Classroom, Customized, and Online Training for Professionals
TRAINING PROGRAMS THAT DELIVER JOB-READY, TANGIBLE OUTCOMES

We understand that your professional development goals are important to you. That’s why we offer a variety of courses, certificate programs, and exam preps in various formats, subject areas, and convenient times to best meet your unique needs. Our programs complement your educational degree and our credentials validate your professional capabilities. Choose the best option to fit your needs and enhance your career advancement.

Your success is our success. Call 256.824.4430 to discuss your training objectives.

COURSE FORMATS:

CLASSROOM
On the UAH campus, attend public training classes in the areas of Cybersecurity, Information Technology, Engineering, and Management. Stay current with updates and best practices by interacting with peers and actively participating in high quality training curriculum led by industry professionals and expert instructors.

ONLINE
Experience the convenience and flexibility of completing an instructor-led online course, exam prep or certificate program that fits within your schedule. Register at any time, and take up to 30 days to complete the course. Take 60 days to complete courses over 30 hours and IT courses.

CUSTOMIZED
Meet the demand for professionals in your workforce to stay current in their fields by partnering with us. We provide you and your team with training programs designed to meet your specific needs. Select an out-of-the box training offered at UAH or onsite at the location of your choice. We can also work with you to design specialized training tailored to meet your specific organizational goals. You select the topics, location, and times that are convenient for you or your team, and we will bring the high quality learning experience to your organization.

CPCS.uah.edu/PDSolutions | 256.824.4430
WAYS TO REGISTER

ONLINE: CPCS.uah.edu

PHONE: 256.824.6010 or 800.448.4031
Mon – Fri, 8:15 am – 5 pm (CST)

MAIL OR IN PERSON: Mail or drop off registration form to UAH CPCS, Wilson Hall 103, Huntsville, AL 35899-0650

FAX: registration form to 256.824.6760

WE ACCEPT: MasterCard, Visa, American Express, Discover, Company POs, and SF-182s

Download registration form at CPCS.uah.edu/RegistrationForm

GENERAL INFO

WAYS TO REGISTER

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WE ACCEPT: MasterCard, Visa, American Express, Discover, Company POs, and SF-182s

Download registration form at CPCS.uah.edu/RegistrationForm

PROFESSIONAL DEVELOPMENT SOLUTIONS

Terrie Shull, Senior Associate Director: 256.824.6940
Lonette Jenkins-Bell, Program Coordinator: 256.824.4430
Hannah Chambers, Online Learning Assistant: 256.824.6940

CUSTOMIZED TRAINING

Chris Finley, Associate Director: 256.824.2815
Anita Daniel, Manager: 256.824.6015

COLLEGE OF PROFESSIONAL AND CONTINUING STUDIES

College of Professional and Continuing Studies
Dr. Karen M. Clanton, Dean: 256.824.6013

Registration & Business Services
Kathy Hosch, Sr. Associate Director: 256.824.2814

Marketing & Media Services
Amber Capello, Marketing Manager: 256.824.4238

UAH Testing & Certification Services
Maria Brickner, Assistant Director: 256.824.6373

Outreach & Event Management
Fathia Hardy, Associate Director: 256.824.2808

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Classroom courses are held on the UAH campus unless otherwise noted. Refer to your confirmation email for the location. View the campus map on the inside back cover. A parking hang tag will be provided the first day of the course.

UAH WILL BE CLOSED:
A+ Exam Prep
(Meets DoD Directive 8140)
CompTIA’s A+ certification fulfills a basic requirement for most technical support and IT administrative positions. Learn the fundamental concepts of installation, configuration and maintenance of PCs, devices and related hardware/software. Learn to assemble components based on customer requirements. Apply troubleshooting skills to properly and safely diagnose, resolve, and document common issues while providing appropriate customer service. Validate your knowledge to perform effectively as a technician. Prepare for CompTIA’s A+ Certification Exam 220-1001 (Core 1) and 220-1002 (Core 2) which applies to DoD 8140 Information Assurance Technical (IAT) Level I. Go to CompTIA.org for complete certification information. Prerequisite: Basic understanding of information technology and/or 6–12 months hands-on experience in the IT field.

D. Spooner, 28 hrs, $955/$1195*
Online: D2120007
*With two exam vouchers

Network+ Exam Prep
(Meets DoD Directive 8140)
Network+ certification is necessary for many networking technicians, network administrators, network installers, help desk technicians, and IT cable installers. Challenge yourself by gaining the expertise needed to pass the CompTIA Network+ certification exam. Practice exam questions in a lab environment and benefit from hands-on exercises. Prepare to build, manage, and protect the critical asset that is the data network. The certification applies to DoD 8140 Information Assurance Technical (IAT) Level I. Visit CompTIA.org for complete certification information. Take the CompTIA Network+ certification exam in our convenient UAH Pearson VUE testing center. Prerequisite: 6–12 months of technical networking experience.

What You Will Learn:
- Construction of networks with the OSI and TCP/IP models and SOHO networks
- Configuration of network hardware, topologies, cabling, IPv6 routing protocols, and wireless network
- Connecting multiple ethernet components
- Router and switch installation and configuration
- TCP/IP applications and network protocols
- Virtualization implementation
- Client and server remote access
- Securing networks with firewalls, NAT, port filtering, packet filtering, and other methods
- Managing and troubleshooting networks

C. Case/D. Spooner, 28 hrs, $1195/$1395*
Campus: Feb 10 – Mar 11, 2020 | M, W | 5:30 – 8:30 pm | C2120024**
Campus: Aug 3 – Sep 2, 2020 | M, W | 5:30 – 8:30 pm | C2120036**
Online: D2120008
*With exam voucher
**June 29 and July 1, 2020 class will meet from 5:30 – 7:30 pm

Cybersecurity

Linux+ Exam Prep
Expand your career opportunities by earning the CompTIA Linux+ certification. Linux is in everything, from smartphones and embedded devices to enterprise cloud and supercomputers. Gain clear, concise information on all aspects of Linux and Linux administration with real-world scenarios focusing on the latest version of the exam. Learn GNU and Unix commands, system operation, system administration, system services, networking, and security. Prerequisite: A+, Network+, and/or 6–12 months of Linux administration experience.

C. Case/C. Lindsey, 28 hrs, $1495/$1895*
Campus: Jun 1 – Jul 1, 2020 | M, W | 5:30 – 8:30 pm | C2120029**
Online: D2120014 (Coming Summer 2020)
*With two exam vouchers
**June 29 and July 1, 2020 class will meet from 5:30 – 7:30 pm

DoD DIRECTIVE 8140
Select courses assist in the credentialing/continuing education requirements of DoD employees with privileged access to DoD information systems. Courses include: A+, Network+, Security+, CISSP®, CEH™, CAP®, and CASP+.
Security+ Exam Prep (Meets DoD Directive 8140)
Increase your current expertise by preparing for the CompTIA Security+ Certification Exam. Learn the skills and tools needed to achieve core security measures. Gain knowledge on the latest methods in risk management, identifying intrusions, and designing secure systems and networks. Familiarize yourself with concepts and study how to anticipate, guard against, mitigate, and respond to security incidents. Hands-on labs and performance-based questions give each participant in-depth knowledge and practical experience with essential security systems. The certification applies to DoD 8140 Information Assurance Technical (IAT) Level II and Information Assurance Management Level I. Visit CompTIA.org for complete information. Prerequisite: 2 Years of technical networking experience and/or Network+ recommended.

What You Will Learn:
- Network infrastructure fundamentals
- Systems security and cryptography concepts
- Organizational security methods
- Access control and auditing techniques

T. Williams/D. Layman, 28 hrs, $1195/$1475*
Campus: May 5 – Jun 9, 2020 | T, Th | 5:30 – 8:30 pm | C2120018**
Campus: Dec 14 – 17, 2020 | M – Th | 8:30 am – 4:30 pm | C2121002
Online: D2120009
*With exam voucher
**Class will not meet on May 26, 2020. June 4 and June 9, 2020 class will meet from 5:30 – 7:30 pm

Certified Ethical Hacker (CEH™) Exam Prep (Meets DoD Directive 8140)
Dive into an interactive environment and learn how to scan, test, and secure systems from hackers. Hands-on labs give in-depth knowledge and practical experience with the current essential security systems. Learn how perimeter defenses work and then scan and attack your own networks (no real network is harmed). Understand how intruders escalate privileges and what steps can be taken to secure a system. Study intrusion detection, policy creation, social engineering, DDoS attacks, buffer overflows, virus creation, and cloud computing. Build areas of mastery and focus your attention on subjects you need to gain proficiency by taking simulated assessments. Acquire familiarity with the exam questions and layout, and employ effective test-taking strategies as you experience the real exam scenario. After completion of the course, you will be eligible to schedule the CEH™ exam through UAH Testing and Certification Services. Go to eccouncil.org for complete certification information. Prerequisite: Technical networking experience with an emphasis on security.

What You Will Learn:
- Ethics and legality
- Enumeration
- Scanning networks
- Denial-of-Service
- Social engineering
- Mobile platforms
- SQL injection and cryptography
- Footprinting and reconnaissance
- Evading IDS, firewalls, and honeypots
- System hacking, session hijacking, malware threats, and sniffers
- Hacking web servers, web applications, and wireless networks

S. Cantley/R. Ward, 35 hrs, $2195/$2595*
Campus: Apr 27 – May 1, 2020 | M – F | 8:30 am – 4:30 pm | C2120047
Campus: Dec 14 – 18, 2020 | M – F | 8:30 am – 4:30 pm | C2121007
*With exam voucher.

CUSTOMIZED TRAINING:
Choose a PDS course or develop a new program to deliver in your preferred learning format on your selected day, time, and location.

See page 31 for more information.
Understand information security best practices and prepare for the CISSP® Exam. Organizations gain a leading edge by demanding qualified information security staff who demonstrate their dedication by providing the highest standard of security for their customers, employees, stakeholders, and organizational information assets. Define the architecture, design, management, and/or controls that assure the security of business environments. Broaden your expertise in critical topic areas such as application, information, and operations security. Gain in-depth security knowledge in risk management, cloud computing, mobile security, and application development security. The certification applies to DoD 8140 Information Assurance Technical (IAT) Level III, Information Assurance Management Levels II and III, and System Architect and Engineer Levels I and II. Go to isc2.org for complete certification information. 
Prerequisite: 10 years of IT experience and/or 5 years of hands-on technical security experience.

How You Will Benefit:
• Confront difficult situations with confidence by knowing best practices in information security
• Validate dedication to the information security profession
• Obtain a superb resume builder with great credibility
• Receive access to valuable resources, such as peer networking and idea exchange
• Demonstrate advanced knowledge on 8 security subjects through your professional experience and educational knowledge
• Skillfully design and execute a high quality professional cybersecurity program

K. Williams/D. Hall/E. Jackson, 35 hrs, $2195*
Campus: Apr 7 – May 21, 2020 | T, Th | 5:30 – 8:00 pm | C2120037
Campus: Oct 26 – 30, 2020 | M – F |  8:30 am – 4:30 pm | C2121008
Online: C2120013 (Coming Spring 2020)

*Exam voucher not included

Cyberspace is the new battlefield where commercial, federal, state, and local government agencies, including the DoD, have become virtual targets. Threats include critical infrastructures such as the energy, transportation, health, emergency services, telecommunications, financial systems, shipping, food, water, and chemical sectors. Knowledgeable people are the key to a secure organization. Organizations require the CAP® Certification to monitor and protect their network infrastructure and information systems. Learn about potential risks, as well as damage to assets or individuals. Prerequisite: 1-2 years of IT security, risk management, systems, and/or technical networking experience recommended.

