RADIANCE UNIVERSITY

2020
TRAINING CATALOG

CLASSROOM · ONLINE · CUSTOMIZED

ADVANCED TECHNOLOGIES
BUSINESS MANAGEMENT
CYBER
ENGINEERING
LEADERSHIP DEVELOPMENT

www.radiancetech.com/radianceuniversity
256-489-8567 | radianceu@radiancetech.com

ABOUT

Radiance University at Radiance Technologies, Inc. serves as a continuing education training provider for our employees, industry partners, and Government customers by providing professional development opportunities that are critical to the competitive advantage of our nation. The changing battle space and capabilities of our foreign adversaries require our employees and Government customers to constantly train in new and innovative areas to stay informed of all improvements, changes, and methods of operation.

Radiance University's objectives are to provide Radiance employees, external customers, and industry partners with quality unclassified and classified training; pertinent skill development by position and level; a professional learning environment to exchange ideas and approaches; quick and easy access to valuable educational content; and custom-tailored professional development programs.

> **"WE LOOK FORWARD TO GROWING LEADERS, EMPOWERING OUR EMPLOYEE-OWNERS, AND POSITIONING OUR COMPANY FOR GROWTH."**
> — BILL BAILEY, CEO

> **"OUR PEOPLE AND CULTURE ARE OUR GREATEST ASSETS – IT IS AN HONOR TO SUPPORT THE WARFIGHTER AND VITAL TO ENSURE OUR EMPLOYEE-OWNERS ARE WELL TRAINED."**
> — DAVID DIADDARIO, PRESIDENT

Ms. Lane A. Fabby serves as the Chancellor of Radiance University and the Assistant Vice President of Learning and Development at Radiance Technologies. She has a passion for training engineers, scientists, technologists, and logisticians to better support the Government. If you want more information about Radiance University, please contact Lane Fabby at 256-489-8567 or email **lane.fabby@radiancetech.com**.

CLASSROOM

Courses provided in a classroom setting allow for hands-on learning and participant interaction. You will have the opportunity to actively participate in discussions led by industry professionals and expert instructors.

ONLINE

Online courses allow you to enjoy the flexibility of completing an instructor-led or self-study course online and within your schedule. Register at any time for a self-study course or webinar of your choice.

CUSTOMIZED

Our team can provide your organization with programs tailored specifically to meet your training goals. Select the topics, location, and times that are convenient, and we will bring the transformative learning experience to you.

FACILITATION

Facilitation services that promote interactive discussions and capitalize on learning moments are offered to you or your team. Our facilitators ask thought-provoking questions and lead experiential learning through team exercises, videos, role-playing, and case studies.

GENERAL INFO

WAYS TO REGISTER

PHONE:
256-489-8567

EMAIL:
RadianceU@radiancetech.com

MAIL OR IN PERSON:
310 Bob Heath Drive
Huntsville, AL 35806

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

Classroom courses are held at various Radiance locations unless otherwise noted.

Refer to your confirmation letter email for the location.

RADIANCE UNIVERSITY INFORMATION

OUR AIM

- Quality unclassified and classified training opportunities.
- Pertinent skill development by position and level.
- Professional learning environment to exchange ideas and approaches.
- Quick and easy access to valuable educational content.
- Custom-tailored professional development programs.

WHAT WE DO

Assessments, Training, Executive Coaching, Facilitation

TARGET AUDIENCE

For engineers, scientists, technologists, and logisticians to provide better support to the Government. Training designed for both Radiance employees and external customers already working in industry and government, to develop skills, close competency gaps, and enhance performance.

SUBJECT AREAS

Advanced Technologies , Business Management, Cyber, Engineering, Leadership Development

FORMATS OF LEARNING

Classroom, Online, Blended, Customized

TYPES OF LEARNING

Lecture Base, Experiential, Social, Micro

CONTINUING EDUCATION

Exam Preps, Certifications, Short Courses, Programs, Seminars, Workshops, Webinars, Tech Talks, Lunch and Learns, Leadership Series

TRAINING FACILITIES

Corporate headquarters, located in Huntsville, AL, features a large conference center to host small or large training classes.

Our new Beavercreek location in Dayton, OH can also host small or large training classes in our new state-of-the-art training center.

CUSTOMIZED TRAINING - DELIVERED!

Radiance University can customize a program that targets an organization's specific training goals. Select an existing topic or let us develop a specialized program for you. If you don't see a course you want listed in our catalog, we can customize a training program that meets your needs.

Our well-developed programs help organizations master the latest techniques and best practices through:

Full Service Customer Support

Benefit from quality administrative and instructional support from planning to course completion and beyond. Let us help you make your job easier!

Flexible Delivery Options

Select from traditional classroom, online, or blended program formats.

Experienced Instructors

Gain valuable knowledge through specialized curriculum and quality instruction delivered by practitioners who are experts in their fields.

Collaborative Hands-on Learning

Build new skills and foster critical thinking through the integration of theory into practice using interactive lectures, case studies, assessment tools, and hands-on applications.

Unlimited Course Topics

Choose from existing course offerings, modify course content to your specific needs, or let us assist with developing new curriculum targeted to fit your organizational needs.

RETURN ON YOUR INVESTMENT

Our goal is to maximize an organization's investment by designing, developing, and delivering a customized program that best meets their organizational needs.

Why Choose Radiance University?

