others could use some help getting all of the material down in preparation for the exams, but whatever reason you may want to watch them, these videos can now be purchased and watched from the comfort of your personal screen.

CEBoK-S Curriculum.

ICEAA members, along with renowned software estimation experts from around the globe have been hard at work for several years developing a supplemental product to CEBoK® focused on the specific challenges faced by software cost estimators. The nine lessons in CEBoK-S were first previewed at ICEAA's 2021 Training Summit, and since then we've been reviewing, revising, and improving the material for its official debut. Any cost estimator working in or on a software project will gain in-depth insights from CEBoK-S that build upon your understanding of the cost estimating and analysis techniques covered in CEBoK®. The lessons are available for purchase on the new ICEAA Portal as

downloadable PDF files of PowerPoint presentations and will be especially valuable for those who wish to pursue...

SCEC Certification.

To accompany CEBoK-S, we're developing a new Software Cost Estimating Certification (SCEC) to add to our suite of certifications that will showcase our members' expertise and set you all above the rest. The exam is being developed in preparation for the first offering to be held at the 2023 ICEAA Professional Development & Training Workshop in San Antonio this May. The SCEC exam will be taken online like the PCEA® or CCEA®, so if you want to take part in the first SCEC exam, plan to bring your laptop to San Antonio - but we'll have a live proctor onsite so you won't need a camera this time. More information on CEBoK-S and the SCEC is at www.iceaaonline.com/cebok-s

On the subject of exams at the Workshop, we'll also be offering attendees the opportunity to sit for the PCEA® or CCEA® exams in San Antonio. We've heard from some of you that either aren't comfortable with using the AI proctor or your employer won't allow the software to run on your machine. We also know that so many of you value the experience of taking the exam as a cohort and hope this special in-person sitting of the online exam (you'll also need to bring your own laptop) will help out those of you who've needed this very thing. Mention you want to take the exam live in San Antonio when you fill out your exam application to join in.

Which brings me to the Workshop, which we'll all be brought to in a few short weeks. Everything you need to know to get ready for the Workshop is in the preview article later in the issue. Your ICEAA staff, **Sharon Burger** and I, along with the 2023 Workshop committee and our fantastic volunteers have been buzzing about with all the usual Workshop preparation. Along with all this new stuff, even more new stuff is in store for you at the Workshop this year. See everyone in San Antonio!





Professional Development Update

Jennifer Kirchhoffer, CCEA®

Vice President of Professional Development

ICEAA is proud to announce the official release of the **Software Cost Estimating Certification (SCEC) program and Cost Estimating Body of Knowledge – Software (CEBoK-S)**! Although software cost estimating has been an integral part of the CCEA/PCEA and CEBoK programs since their inception, the knowledge required to be an effective software cost estimator has grown exponentially over the last 30 years. We are excited to now offer a new specialized certification. The original drafts of CEBoK-S date back to 2015, and in 2017 we had our first Software CEBoK training track at the ICEAA workshop. The ICEAA Board of Directors for 2019-2021 set a goal to build and launch an official version of a software-focused CEBoK and a certification program. Our announcement today is a direct result of their push to bring this to fruition.

CEBoK-S

The quest to build CEBoK-S took the collaborated efforts of many players. **Carol Dekkers** took the lead on the project with senior advisement from **Kevin Cincotta** and **Dave Brown**. The CEBoK-S Review Group included myself, **Arlene Minkiewicz**, **Dr. Wilson Rosa**, **Dr. Christian Smart**, **Eric Van der Vliet**, **Dan French**, **Denise Nelson**, **Sanathanan Rajagopal**, **Harold van Heeringen** and **Brian Glauser**. Reviewers of specialized content included **Hans Bernink**, **Kevin McKeel**, **Keith Ciocco**, **Karen McRitchie**, **Dr Alistair Cockburn**, **Larry Putnam**, **Dan Galorath**, **Bhwana Thakus**, **Colin Hammond**, **Frank Voglezang**, **Capers Jones**, and **Kellie Wutzke**. In short, the resulting certification has the benefit of contributions from many points of view which I think will serve the community well.

The official CEBoK-S team started with a draft from the ICEAA curriculum development committee (2015-2019) and added a significant amount of content and context. The project team worked faithfully to meet the committee's objectives:

1. CEBoK-S should be a how-to for undertaking a software cost estimate or reviewing another party's estimate (i.e., assessing credibility) NOT developing a software sizing estimate
2. CEBoK-S is a specialty version of CEBoK that will not exhaustively cover foundational CEBoK content essential to credible software cost analysis (i.e., Modules 3 – Parametric Cost Estimating, 4- Data Collection & Normalization, 5 – Inflation & Index Numbers, 6 – Basic Data Analysis Principles, 8 – Regression Analysis, 9 – Cost and Schedule Risk Analysis, and 10 – Probability and Statistics)
3. CEBoK-S will outline how to advocate a data-driven, parametric-based analysis that leverages well-documented and understood historical data points
4. CEBoK-S will be a how-to for undertaking:
 - a. An estimate of software development effort, cost, and schedule
 - b. An estimate of software sustainment and maintenance cost and schedule
 - c. An estimate of procured software solutions cost and schedule involving Commercial Off The Shelf (COTS) software
 - d. Analysis of the corresponding uncertainty/risk that:
 - Examines software size uncertainty (in recognition of fact that the size growth is the principal cause of effort, cost and schedule growth)
 - Equips cost estimators/analysts with a *basic* level of understanding of software sizing techniques (the intent is to ensure that cost estimators/analysts are informed consumers (not creators) of sizing estimates, who are capable of asking the *right* questions to form an independent opinion regarding credibility

continued

5. CEBOK-S is intended to be a how-to for reviewing another party's
 - Estimate of software size
 - Estimate of software development effort, cost, and schedule
 - Estimate of software sustainment and maintenance cost and schedule
6. CEBOK-S will be commercial and non-commercial software cost and schedule estimating tool-agnostic
7. CEBOK-S will be software sizing technique agnostic

Ensuring all the objectives were met took time and attention. The course result is a hearty product, containing 11 lessons and 1,000 slides (with associated notes) of material covering the topics shown in the table below.