CAP® Benefits:
• Demonstrates commitment and knowledge
• Offers a career differentiator and credibility
• Provides you with increased earning potential (world-wide average increase of 25%)
• Fulfills requirements for information security certification mandates

Customized Training: 256.824.2815

*Exam voucher not included

Cisco CCNA Certification Exam Prep
Be ahead of the game by preparing for the NEW Cisco Certified Network Associate (CCNA) 200-301 exam. With hands-on activities and labs, this instructor-led course will guide you through what you need to know to implement and administer Cisco Solutions. Test your knowledge and skills related to network fundamentals, automation and programmability, network access, IP connectivity, IP services, and security fundamentals. Prerequisite: Working knowledge of networks and IP addressing. Some experience administering Cisco Solutions.

What You Will Learn:
• Understand Networking and routing fundamentals
• Configure and verify IPv4 and IPv6 addressing, subnetting, and prefixing
• VLAN and trunk port creation for inter-switch connectivity
• Define key security concepts (threats, vulnerabilities, exploits, and mitigation techniques)
• Configure Layer 2 security features (DHCP snooping, dynamic ARP inspection, and port security)
• Describe wireless security protocols (WPA, WPA2, and WPA3)
• Compare Cisco Wireless Architectures and AP Modes
• Describe controller-based and software defined architectures (overlay, underlay, and fabric)
• Recognize the capabilities of configuration management mechanisms Puppet, Chef, and Ansible
• Interpret JSON encoded data

J. Dean, 35 hrs, $2195*
Campus: Jul 27 – Sep 2, 2020 | M, W | 5:30 – 8:30 pm | C2120092

*Exam voucher not included

*Exam voucher not included
Proud Partners with CompTIA® and EC-Council

As a proud partner of CompTIA and the EC-Council, UAH can offer discounted exam vouchers for a single fee. Simply register for the “with exam voucher” section. Vouchers are distributed before the last class and are valid in the U.S. for one year.

As a CompTIA academy partner, UAH offers exam prep courses in A+, Security+, Network+, Linux+, and CASP+ with Pearson VUE exam vouchers.

As an EC-Council Accredited Training Center, UAH offers the CEH™ and CND exam prep course and testing through our Testing and Certification Services.

CompTIA® Advanced Security Practitioner (CASP+) Exam Bootcamp
(Meets DoD Directive 8140)
The CompTIA Advanced Security Practitioner (CASP+) exam CAS-003 is for those who want to take the next step in their career. The CASP+ body of knowledge covers enterprise security, risk management and incident response, research and analysis, integration of computing, and communications and business disciplines, as well as technical integration of enterprise components. Provide the best cybersecurity solutions and protection for organizations worldwide as a CASP+ certified security professional. Through hands-on activities and lectures, develop the skills to confidently perform your duties as an advanced security professional. The CASP+ is designed for security professionals who want to obtain the technical knowledge and skills needed to conceptualize, integrate, and implement secure solutions across complex enterprise environments. Go to CompTIA.org for additional certification information. Prerequisite: 10 years of IT experience and/or 5 years of hands-on technical security experience.

E. Jackson, 35 hrs, $2195/$2545*
Campus: Jun 8 – 12, 2020 | M – F | 8:30 am – 4:30 pm | B2120001
*With exam voucher.

Certified Network Defender (CND) Exam Prep
Are you a network administrator, network security administrator, network security engineer, involved in network operations, or concerned about the integrity of your network infrastructure? Then this course is for you! Enhance your network defense ability and learn about attackers by taking this intensive, hands-on, lab-based course. Learn network security and cyber defense strategies to protect, detect, and respond to cyber attacks. Interactive labs provide technical skills required to design a secure network with future threats in mind. The CND certification is the next step towards protecting your network. Prepare for the EC-Council CND 312-38 exam and gain 35 hours of class time. Go to eccouncil.org for complete certification information. Prerequisite: Technical networking experience with an emphasis on security recommended.

Customized Training: 256.824.2815

The instructor was super knowledgeable! I will definitely use this material both personally and professionally.

– CASP+ Exam Bootcamp Participant

Complete Your Certification Exam at UAH!

TESTING & CERTIFICATION SERVICES

Over 100 IT exams and over 35 certification/licensure exams are available including professional certification exams, college entrance exams, and credentialing exams. In addition, we are a Pearson Vue provider with licensure and certification exams including CompTIA, CISCO and EC-Council.

Why Test at UAH?
• State-of-the-art computer labs
• Comfortable, professional setting
• Convenient location and hours
• Knowledgeable, friendly staff
• Secure storage for personal items

View a full listing of exams at CPCS.uah.edu/TaCS or call 256.824.6373.
NEW Introduction to Excel
Enhance your skills by learning and mastering Microsoft Office Excel. Learn the basics of Excel including spreadsheet terminology, features, and functions. Explore the Help System and discover how to navigate and modify worksheets and workbooks. In hands-on labs, you will create, enter, and edit data as well as learn to format and manage text, values, and formulas. This course is geared toward participants with little to no familiarity with Excel. Prerequisite: Fundamental experience with PCs and Windows.

E. Roberts, 7 hrs, $265
Campus: Feb 7, 2020 | F | 8:30 am – 4:30 pm | C2120038
Campus: Aug 14, 2020 | F | 8:30 am – 4:30 pm | C2120050

NEW Excel: Formulas and Functions
Excel formulas and functions are useful in all types of spreadsheet applications. They are essential to manipulating data and obtaining useful information. This course will expand your understanding and use of Excel by focusing on the techniques to build useful worksheet formulas and enhance spreadsheet functionality. Learn to create formulas, import and export, validate data, plus more. Understand how to maintain your original data, audit your formulas for correctness, and adjust values to be able to calculate how to reach outcome goals. Prerequisite: Intermediate level Excel users familiar with general concepts of Excel features.

E. Roberts, 7 hrs, $265
Campus: Apr 17, 2020 | F | 8:30 am – 4:30 pm | C2120040
Campus: Oct 23, 2020 | F | 8:30 am – 4:30 pm | C2121006

NEW Excel: Introduction to PivotTables and PivotCharts
Become more valuable to your organization by discovering the power of PivotTables and PivotCharts. Learn to use data sets that work with PivotTables. Understand how to organize and summarize data, format reports and data, and create PivotCharts to visualize pivoted data. This course is suitable for those who work in Excel but have little to no knowledge of how to create PivotTables and PivotCharts and who want a greater understanding of how to analyze and report information. Prerequisite: Intermediate level Excel users familiar with general concepts of Excel features.

E. Roberts, 7 hrs, $265
Campus: Apr 17, 2020 | F | 8:30 am – 4:30 pm | C2120040
Campus: Oct 23, 2020 | F | 8:30 am – 4:30 pm | C2121006

NEW G Suite Fundamentals
Learn how Google tools can boost your efficiency in the workplace. This class will help beginners get more from the latest versions of the Google Apps platform. G Suite includes apps to help you communicate, collaborate, illustrate, and organize tasks securely. Discover how to interact with Gmail, store documents in Google Drive, and collaborate with Google Docs, Slides, Sheets, and Forms. Explore how to connect in Hangouts, manage schedules and tasks within Google Calendar, and create and share webpages within Google Sites.

V. Cram, 14 hrs, $495
Campus: May 12 – 13, 2020 | T, W | 8:30 am – 4:30 pm | C2120053
Campus: Nov 9 – 10, 2020 | M, T | 8:30 am – 4:30 pm | C2121015

NEW Access Essentials
Learn Access basics to streamline information management by designing and creating databases. Explore ways to plan, create, and manipulate databases using tables. Discover how to create and modify queries as well as perform operations within queries. Master data entry rules and properties by using them to your advantage. Prerequisite: Experience with PCs and Windows.

S. Chatham, 7 hrs, $265
Campus: Mar 6, 2020 | M, W | 5:30 – 7:50 pm | C2120039
Campus: Sep 18, 2020 | F | 8:30 am – 4:30 pm | C2121005

NEW PowerPoint Essentials
Create basic PowerPoint presentations and gain hands-on experience in formatting text, adding and modifying graphical objects, and adding charts and tables. Explore customizations including template creation, adding diagrams and special effects, publishing slides to a library, and securing your presentations. Prerequisite: Experience with PCs and Windows.

L. Smith, 7 hrs, $265
Campus: Feb 21, 2020 | F | 8:30 am – 4:30 pm | C2120048

Microsoft Word
Available for Customized Training. Call 256.824.2815.
QuickBooks Foundation
Set up a comprehensive, well-organized business financial management system with ease! Learn to customize QuickBooks with our hands-on labs. Track finances, process invoices, manage sales and expenses, and maximize software features. Learn to use QuickBooks proven techniques and time-saving shortcuts for business purposes. Topics will include: accounting 101, preferences, configuring QuickBooks, chart of accounts, entering transactions, using online banking, creating business reports, managing accounts payables and receivables, reconciling bank accounts, and data file maintenance.
Prerequisite: Basic computer skills and knowledge of accounting terms.
D. Jacobs, 7 hrs, $265
Campus: Mar 10, 2020  |  T  |  8:30 am – 4:30 pm  |  C2120027
Campus: Oct 20, 2020  |  T  |  8:30 am – 4:30 pm  |  C2121008

QuickBooks for Government Contractors
Utilize QuickBooks to be in compliance with DCAA accounting requirements. Structure the chart of accounts in cost pool format to properly segregate direct costs from indirect costs, as well as exclude the unallowable costs outlined in FAR 31. Set up payroll items, projects, and timecards to use in conjunction with the Customer module for job costing. Accumulate the data you will need for rate computations. Explore various DCAA audits such as the Incurred Cost Submission, Floor Check, and Pre-Award Audit. In addition, complete DCAA’s pre-award audit form SF 1408 to show how the requirements can be met.
Prerequisite: QuickBooks Foundation or basic knowledge of QuickBooks and Government contracting.
K. Gardner, 7 hrs, $265
Campus: May 5, 2020  |  T  |  8:30 am – 4:30 pm  |  C2120019
Campus: Nov 17, 2020  |  T  |  8:30 am – 4:30 pm  |  C2121009

Using VMware vSphere
Gain a solid understanding of how to administer a vSphere infrastructure for an organization of any size. This hands-on course is designed to help systems engineers, network engineers, and network administrators gain a basic understanding including terminology and navigation. Explore installation, configuration, and management of VMware vSphere, which consist of VMware ESXi and VMware vCenter Server. Understand the vCenter server architecture and software-defined data center. Learn to create virtual machines, configure virtual networks, manage your infrastructure with VMware client, and more. Prerequisite: Experience with either Microsoft Windows, Linux operating systems, CompTIA Network+, A+, Security+, Linux+, or MCSA Windows Server is recommended.
D. Spooner, 21 hrs, $695
Campus: Jun 16 – Jul 7, 2020  |  T, Th  |  5:30 – 8:30 pm  |  C2120032
New Fundamentals of Modern Data Analytics
Move beyond making decisions focused solely on averages to developing a working familiarity with the grounding principles of data analysis. Learn to derive the greatest benefit possible from available data. Ensure that the conclusions you draw remain valid. Apply a decision-making framework within which you’ll interact with the data to achieve the best outcome. Gain an overview of modern data analytic techniques that have grown from the fields of statistics, machine learning and information theory. Decision trees, covering algorithms, association mining, statistical modeling, linear models and instance-based learning are some of the basic methods covered. Build computational abilities, inferential thinking, and practical skills for tackling core data scientific challenges. Explore foundational concepts in data management, processing, statistical computing, and dynamic visualization using a variety of commonly used modern programming and data analytic tools. This course will include hands-on exercises and case studies to highlight processes and give participants opportunities to apply knowledge, resulting in better retention of material. Prerequisite: Familiarity with statistics.