- High quality, relevant topics, and cost value
- Expert instructors with real-world experience
- Improved performance and results
- Convenience and flexibility

TRAINING PROGRAM DEVELOPMENT PROCESS

NEED ANALYSIS
↓
IDENTIFY INTENDED OUTCOMES
↓
PROPOSAL APPROVAL
↓
PROGRAM DEVELOPMENT
↓
PROGRAM IMPLEMENTATION
↓
EVALUATE & FOLLOW UP
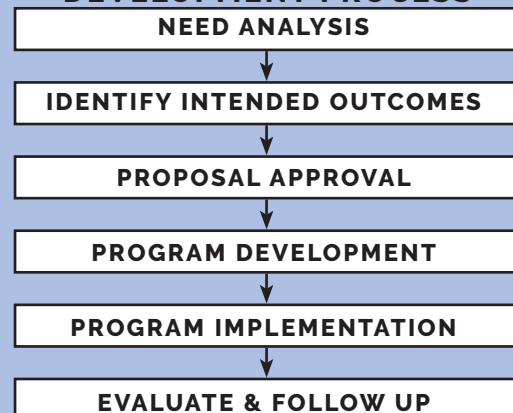
Call Lane Fabby at 256-489-8567 to schedule a meeting.

BUSINESS MANAGEMENT

For Government and Industry Partners

FOUNDATIONS OF TECHNICAL WRITING

8 Hours
Instructor: Dr. Ryan Weber
1 Day: 8am-5pm
Format: Classroom
Course Number: RC2519005

This course helps you sharpen your technical writing ability, which will make you more efficient and effective on the job. Learn how to produce better documents, organize information more effectively, analyze each writing situation, create effective technical documents that connect with your audience, and write stronger, more concise sentences. This course helps you develop a professional writing voice and organize documents for clarity of communication. You'll also learn to eliminate errors in your writing. This course will include lectures and exercises that provide attendees opportunities to practice valuable writing skills.

What You Will Learn:

- Analyze each writing situation to create effective documents
- Organize messages to suit each writing situation
- Write messages that connect to an audience
- Use a writing voice that is positive, professional, and confident
- Organize paragraphs for clarity, unity, and coherence
- Create concise, correct, and clear sentences
- Avoid the most common grammatical errors
- Analyze every technical writing situation
- Produce effective procedures and instructional documents

EFFECTIVE PRESENTATIONS

8 hours
Instructor: Kristin Scroggin
1 Day: 8am-5pm
Format: Classroom
Course Number: RC2519002

In this course, you will learn to organize your ideas to create coherent and convincing oral presentations, while also utilizing available visual aids and using public-speaking techniques to strengthen your delivery. Learn how to organize your ideas to create coherent and convincing oral presentations, while also utilizing available visual aids and using public-speaking techniques to strengthen your delivery. Learn to deliver presentations in a professional, credible, and clear way.

What You Will Learn:

- Define what makes a presentation effective
- Design a presentation framework
- Develop the presentation body
- Create supporting materials
- Prepare for your presentation
- Deliver presentations
- Conduct a question-and-answer session
- Learn delivery methods that engage an audience

DR. RYAN WEBER

Dr. Ryan Weber is an Associate Professor of English and the Director of Business and Technical Writing at the University of Alabama in Huntsville. He teaches Technical Writing for the Defense Acquisition University Senior Service College Fellowship and facilitates additional courses in business writing, editing, proposal writing, and other topics. His research has appeared in Journal of Technical Writing and Communication, Technical Communication Quarterly, IEEE: Transactions in Professional Communication.

BUSINESS MANAGEMENT

For Government and Industry Partners

INTRODUCTION TO PROFESSIONAL PROJECT MANAGEMENT

32 Hours
Instructor: Marc Stettner
4 Days: 8am-5pm
Format: Classroom
Course Number: RC2519011

In this hands-on training, participants will work in project teams and perform the key steps in initiating, planning, executing, monitoring and controlling, and closing a project. Emphasis will be placed on performing the methods specified in the PMBOK (Project Management Body of Knowledge). This course is for those new to project management or those who want to and obtain their PMP certification.

What You Will Learn:

- How to analyze a Statement of Work
- How to identify and analyze Stakeholder concerns
- Set objectives and initiate a project by creating a Project Charter
- Clarify roles and responsibilities using a Project Organizational Chart, Responsibility Assignment matrix and Roles Description Sheet
- Define the scope of the project using a Scope statement and Work breakdown structure
- Learn the elements in a typical Project Plan
- Identify the phases of a project lifecycle
- Build a project schedule using an activity list, network diagram, and Gantt chart
- Plan the project support processes by creating a project quality plan, communications plan, configuration management plan, and change management plan
- Monitor and Control the project by comparing actual results to planned results
- Identify and manage project risks using a risk impact matrix and project risk list
- Perform project closure including reviewing lessons learned and performing administrative closure

PMP/CAPM EXAM PREPARATION BOOTCAMP

Project Management Professional/ Certified Associate in Project Management
40 Hours
Instructor: Marc Stettner
5 Days: 8am-5pm
Format: Classroom or Online
Course Number: RC2519012

In this PMP/CAPM Exam Preparation Bootcamp, participants will focus on building the knowledge and skills required to take and pass the PMP or CAPM exam. The course will cover all the topics expected to be on the exam and the strategies needed to study and pass the exam. Participants will also take practice exam questions during the boot camp and discuss the answers with other class participants and the instructor. Additionally, videos of all lectures will made available after the course for self-review. This course will also satisfy the requirement for project management training hours to take the exam.