All nine CEBOK-S lessons are available and can be purchased (as PowerPoints saved in the PDF Format) by ICEAA members at iceaaonline.com for **\$595** Individual lessons can be purchase by members for **\$100/lesson**.

Our Training Track at the Professional Development and Training Workshop in San Antonio will focus exclusively on CEBOK-S this year. Please join us to learn more about software cost estimating or to prepare for the SCEC exam.

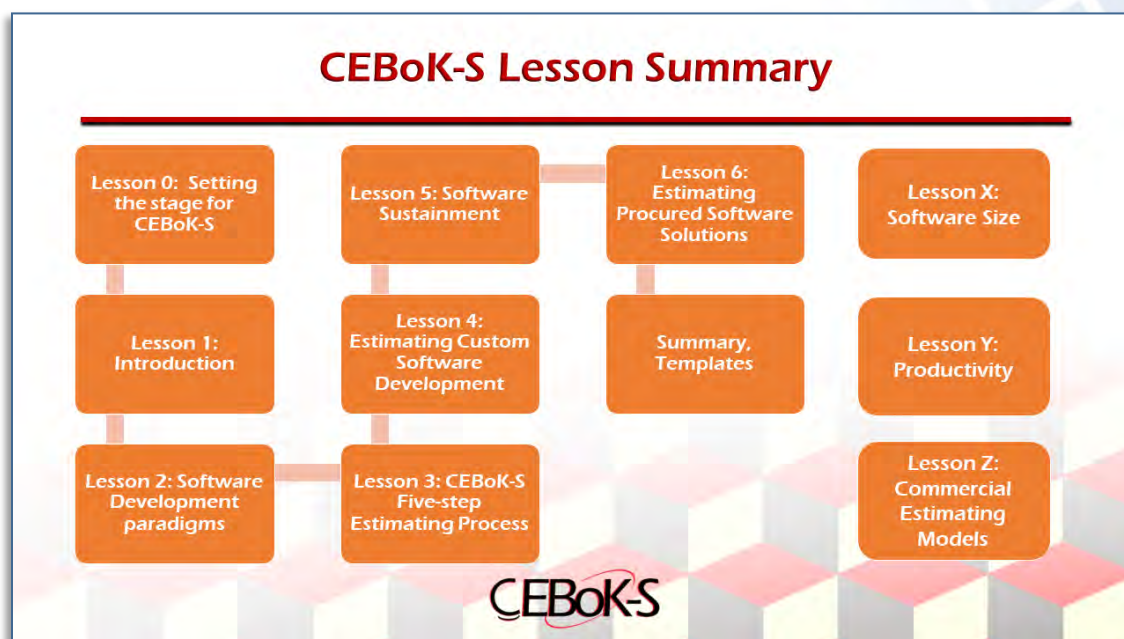
SCEC Exam

The **Software Cost Estimating Certification (SCEC) program** is a new ICEAA certification program specializing in software cost estimating. The exam is two hours in length and consists of 50 multiple choice

questions worth one point each. The online exam is 100% multiple choice, with each question featuring either four or five answer options and exactly one correct answer – and there's no penalty for guessing. There is no prerequisite for an estimator to have the PCEA or CCEA prior to taking the SCEC exam, but you should have a basic knowledge of the following areas of cost estimation: parametric estimating, data collection & normalization, inflation & index numbers, basic data analysis principles, regression analysis, cost & schedule risk analysis, and probability & statistics. These materials are covered in CEBOK 2.0 and available in the ICEAA portal for FREE to all active ICEAA members.

We have roughly 90 eligible questions in our SCEC test bank and the exam is built on a random draw of the questions. The exam went through beta testing and we're currently assessing each question as easy, medium, or hard difficulty to ensure a relatively even mix in each exam. All the questions are based on the CEBOK-S training materials. Advanced and backup materials are not tested.

You can schedule the exam at your convenience but, if you are looking for a special occasion, consider taking the exam at the Professional Development and Training Workshop in San Antonio. We are offering the SCEC as well as the PCEA and CCEA exams on Friday. The exams will be online but we will have an in-room proctor. You will need your own laptop with wireless access to take the exam. Best wishes to those studying and taking the exam, and we look forward to seeing the first class of SCEC recipients!



Money Changes Hands... ...A Good Book Changes Minds

Book review by David Peeler

While remiss of late to provide a review in each issue, over the last three years we have covered a spread of topics ranging from relevancy of the philosophical nature of social science in cost estimating to estimating execution at the strategical, operational, and tactical levels. Now, a book chronicling historical applications and how they inform future projects. A data-driven book about big project costs and schedules, with lessons regarding what worked for success and how most go tragically wrong.

Look at the historical! By and large we are terrible at doing so. Perhaps most familiar to readership are the repeated mistakes in weapons acquisition. Possibly the most notable recent refusal to learn from history was the F-22 vis-à-vis the F-111 programs. From weapons acquisitions, we can generalize to a wide swath of big, complex projects. Seemingly, the two thing they all have in common are cost overruns and schedule slips.