S. Gholston, 21 hrs, $995
Campus: May 19 - 21, 2020 | T – Th 8:30 am – 4:30 pm | C2120044
Campus: Nov 16 – 18, 2020 | M – W 8:30 am – 4:30 pm | C2121012

New Introduction to Data Visualization Using Tableau®
Discover the many benefits of using Tableau®, an industry leader in data visualization, and capture a competitive edge in today’s market. Learn to quickly create interactive visualizations, charts, and graphical plots via an understanding of data manipulation and statistical analysis. Join us in developing the ability to create, modify, and share large data-driven insights to better portray current information. Enjoy the benefits from analyzing raw data and finding timely insights with vast amounts of computational power. Explore, analyze, and report insights and trends with industry leading visualizations. Learn to manipulate data through statistical computations and best-of-practice methodologies.

Practical Labs to:
- Blend data and visualize relationships
- Identify and configure basic functions
- Connect data sources, import data, and save generated files
- Create graphical representations, views, and customization of data visualizations
- Manage, sort, and group data
- Save/share data sources and workbooks
- Filtration of data in various views
- Customize visualizations with annotations, highlights, and other advanced features
- Create maps, dashboards, and workbook stories

This course is designed for industry professionals looking for an edge, throughout a variety of job roles, to perform numerical/general data analysis, visualization, and various other report representations.

S. Gholston, 14 hrs, $895
Campus: Jul 21 – 22, 2020 | T, W 8:30 am – 4:30 pm | C2120045

Introduction to R Programming
R is an open-source programming language and environment with powerful and extensive features for data analysis, data visualization, and statistical computing. The use of R has recently grown substantially with the increased interest in data analytics, for which it is well suited. R also includes a full range of general purpose programming language features, including control structures, mathematical operations, and file input/output. This course will begin with the basic concepts and statements of R, and then proceed through file input/output, data analysis, and data visualization. Complete working R programs will be presented as examples. Hands-on instructor-led classroom exercises will reinforce participants’ abilities and confidence with R. Prerequisite: Familiarity with programming concepts, and preferably, prior experience with at least one programming or scripting language.

What You Will Learn:
- Understand the principles of programming
- Learn to use the R console
- Create vectors and data frames in R
- Generate graphs and plots in R

M. Petty/P. Sampson, 14 hrs, $795
Campus: Jul 15 – 16, 2020 | W, Th 8:30 am – 4:30 pm | C2320010
Campus: Oct 13 – 29, 2020 | T, Th 5:30 pm – 7:50 pm | C2321002
Online: D2321001 (Coming Fall 2020)
NEW SQL for Data Science
With the increase of data collection, the need for people skilled at using and interacting with data has also increased. These individuals must be able to think critically and provide insights for making better decisions to optimize their businesses. This course will enable you to build on a basic knowledge of SQL and gradually learn to write both simple and complex queries to help select data from tables. Prerequisite: ‘Introduction to SQL’ or equivalent experience.

What You Will Learn:
• Work with different types of data like strings and numbers and discuss methods to filter and pare down results
• Create new tables and insert data
• Recognize common operators and how to combine the data
• Develop case statements and concepts like data governance and profiling
• Interpret the structure, meaning, and relationships in source data and use SQL to shape data for targeted analysis
• Use Join Predicates and Filter Predicates to optimize and speedup queries
• Write dynamic queries that can adjust to data differences by embedding logical switches directly into your queries
• Design database structures that capture, aggregate, summarize, transform and protect data
• Structure dynamic and flexible reports driven by metadata
• Use data to understand data trends

T. Bell, 28 hrs, $995
Campus: Sep 1 – Oct 1, 2020 | T, Th 5:30 – 8:30 pm | C2121013

NEW Building DevOps
DevOps is a set of practices that automates the processes between software development and IT teams, so that they can build, test, and release software faster and more reliably. The concept of DevOps is founded on building a culture of collaboration between teams that historically functioned in relative siloes. The new career field of DevOps Engineering has come into existence to support implementing the DevOps pipeline. This course will introduce the topics and skills needed to be successful working in a DevOps environment and as a DevOps engineer. It will explore the transition of the careers in operations and the skills needed to stay relevant. Prerequisite: Fundamental experience with PCs and programming concepts.

What You Will Learn:
• Agile Basics
• Fundamentals of DevOps
• Continuous Integration/Continuous Delivery (CI/CD)
• Setting up an automated DevOps Pipeline
  • Setting up a build system
  • Setting up automated unit testing
  • Containerization
  • Standing up a cloud service
  • Microservices
  • Deploying Containers to the Cloud
• Release Strategies
  • Blue-Green Releases
  • Canary Releases
  • A/B Testing

C. Collins, 14 hrs, $795
Campus: Feb 11 – 12, 2020 | T, W 8:30 am – 4:30 pm | C2120049
Campus: Aug 11 – 12, 2020 | T, W 8:30 am – 4:30 pm | C2120051

COMING SOON: DevSecOps
Also available customized.
**High Performance Computing (HPC) Fundamentals**

Learn how to use high performance computing systems effectively and gain a solid foundation in parallel computer architectures, cluster operating systems, and resource management. Discuss fundamentals of HPC clusters. Discover methods used to accelerate the performance of software running on HPCs including Message Passing Interface (MPI) for node level parallelism and directive-based approaches with OpenMP. Explore Multi-core and Graphics Processing Unit (GPU) acceleration techniques using OpenACC and CUDA. Evaluate the performance of software before and after acceleration techniques are applied. This course is comprised of lectures and labs which access a remote HPC. A field trip to an HPC facility will be included.

Prerequisite: Knowledge of Linux is preferable, but not required.

M. Stokes, 21 hrs, $695

Campus: Nov 3 – 5, 2020 | T – Th | 8:30 am – 4:30 pm | C2121014

**Linux Fundamentals**

Develop the skills to work in the Linux environment. Learn how to manage files and directories, utilize the vi editor, work with Linux security mechanisms to protect files and programs, work with the Linux shell to control the flow and processing of data through pipelines, design and write shell programs of moderate complexity, and manage multiple concurrent processes in order to achieve higher utilization of Linux. This course explains and teaches all the important command-line tools and utilities, using very easy to understand, real-world examples. Beginners will develop a solid foundation while advanced users discover patterns and fill in gaps in their knowledge.

What You Will Learn:
- How to use the Graphical User Interface
- Basic Linux security
- How to navigate the Linux filesystem, and work with files
- How to search, create file and user group permissions, and edit files

C. Lindsey, 24 hrs, $745

Online: D2121001 (Coming Fall 2020)

**Computer-Aided Design Using SolidWorks 2019**

This hands-on course provides an introduction into engineering design and communication using SolidWorks Computer-Aided Design (CAD) software. The principles and methods of engineering design are introduced, and the critical role of graphic communication within the design process is described. The course concentrates on core-modeling skills, which include topics such as sketching, part modeling, assemblies, drawings, and basic model management techniques. Included are comprehensive design tutorials with small projects that enable one to practice these new design workflows and skills by creating parts, assemblies, and drawings, all while making changes to one’s creations.

Prerequisite: Strong proficiency using PCs.

What You Will Learn:
- 2D & 3D Sketching
- 3D Part Modeling
- Parts & Assembly
- Drafting & Detailed Drawings

M. Murdock, 21 hrs, $1095

Campus: Mar 3 – 5, 2020 | T – Th | 8:30 am – 4:30 pm | C2120046

**Introduction to SQL**

Structured query language (SQL) forms the foundation of all relational database operations. The ability to read and write complex queries to a database is one of the most in-demand skills. Gain the ability to select and limit data from a table to give you the data for which you are looking. Learn to delete and/or update data within tables as well as to create queries for database views.

What You Will Learn:
- Retrieve data from tables
- Retrieve records based on a range of values and NULL values
- Perform data calculations
- Sort data output
- Combine data from different tables

D. Spooner, 14 hrs, $495

Online: D2120016 (Coming Spring 2020)

**The Power of PowerShell**

Learn the fundamentals to administer Windows Server and other Microsoft server products utilizing Microsoft PowerShell. Discover how to gather necessary information from a local or remote server and how to accomplish simple administrative operations on the servers. Utilize the basic commands of PowerShell to develop scripts for automated batch processing and learn how to replace manual, repetitive, and time-consuming operations with an automated solution. Use PowerShell to support complex decision-making, connecting to a wide variety of data courses. PowerShell is an essential skill for all IT and server administrators.

Prerequisite: Knowledge of desktops and servers

What You Will Learn:
- PowerShell architecture
- Deployment of PowerShell operational security
- How to analyze logging and auditing
- Management of a server by administration tools
- Topics like cmdlets, use of the format, net objects, classes, pipeline, class objects, and creating and executing scripts
- How to administrate and control servers and machines utilizing PowerShell

D. Spooner, 21 hrs, $895

Online: D2120015

**CAD Using Creo Parametric 4.0**

Customized training available. Call 256.824.2815 for details.
MASTERCERTIFICATE

Enhance your programming skills by receiving a comprehensive Master Certificate in Programming. Improve your personal marketability with training designed to build expertise and experience that leads to career advancement, recognition, and increased earning potential. This program is comprised of our most in-demand developer programs.

Whether you plan to use the knowledge gained for a current position, or simply for self-enrichment, the Master Programmer Certificate will drastically improve your overall programming ability and understanding of programming best practices, which will place you in a position to effectively achieve career success.

Take the 5-course series or just one course. Choose five of the following courses (Pages 11 – 13):

- C++ Programming
- Advanced C++ Programming
- Intro to Java Programming
- Java Programming Advanced Features
- Intro to Python Programming
- Advanced Python Programming
- Object-Oriented Programming: A Multi-Language Examination

SOFTWARE DEVELOPER

C++ DEVELOPER CERTIFICATE

Master a powerful tool by learning C++ programming language used for Object-Oriented (OO), generic, and procedural programming. By participating in hands-on lab exercises, you will be equipped to write C++ code to utilize basic types, create abstract object classes, manipulate object data, change the personality of objects, and use file manipulation to implement stand-alone C++ programs.

Take the 2-course series or just one course.

C++ Programming

Familiarity with C++ is an essential skill for engineers, scientists, and many technical managers. This introductory course offers a solid understanding of object-oriented programming, which is critical for programming on the latest compilers and systems. Design and use classes, loops and decisions, and objects effectively in C++ to create powerful applications. Prerequisite: Experience with a programming language such as C.

J. Busby/D. Brockhaus, 21 hrs, $795

Campus: Feb 24 – Mar 16, 2020 | M, W | 5:30 – 8:30 pm | C2120012

Campus: Jul 21 – Aug 11, 2020 | T, Th | 5:30 – 8:30 pm | C2120013

Online: D2120010

Advanced C++ Programming

Build on your knowledge of basic C++ syntax and explore the full capabilities of the standard C++ library. Learn to apply the streaming operators and the proper canonical interface of an object. Practice using object management with smartpointers and reference counting. Add the STL containers and algorithms to your own programs and explore the Gang of Four Object-Oriented (OO) design patterns. Prerequisite: C++ Programming or equivalent program development experience.

J. Busby/D. Brockhaus, 21 hrs, $795

Campus: Sep 14 – Oct 5, 2020 | M, W | 5:30 – 8:30 pm | C2120014

Online: D2120011

SOFTWARE DEVELOPER

BLENDED FORMATS

Combine online and classroom courses to complete a certificate.
**JAVA DEVELOPER CERTIFICATE**

Prepare to take advantage of the career opportunities available to Java developers who are in demand. Java is the perfect environment to master Object-Oriented (OO) programming concepts that transfer to all modern programming languages. Java technology is at the core of many large-scale business applications—especially business-to-business commercial systems that fuel the Internet economy.

**Take the 2-course series or just one course.**

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**PYTHON DEVELOPER CERTIFICATE**

Python is a great beginners' programming language. It is a widely used, high-level programming language and is simple in design, yet incredibly flexible and powerful. Python code is easy to read and enforces good programming style without being overly strict about syntax. It is a general-purpose language that can be applied to a large variety of projects such as data science, web development, system automation and administration, computer graphics, basic game development, and more. Python allows you to write programs with greater functionality and fewer lines of code.