What You Will Learn:

- PMI Philosophy and mindset needed to understand the exam
- PMI specific terms and definitions
- Strategies for approaching exam questions
- The project management framework and context of project management
- The ten knowledge areas and five process groups contained in the PMOK Guide
- Additional project management knowledge not covered in the PMBOK Guide but expected on the exam
- Summary of important formulas and definitions
- Question review at the end of each chapter to build confidence in approaching exam questions
- Tips and tricks for memorizing information needed for the exam
- How to fill out your PMP/CAPM application

* Earn an overall program certificate by taking both courses, or just take one

BUSINESS MANAGEMENT

For Radiance Employee-Owners Only

FOUNDATIONS OF PROPOSAL WRITING

16 hours
Instructor: Rob Martin, Nikki Kincaid
2 Days: 8am-5pm
Format: Classroom
Course Number: RC2519003

This course will provide you with practical strategies for developing winning federal proposals. It is intended for any staff contributing to the technical, management or past performance volumes of a competitive proposal. Topics discussed will include analyzing the audience and the proposal evaluation process, features and benefits, conveying value, and color team reviews. We will examine approaches to enhance the readability and visual appeal of your proposal and make it clear, compelling, and easier to evaluate.

What You Will Learn:

- Proposals are Sales Documents they are evaluated, not read
- How clients buy benefits, not features
- How to evaluate a proposal: Compliance, Responsiveness, and Compellingness
- 7 Sins of Proposal Writing
- Writing the story versus telling the story
- Pre-Proposal and Proposal Development Processes
- Proposal Roles and Responsibilities
- How to evaluate and improve the proposal solution or offering
- How to analyze evaluators and their decision-making process
- How to use a win strategy, themes, and ghosts
- Value Ladders: Features / Advantages / Benefits
- Evaluating strengths, gaps, and differentiation
- The Solution Review
- Using the master proposal outline and allocation of RFP sections
- Section outline and organizing for clarity
- Using Feature/Advantage/Benefit/Evidence Construct
- Leading with the benefit statement

- Developing Topics, Figures, Action Captions
- Bullet Writing / Speed Writing
- The Pink Team Review
- Speaking to the figures
- Paragraph development: Single Topic, Opening, Contrasting, Closing
- Expanding the bullet text: How? What? Why? When? Who?
- Writing to the audience, using client language and repeating key words
- Grammar, tone, word choice
- Using data, past performance, and evidence
- Effective use of non-text components
- Consistency: Wall of Truth, Fact Check
- The Red Team Review
- Theory vs Practice: Dealing with risk and uncertainty

ROB MARTIN

AVP AND OPS MANAGER CYBER SOLUTIONS GROUP

For the past 25 years, Rob has served in a variety of cyber-related technical and management positions supporting the defense industry. He began his career as a communications and information operations officer in the U.S. Air Force. After 9 years with the Air Force, he worked for General Dynamics for 12 years progressing from systems engineer, to technical manager, and program manager. Throughout his time at GD, Rob filled the roles of proposal manager and capture manager on opportunities ranging from $1M to $250M. In 2012, Rob took the position director of proposal development and project management at Stanford Research Institute (SRI). At SRI, Rob developed and refined practical business development and program management processes to help SRI win and execute larger, complex efforts. Prior to joining Radiance, he worked as the senior capture and proposal manager for the cyber division of Battelle Memorial Institute in Columbus, Ohio. At Battelle, Rob mentored and trained proposal and capture teams and managed the cyber division's largest pursuits.

CYBER
For Government Agencies Only

FUNDAMENTALS OF SYSTEMS EXPLOITATION

24 hours
Instructor: Mike Messuri
3 Days: 8am-5pm
Format: Classroom or Online
Course Number: RC2719001

This course will provide you with the basic knowledge of how to reverse engineer a low-level system, including discussions and labs that walk through identifying helpful ports on a PCB, extraction and emulation of firmware, using return-oriented-programming gadgets to hijack program control, and using professional RE tools to analyze and characterize assembly.

What You Will Learn:

- How to use binwalk and buildroot
- How to extract firmware
- How to hijack program control through vulnerable inputs
- The proper process for characterizing a system
- How to operate an oscilloscope
- How find and read data sheets
- How to read ARM assembly

INTRODUCTION TO INDUSTRIAL COMMUNICATION PROTOCOLS

8 Hours
Instructor: Jose Caraballo
1 Day: 8am-5pm
Format: Classroom or Online
Course Number: RC2719005

This course will provide you with the basic knowledge of industrial protocols used in ICS/SCADA systems starting with the most common of the protocol Modbus. It will include documents about Modbus and lab to solidify your understanding of Modbus and other protocols in the future.

What You Will Learn:

- How to analyze serial communication between devices
- How serial communication translates into TCP/IP
- How to passively and actively enumerate a Modbus network
- How to manipulate a Modbus packet to cause an unintended result
- Understanding of the potential security risk within ICS/SCADA networks

CYBER
For Government and Industry Partners

GREG SMITH

SENIOR SOFTWARE ARCHITECT
CYBER SOLUTIONS GROUP

Greg Smith, MBA, is an electrical engineer and holds the Security+ certification. He has 30 years of hardware and software development experience. His experience includes ASIC design, embedded electronic development, software systems, software support, system administration, network architecture and project and personnel management. In the Advanced Technologies group, Greg has helped develop hardware and software reverse engineering defenses and vulnerability analysis techniques at all levels of a system: integrated circuit, microprocessor, electronic component, PCB board, firmware, software, system, network, and large infrastructure.