In **How Big Things Get Done**, Flyvbjerg and Gardner provide some level of detail regarding over 20 large complex projects, most of which went expensively wrong and arrived disappointingly late. The 20 illustrative projects are a small subset of the Flyvbjerg's database of over 16,000 projects across 20 fields (aerospace to pipelines) in 136 countries. Analysis of the database shows projects tend to go 'over budget, over time, under benefits, over and over again.' This observation became Flyvbjerg's *Iron Law of Megaprojects*.

Based upon years of working with megaprojects, collecting and analyzing the data, the authors provide a valuable perspective on how to approach and execute large, complex projects. The book has nine chapters, starting with an introduction highlighting one monumental failure – *California High Speed Rail* – and one almost-unbelievable success – the *Empire State Building* – and a coda providing eleven heuristics gleaned from years of watching, participating, and studying megaprojects.

HOW BIG THINGS GET DONE THE SURPRISING FACTORS THAT DETERMINE THE FATE OF EVERY PROJECT FROM HOME RENOVATIONS TO SPACE EXPLORATION

**BRENT FLYVBJERG &
DAN GARDNER**

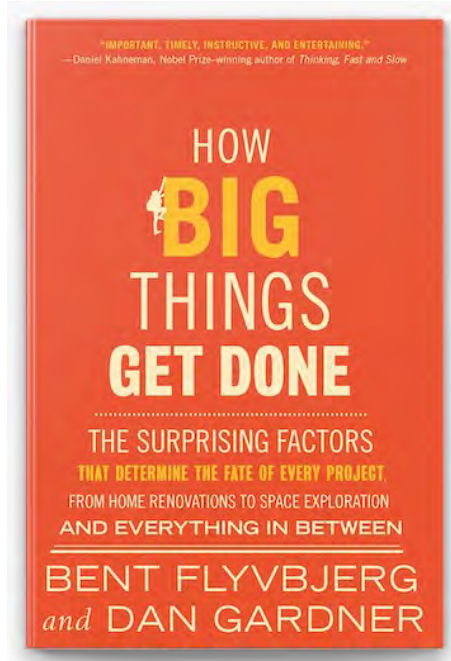
Currency.
New York, New York; 2023

Megaprojects are defined as those exceeding \$1 Billion.


Planning is covered in Chapter 1, and emphasizes the value of thinking and planning before acting. While not specifically stated as such, "Think Slow, Act Fast" is a rebuke to the contemporary notion of concurrent engineering – building the plane while flying or the ship while sailing. The authors show the record of big projects is even worse than it seems. Only 8.5% of megaprojects projects come in on-time, on-budget. Furthermore, 0.5% meet both cost and schedule targets and meet benefit expectations. *Success: The Pentagon | Failure: Denmark's Great Belt.*

continued

Chapters 2 through 5 deal with commitment and focus. Sunk cost is addressed here, as are experience and expertise. Projects need commitment, but they also need thinking. Often there is a bias against thinking. The concept of strategic misrepresentation is introduced and discussed here, noting that ‘the first budget is really just a down payment.’ Also, stressed is the need to act with the goal in mind. Work backwards after building the plan. This point is particularly cogent for weapons acquisition projects, which usually start with vague or nebulous requirements not well understood. *Success: Guggenheim Bilbao | Failure: Sydney Opera House.*



industry in half the time. The highly modular projects that exemplify the thin-tailed categories, while costing over a billion dollars circumspect in this reviewer’s mind. Is a windmill or solar farm a project, *writ large*, or the rollup of many small projects? *Success: Madrid Metro | Failure: Monju.*

I highly recommend this read. It is replete with lessons and approaches for large project success. The history of projects is fascinating. If you want to learn about project costs and schedules on some of the world’s most massive human undertakings, pick up this book and read. I couldn’t put it down. 

Uniqueness is the subject of chapter 6 and ignorance that of chapter 7. The authors show that few projects are completely unique in all aspects. Use the lessons available from analogies, what the authors call reference-classes, at whatever level available. “Are the benchmarks reasonable?” If the estimate is wrong, failure is statistically assured. To wit, anchoring is addressed and fat-tails discussed. The latter are distinguished by power law distributions rather than normal. In fact, of the 23 categories of megaprojects in Flyvbjerg’s database, 18 express power law behaviors, while only 5 display thin-tails. *Success: Hong Kong Express Rail Link (Rebaselined) | Failure: Electric Ladyland.*

Colonel David Peeler, USAF Retired, is an associate with Dayton Aerospace and Deputy Director emeritus of Financial Management and Comptroller for the Air Force Life Cycle Management Center. He is a certified cost estimator/analyst and a DoD certified acquisition professional in financial, program, and test management. He is a member of both the American Society of Military Comptrollers and the International Cost Estimating and Analysis Association.

Team building and team performance is the subject of chapter 8. The approach to megaprojects must surpass planning and even digital simulation. People are critical to success, in that all must be singularly focused on working toward delivery of the project. *Success: Hoover Dam | Failure: Wembley Stadium.*

Finally, chapter 9 provides detail on fat-tailed projects and the benefits of modularity. The intriguing results of one project delivered at twice the speed in the

The Value of Professional Cost Estimation for IT and Software Projects

*Eric van der Vliet and Paul Marston,
ICEAA Software Board members*

The mission of the International Cost Estimating and Analysis Association (ICEAA) is to promote and enhance the profession of cost estimation and analysis for systems engineering and has been successful in that for more than 10 years. An area that is often part of system engineering but that requires specific attention is the IT market and software projects. Why is this important? Software projects fail for several reasons but mainly due to unrealistic expectations and lack of planning and control. The trend to Agile, changes the approach for controlling software projects but still there is a need for professional cost estimation to determine the initial budget for management, as well as to determine the achievable scope of a next sprint or increment within the available budget. Cost estimation provides the vital link between required costs/ resources, schedule and product value, which are the foundation of project planning but also the basis to control delivery at both the project team and management levels. To support the profession of cost estimation for IT and software projects, ICEAA started a new initiative named ICEAA Software.