**Take the 2-course series or just one course.**

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**Introduction to Java Programming**

Through a series of hands-on, instructor-led lab exercises, you will learn Java syntax, Object-Oriented (OO) programming, and study the structure of a well-written Java program. Cover skills common to all modern programming languages such as variables, flow-control, pointers, and arrays. During lab exercises, gain hands-on experience with Java development tools and tour the massive Java I/O library to learn what is available and how to use it. **Prerequisite:** Experience with PCs and programming concepts.

*J. Busby/C. Cantrell, 28 hrs, $895*

**Java Programming Advanced Features**

Learn to leverage the power of Java for developing client/server applications. Gain proficiency with the Java JDBC API, and create applications to demonstrate its use. Become familiar with core concepts for GUI applications, and learn to embed Java inside HTML with JSP. Learn client/server programming, using both raw network sockets and the more powerful RMI (Remote Method Invocation) system so that your Java application will be able to run on any operating system with Java support, including Windows, Linux, and Mac. **Prerequisite:** Introduction to Java Programming or equivalent experience.

*J. Busby/C. Cantrell, 28 hrs, $895*

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**Introduction to Python Programming**

Developed as a dynamic, object-oriented programming language, Python has gained popularity for its simple, yet robust design that allows you to create dynamic applications that can easily be integrated into other programs or systems. Learn Python’s basic syntax and present ways to emphasize readability by writing fewer lines of code. Whether you are a beginner or an experienced programmer trying to expand your skills, Python can provide you with the tools to further your professional horizons. **Prerequisite:** Experience with PCs and familiarity with programming concepts.

*C. Cantrell/D. Layman, 21 hrs, $895*

**Advanced Python Programming**

Put your Python skills into action with several real-world applications. Create an event-driven graphical desktop application with the built-in Python Graphical User Interfaces (GUI) library. Learn to write code to connect to SQL and NoSQL databases and dive deeper into object-oriented programming. Develop a client/server application using sockets and network programming, and create a web application using Python technology on the server. While creating these applications, master complex language features like generators and lambdas. **Prerequisite:** Introduction to Python Programming or equivalent experience.

*C. Cantrell, 21 hrs, $895*

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*The instructor’s method of delivery and level of knowledge were key to my success in this program. I learned a great deal. Exercises were very practical.*  
– Python Developer Participant
Object-Oriented Programming: A Multi-Language Examination

Further your programming language skills by learning the universal Object-Oriented (OO) programming paradigm. Go beyond the basics of programming to understand the methodology across multiple languages such as Python, Java, C++, etc. Strengthen your general understanding of OO concepts without the constraints of a particular language. Discover the difference between a function and an object. Compare and contrast OO features and implementations. Learn about encapsulation, polymorphism, interface/implementation inheritance, multiple inheritance and the diamond of death, UML diagrams, design patterns, and more. Prerequisite: Prior programming experience.

What You Will Learn:
- Objects, methods, messages, and delegation
- Class, abstraction and generalization, and interface

C. Cantrell, 21 hrs, $795
Campus: Apr 7 – 9, 2020 | T – Th | 8:30 am – 4:30 pm | C2120043
Campus: Dec 8 – 10, 2020 | T – Th | 8:30 am – 4:30 pm | C2121011
Online: D2120012

Using HTML5 and CSS3
Discover the new standards and features of HTML5 and CSS3 to create more visually engaging web pages with transitions, animations, and media elements. Learn new techniques for building websites section by section. Use style sheets and explore mobile device media that can be viewed and supported in mobile browsers. Include audio and video in web pages. This step-by-step course allows web developers to create dynamic, aesthetically pleasing web pages.

C. Cantrell, 21 hrs, $495
Online: D2120006

JavaScript for Beginners
As a web developer, it is essential to have a solid understanding and become acquainted with one of the most highly sought after job market skills desired by employers today. JavaScript is the foundation of many commonly used libraries and frameworks. Learn to code, create, and build in JavaScript, the native language of the web used by global developers. Understand how to create HTML5 sites and other interactive websites using this versatile language. Program web page behavior and use techniques to effectively collect and manipulate user information. Examine free tools, incorporate Document Object Model (DOM), and learn the JQuery library. Prerequisite: Using HTML5 and CSS3 or equivalent experience.

C. Cantrell, 21 hrs, $495
Online: D2120001

The instructor was excellent. His response time was very prompt, and he offered great feedback. The online course environment was very easy to navigate and very straightforward.

– Web Developer Participant

The instructor really knows the material and his explanations are easy to understand.

– Web Developer Participant
Fundamentals of Modeling and Simulation
Gain an introduction to fundamental Modeling and Simulation (M&S) terminology and concepts used worldwide by the military, industry, and academia to enhance analysis, acquisition, and training. Review model types and modeling methods to understand how simulations work. Survey typical and emerging M&S applications. Explore important M&S paradigms, interact with simulations and develop simple simulations. Cover common simulation tools, purposes, fidelity, and simulation credibility. Acquire knowledge about M&S technology trends. Prerequisite: Undergraduate degree in a technical field or equivalent experience.

Take the 4-course series or just one course. Choose four of the following five courses:

Developing Simulations
Explore the challenges of real-world simulation development and how to plan for large-scale projects with this hands-on simulation course. Explore modeling approaches including stochastic and physics-based modeling, and artificial intelligence. Delve into simulation techniques, engines, languages, and design features. Build on the fundamentals of M&S by covering more advanced M&S projects, processes and standards, conceptual modeling, and modeling techniques. Prerequisite: Fundamentals of Modeling and Simulation or a background in modeling and simulation.

B. Stilmer, 14 hrs, $795
Online: D2320016

Simulation Verification, Validation, and Accreditation
Understand the fundamental concepts of establishing simulation model accuracy, credibility, and usability. Learn a range of verification and validation (V&V) methods including informal, static, dynamic, and formal methods. Review guidelines for selecting the best method for a given model. Explore procedures for performing important V&V methods and interpreting their results. Identify and discuss official DoD, NASA, and IEEE V&V policies, standards, and processes for Verification, Validation and Accreditation (VV&A). Use extended case studies, drawn from actual V&V practice, to reinforce general discussion of concepts and methods. Learn statistical and mathematical techniques used in V&V, the relationship of V&V to accreditation, and VV&A in the context of a M&S project. Prerequisite: Undergraduate degree in a technical field or equivalent experience.

M. Petty, 14 hrs, $795
Online: D2320017

Monte Carlo Simulation
Monte Carlo simulation is a powerful method that uses probability distributions to simulate many types of systems. Monte Carlo simulation uses randomness, applied in a controlled manner, to explore the range and likelihood of possible outcomes inherent in a scenario or system and produces results that vary from run to run. Learn two types of Monte Carlo simulation: stochastically (randomly) varying initial conditions are input to a deterministic model; and fixed initial conditions are input to a stochastic model. In both, randomness is generated using probability distributions selected and parameterized to model the actual variability present in the scenario or system being modeled. Prerequisite: Background in probability or statistics and MS Excel are recommended. Examples will be given in both Excel and R.

M. Petty, 14 hrs, $795
Online: D2320018

NEW Systems Analysis, Modeling, and Simulation
Develop an understanding of the objectives of systems analysis and its foundational role in systems engineering. Cover the analytical methods that, with tests, provide the basis for systems validation and verification processes and procedures. Build your skill base for development of systems models, integration of component models into a systems model, and model-based and hardware-in-the-loop simulation. Learn systems analysis methods, tools for developing systems models, temporal utility of models, and model fidelity. Prerequisite: Undergraduate degree in a technical field, project management, or equivalent experience.

G. Tackett, 14 hrs, $795
Online: D2320006
Also a core course for the Systems Engineering Certificate.

Also available:
Intro to R Programming – See page 8
ROCKET PROPULSION CERTIFICATE

Sharpen your technical understanding of rocket propulsion from first principles to practical case studies. Learn from subject-matter experts the foundation of rocket propulsion and missile basics, including the principles of conventional and advanced propulsion systems. Identify items critical in the development, operation, and sustainment of propulsion systems. These courses provide a wealth of technical materials and case studies relevant to both propulsion engineers and project managers. *Prerequisite: Undergraduate degree in a technical field or equivalent experience.*

Take the 3-course series or just one course. Choose three of the following four courses:

**Rocket Propulsion Fundamentals**
Gain a foundation in the complex factors that shape propulsion systems. Learn theory and practical design considerations. Grasp the essentials of common aerospace propulsion systems including rockets, air-breathing, thermal, and electric. Discover use considerations for solid, liquid, and hybrid propulsion systems. Professionals who are new to the field or need a refresher can benefit from lectures combined with practical exercises reinforcing the learning experience. *Prerequisite: Undergraduate degree in a technical field or equivalent experience.*

M. Benfield, 12 hrs, $795
Online: D2320011

**Advanced Solid Rocket Propulsion**
A joint industry initiative between NASA and UAH national subject-matter experts resulted in this course for the next generation of solid rocket motor engineers, recorded in 2007. Review solid rocket propulsion, and learn from recognized specialists about rocket component design, propellant properties, ballistic modeling and burn rate, and combustion. Apply these fundamentals of solid rocket propulsion to your current career. *Prerequisite: Undergraduate degree in a technical field or equivalent experience.*

R. Frederick, 40 hrs, $895
Online: D2320012

**Liquid Rocket Engineering**
Learn from recognized propulsion experts and practitioners, Scott Claflin and Dr. Robert Frederick. Benefit from an overview of common liquid rocket engine power cycles and propellants. Gain an understanding of the function, operation, and design considerations of the individual components which comprise a liquid rocket engine such as turbopumps, thrust chambers, preburners, gas generators, igniters, and valves. Learn the fundamentals of combustion stability and stabilization devices as well as combustion chamber heat transfer and cooling. You will be challenged to develop a preliminary design of a liquid rocket engine after learning enabling methodologies and analysis techniques. *Prerequisite: Undergraduate degree in a technical field or equivalent experience.*

S. Claflin/R. Frederick, 35 hrs, $1095
Online: D2320014

**Combustion Instability in Solid Rockets**
Build an appreciation and understanding of solid rocket combustion instability. Internationally recognized solid propulsion experts and practitioners, Dr. Frederick Blomshield and Dr. Robert Frederick, will guide you through solid rocket combustion fundamentals. Learn background, empirical observations, and commonly performed computations. The class relies on real-world motor data, whenever possible, to illustrate stability prediction methods, amplitude and frequency analysis, response function measurement techniques, and motor pulsing. *Prerequisite: Undergraduate degree in a technical field or equivalent experience.*

F. Blomshield/R. Frederick, 35 hrs, $1095
Online: D2320013

*The lectures were very thorough. The instructor was conversational and practical with obvious industrial experience and knowledge in practical applications, issues, business, policies, and politics of rocket engineering. We were taught and mentored at the same time. Perfect blend!*

– Liquid Rocket Engineering Participant

**ALSO AVAILABLE**

CUSTOMIZED
Courses delivered on your selected day, time, and location. See page 31 for details.
Systems Engineering Overview

Systems engineering is a primary approach to the increasing size and complexity of modern systems. This overview is designed to introduce the systems engineer and project manager to fundamental concepts and operating principles of systems engineering. Learn basic techniques that govern the SE process, how SE fits into the life cycle management process, and the problem-solving process. Discover traditional techniques and the analysis and control tools that provide balance to the SE process, as well as conflict resolution techniques.

G. Tackett, 14 hrs, $795
Online: D2320006

Requirements Development

One of the most successful impacts a development team can have on a system is to ensure the successful identification, analysis, allocation, and verification of requirements. Learn to allocate the requirements for the system’s architecture and processes to conduct a requirements analysis. Go beyond the typical textbook process by applying experience-based instruction. Our subject-matter expert will guide you through interactive exercises to develop requirements and to experience an entire requirements development process.