SECURITY+ EXAM PREP

12 hours
Instructor: Greg Smith
1.5 Days: 8am-5pm
Format: Classroom or Online
Course Number: RC2719003

Build on your current skill set and prepare for the CompTIA® Security+ SYO-501 Certification exam. Familiarize yourself with concepts and tools, and anticipate, guard against, mitigate, and respond to security incidents. Hands-on lab gives each student in-depth knowledge and practical experience with the current essential security systems.

What You Will Learn:

- Network Infrastructure
- Systems Security
- Cryptography
- Organizational Security
- Access Control
- Auditing

SOFTWARE REVERSE ENGINEERING

For Government Agencies Only

STATIC SOFTWARE ANALYSIS FUNDAMENTALS

16 hours
Instructor: Will Halcomb, Michael Lee, Jake Schneider, Jay Stenmark
2 Days: 8am-5pm
Format: Classroom
Course Number: RC2719006

This course is for junior or mid-level engineers/personnel and is intended as an introduction to performing Software Reverse Engineering (SWRE) and Static Software Analysis. This course requires a basic understanding of computer programming and contains a short pre-requisite self-study portion in order to familiarize the students with the tools, prior to the instructor led portion. This course focuses on understanding the concepts needed for static analysis of executable software rather than understanding the tools. Topics to be discussed are registers usage conventions, memory management, algorithms, compiler conventions, software structure and logic, vulnerabilities, algorithm discover techniques, and more. This is a very hands-on course where each participant will have their own computer and will go through multiple individual exercises.

What You Will Learn:

- Familiarize students with tools used in Static Software Analysis and Reverse Engineering
- Register usage conventions
- Memory segments, layout, and management
- Compilers including their optimization algorithms
- Linking and software layout (PE, ELF, RTTI)
- Logic within programming and software
- Data flows and external data sources
- Finding software vulnerabilities and exploits
- Demonstrate automation tools and techniques for efficiency gains within SWRE
- Guide students through live exercises using industry-standard tools

DYNAMIC SOFTWARE ANALYSIS FUNDAMENTALS

16 hours
Instructor: Will Halcomb, Michael Lee, Jake Schneider, Jay Stenmark
2 Days: 8am-5pm
Format: Classroom
Course Number: RC2719007

This course is for junior or mid-level engineers/personnel and is intended as an introduction to performing Software Reverse Engineering (SWRE) using Dynamic Software Analysis techniques. This course requires a basic understanding of computer programming and contains a short pre-requisite self-study portion in order to familiarize the students with the tools, prior to the instructor led portion. The course focuses on understanding the concepts needed for creating dynamic analysis environments running in QEMU. Topics are basic debugger usage for reverse engineering, device emulation, how to leverage program traces, dynamic vulnerability discovery, binary instrumentation, basic binary slicing techniques and more. This is a very hands-on course where each participant will have their own computer and will go through multiple individual exercises.

What You Will Learn:

- Familiarize students with tools used in Dynamic Software Analysis and Reverse Engineering
- Whole system emulation for frameworks like QEMU
- Debuggers and how to use them for reverse engineering
- Trace creation and use
- Symbolic and concolic execution
- Dumb fuzzing and more advanced fuzzing techniques
- Binary instrumentation frameworks
- Basic binary slicing
- Graphics acceleration

* Earn an overall program certificate by taking both courses, or just take one

ENGINEERING
For Government Agencies Only

HIGH ENERGY LASER PROPAGATION MODELING

8 hours
Instructor: Stan Patterson
1 Day: 8am-5pm
Format: Classroom
Course Number: RC2319001

This course will provide you with a basic understanding of High Energy Laser (HEL) propagation modeling. Topics to be covered include introduction to HEL propagation, discussion of available HEL propagation M&S tools, specific information related to the High Energy Laser Consolidated Modeling and Engagement Simulation. The goal of this course is for the students to be able to use the HELCoMES code to model HEL propagation and have a basic understanding of the inputs and outputs.

What You Will Learn:

- Introduction to HEL Propagation
- HEL Vacuum Propagation
- HEL Atmospheric Propagation
- HEL Propagation Modeling
- HELCoMES Overview
- HELCoMES Inputs
- HELCoMES Outputs
- Examples of how to use HELCoMES

HIGH ENERGY LASER LETHALITY

8 hours
Instructor: David Lyman
1 Day: 8am-5pm
Format: Classroom
Course Number: RC2319002

This course will provide a discussion of all elements of HEL Lethality testing. We will address data collection standards to be applied during the planning and execution of the test to assure meaningful and accurate data is collected. It will describe techniques for measuring laser parameters such as power and beam profile during the execution of the test. Experimental test setup and processes will be described along with data acquisition requirements for targets, facility and test conditions and the instrumentation and equipment necessary to acquire those measurements.

We will also discuss the key physics associated with laser-material interaction modeling as it applies to laser lethality. The fundamental equations, boundary conditions, input data, analytical and numerical modeling approaches will be reviewed. A summary will be provided of various models, codes, and tools used to analyze and predict target effects during HEL engagement. In addition, an overview of the target vulnerability assessment process will be provided in the context of generating target effects data for mission level simulations.