The Value of Cost Estimation

One of the key roles of an IT manager is to make decisions and deliver the required needs and business value within the available budget. To make informed decisions, the manager needs the appropriate level of information. For a software project, the required information consists of the scope (although not detailed yet), the budget (for a next iteration) and the duration.

The cost estimator is the professional who can provide this information in cooperation with a solution architect who understands the solution and the project manager who understands the delivery approach. Having a professional for the Cost Estimator role ensures that cost estimates become more structured and understandable, more realistic and credible, and the delivery of expected scope and timeframe more predictable.

The question that comes up regularly is: “Does this mean additional overhead?” The answer is: “No.” A software delivery team already performs most of the required activities and provides the required information. But because it's not professionalized, the information is often not a sound basis for decision making. The delivery team remains responsible for the estimate but the cost estimator manages the estimation process like a project manager or Scrum master manages the delivery or a solution architect manages the solution architecting process.

ICEAA SW

To make cost estimation a more mature discipline in IT organizations, ICEAA and Nesma started a new initiative called ICEAA Software. ICEAA SW is a Special Interest Group (SIG) with a special status; the SIG has its own board and will focus on all continents starting with North America, Europe and Asia. ICEAA SW will work closely with ICEAA, Nesma and other organizations that are relevant to professionalize Cost Estimation for IT and software.

ICEAA SW developed and promotes the Cost Estimation Body of Knowledge - Software (CEBOK - S) and will roll-out the first Certification for Professional Software Cost Estimator Analysts. CEBOK – S encapsulates existing international standards and best practices while providing a sound basis for training and certification for professional Software Cost Estimator Analysts. Anyone interested in the certification can study CEBOK-S, take the online exam, and become certified.

The SIG will organize working groups to share knowledge, expertise and create supporting materials, as well as providing training, organize (online) events/ webinars to create awareness with respect to Cost Estimation for IT and Software projects. ICEAA SW is a community for professional IT and Software Cost Estimators and for anyone interested in this topic.

continued

The ICEAA SW SIG will work with experts across the world within working groups to advance the profession of Cost Estimation through the steady enhancement of CEBOK-S.

The Value of ICEAA SW

What is the value of the ICEAA SW for your organization? If you're in an executive management role, professional cost estimation will result in more realistic budgets, resource requirements, and achievable project plans which will increase your control of the delivery of software projects. If you're part of a software development team, ICEAA SW will help to make the cost estimation processes more efficient and effective based on metrics. Project decisions considering cost as a key variable will make achieving business objectives and delivering business value much more likely.

ICEAA SW is not only relevant for the professional Software Cost Estimator, but also for solution architects, project managers, Scrum masters, release train engineers,

product managers and IT managers depending on budgets and costs in their daily lives.

Status and Next Steps

Cost estimation for IT and software projects is not yet on the level that is required for a professional IT engineering discipline. ICEAA SW is set-up to provide the required knowledge, expertise, training and certification to bring this profession to the next level leading to more efficient, more predictable and less development waste in software projects.

Our next step will be the creation of working groups on specialized topics within the SIG. Would you like to become a member of the ICEAA SW SIG or a Working Group and participate in this new initiative? All members of ICEAA and Nesma are invited to join the SIG. Simply check the websites of ICEAA or Nesma for more information and join today:

www.iceaaonline.com

www.nesma.org



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17 Chapter Individual & Team Awards

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ertification ongratulations

There are some REALLY exciting things coming this year in the world of certification but first, lets do a quick wrap of 2022:

120 certification exams were administered in 2022 and 65 exams are scheduled to be taken in 2023 so far! Are you one of the 65 who are already scheduled to take the exam this year? If not, don't get left behind! Increasing your competitive advantage and establishing professional credibility by becoming certified couldn't be easier now. ICEAA's official training material, the Cost Estimating Body of Knowledge (CEBoK 2.0) is now available for free to ICEAA members for exam preparation. Then when you're ready to take the exam, simply complete the application on our website and take the exam online, wherever and whenever is most convenient for you!

Second, a total of 85 individuals recertified in 2022 including those listed below.

Now, for the really exciting news you don't want to miss and will want to be a part of, especially if you're not already certified or know someone who isn't and should be!

The 2023 ICEAA Professional Development and Training Workshop being held in fabulous San Antonio this coming May will not only provide an excellent opportunity for you attend days of training to help you prepare for the exam but you will also have the option to participate in a study group with instructors to prepare you for an **ON SITE exam** at the conclusion of the workshop! Just like in pre-Covid days! What's better than taking the exam while you're fresh with knowledge and practice of all things cost estimating and analysis before you board that train, plane or automobile to head back home to the many distractions of work and play?

Almost more exciting is the news of the long-awaited Software Cost Estimating Certification, the SCEC! A draft of the exam is currently being alpha tested and the beta test will be brought straight to you at the workshop!

How will this all happen you ask?

The exams will be offered in our online format using your own laptop. You will apply for the exam of your choice at least 4-6 weeks in advance of the exam date of **May 19, 2023**. This is an important step to ensure you have sufficient time to test your laptop's compatibility with the exam software and make any adjustments needed and to reserve your seat. Let's Go!