S. Camp, 14 hrs, $795
Online: D2320003
Also a core course for the Test and Evaluation Certificate.

Applied System Design and Decision-Making

Systems engineers are responsible for gathering information and for making decisions based on complex, and often ambiguous, information. Learn how to master trade studies and how to balance performance, schedule, cost, and risk variables. Learn how to support the trade study process through examples of simulations and graphical presentation techniques.

D. Gunther, 14 hrs, $795
Online: D2320007

System Validation and Verification

Ensure that you have a complete approach to the validation and verification (V&V) of your product. Determine the process to ensure that a new system works as designed and that the design fulfills its intended function. Learn to develop and determine verification versus validation requirements using MOEs/MOPs/TPMs. Hands-on cases illustrate developing metrics, team/management structures, and executing V&V activities.

D. Gunther, 14 hrs, $795
Online: D2320005
Also an elective for the Test and Evaluation Certificate

Systems Analysis, Modeling, and Simulation

Develop an understanding of the objectives of systems analysis and its foundational role in systems engineering. Complementing System Validation and Verification, this course provides broad coverage of the analytical methods to provide the basis for systems validation and verification processes and procedures with tests. It will help develop your skill base for the development of systems models, the integration of component models into a systems model, and model-based and hardware-in-the-loop simulation.

G. Tackett/J. Little, 14 hrs, $795
Online: D2320008
Also an elective for the Modeling and Simulation Certificate

"The instructor did a great job making the information understandable and engaging, with a good presentation of the material and relevant real-world examples.”

– Systems Engineering Overview Participant
Fundamentals of Model-Based Systems Engineering with SysML

Benefit from this hands-on course focused on SysML, a graphical language that enables the practice of Model-Based Systems Engineering (MBSE), and leave the course knowing how to use SysML to develop a system architecture. While learning the Fundamentals of MBSE, you will use the SysML modeling language, the standard among MBSE practitioners, to develop system model products that include: system concept of operation use cases, system behaviors, system structures and interfaces, system performance parametric analyses, requirements, verification objectives, and end-to-end traceability between related system information. Prerequisite: Undergraduate degree in a technical field, project management, or equivalent experience.

On Completion You Will Be Able To:

• Apply an object-oriented systems engineering method to create a behavioral and structural model of a system in a standardized modeling language, SysML (OMG’s Systems Modeling Language), using a dedicated SysML modeling tool, No Magic’s Cameo Systems Modeler
• Create all nine of the SysML diagram-types using the Cameo Systems Modeler tool

What You Will Learn:

• Learn the system specification activities in an object-oriented systems engineering modeling methodology
• Create an effective model structure for capturing elements and diagrams using SysML package diagrams
• Understand stakeholders and their concerns/needs in a SysML model
• Review modeling system use cases and actors with use case diagrams
• Produce SysML activity diagrams to graphically represent system’s desired behavior
• Create a structural model of a system’s architecture and representing it on SysML BDDs and IBDs
• Allocate system behaviors to system structures
• Form SysML state machine diagrams to represent the state-based behavior of system structures
• Explore modeling system requirements and traceability relationships with SysML requirements diagrams and tables
• Perform automated impact analysis when a requirement or design element changes
• Discover the mechanics of operating the Cameo Systems Modeler SysML modeling tool to create a system model

L. Baker, 21 hrs, $1095
Campus: Apr 13 – 15, 2020 | M – W | 8:30 am – 4:30 pm | C2320006
Campus: Nov 2 – 4, 2020 | M – W | 8:30 am – 4:30 pm | C2321001

NEW Systems Thinking: Problem-Solving Tools and Techniques

System engineers often optimize individual systems with known stakeholders and requirements. This course will teach you how to properly approach System of Systems (SoS) challenges and assess the entire network interacting together through applied SoS thinking. Engage in integrated case studies in which you must analyze the impact of multiple systems using SoS methodology. Learn about SoS challenges and complexity, SoS thinking approaches, capabilities versus requirements, operational focused thinking, SoS perspectives, SoS thinking tools/implementation, engineering and design considerations, and incorporating individual systems into an SoS program.

What You Will Learn:

• Problem definition and formulation
• SoS, SE, systems/critical thinking approaches
• The Fifth Discipline
• Systems perspectives to include DoD environments, emerging technologies and metrics
• Systems thinking relationships with systems engineering
• Fishbone diagrams, pareto analysis, DMAIC lean process, risk assessment

D. Gunther, 14 hrs, $795
Online: D2320020 (Coming February 2020)
Customized Training: 256.824.2815

The instructor was very competent and enthusiastic. It was a fun, engaging learning environment.

– Fundamentals of Model-Based Systems Engineering with SysML Participant
NEW Fundamentals of Tactical Missile Systems

International military threats never go away, so integrated air and missile defense is a major U.S. defense priority. Several DoD, Army, and industry organizations in the Huntsville area specialize in missile and related weapons technologies. Gain an introduction to the fundamentals of tactical missile systems and components used to counter these threats. Acquire a working knowledge of rocket and missile technologies and design considerations so you can work effectively with technical experts in specialized missilery disciplines. Quizzes and exercises will help you understand measures of missile effectiveness and performance, key concepts of missile requirements development, operations, and risk assessment. This course is designed for people in MDA, AMC, CCDC, SMDC, RTC, project management offices, and the contractor community who seek to become familiar with (or broaden their knowledge of) the basics of how missile parts function and fit together. Prerequisite: Undergraduate degree in a technical field or equivalent experience. Participants must provide verification of U.S. citizenship. See page 30 for details.

What You Will Learn:
• History, missile types, operational environments, and applications
• Missile systems’ components and functions (internal and external)
• Missile systems development and integration of key supporting disciplines
• Hypersonics and Aerodynamics
• Seeker, guidance and control
• Fuzing, warheads, lethality and propulsion
• Technical, operational, and cost evaluation
• Missile systems engineering tradeoff considerations
• System performance assessment and evaluation

D. Gunther/M. McDaniel/T. Hester/R. Hatcher
35 hrs, $1295
Campus: May 4 – 8, 2020  |  M – F  |  8:30 am – 4:30 pm  |  C2320011*
*Participants must register by April 20, 2020

Missile System Fundamentals
Learn foundational vocabulary and working knowledge of missile systems, technologies, issues, and problem-solving resources. Illustrate key concepts of requirements development, operations, and risk assessment. Understand the capabilities and limitations of missile technology as well as the trade-offs between technology, cost, and performance. This course is designed for employees who work in Government, program management, and contractor offices and are seeking introductory or deeper practical knowledge. Prerequisite: Undergraduate degree in a technical field or equivalent experience. Participants must provide verification of U.S. citizenship. See page 30 for details.

D. Gunther, 35 hrs, $1295
Online: C2320019
Customized Training: 256.824.2815

Missile Guidance, Navigation, and Control
Discover new insights into the modern guidance, navigation, and control techniques now being perfected at key research centers globally. Understand the types of guidance techniques employed on modern guided weapons. Learn the key components of missile autopilots and types of autopilot required by various guidance systems. Study the parametric relationship between guidance, control, and other key guided weapon sub-systems. Analyze and critically evaluate the performance of guided weapon guidance and autopilot systems. This course is specifically tailored to the needs of engineers, scientists, managers, and aerospace professionals.

Customized Training: 256.824.2815

ALSO AVAILABLE CUSTOMIZED
Courses delivered on your selected day, time, and location. See page 31 for details.
Private Pilot Ground School
Whether you are aspiring to have an aviation career or just want to learn the requirements to become a pilot, you will gain a better appreciation and understanding of aviation and piloting airplanes. Prepare to complete the Federal Aviation Administration’s (FAA) Private Pilot Airplane Knowledge Test. Passing this test is one of the prerequisites for obtaining a private pilot’s license from the FAA. This course is designed in accordance with Part 141 — Pilot Schools Training Requirements of the Federal Aviation Regulations. Cover the twelve Federally-mandated aeronautical knowledge areas required for private pilot certification. FAA-approved and aviation industry endorsed curriculum training techniques and materials are used. The comprehensive Private Pilot Kit is authored by Gleim Aviation and is available locally and online for approximately $150.

R. Lindstrom, 42 hrs, $599
Campus: Jan 7 – Apr 29, 2020 | T | 5:30 – 8:30 pm | C2320005 *
Campus: Jan 12 – Apr 27, 2021 | T | 5:30 – 8:30 pm | C2321005 **
*Class will not meet on March 24, 2020.
**Class will not meet on March 30, 2021.

Introduction to Rotorcraft
Dive into the history, capabilities, and design considerations of rotorcraft systems. Learn how a rotorcraft’s ability to hover provides a unique capability to perform manned and unmanned missions requiring vertical take off, landing, and maneuvering within a confined area. Explore how the unique requirements of rotorcraft and their subsystems impact designing, delivering, and sustaining an affordable rotorcraft system using hands-on design exercises and trade-off studies. Particular emphasis is placed on the key similarities and differences involved in designing, qualifying, and fielding FAA and military rotorcraft. Prerequisite: Undergraduate degree in a technical field or equivalent experience.

Principles of Unmanned Aerial Vehicles (UAVs)
Expand your knowledge of Unmanned Aerial Vehicles (UAVs) and drone aircraft. Explore the concepts of fixed wing (airplane) and rotary wing (helicopter) flight principles, flight control, and major structural and electronic components of UAVs. This course is designed for managers who want to better understand employee projects, engineers who want to shift to the UAV field, or those with a technical background who want to learn about UAVs. Gain hands-on exposure with radio-controlled (RC) aircraft to illustrate concepts discussed. Identify major components of any UAV, understand the functions of those components and how they work, and learn industry jargon. Prerequisite: Familiarity with mathematics and engineering is a plus, but not required.

Customized Training: 256.824.2815

Drone Pilot License Test Prep
Prepare for your Drone Pilot License Exam by learning aeronautical knowledge, especially for unmanned aerial vehicles (UAVs). This course covers the 12 subject areas tested on the FAA Part 107 Remote Pilot Knowledge Test. Students will reinforce learning with practice quizzes at the end of each subject area. The course will culminate in a full length practice test to help prepare for the Remote Knowledge Test. Prerequisite: Knowledge of unmanned aircraft, radio controlled aircraft, or manned aircraft is a plus. A private pilot’s license is not a requirement to become a drone pilot.

What You Will Learn:
- Small Unmanned Aircraft Systems (sUAS) regulations
- Airspace classification
- Emergency procedures
- Radio communication procedures
- sUAS performance
- Inclement weather practices

Customized Training: 256.824.2815

NEW Aerial Photography and Mapping for Unmanned Aircraft Systems (UAS)
Become better acquainted with your drone in this hands-on course designed to educate the Unmanned Aircraft Systems (UAS) community on safe conduct and best practices for UAS photography and mapping applications. Gain advanced knowledge and skills training as well as learn how UAS are used in a variety of analytical use cases. If you are experienced with UAS or just starting out, this course is for you!

What You Will Learn:
- Discover Remote Sensing, Geographic Information Systems, and Photogrammetry
- Areas where sUAS have been deployed as a mapping tool
- Process aerial imagery and understand the use of 3D models, elevation maps, and geographically accurate imagery mosaics
- How to conduct safe flight operations with important aerial photography considerations in mind to collect the quality information, “when, where, and how to fly”

C. Calamaio, 14 hrs, $495
Campus: Jun 4 – 5, 2020 | Th, F | 8:30 am – 4:30 pm | C2320012

NEW Aerial Photography and Mapping for Unmanned Aircraft Systems (UAS) Participant

The instructor was knowledgeable with a background that allowed him to provide personal experience and insight. The pace of the class was also good.
– Principles of Unmanned Aerial Vehicles (UAVs) Participant
MATLAB for Engineers and Analysts
MATLAB is one of the leading technical computing environments for engineers, scientists, mathematicians, and financial analysts. Unlike compiled programming languages, MATLAB allows you to quickly develop code and solve problems without the overhead required by other languages. It can be applied to virtually any problem requiring technical computation. The language, apps, and built-in functions enable you to quickly explore multiple approaches to obtain a solution. MATLAB also lets you take your ideas from research to production by deploying your code to stand-alone applications or onto embedded devices. The MATLAB class will provide the skills needed to work with MATLAB interactively and as a programming language. You will be able to formulate intermediate and some advanced engineering projects into MATLAB and solve them using programming skills. Prerequisite: Familiarity with basic computer operations and some familiarity with programming concepts.