What You Will Learn:

- The importance of lethality in HEL weapons
- Operational Analysis
- How lasers interact with materials
- Data collection techniques
- Modeling HEL-material interactions
- Target Exploitation Methods
- Vulnerability Module Definition
- Where to test

* Earn an overall program certificate by taking both courses, or just take one

ENGINEERING
For Government Agencies Only

PRINCIPLES OF RADAR AND SENSORS

16 Hours
Instructor: Welman Gebhart
2 Days: 8am-5pm
Format: Classroom
Course Number: RC2319011

The course will provide an understanding of radar and EO/IR sensor fundamentals, performance, and key technologies with applications to US Army Weapon Systems. Emerging Directed Energy (DE) weapon systems such as High Energy Lasers (HEL) require a suite of sensors to surveil, detect, and identify threatening targets in a large hemispherical volume around the HEL platform, and to provide precision pointing that place the narrow laser beam micro-radian class beam divergence on a small aim point few centimeter diameter on a threat target. Explore fundamentals needed to analyze radar and EO/IR sensor performance capabilities, and size and select sensor technologies necessary to meet the mission requirements. At the end of the course, an example problem will be used to illustrate how a sensor suite of radars and EO/IR sensors is defined to meeting the HEL sensor surveillance, track and pointing requirements.

What You Will Learn:

- Introduction to Radar and Electro-Optical / Infrared (EO/IR) Sensors
- Key Sensor Applications in Military Weapons Systems
- Environment Impact Radar Performance
- Threat Target Signatures
- Emerging Technologies & Technology Selection
- Propagation and Subsystem Technology Impact on Passive and Active Range Equations
- Example Sensor Sizing and Technology Selection for High Energy Weapon System

ROBOTICS, UAVS, AND UNMANNED SYSTEMS

8 Hours
Instructor: Allan Westenhofer
1 Day: 8am-5pm
Format: Classroom
Course Number: RC2319010

This course is an introductory to robotics and remotely piloted vehicles. Unmanned systems are usually referred to as drones. While this is not incorrect, typically unmanned vehicles have a mission to follow with a human in the loop sending commands. Unmanned Aerial Vehicles (UAV), Unmanned Maritime Vehicles (UMV), and Unmanned Ground Vehicles (UGV) are the most commonly referred to. Robotics as simple as a Lego Mindstorm with Arduino controllers also apply. The diversity is high, and the mission determines the complexity of the build and materials. Explore and touch on each topic in this course.

What You Will Learn:

- Introduction to Unmanned Systems
- Robotics
- UAS Fixed Wing
- UAS Rotary Wing
- UMV Surface (USV)
- UMV Underwater (UUV)
- UGV and EOD
- Missions and Employment

DOD INTEGRATED PRODUCT SUPPORT ELEMENTS

Gain an overview of all activities associated with the life cycle of a system, from requirements generation and acquisition to sustainment and disposal. This program provides a basic foundation for senior managers and executives who are responsible for overseeing system support processes and assuring ready capability. The curriculum can be customized based on the background, knowledge, and experience level of the participants. **Customized Training:** 256-489-8567

ENGINEERING

For Government Agencies Only

PRINCIPLES OF MACHINE LEARNING AND ARTIFICIAL INTELLIGENCE

32 Hours
Instructor: Frank Odom
4 Days: 8am-5pm
Format: Classroom
Course Number: RC2319006

This course will provide a fundamental understanding of modern machine learning (ML) and artificial intelligence (AI) systems. Learn essential algorithms that are currently used for a wide range of industry and military applications. Live demonstrations will be given for select algorithms, including hands-on development of algorithm code in Python. Students will gain experience with open-source Python libraries for producing high-performance ML/AI algorithms, including NumPy, Scikit-Learn, and PyTorch.

What You Will Learn:

- Introduction to Scikit-Learn
- Decision Trees
- Random Forests
- Linear Regression
- Logistic Regression
- Introduction to PyTorch
- Fully Connected Networks
- Convolutional Neural Networks (CNN)
- Recurrent Neural Networks (RNN)
- Backpropagation Algorithm
- Normalization and Regularization
- Feature Engineering
- Tips, Tricks, and Common Pitfalls
- Search Algorithms
- Game AI using Alpha-Beta Pruning
- Game AI using Machine Learning
- PIR Target Detection with Residual CNNs
- Spatio-Temporal Anomaly Detection with CNN and RNN
- Detection Filtering with Graph Convolutional Networks
- Post-Track Filtering with Neural Network Ensembles

FUNDAMENTALS OF HYPERSONICS

8 Hours
Instructor: Dr. Ashley Verhoff
1 Day: 8am-5pm
Format: Classroom
Course Number: RC2319009

This course will introduce the analytical, design, and experimental considerations of hypersonic flows, in which velocities greatly exceed the speed of sound. Topics include the hallmark features of hypersonic flows, aerothermodynamics and nonequilibrium flow physics, trajectory and vehicle design impacts, analytical and computational methods, and capabilities of existing ground test facilities. Participants will gain an introductory understanding of the unique challenges of this flow regime, enabling more extensive follow-on study.

What You Will Learn:

- Features and Challenges of Hypersonic Flows
- Trajectory Design
- Newtonian Flow Analysis
- Shock and Expansion Wave Relations
- Aerothermodynamics
- Vehicle Design
- Nonequilibrium Flow Physics
- Computational Methods for Hypersonic Flows
- Ground Test Capabilities

ENGINEERING
For Government Agencies Only

INTRODUCTION TO MICROELECTRONICS

24 hours
Instructor: Dr. Bob Overbeek
3 Days: 8am-5pm
Format: Classroom
Course Number: RC2319004

This course will provide you with a basic understanding of semiconductors, their global ecosystem, and macroeconomic decisions that have national security implications. It will provide a basic technical understanding of the various types of microelectronics devices and their purpose, basic device physics and chemistry, an overview of semiconductor manufacturing processes and a look into future trends. Finally, the course will provide insight into DoD use of microelectronics, programmatic requirements, policy, security and practice.