CCEA® Achievers:

Pablo Barajas, Tecolote Research, Inc.

Aadil Edoo

Janaka Godawatta, Department of
National Defence, Canada

Gayle Ingram, US Air Force

Rosaline Karam, Treasury Board of
Canada Secretariat

Monique Lamb, Public Safety Canada

Bryan Mariscal, Tecolote Research, Inc.

Joanne Tan, Treasury Board of Canada
Secretariat

Jeremiah Trimper, Galorath, Inc.

June - December 2022 Re-Certifications:

Ghassan Al-Dossary	J.D. Haynes	Paul Linseisen	James Rothman
Randall Aldrich	Jason Heyes	Jonathan Lister	Timothy Salvage
Nitin Bangera	Gary Hill	Antony March	Gregory Seavers
Jason Blancet	Eric Hong	Kevin McKeel	Amy Smith
Diane Butler	Daniel Hoy	Ted Mills	Joanne Smith
Susan Catala	Kathleen Hudgins	Bridget O'Brien	Madeleine Teller
Eric Cohen	Hisham Jalil	Zachary Pryor	Steven Tracy
Stuart Dornfeld	Christian Kaldes	Cari Pullen	Abbey Turnau
Pierre Filipowicz	Sriram Krishnan	Raymond Radovich	Maximilian Watstein
Emily Foglia	Cole Kupec	Marvin Rainwater	Emily Winfield
John Gardner	Stephanie Lewis	Shamraz Razzaq	John Yeaman
Thomas Harless	Greg Lindvay	William Roetzheim	Ying Zhang

PCEA® Achievers/ CCEA® Eligible:

Thomas Cook,
US Department of Energy

Michael Hellman,
US Department of Homeland
Security

Sean Wells, Huntington Ingalls
Industries

PCEA® Achievers:

Gabrielle Briones,
Augur Consulting, Inc.

Ryan Farrell, Galorath, Inc.

Nizar Meskini, Treasury Board of
Canada Secretariat

Michael To, Booz Allen Hamilton

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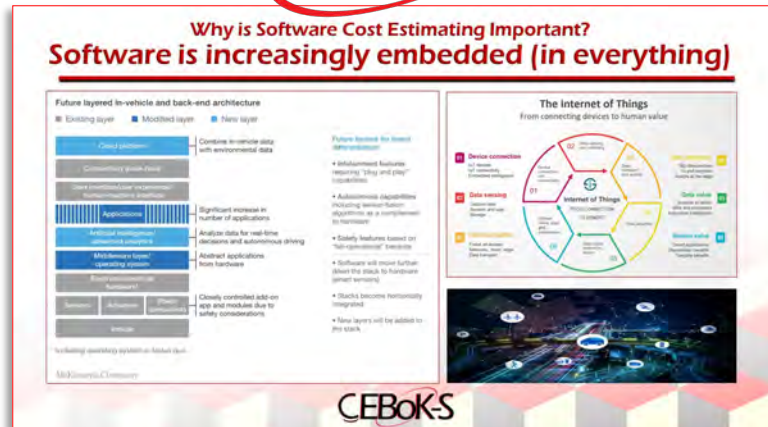
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CEBoK-S



After years of development, ICEAA is proud to announce the release of the Cost Estimating Body of Knowledge-Software, or CEBoK[®]-S, a supplement to CEBoK[®] applicable to software cost estimators around the world.

CEBoK[®]-S is made up of nine lessons, and delivered as PDF-formatted PowerPoint files with extensive speaker notes.

Anyone estimating the costs of software will find CEBoK[®]-S an invaluable resource for increasing the accuracy and efficiency of your analyses.

ICEAA members:
\$100 per lesson
\$595 for all 9

Non-members:
\$175 per lesson
\$745 for all 9

Lesson 0: Setting the Stage
Lesson 1: Introduction to
Software Cost Estimating
Lesson 2: Software Paradigms
Lesson 3: CEBoK-S
5-Step Estimating Process
Lesson 4: Estimating Custom
Software Development

Lesson 5:
Software Sustainment
Lesson 6: Estimating
Procured Solutions
Lesson X: Software Size
Lesson Y: Productivity
Lesson Z: Commercial
Estimating Models

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2023 Professional Development & Training Workshop

May 16-18, 2023



San Antonio, Texas

Sponsoring ICEAA's 2023 Professional Development & Training Workshop provides a unique opportunity to position your company as an active player in advancing the profession of cost estimating and analysis.

Join our growing list of sponsors and exhibitors!

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2023 Professional Development & Training Workshop Preview



Howdy pardners! The 2023 Professional Development & Training Workshop is right on yonder horizon, and if you ain't already looking forward to it, these here pages should spur you in the right direction!

We're starting off 2023 with a new event intended for our members working for an Original Equipment Manufacturer outfit. The ICEAA OEM COG (that's the OEM Cooperative Opportunities Group 'round these parts) is putting on the OEM Forum & Networking Event on Monday afternoon from 3-5pm. Whether you work for or with an OEM, or even if you're just interested, sign up for the OEM Forum & Networking Event when you register for the Workshop to enjoy two hours of panel discussions, presentations, and networking from representatives from BAE Systems, Ball Aerospace, Huntington Ingalls, L3 Harris, Lockheed Martin, Northrop Grumman, Raytheon Technologies, The Boeing Company, and more. The open forum will allow for questions of our panelists and time for individual

discussions before the group hits the Riverwalk for some social networking.

Keep yer watchin' eye on the ICEAA website for more information as it comes available.