B. Stiltner, 20 hrs, $895
Campus: Apr 21 – 23, 2020 | T – Th | 8:30 am – 4:10 pm | C2320007
Campus: Oct 19 – Nov 11, 2020 | M, W | 5:30 pm – 8:00 pm | C2321003
Online: D2320009

Opening the DOORS® to Requirements Management
DOORS® is a requirements management application for optimizing requirements communication, collaboration, and verification throughout your organization and supply chain. This scalable solution can help you meet business goals by managing project scope and cost while allowing you to capture, trace, analyze, and manage information changes in addition to maintaining compliance to regulations and standards. DOORS® offers a robust environment for importing, exporting, and relating a variety of requirement-related information. Rational DOORS® can assist program managers to achieve an optimal requirements management process with strategies to ensure technical objectives are satisfied across entire program life cycles. Gain the knowledge and hands-on experience to effectively use this computer-based tool. Prerequisite: Experience with PCs, requirements development, management, and verification knowledge.

C. Zolynsky, 21 hrs, $945
Campus: Mar 16 – 20, 2020 | M – F | 8:30 am – 12:45 pm | C2320009*
Campus: Oct 19 – 23, 2020 | M – F | 8:30 am – 12:45 pm | C2321004**

*March 20, 2020 class will meet from 8:30 am – 12:30 pm
**October 23, 2020 class will meet from 8:30 am – 12:30 pm

Certified Systems Engineering Professional (CSEP) Exam Bootcamp
Achieve one of the most sought after certifications for engineering professionals. Validate your education, knowledge, and experience in the highly competitive field of systems engineering with INCOSE CSEP recognition. A number of organizations, including the U.S. DoD, recognizes the value of the INCOSE CSEP. The certification requires passing an extensive exam based on the INCOSE Systems Engineering Handbook v4. Explore CSEP requirements and the INCOSE SE Handbook to cover all topic areas that might be on the CSEP exam. Interactive work, study plans, and sample exam questions provide the effective preparation needed for the exam. This course also prepares individuals to pass the ASEP (Associate Systems Engineering Professional) exam. Prerequisite: Degree in engineering discipline or equivalent experience in systems engineering. Visit incose.org for exam information and eligibility requirements.

The course fee includes: The Systems Engineering Handbook
R. Leonard, 14 hrs, $795/$695*
Online: D2320010**

*INCOSE Member Discount
**Exam voucher not included
**TEST AND EVALUATION CERTIFICATE**

Designed to address the principles of test and evaluation (T&E), this program introduces all aspects of T&E throughout the life cycle of a system. Learn the roles, purposes, functions, and techniques of T&E within the systems engineering process. The program includes modeling and simulation activities for enhancing the T&E process, developmental test and evaluation, live fire test and evaluation, and operational test and evaluation. Prerequisite: Undergraduate degree in a technical field, project management, or equivalent experience.

Take the 5-course series or just one course.

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**Test and Evaluation Principles**

Learn how test and evaluation (T&E), acquisition, and requirements personnel integrate efforts to provide systems that perform as designed and required by the user. Grasp foundational concepts such as developing a team of key personnel, producing documents, and more. At the end of the course, you will be familiar with elements of a test program, test sites that will provide you the best data to support your test requirement and mission, and confidence to proceed with assurance in your role.

G. Tackett, 14 hrs, $795
Online: D2320001

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**Test Planning and Conduct**

Explore technology demonstrations, experimentation, and tests, all of which provide the opportunity to collect data to support programmatic decisions and acquisition milestone determinations. Learn proper test planning and the conduct of those tests which are paramount to successful execution and evaluations. Focus on initial planning techniques and issues, test plan development, rehearsals, test plan validation, test conduct, data collection, and after-action reviews.

S. Mullins, 14 hrs, $795
Online: D2320002

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**Requirements Development**

S. Camp, 14 hrs, $795
Online: D2320003
See Page 16. Also a core course for the Systems Engineering Certificate

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**Test Evaluation and Assessment**

Understand the planning, process, and products of system evaluation and system assessment through testing. Learn to build assessment plans and validation plans that map required system performance to test and analyze events. Understand the relationship between Modeling & Simulation (M&S) and test in a model-test-model approach, as well as in live-virtual-constructive environments. Learn the meaning and importance of operationally relevant environments as it relates to Technical Readiness Levels (TRLs) and how to assess threat and environmental realism for test design. Strategize how to evaluate reliability, availability, and maintainability (RAM).

G. Tackett, 14 hrs, $795
Online: D2320004

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**Elective Courses (Choose 1):**

**System Validation and Verification**

D. Gunther, 14 hrs, $795
Online: D2320005
See Page 16. Also a core course for the Systems Engineering Certificate

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**Project Scope, Cost, and Schedule Management**

R. Steele, 21 hrs, $895
Online: D2520006
See Page 24. Also a core course for the Project Management Certificate

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**ONLINE ON DEMAND**

Register for an On Demand course at ANY time. Participants have one month to complete the course, or two months for IT courses and courses over 30 hours.
FEDERAL CONTRACT MANAGEMENT ESSENTIALS CERTIFICATE

Learn the basic components of the Federal Government’s life cycle process in acquiring goods and services. Understand the roles and responsibilities of both the buyer and the seller in the acquisition and administration phases of Federal contracting. Study the key elements of Federal contract management such as “Contract Types,” which can then be readily applied to workplace contracting situations.

H. Cleaver, 40 hrs, $1295/$1245*
Campus: Oct 26 – 30, 2020 | M – F
8:00 am – 5:00 pm | C2521002
Online: 0252002

*NCMA Member Discount

ALSO AVAILABLE:
Federal Contract Management Specialization Certificate
Online: 02520019

Federal Costing Essentials
Do you know the consequences of failure to comply with federal government costing rules and cost accounting standards? For government contracting professionals, gain basic knowledge of these procedures and rules and how the process works to minimize potential problems. Learn about government requests for “certified” or “uncertified” cost or pricing data in bidding processes. Upon completion, you will have a clear understanding of the necessity for consistency in costing and cost accounting practices related to bidding, recording, reporting, and invoicing costs (CAS 401), as well as appropriate cost isolations in company records (CAS 402). The Federal Acquisition Regulation (FAR), the Contract Pricing Reference Guides (CPRG), and selected Defense Contract Audit Agency (DCAA) documents will be reviewed.

H. Cleaver, 14 hrs, $495
Online: 02520016

Federal Proposal Management
Gather techniques for preparing successful federal prime contractor or subcontractor proposals. Understand the pre-solicitation phase, and learn how to conduct the critical pre-proposal preparation phase. Learn about activities and considerations during the solicitation release and proposal team kickoff. Learn how to develop the various proposal volumes to be responsive in both Lowest Price Technically Acceptable (LPTA) and Best Value bidding venues. Identify proposal requirements that are best responded to with high impact graphics and ways to create them. Combine lecture and exercises to understand the realities of actual proposal preparation activities in a page-limited and time-constrained environment.

H. Cleaver, 35 hrs, $695
Online: 02520015

NEW Government Technical Evaluation of Proposals
A variety of government disciplines are responsible for performing a technical analysis of cost proposals that will provide the basis of contract negotiation for complex military weapon systems. Because most colleges do not include this topic in degree programs, it is usually learned on the job. Discover the acquisition contracting process, contracting strategies, request for proposal contents, and use of evaluation factors. Learn the steps to perform a technical analysis of a cost proposal. Understand labor (engineering, production, software, quality, etc.), travel, and material cost estimates. Simple and complex applications are presented along with hands-on case examples of problems often encountered with proposal evaluations.

Customized Training: 256.824.2815

*NCMA MEMBER DISCOUNT:
Federal Contract Management Essentials Certificate satisfies requirements for the National Contract Management Association Continuing Professional Education.
**EARNED VALUE MANAGEMENT CERTIFICATE**

Understand a highly effective project control system that uses measurement tools such as breakdown structures, network diagrams, schedules, budgets, and Gantt charts to ensure that the parameters of a contract and its projects or tasks are on track. Learn Earned Value Management (EVM) guidelines and requirements to meet government contract regulations. Understand its value as an essential tool for project managers and technical leads in supporting proactive decision making.

Take the 3-course certificate series or just one course.

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### Earned Value Management Essentials

Learn to measure project performance, determine project variances based on the comparison of work performed and work planned, and estimate the project’s completion cost and timeline. Review the tenets of work planned, accomplished, and actual work costs, as well as project forecasting. Discuss EVM terminology, formulae, and analysis. Apply methods learned through practical exercises and case studies demonstrating real world applicability to project cost, schedule, and technical performance.

*R. Hycoop, 14 hrs, $795*

*Online: D2520011*

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### Earned Value Management Analysis and Reporting

Learn how to efficiently and effectively comply with analysis and reporting requirements. Explore detailed, practical methods to facilitate compliance regardless of contract size or complexity. This course will assist novice analysts building a solid foundation while serving as a refresher for more experienced analysts. Learn to establish variance thresholds and to use indices for predictive analysis. Create Variance Analysis Reports and become familiar with Contract Performance Reports and Integrated Program Management Reports. Demonstrate formulae, methods, and techniques covering problematic areas using practical exercises.

*G. Smith, 14 hrs, $795*

*Online: D2520013*

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### Integrated Baseline Review Preparation and Execution

Many Government contracts contain a requirement for an Integrated Baseline Review (IBR). Discover why this requirement exists and to whom it applies. Explore how the five risk areas may impact overall project outcome and how each is assessed for magnitude of potential impact. Learn how to prepare for IBRs, the roles participants serve, how and when an IBR should be conducted, and possible outcomes. Investigate baseline discussion questioning techniques with Control Account Managers (CAM). This course is helpful for those who are being newly introduced to the IBR requirement, and it also serves as a refresher for individuals with experience.

*J. Little 14 hrs, $795*

*Online: D2520012*

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### Multifunctional Intermediate Logistician Certificate

Develop an understanding of the overarching Defense and Army Logistics Enterprise and competently perform multifunctional roles and responsibilities. This certificate focuses on specific functional systems and processes of Army Supply, Maintenance and Transportation, their overlap, gaps, and need for integration. Mid-level logisticians gain information to prepare them to communicate, analyze, manage and lead more effectively.

*Customized Training: 256.824.2808*

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### Master Logistician Certificate

Gain the knowledge and skills to have the ability to lead logistics organizations responsible for planning and executing the movement and support of the Army. Understand the interrelationships of the seven Master Logistician Competencies to prepare logisticians with the skills to solve complex problems. The program discusses innovations in logistics and related organizational change management, data analysis, communications, and leadership.

*Customized Training: 256.824.2808*

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*The presentations were very clear, and the instructor provided relevant exercises and examples to illustrate the application of EVM formulae and principles. In addition, the material is well organized, and the course modules are the appropriate length. I found the entire experience to be very convenient and easy.*

— Earned Value Management Certificate Participant
PROJECT MANAGEMENT CERTIFICATE

Good project management allows projects to run smoothly and meet clients expectations. Build a solid foundation of project management knowledge and ensure your projects are set up for success from the start. Aligned with the Project Management Institute’s (PMI®) framework, each course responds to the Project Management Book of Knowledge (PMBOK®) and focuses on the practical application of project management concepts, particularly in a government/contractor environment. You will acquire knowledge and tools needed to manage your projects’ successful completion. Prerequisite: Attend Project Management Foundation first or have equivalent experience, but not required.