What You Will Learn:

- What a semiconductor is and how it operates
- Types and purposes of semiconductors
- Semiconductor terminology; basic constructs of circuits
- Transistors and how they work
- Types and purpose of memory
- Boolean logic and how various logic gates operate
- Cryptographic system overview including key management principles
- Semiconductor manufacturing from crystal growth to finished product
- Designing secure microelectronics architectures
- What PMs need to know about microelectronics

INTEGRATED AIR DEFENSE SYSTEMS

8 hours
Instructor: Garry Shackley, Rob Doherty
1 Day: 8am-5pm
Format: Classroom
Course Number: RC2319003

This course will provide you with a basic understanding of Integrated Air Defense Systems (IADS), their mission, components, and operational doctrine and procedures. Topics to be discussed are the history of IADS development, the advantages of data integration, and the fundamentals of target tracking, track assignment, and weapon system command and control.

What You Will Learn:

- The definition and mission of an IADS
- The basic threats to an area defended by an IADS
- IADS doctrine and procedure
- The history of IADS development and the reasons for those developments
- How an IADS achieves integration
- IADS structure and its possible variations
- How an air picture is generated from target detection, to target tracking, to target assignment, and weapon system engagement
- The levels of automation present in IADS and their consequence
- The basic methods of electronic warfare conducted against IADS
- How IADS can reduce adversary technological advantages and restore the defender's situational awareness

AVIATION MAINTENANCE
For Government and Industry Partners

WEIGHT AND BALANCE FUNDAMENTALS

16 Hours
Instructor: Jeremy Christopher
2 Days: 8am-5pm
Format: Classroom
Course Number: RC2319012

In this class, students will learn the terminology, tools and basic skills required to perform Weight and Balance tasks. Use of forms and permanent records, as well as regulations governing Weight and Balance programs will be introduced. Upon successful completion of this class, students will be able to assist with performance of any Weight and Balance task within a Weight and Balance Control Program.

What You Will Learn:

- Terminology and definitions
- Tools of the trade
- Introduction to regulations and industry standards
- Introduction to forms and records
- What is CG, and how is it computed
- How can I change my CG
- Introduction and basic walk through of steps required to clear an aircraft for flight

* Earn an overall program certificate by taking all courses, or just take one

WEIGHT AND BALANCE TECHNICIAN

4 Hours
Instructor: Jeremy Christopher
1 Day: 8am-12pm
Format: Classroom
Course Number: RC2319013
Prerequisite: RC2319012

In this class, students will expand on the basic skills and knowledge, taking a deeper look into regulations as well as forms and records. Upon successful completion of this class, students will be able to perform duties of Weight and Balance Technician.

What You Will Learn:

- What is a Weight and Balance Technician
- What are the roles and responsibilities of Technician
- Preparation of Weight and Balance forms
- Maintaining CG and clearing an aircraft for flight

WEIGHT AND BALANCE AUTHORITY

4 hours
Instructor: Jeremy Christopher
1 Day: 8am-12pm
Format: Classroom
Course Number: RC2319014
Prerequisite: RC2319013

In this class, students will expand on the knowledge and skills learned in the technician course. Upon successful completion of this course, students will be able to perform duties of Weight and Balance Authority and provide assistance with supervision of Weight and Balance Control within an organization.

What You Will Learn:

- What is a Weight and Balance Authority
- Who is qualified to perform duties of Weight and Balance Authority
- Roles and responsibilities of Authority
- Completion and maintenance of Weight and Balance forms and records

AVIATION MAINTENANCE
For Government and Industry Partners

WEIGHT AND BALANCE ENGINEERING

8 Hours
Instructor: Jeremy Christopher
1 Day: 8am-5pm
Format: Classroom
Course Number: RC2319015

This class is targeted toward students who do not perform Weight and Balance tasks on aircraft, but do perform functions in the collection and distribution of Weight and Balance data. Upon successful completion of this class, students will understand regulations, forms and records, industry standards, weight growth and center of gravity migration, as well as development and presentation of weight reports as required for Weight Control Programs. The class will cover data requirements for applying aircraft modifications, as well as the use of estimated, calculated and actual measurements. Students will be introduced to Society of Allied Weight Engineers standards and practices.

What You Will Learn:

- Terminology and definitions
- Collection and distribution of Weight and Balance data
- Use of estimated, calculated and verified data

WEIGHT AND BALANCE REFRESHER (ANNUAL TRAINING)

2 Hours
Instructor: Jeremy Christopher
1 Day: 8am-10am
Format: Classroom
Course Number: RC2319016

This course is designed to meet annual/recurring training requirements. It will be tailored to meet the specific needs of your organization. The course will include any updates to regulations or industry standard practices.

PRACTICAL WEIGHT

2 hours
Instructor: Jeremy Christopher
1 Day: 8am-10am
Format: Classroom
Course Number: RC2319017

This class will cover detailed steps necessary to weigh specific aircraft types and culminate in completion of physical weight of the aircraft.

* Earn an overall program certificate by taking all courses, or just take one

MODELING, SIMULATION & ANALYSIS

For Government Agencies and Industry Partners

AFSIM USER COURSE

32 hours
Instructor: Jacob Stange
4 Days: 8am-5pm
Format: Classroom
Course Number: RC2319007

This course is designed to provide a basic understanding of the AFSIM simulation framework to new AFSIM users. Throughout the instructor led course, students will be introduced to the use of the AFSIM development environment, simulation executable, and visualization tools. Using a sequential build-up of AFSIM demo scenarios, students will cover diverse topics necessary for AFSIM simulation and analysis. Covered topics include: entity development (platforms, movers, weapons, sensors, and signatures), inheritance, event-based triggers for scripts and output, script language, processors, state machines, communications, debugging, and tactics/behavior modeling.