For the rest of us, the 2023 Workshop starts as usual on Tuesday morning, with coffee and chow with our sponsors and exhibitors. To give everyone a taste of the outstanding paper presentations scheduled for the days to come, we'll start with the 2023 Best Paper Awards presentation. A team of judges scored the narrative/white-paper formatted papers first to choose the best in each category, then from the category winners, scored the Best Paper Overall. These winning papers will definitely be ones to check out in the days ahead!



Step on down to the Riverwalk!

The authors on stage will be giving just a handful of the 64 presentations that will be presented throughout the Workshop! We've herded them into eight tracks, organized to help guide attendees to the presentations they will find most applicable, and

continued



arranged (as best we could) to keep similar topics from being scheduled at once. As always, the best way to keep track of which presentations you want to see and when is by using the ICEAA app on Whova. Invitations to download the app, which will include all of the scheduling, downloading, and socializing features you've come to love over the past few years.

After the awards on Tuesday morning, we'll give you a peek into the other new element of the Workshop we're introducing for 2023: The ICEAA Cost Challenge. Teams of junior analysts and their mentors will be signing up to compete in the coming weeks, and will be expected to arrive ready to give a presentation on a dataset and series of scenarios to our panel of judges. Tuesday

64 Presentations in 8 Tracks:

- ♦ Analytical Methods
 - ♦ Data Science
 - ♦ IT & Cloud Computing
 - ♦ Modeling & Case Studies
 - ♦ Processes & Best Practices
 - ♦ Software & Agile
 - ♦ Technical Innovations
 - ♦ Trending Topics
- 

The judges will convene and announce the winning team – along with their \$1,000 cash prize – at the closing general session on Thursday. Stay tuned for the invitation to compete and more details!

Tuesday morning's general session will conclude with a keynote presentation from a speaker who uses many of the same methods, disciplines, and theories you do every day, but maybe in a different market for a different result. Back east in Pittsburgh, our keynotes shared their insights on what it takes to be a leader, how opportunity only answers to those who listen for the knock, and opening ourselves to look at familiar problems in unfamiliar ways; get ready for three new spins on the usual yarn.

At the end of the day on Tuesday, we'll wrap with the first of our two main networking events in the exhibit hall. Every year, and last year more than ever, our attendees tell us the most valuable part of the Workshop is all of the opportunities you have to make new connections, ask an extra question of a presenter, or get to know our sponsors. Some of you have been working remotely for three years, and may not have many chances to truly bond with your teams. At the ICEAA Workshop, you'll have plenty of chances to meet face to face with colleagues and peers between sessions, during beverage breaks, or at the receptions on Tuesday and Wednesday evenings.

continued

Last year's addition of drink tickets for the attendees was a big hit, and we're bringing them back. If you were on the fence as to whether or not to check out the receptions, we've got two more reasons with your (well, our) name on 'em!

All that and we're just at Wednesday morning! We'll start the day off honoring ICEAA's standout stars with our Annual Association Awards presentation. ICEAA members across the globe go above and beyond to make a difference in the community. From the Junior Analyst of the Year to the Frank Freiman Lifetime Achievement Award, ICEAA is proud to take the time to honor and thank these individuals (and teams) for their efforts and contributions. Learn more about the award categories and read up on previous years' winners at

iceaaonline.com/awards

Most of the rest of Wednesday will be the same or similarly-different to Tuesday: keynote speaker, drink tickets (if you didn't use them both on Tuesday), and the reception.

On Thursday morning, we will open once again with a keynote presentation, a morning full of training and presentations,



The River flows right through our hotel!

and our now-traditional Best Paper Overall general session right before lunch. Back in the old days, the winning Best Paper Overall presentation was mixed in with the rest, which meant that room was often overcrowded while the sessions scheduled against it were empty. For the eighth Workshop in a row, we'll be dedicating time on the main stage for all attendees to see and enjoy the year's best paper.


Another returning favorite is our sharpshootin' Workshop photographer, Carrie Evans, who will be on hand for everyone to sit for a brand new mugshot. Whether for LinkedIn or a wanted poster, take advantage of ICEAA's gift to our attendees and look your best!

Once again, papers presentations will be scheduled all day Tuesday and

continued

View speaker bios, paper abstracts, training session descriptions, and hotel information on our website. You can also download the latest detailed schedule, featuring session dates and times at:

www.iceaaonline.com/sat2023



Wednesday with the final papers of the Workshop concluding on Thursday afternoon. Last year's closing general session proved to be the official sendoff we hoped it would be, and we expect this year's panel to give us the right nuggets to chew on before we all say our goodbyes and head off into the sunset. Make sure to book your flight to allow you to enjoy the entire workshop - from opening to closing sessions so you don't miss out on anything, and consider sticking around for Thursday evening to get out and explore the Riverwalk. Ya can't mosey more than a few feet before bumping into fantastic

2023 Workshop Committee

Workshop Chair

Jennifer Scheel, CCEA®

Training Chair

Jennifer Kirchhoffer, CCEA®

Abstract Review Chair

Cortney Collins, CCEA®

Best Paper Chair

David Peeler

Awards Chairs

Christina N. Snyder, CCEA®
Courtney Silies

Keynote Chair

Tom Dauber



restaurants, museums, or other fun experiences!

Finally, there's another new development that will be taking place throughout the Workshop that's worth showcasing: we'll be doing training a little differently this year.

The first thing you'll notice is that there won't be any CEBoK-based training sessions. What we will be offering for those preparing for the CCEA® or PCEA® exams is a study room: attendees can visit the study room to watch the CEBoK training videos for free (that were recently added to the ICEAA portal to be purchased on-demand), meet up to go over study materials, and during certain hours, we will have an instructor on hand to answer questions and go through practice exercises.