SAVE $400 by registering for the entire 4-course series at once (call 256.824.6010).

Project Management Foundation
Explore the fundamental project management processes such as defining requirements, schedules, agile project management, Work Breakdown Structure (WBS), and change control. Gain an understanding of how the project management processes are used during each phase of a project to build a better and more effective project plan and to effectively communicate the results in performance reports. PMBOK® Knowledge Areas: Integration, Communication, and HR
R. Hycoop, 21 hrs, $895
Online: D2520005

Project Scope, Cost, and Schedule Management
Become skilled with earned value measures, proficient with performance indexes, and build s-curve charts to interpret project trends. Was the project completed on time, aligned with the budget, and linked with customers’ requirements? Gain the tools to monitor quality and measure performance. Learn scope controls with a WBS and components of deliverables. PMBOK® Knowledge Areas: Scope, Cost, and Time
R. Steele, 21 hrs, $895
Online: D2520006

Project Quality and Risk Management
Learn how to perform good risk assessment—an essential requirement of a successful project management plan. Learn to apply assessment procedures to decision-making situations. Focus on using a quality management plan and systematic quality controls to address issues and to avoid costly reworking expenses. PMBOK® Knowledge Areas: Risk and Quality
C. Gardner, 21 hrs, $895
Online: D2520008

Project Procurement and Contracting Management
Understand the basic elements of contract, subcontract formation, and management and how they relate to project management activities. Learn about contract types and their influence on projects. Address contracting risks and complexities of contract administration associated with the goal of project completion. Learn how to prepare Statements of Work (SOWs) and how to bid and negotiate from a project perspective. Understand management aspects of both subcontractors and vendors. PMBOK® Knowledge Areas: Procurement and Stakeholder Management
H. Cleaver, 21 hrs, $895
Online: D2530007

NEW PMI Agile Certified Practitioner (PMI-ACP)® Exam Primer
Take the first step in becoming agile certified by attending UAH’s PMI-ACP® Exam Primer. In this short course, learn the principles and tenets of agile. Discover the history, current trends, and small team processes in agile: Scrum eXtreme Programming (XP), and Kanban. Understand the purpose of agile ceremonies that aid in managing agile projects. Develop methods that can help teams manage and perform work more efficiently while delivering the highest quality product within the scope of budget and business needs. Understand what metrics agile teams typically use to assist you with metrics decision making processes.

What You Will Learn:
• Agile principles and mindset
• Value-driven delivery
• Stakeholder engagement
• Team performance
• Adaptive planning
• Problem detection and resolution
• Continuous improvement
C. Collins, 14 hrs, $695
Campus: May 19 – 20, 2020 | T, W
8:30 am – 4:30 pm | C2520925
Campus: Nov 3 – 4, 2020 | T, W
8:30 am – 4:30 pm | C2521008

Also an elective for the Test and Evaluation Certificate
PMP® Certification Bootcamp
Enhance your skills, knowledge, and qualifications as you prepare for project management certification and related exams. Project Management Professional (PMP®) Certification Bootcamp is an intensive training program that will help you prepare to pass the Project Management Institute’s (PMI®) PMP® exam and provide you with the 35 required contact hours of project management education.

Course Includes:
• Additional project management knowledge not covered in the PMBOK® Guide but expected to be covered on the exam
• Key information from all chapters in the PMBOK® Guide
• Strategies for approaching exam questions
• Summary of important formulas and definitions
• Online PMP® exam simulator

Who Should Attend:
• Government employees preparing to work in the private sector
• Those who want to learn the terminology of project management in the private sector
• Anyone involved in projects such as project, program, quality, procurement, supplier quality, finance, requirements, test, contract, engineering, manufacturing, construction, IT, and software leads managers

Textbooks Included:
• A Guide to The Project Management Body of Knowledge, 6th Edition
• The PMP® Exam: How to Pass on Your First Try

M. Stettner, 40 hrs, $1295*
Campus: Feb 3 – 7, 2020 | M – F | 8:00 am – 5:00 pm | C2520013
Campus: Apr 27 – May 1, 2020 | M – F | 8:00 am – 5:00 pm | C2520017
Campus: Nov 2 – 6, 2020 | M – F | 8:00 am – 5:00 pm | C2521003
Online: D2520003 (You will have 90 days to complete)

* Exam voucher not included

PLEASE NOTE: The PMP® Exam will be changing June 30. If you are currently studying for the exam, please schedule your test before June 30, 2020.

NEW Certified Associate in Project Management (CAPM®) Certification Bootcamp
Gain the knowledge to become an entry level project manager by receiving a Certified Associate in Project Management (CAPM®) certification. If you want to tackle larger projects in your current job, establish your credibility, increase your salary potential, or become more marketable in the work force, the CAPM® is a step in the right direction for future project managers. The CAPM® requires either 1500 hours of project management experience or 23 hours of project management instruction which is provided by this course. The CAPM® Bootcamp is structured around the 10 knowledge areas of project management as laid out in the PMBOK®. The course is instructor-led and includes interactive course lessons, all study materials, CAPM® practice quizzes, and PMBOK® exercises.

M. Stettner, 32 hrs, $945*
Online: D2520014 (You will have 90 days to complete)

* Exam voucher not included

FREE WEBINAR: How to Become a Certified Project Manager
1 Hour | Online On Demand
This overview will help you learn more about becoming a certified project manager.
Visit CPCS.uah.edu/PMWebinar for details.

Your Success GUARANTEED!
We are so confident in our PMP® and CAPM® instructors and course content that we guarantee you will pass your exam or you may re-take the course online for free to reinforce PMP® and CAPM® learning concepts. See page 30 for details.
Leadership for Emerging Managers
Being a leader inherently implies having a lot of responsibility. That responsibility can vary among leadership roles, but there are some universal ways to be a leader. Enthusiasm, having a vision, problem solving, promoting teamwork, and delegating tasks are all forms of leadership but may not come naturally to every leader. When a leader is not up to shape, it reflects on the organization or team as a whole.

This course will provide the tools you need to hone your skills as a new manager, from earning trust and respect, to leading through crisis and creating a vision to share. Gain confidence in your ability to inspire a more collaborative work environment and gain the ability to lead through any situation. Lunch will be provided.

What You Will Learn:
- Identify key characteristics of leaders
- Build trust and confidence with employees
- Avoid behaviors that undermine leadership
- Promote teamwork and esprit de corps
- Act decisively
- Demonstrate leadership in a crisis
- Resolve conflicts
- Implement Team Learning/Team Performance

NEW Leadership for Emerging Managers
Learn your distinct temperament (Blue, Gold, Green or Orange) for your leadership and communication style. Participate in interactive, fun group discussions, and activities that highlight the important characteristics of each temperament. Develop group cohesion and learn leadership, teamwork, and collaborative problem solving skills while continuing to utilize the Real Colors personality temperaments and a Low Ropes Course. Discuss lessons learned and how to apply them both professionally and personally. Comfortable attire and closed toe/closed heel shoes are required.

S. Kerby, 7 hrs, $395
Campus: Feb 19, 2020 | W | 8:30 am – 4:30 pm | C2520014
Campus: Oct 14, 2020 | W | 8:30 am – 4:30 pm | C2521004

Employee Management and Leadership
Learn best practices on finding, interviewing, and hiring a superior workforce. Recruiting and retaining employees are the most important jobs that managers do. Your expectations of people and their expectations of themselves are the key factors in how well people perform at work. Gain knowledge to perform practices that keep employees motivated and inspired to develop and attain goals. Learn how to address employee behavior and prevent predictable decision-making errors. Become a successful leader who makes a serious difference in the work life of employees and your organization.

K. Burton, 14 hrs, $595
Online: 02520009

Delivering Successful Briefings to Senior Leaders
Position yourself for promotion by learning to successfully make presentations to senior management. Identify and address the informational needs of your audience. Explore different reporting requirement styles and professional delivery methods. Learn to organize your briefing for the highest impact. Plan and effectively deliver information and decision briefings that exceed the expectations of your challenging senior executive audiences. Deliver a briefing and receive feedback on content. Invest in yourself and your team by honing effective oral presentation skills.

S. Gunn, 7 hrs, $395
Campus: Apr 7, 2020 | T | 8:30 am – 4:30 pm | C2520015
Critical Thinking and Problem Solving
Critical thinking is the mental process of discovery, analysis, and evaluation. It involves reflective judgment that considers evidence, context, completeness, and relevance of information, biases, and emotional issues. This course provides practical and effective ways to think and problem solve using critical thinking skills. Participants will learn to improve their ability to think critically, develop thinking strategies, and solve problems more effectively.

Customized Training: 256.824.2815

Strategic Decision Management
Learn decision-making methodologies that influence alignment between the manager's technical decision processes and the company's organizational strategies. Discuss normative and descriptive approaches to strategic thinking. Develop an organizational strategy and review how to use strategic decision modeling approaches. Explore how to structure strategic decision-making processes using rational, descriptive, political, and uncertainty models. Investigate links between strategy, organizational structure, and value chain with technical decision-making. Observe using performance measurement systems to assess the effectiveness of strategic decision processes.

J. Fortune, 14 hrs, $595
Online: D2520010

Adapting Your Leadership Style
Strong leadership is the critical foundation for an organization. It ensures goals are achieved on time, empowers individual employees, motivates teams to work in solidarity, and generates visions for future growth. However, establishing yourself as an influential leader can be difficult. To be a truly skilled leader, you must become aware of the needs of your staff and adapt your leadership style to nurture the most productivity in your workers. Learn the qualities of an effective leader and communicate more constructively with your team by adjusting your behavioral style. Upon completion, facilitate meetings smoothly, engage in constructive one-on-one conversations, and ultimately, build rapport among colleagues.

What You Will Learn:
- Identify the qualities of an effective leader
- Make the mental shift from individual productivity to influencing others
- Recognize style differences in others and cater to their preferences
- Build rapport using verbal and nonverbal messages
- Conduct constructive one-on-ones
- Give positive and negative feedback to different styles
- Develop individual motivation approaches for employees
- Facilitate a meeting effectively

A. Liller, 14 hrs, $595
Campus: May 12 – 13, 2020 | T, W | 8:30 am – 4:30 pm | C2520024
Campus: Sep 15 – 16, 2020 | T, W | 8:30 am – 4:30 pm | C2521006

Customized Training: 256.824.2815
American Heart Association
Basic Life Support (BLS) Certification

BLS is an American Heart Association certification that focuses on what rescuers need to know to perform basic life support skills. Learn to perform high-quality CPR and the technique for choking relief for an adult, child, or infant. Master the appropriate use of an automated external defibrillator (AED) and barrier device skills. Understand the importance of teams in multi-rescuer resuscitation. Students must pass BLS skills testing and a written exam.

BLS is designed for healthcare employees or providers in both pre-hospital and in-facility environments. In-facility refers to those who work in a hospital, clinic, or other healthcare facility including a dentist office, skilled nursing, and assisted-living facilities. This course is hosted in close partnership with the UAH College of Nursing to ensure compliance and best practices are met for new and returning nursing students who are required to maintain annual BLS certification.

E. Hardin, 14 hrs, $595
Campus: Feb 3 – 5, 2020 | M, W | 8:30 am – 4:30 pm | C2520020
Campus: Nov 30 – Dec 2, 2020 | M, W | 8:30 am – 4:30 pm | C2521005

Effective Business Writing
Understand the importance of professional communication in the workplace. Learn practical workplace writing strategies for developing documents that are clear, concise, complete, and correct. Topics include the professional writing process, document organization and design, and visuals. Learn to review key grammar, style, and sentence structure concepts that are essential to enhancing the readability of a document. Understand how to adapt messages to meet the needs of various audiences, and recognize the importance of developing documents that are reflective of your workplace style and organization.