What You Will Learn:

- Platforms & Routes
- Platform Types & Moves
- Weapons
- Signatures
- Sensors
- Event Output
- AFSIM Scripting
- State Machines & Task Processors
- Communications
- Advanced Behavior Modeling

AFSIM DEVELOPER COURSE

24 hours
Instructor: Nicholas Marquart
3 Days: 8am-5pm
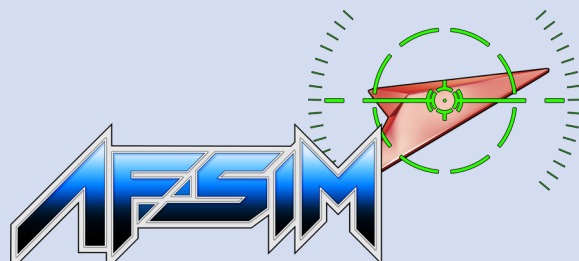**Format**: Classroom
Course Number: RC2319008
Prerequisite: RC2319007

This course is intended to outline the World Simulation Framework (WSF) and plug-in API used by AFSIM. Throughout the instructor led course, students will work primarily in Microsoft Visual Studio to complete C++ plug-ins to extend AFSIM's core capabilities and integrate external models. All plug-in lesson modules focus on different simulation and player parts (observers, weapons, sensors, movers, communication devices, external I/O, and components) in the greater WSF context.

What You Will Learn:

- Introduction to AFSIM
- Building AFSIM
- Architecture Overview
- Observers
- Major Part Type Development
- Sensor Development
- Mover Development
- Comm. Device Development
- External IO
- Component Based Architecture

* Earn an overall program certificate by taking both courses, or just take one

LEADERSHIP DEVELOPMENT
For Government and Industry Partners

FOUNDATIONS IN LEADERSHIP

12 hours
Instructor: Lane Fabby
1.5 Days: 8am-5pm; 8am-12pm
Format: Classroom
Course Number: RC2919001

This course will help individuals communicate better, improve individual leadership skills, promote team cohesion, leverage personal and team strengths, and promote a high trust organizational culture. Topics that will be discussed include personality styles, strengths broken out into four leadership domains, trust, communication, and high-performance teams. This course will be well facilitated, promote rich dialog, and include experiential and interactive team exercises to ensure a deep learning experience.

What You Will Learn:

- Values Based Leadership
- Personality Styles
- Team Effectiveness
- Self-Awareness
- Communication Skills
- Trust & Transparency
- Top 5 Strengths

MANAGEMENT ESSENTIALS

12 hours
Instructor: Lane Fabby
1.5 Days: 8am-5pm; 8am-12pm
Format: Classroom
Course Number: RC2919002
Prerequisite: RC2919001

This course will help individuals learn from one another, improve individual and team performance, nurture and retain top talent, develop leadership at every level of an organization, and reduce workplace conflict. Topics that will be discussed include High Order Thought™, mentoring and coaching, alignment, employee engagement, and crucial conversations. This course will be well facilitated, promote rich dialog, and include experiential and interactive team exercises to ensure a deep learning experience.

What You Will Learn:

- Decision Making
- Critical Thinking Skills
- Delegation & Accountability
- Conflict Management Tools
- High Performance Teams
- Emotional Intelligence

* Earn an overall program certificate by taking both courses, or just take one

LEADERSHIP DEVELOPMENT
EXPANDING BOUNDARIES
PROGRAM - ONE YEAR
For Government and Industry Partners

ONCE A QUARTER TRAINING WITH EXECUTIVE COACHING IN-BETWEEN

Immersed Interventions

Customized executive development will expand thinking capacity, create a common leadership language, and results in a shared deep learning experience.

Over 12 months, the Expanding Boundaries program will include two personalized assessments per person, four 2-day courses, four 1:1 coaching sessions per person, and four mentoring socials.

By administering pre-event organizational assessments, facilitating with high-level expertise and professionalism, using experiential learning techniques, fostering critical thinking, promoting a rich learning environment, hosting mentoring socials, and conducting post-event one-on-one executive coaching, we ensure individuals and teams apply the skills they learn in the classroom after returning to the workplace.

Pre-Event Assessments

We offer several behavioral, personality, and strengths tools for assessing communication styles, developing leadership skills, and building team effectiveness. Let us help your leaders achieve high-performance results.

Learning Event

Our goal is to successfully and effectively meet your organizational development learning objectives. Choose any combination from the topics to the right to customize your specific program.

Post-Event Executive Coaching

One-on-one coaching sessions follow training to promote application and sustainable results.

It is affordable, customized to your organization's specific training needs and goals, as well as hassle-free—we do all the work!

SAMPLE TOPICS:

- 5 Dysfunctions of a Team
- Alignment & Execution
- Change Management
- Conflict Management
- Critical Thinking Skills
- Delegation & Accountability
- Effective Communication Skills
- Effective Decision Making Skills
- Emotional Intelligence
- Employee Engagement
- Generational Differences
- High Order Thinking
- High Performance Teams
- Leading Without Authority
- Mentoring & Coaching
- Problem Solving vs. Polarity Thinking
- Sense of Urgency
- Strategic Thinking Skills
- Strengths Based Leadership
- Trust & Transparency
- Understanding Personalities

Create Your Own – If you don't see a topic you are interested in above, we can design a course tailored to you, utilizing our Subject Matter Experts. Call us to discuss at 256-489-8567!