Both anecdotal and actual data have told us that those PCEA® and CCEA® exam takers who prepared for and took the exams at the Workshop as part of an unofficial cohort credit their success with the "graduating class" experience, so we have decided to re-introduce the in-person exam session to be held on Friday afternoon. We will still be using the online exam format, so be sure to BYOL (bring your own laptop), but we'll have a live proctor in the room so you won't need a camera or download the monitoring software. For those who've been spooked by the AI in the machine, this is your chance to take the exam off-camera.

continued

In place of the usual CEBoK-based training, we will be focusing the training sessions on ICEAA's latest new product, CEBoK-Software, or CEBoK-S. There's been a lot of chatter and hubbub about CEBoK-S for years and it's finally here! All nine CEBoK-S modules will be instructed by experts in software estimation and sizing, many of whom contributed to the development of the CEBoK-S curriculum.

Also on Friday, we'll be offering the first ever Software Cost Estimating Certification (CSCE) exam, based on the content of CEBoK-S. This exam will also be live-proctored but using the online exam software, so anyone looking to sit for an exam, whether PCEA®, CCEA® or SCEC, will need to plan to pack a laptop in their saddlebags.

Don't let it be said that ICEAA spends too long in the same saddle! With all the new features and improvements we have in store, you've got no choice but to come on down to San Antonio to see it all for yourself.



Outline Schedule

Tuesday, May 16

Breakfast buffet available	7:00 - 8:00
Welcome & Best Paper Awards	8:00 - 8:30
Keynote/Panel	8:30 - 9:30
Papers & Training	9:45 - 11:45
Lunch	11:45 - 12:45
Papers & Training	12:45 - 4:45
Welcome Reception	4:45 - 7:00

Wednesday, May 17

Breakfast buffet available	7:00 - 8:00
Welcome & Association Awards	8:00 - 8:45
Keynote/Panel	8:45 - 9:45
Papers & Training	10:15 - 12:00
Lunch	12:00 - 1:15
Papers & Training	1:15 - 5:15
Networking Reception	5:15 - 7:00

Thursday, May 18

Breakfast buffet available	7:00 - 8:00
Welcome & Keynote/Panel	8:00 - 9:00
Papers & Training	9:15 - 11:00
Best Paper General Session	11:15 - 12:00
Lunch	12:00 - 1:15
Papers & Training	1:15 - 3:00
Farewell General Session with Panel Discussion	3:15 - 4:30

Florida Gulf Chapter Report

Christopher Anderson, Florida Gulf Chapter President

Recent Events:

On 1 December, we held a *Cost Community Chili Cookoff (C4)* at Eglin AFB. The name came as a pun considering we work weapon systems at Eglin we felt it appropriate to associate it with some sort of payload. The Chili Cookoff was a successful first face-to-face networking social lunch event. We had 13 different chili chef's that volunteered to participate, with 4 lucky senior-level volunteers for judging. Winner received the most notable achievement and bragging rights as the best chef for 2022! Congratulations **Justin Neece**!

The chili cookoff for us had a few objectives, one being moral building and the other being member outreach. With the change in work environments a lot of meetings are held virtually. We wanted to bring back the fun and networking possibilities, put faces to names and all the while get FM leadership involved as well so we could voice the benefits of the ICEAA conferences so they would have a little more encouragement to send their people to the conference to learn and be able to network with people across all entities.

Our Gulf Coast Chapter plans to build more possibilities like these and incorporate learning events such as "brown bag" training and continue the networking as well.

CHAMP Belt Winners:

The CHAMP Belt Winners for Dec 12, 2022 are...

Savannah Sheffield and Travis Lang! Savannah and Travis built and briefed a life cycle cost estimate for the Next Generation Aerial Target (NGAT) program. The NGAT team had to get crafty in their methodologies and look outside the standard missile portfolio for data sources, and brief/defend their position in their latest cost review.

The team expertly developed, documented, presented, and defended the life cycle position in support of the 25 Program Objective Memorandum (POM).

The CHAMP Belt Winners for August 29, 2022 are...

Mark Landers, Jeff McAlum, Eric Flinchum, Jason Stafford, and Casey DuPont: the HACM MTA RP SCP CIPT! The team expertly developed, documented, presented, and defended the Service Cost Position over the last 6 months. Their efforts have established the cost baseline for the MTA and enabled the signature of the ADM by SAF/AQ. The team overcame challenges of evolving requirements and successfully navigated major fact of life changes to funding and schedule of a high visibility hypersonic weapon system while simultaneously supporting source selection through cost realism evaluations.



*December 2022 CHAMP Belt Winners
Travis Lang and Savannah Sheffield*



*August 2022 CHAMP Belt Winners
Mark Landers, Jeff McAlum, Eric Flinchum, Jason Stafford, Casey DuPont*

Region 6 Report

Brent M. Johnstone, Region 6 Director

John Deem, business analyst with Lockheed Martin Aeronautics, presented the topic of design to cost (DTC) in a joint virtual meeting of ICEAA Region 6 and the ICEAA Original Equipment Manufacturers' Cooperative Opportunities Group (OEM COG) on November 10, 2022. Mr. Deem has over 30 years of experience in cost estimating, cost modeling and affordability analysis in industry and government. A longtime member of ICEAA and legacy organizations, he is a graduate of the University of Missouri and Texas Christian University.

Mr. Deem's presentation emphasized the practical aspects of how to apply DTC in real-life cases. For his example, he chose a fictional product support center and asked his listeners to walk through a DTC request, with management demanding a simple and agile approach which could be easily understood and replicated.