S. Gunn, 14 hrs, $495
Campus: Jun 17 – 18, 2020 | W, Th | 8:30 am – 4:30 pm | C2520016

TO REGISTER:
Visit CPCS.uah.edu/BLS or call 256.824.6010

ALSO AVAILABLE CUSTOMIZED
Courses delivered on your selected day, time, and location. See page 31 for details.

The instructor was brilliant! I can take much of this back to my real-life work and the textbook will be great reference material.
– Effective Business Writing Participant

I was never overwhelmed, even though there was a lot of material. The course was very well presented. I appreciated all of the hands-on exercises and activities.
– Effective Business Writing Participant
**INTERIOR DESIGN CERTIFICATE**

Whether you are searching for new career skills or knowledge for personal use, this program is certain to provide useful content and creative ideas. Professionals will show you how to make the best decorating decisions for you, friends, and clients. Learn the essentials of color, design elements, and design principles. Acquire an understanding of lighting, basic drawing and drafting, and reading blueprints. **Course Materials: Additional fees for textbooks and supplies may be required.**

Take the 5-course series or just one course.

**Interior Design Career Opportunities Include:**
- Assistant to professionals including interior designers, contractors, or architects in the implementation of interior designs
- Sales reps for paint, carpet, lighting, furniture, or fabric stores
- Office furnishings and space planning suppliers, etc.

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**Interior Design Fundamentals**
Explore how color, light, textiles, furniture, and other design details play an integral part in our visual world through this introduction to interior design and decoration. Learn how the design elements and principles work together to create aesthetically pleasing and functional interior environments. Evaluate and create spaces that are harmonious and inviting through comprehensive lectures, informal discussions and interactive assignments. A sketchbook and other various presentation materials are required for this course.

G. Huffman, 20 hrs, $375
Campus: Oct 13 – Dec 8, 2020 | T | 5:30 – 8:00 pm | C2521001
*Class will not meet November 24, 2020.

**SketchUp Your Design**
Learn to build computer-generated models of interior spaces in this hands-on course utilizing SketchUp to convey your design ideas and boost your design capabilities. Practice placing existing model assemblies of windows, doors, and more, while viewing and developing interior spaces in detail. **Prerequisite: Fundamental experience with computers.**

G. Green, 20 hrs, $375
Campus: Apr 7 – 30, 2020 | T, Th | 5:30 – 8:00 pm | C2520009

**Design Development Practices**
Develop a design project from concept to reality. You will learn the steps of the design process and research the resources for project fulfillment. Utilizing the design principles and elements, begin to develop full design plans with color schemes, furniture layouts, materials selection, and interior elevations. Practice presentation skills by sharing your ideas with your peers through open discussions and informal design charrettes. Acquire keys to successful communication of your vision to clients and industry trades. A sketchbook and other various presentation materials are required for this course. **Prerequisite: Interior Design Fundamentals.**

G. Huffman, 20 hrs, $375
Campus: May 12 – Jul 7, 2020 | T | 5:30 – 8:00 pm | C2520012
*Class will not meet May 26, 2020.

**Interior Space Planning**
Learn about scale, architectural drawing, and creative problem-solving. Discover how to convey your own design solutions. Employ hands-on training to learn the fundamentals of space planning and its application in solving design problems. **Prerequisite: Design and Architecture.**

D. Bird, 20 hrs, $375
Campus: Jul 21 – Sep 1, 2020 | T | 5:30 – 8:00 pm | C2520010*
*A Saturday field trip will be scheduled during this course.

Please Note:
This program is not preparatory for the NCIDQ exam nor does it provide individuals with the credentials to be identified as a Registered Interior Designer, a title awarded only by the Alabama State Board of Interior Design.

**The instructor is very passionate about the subject which made the course very enjoyable. I looked forward to class every week.**

— Interior Space Planning Participant

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**Design and Architecture**
Learn how architecture and interior design are interwoven, and how architectural detailing makes a building unique. Explore residential and commercial architectural styles and types, including historical and contemporary design. Understand design history and theory, basics of construction, materials and finishes, universal design, sustainability, and building systems.

D. Bird, 20 hrs, $375
Campus: Jan 28 – Mar 17, 2020 | T | 5:30 – 8:00 pm | C2520008

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ACCEPTABLE PROOF OF U.S. CITIZENSHIP
For select courses, participants must provide verification of U.S. citizenship. Visit CPCS.uah.edu/Citizenship for more details.

TAX DEDUCTION
Treasury regulations may permit an income tax deduction for educational and training expenses (registration fees, travel, meals, and lodging) undertaken to maintain and improve professional skills.

PMP® AND CAPM® GUARANTEE
Participants who successfully complete the PDS classroom or online PMP® or CAPM® Certification Bootcamp course and do not pass the corresponding exam may request a course fee refund. Participants who successfully complete the PDS classroom or online PMP® or CAPM® Certification Bootcamp course previously completed for no additional costs. The participant has up to 90 days, after successfully completing the original course section, to contact the CPCS Registration Office to re-register. A copy of their exam score must be provided. Textbooks and simulators will not be provided a second time.

COURSE CANCELLATION AND INCLEMENT WEATHER
Non-credit courses are self-supporting and subject to cancellation if there is insufficient enrollment. In the event of course cancellation, participants will be notified in a timely manner and will have the option of applying fees paid to another course or receiving a course fee refund. UAH PDS classes will not meet if UAH closes due to inclement weather. Check local radio/television broadcasts for closing announcements.

CERTIFICATE PROGRAM COMPLETION
Participants must complete all of the certificate program courses in a professional field within a five-year period. Upon completion of the final course, submit a Certificate Completion Form to receive an overall certificate. If a certificate program is updated or retired during this five-year period, the PDS staff will work with active participants to provide the best alternatives for program completion.

STUDENTS WITH DISABILITIES
UAH Disability Support Services (DSS) provides special accommodations for students with disabilities. Contact DSS at 256.824.1997 or uah.edu/dss at least one month prior to the start date of class to allow advanced preparation. Official documentation of stated disability is required.

MISPRINTS
UAH CPCS is not responsible for misprints in printed or digital media. We apologize for any inconvenience.

POLICIES

For a complete list of policies, visit CPCS.uah.edu/Policies

NON-CREDIT REGISTRATION AND PAYMENT POLICIES
See page 1 for ways to register. Payment by cash, check, credit card, or written employer billing authorization is required at time of registration. Mail, fax, or email your company purchase order, tuition voucher, or other billing authorization to the CPCS Registration Office. Check with your organization. Many employers’ tuition plans cover UAH PDS courses. You will receive confirmation after your registration has been processed. Please review your confirmation letter carefully for the latest course information.

SUCCESSFUL COURSE COMPLETION
Participants are required to attend 80% of scheduled class meetings (and complete associated exams or projects, if applicable). The non-credit course grading system is Pass/Fail. Participants receive a certificate or letter of completion indicating the number of CEUs earned. Individual CEUs earned through CPCS are recorded in the attendee’s name. A transcript is available for $5 through the CPCS Registration Office.

WITHDRAWAL POLICY
Failure to participate in a course or program does not constitute withdrawal. Substitutions are permitted with prior notice. For a refund, the UAH CPCS Registration Office must be notified in writing at least three full business days prior to the course start date. Send notifications to PCSRegistration@uah.edu.

Online On Demand course withdrawal requests must be received prior to logging onto the course and no more than 10 business days from the initial date of registration.

Full Program Discounts will be forfeited with any course withdrawal. Full course fees will be charged for all courses completed and the course in progress, if applicable.

CAMPUS PARKING REGULATIONS AND ZONED PARKING
UAH uses zoned parking. As part of registration, course participants will be issued a hang tag for Commuter Parking at the opening session. Please arrive 15 minutes early to allow time to place your hang tag on your rear view mirror. Campus parking information and zoning maps may be found at UAH.edu/Map.

TRAINING ENVIRONMENT
Courses are presented in the CPCS Executive Training Center, on the second floor of Wilson Hall, unless otherwise noted. Computer technology courses are conducted in state-of-the-art, one-to-one computer labs. Classroom courses are held in rooms designed for the adult learner.
Continuing Education Units (CEUs)
CEUs are nationally recognized non-academic credit for professional development and granted for professional development courses. UAH PD Solutions (PDS) courses meet requirements for providing CEUs.

CEUs provide a permanent record of an individual’s educational accomplishments in an organized, continuing education experience under responsible sponsorship, capable direction, and qualified instruction. UAH’s use of the CEU follows the accepted criteria and guidelines established by Southern Association of Colleges and Schools Commission on Colleges (SACSCOC), which complies with internationally recognized standards of The International Association for Continuing Education and Training (IACET).

One CEU equals 10 clock hours of instruction. Please note the following conversion rates into Continuous Learning Points (CLP), Professional Development Hours (PDH), Professional Development Units (PDU), and Continuing Professional Education Units (CPE):

One CEU = 10 CLP, PDH, PDU, or CPE.

To determine whether CEUs may be applied toward professional certification, licensing requirements, or other required training or continuing education hours, consult your training department or licensing authority.

Defense Acquisition Workforce
Defense Acquisition Workforce members must acquire 80 Continuous Learning Points (CLPs) every two years from the date of entry into the acquisition workforce for as long as the member remains in an acquisition position per DoD instruction 5000.66. Members are encouraged to set a goal of achieving 40 CLPs within any 12 month period or the mandatory requirement of 80 CLPs within two years. With supervisor approval, attendance in UAH PD Solutions courses may be used towards CLP requirements.
BRIGHT HORIZONS®
EDASSIST SOLUTIONS
As a direct partner with Bright Horizons®, UAH CPCS can help you advance your education and take your career to the next level. Enjoy partnership benefits such as 5% off the regular registration rate and an easy registration process, with no application fee.

THE INTERNATIONAL COUNCIL ON SYSTEMS ENGINEERING (INCOSE)
INCOSE Huntsville Regional Chapter and UAH CPCS partner to offer Certified Systems Engineering Professional exam preparation.
Systems Engineering and Test and Evaluation programs satisfy the requirements for INCOSE Professional Development Units (PDUs). Programs eligible for the INCOSE discount are: CSEP Exam Bootcamp. Call 256.824.6010 to register.

MULTI-STUDENT DISCOUNTS
Register three or more people from the same organization at the same time and pay a reduced rate. Phone 256.824.4430 or email PDSolutions@uah.edu for more information.

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The UAH Bachelor of Arts or Science in Professional Studies is an interdisciplinary degree program that makes completing a degree from an accredited university within your reach. Apply transfer credits for up to 75% of your degree or apply your ACE recommended credit from military training!

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Call 256.824.6940 for more information.

System Requirements:
CPCS.uah.edu/OnlineLearning

ONLINE PROGRAMS:

CERTIFICATES
- C++ Developer
- Earned Value Management
- Federal Contract Management
- Java Developer
- Master Programmer
- Modeling and Simulation
- Project Management
- Python Developer
- Rocket Propulsion
- Systems Engineering
- Test and Evaluation
- Web Developer

SHORT COURSES
- Employee Management & Leadership
- Federal Proposal Management
- Intro to SQL
- Linux Fundamentals
- MATLAB for Engineers & Analysts
- Missile Systems
- The Power of PowerShell
- Strategic Decision Management
- Systems Thinking: Problem-Solving Tools & Techniques

EXAM PREPS
- CompTIA: A+, Linux+, Network+, & Security+
- CSEP
- Drone Pilot License
- PMI®: CAPM & PMP®

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CUSTOMIZED TRAINING SOLUTIONS

Bring qualified experts to your workplace with educational solutions tailored to your organization’s needs. Partner with PD Solutions to offer an existing course, exam prep, or certificate program, or customize a specialized program that targets your team’s specific training goals. Our high quality training programs help your professional workforce boost their skills through:

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**Collaborative Learning**
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