After defining design to cost – design decisions informed by cost analysis to pursue a market-based cost target – Mr. Deem then distinguished between DTC and related terms such as target cost, reduction of total ownership cost (RTOC), and activity-based costing (ABC).

Successful DTC requires an understanding of what the customer values: performance, cost, or some combination of both. To help this understanding, Mr. Deem contrasted the traditional view of a cost estimate by performing function (“nouns”) – e.g., personnel, software licenses, workstations, etc. -- to a view that segregates cost by activities (“verbs”) – e.g., conducting operations, acquiring equipment, supporting operations. Both views are useful, but understanding activities and outputs gives the analyst a better basis for understanding the cost and performance tradeoff.

What are the steps to perform a DTC? Mr. Deem suggested:

- Establish a charter (scope, objectives, schedule) and a plan (organization, process, tools, training).

- Develop a profit strategy and determine opportunities to expand margins.
- Perform a Pareto analysis of the activities and identify top cost drivers.
- Start with notional targets and then determine where the opportunities for cost reduction exist. The goal is to create a challenging but realistic target allocation, in contrast to spreading cost challenges using a “peanut butter” spread.
- Apply value engineering concepts to inform the product offering and design decisions.
- Track progress to the target.
- Reallocate the targets as required as realities unfold.

During the question-and-answer period, Mr. Deem emphasized that starting early on DTC analysis is better than starting late. Beginning DTC early allows more design options to be considered. He also outlined the importance of a careful exploratory analysis of cost to understand where realistic challenges can be made, as opposed to blind across-the-board reductions.

The question-and-answer session also explored the relationship between DTC and trade studies. Without DTC, engineers create designs without understanding cost implications. DTC enables programs to flag design paths contrary to desired cost targets. It also provides guidance when programs must trade weight reductions against cost. Successful DTC requires an understanding of the customer's best value proposition. A lowest-price technically acceptable (LPTA) competition creates a very different performance/cost tradeoff than traditional procurements. The DTC analyst must understand what the customer really values to inform good design decisions.

The next Region 6 virtual meeting will be held in spring 2023 on a date to be announced.



CEBoK[®] on-demand training videos




Modules 1-3:
Basics &
Techniques

Module 4:
Data Collection &
Normalization

Module 5:
Inflation

Modules 6 & 10:
Analysis,
Probability, &
Statistics

Module 7:
Learning Curves

Module 8:
Regression
Analysis

Module 9:
Risk Analysis

Module 11:
Manufacturing Cost
Estimating

Module 12:
Software Estimating

Module 13:
Economic Analysis

Module 14:
Contract Pricing

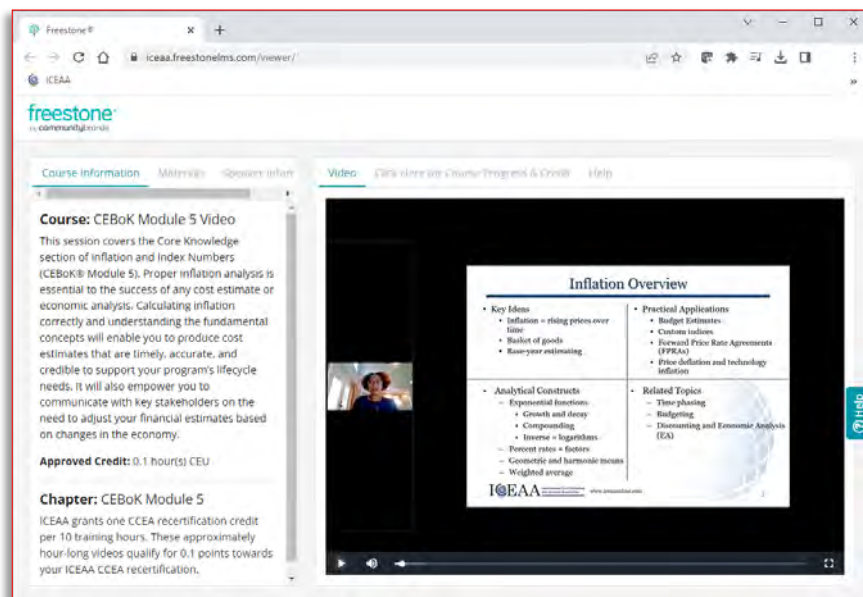
Modules 15 & 16: Cost
Management & EVM

ICEAA is excited to announce the release of 12 training videos designed to provide interactive review and in-depth clarification for CCEA[®] and PCEA[®] certification candidates that have been studying CEBoK[®] in preparation for the exams.

These videos are instructed by certified cost estimators and analysts, as well as experts in the industry. Videos are available for purchase on the new ICEAA portal along with downloadable copies of the presentations to follow along with or make notes.

Sign in to the new ICEAA Portal to check out the videos and get the training you need on-demand!

www.iceaaonline.com/login



ICEAA members: **\$75** per video/**\$495** for all 12 videos

Non-members: **\$155** per video/**\$655** for all 12 videos

These courses are designed to enhance and strengthen your studies of the CEBoK[®] material, and are not intended provide enough preparation for the exams alone. CEBoK[®] 2.0 is available free for ICEAA members in an easy-to-read, Wikipedia-style format. Log on to your ICEAA Profile to view CEBoK[®] 2.0 or renew your membership for access: www.iceaaonline.com/login



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2023-2025 ICEAA Board of Directors Election Polls are open March 15 - April 1

Ballots will be emailed on March 15, 2023
to all current ICEAA members.

Email iceaa@iceaaonline.org to confirm your address
and membership status or to request another email.

Expired members will not receive a ballot.