MANDATORY TRAINING
For Radiance Employee-Owners Only

DELTEK ANNUAL TIMESHEET TRAINING

30 minutes
Instructor: Paige Nix
Format: Online
Course Number: RE3119001
Target Audience: All Radiance Employees

What You Will Learn:

- Understand the functionality of Deltek Time & Expense
- Understand the importance of proper timekeeping and labor charging
- Learn the importance of the work authorization and how to access the work authorization
- Understand the steps in timekeeping and how to record standard hours, overtime, leave without pay and compensatory time
- Recognize the difference between minor and major non-compliances
- Learn Best Practices for timekeeping
- Know who to contact with timekeeping problems/issues

DELTEK TIMESHEET TRAINING

1 hour
Instructor: Jeanette Calvert
Format: Classroom
Course Number: RC3119001
Target Audience: All Radiance Employees

What You Will Learn:

- How to access Employee Quick links
- Overview of Radiance Intranet site
- How to create your Deltek account
- How to reset your password
- Create a Timesheet and enter time
- Understand how to make timesheet corrections
- How to check Leave balances
- How to access employee self-service
- Know who to contact with timekeeping problems/issues

MANDATORY TRAINING
For Radiance Employee-Owners Only

ETHICS TRAINING

30 minutes
Instructor: Kristi Looney
Format: Online
Course Number: RE3119003
Target Audience: All Radiance Employees

What You Will Learn:

- Conflicts of Interests
- Financial Record Keeping
- Security Violations
- Timekeeping
- Proprietary and Confidential Information
- Procurement Ethics
- Gifts, Gratuities and Business Courtesies
- Meals, Refreshments, and Entertainment
- Authorized Acceptance of Business Courtesies
- Transportation
- Procurement for Personal Use
- Hiring/Appointing Officers and Directors
- Export Control
- Information Technology
- Antitrust Laws
- Foreign Corrupt Practices
- International Traffic in Arms Regulations
- Anti-Kickback Enforcement Act
- Whistleblower Law
- False Claims Act
- Truth in Negotiations Act
- Federal Acquisition Regulation
- Combating Trafficking in Persons
- Copyright or Licensed Materials
- Radiance Technologies Policies and Procedures

INSIDER THREAT TRAINING

30 minutes
Instructor: Rick Krug
Format: Online
Course Number: RE3119004
Target Audience: All Radiance Employees

What You Will Learn:

- Counterintelligence and security fundamentals
- The importance of detecting potential insider threats
- Reporting suspected activity to the local FSO
- Methodologies of adversaries to recruit trusted insiders and collect classified information
- Indicators of insider threat behavior, and procedures to report such behavior
- Counterintelligence and security reporting requirements
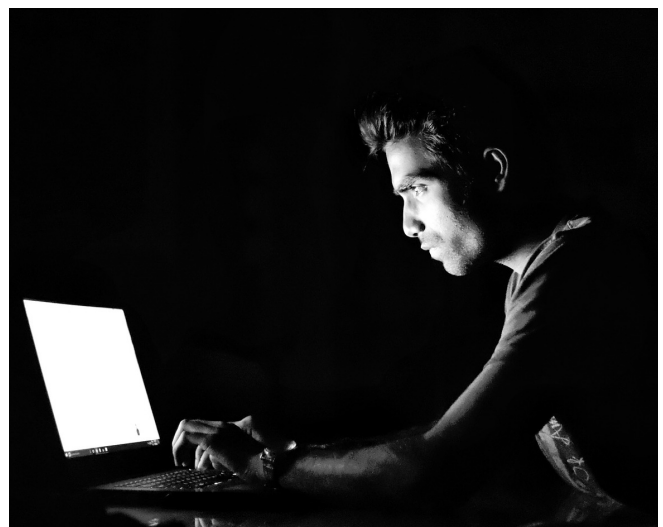
2020 TRAINING SCHEDULE

PROPOSAL WRITING TRAINING:
- March 11–12: Huntsville
- June 17–18: Dayton
- September 9–10: Huntsville

PROPOSAL MANAGER TRAINING:
- July 15: Huntsville
- November 11: Dayton

INTEGRATED AIR DEFENSE SYSTEMS TRAINING:
- June 23: Huntsville
- June 25: Dayton

SYSTEMS EXPLOITATION TRAINING:
- May 12–14: Dayton

STATIC ANALYSIS FUNDAMENTALS TRAINING:
- June 16–17: Huntsville
- June 29–30: Dayton

DYNAMIC ANALYSIS FUNDAMENTALS TRAINING:
- July 13–14: Huntsville
- August 11–12: Dayton

LEADERSHIP TRAINING:
- October 14–15: Huntsville
- December 9: Dayton

AFSIM DEVELOPER TRAINING:
- February 11–1: Dayton
- May 19–21: Dayton
- August 4–6: Dayton
- November 3–5: Dayton

AFSIM USER TRAINING:
- January 28–31: Dayton
- February 25–28: Dayton
- March 17–20: Dayton
- April 7–10: Dayton
- May 5–8: Dayton
- June 9–12: Dayton
- July 7–10: Dayton
- July 28–31: Dayton
- August 25–28: Dayton
- September 15–18: Dayton
- October 6–9: Dayton
- November 17–20: Dayton

MANDATORY TRAINING:
- June: Ethics Training
- August: HR Manager Training
- October: Insider Threat Training
- December: Annual Timesheet Training

Dates are subject to change

RADIANCE UNIVERSITY 2020 TRAINING CALENDAR

Radiance employee-owners can access the Radiance University 2020 Training Calendar in the Radiance University area of the Inside Site.
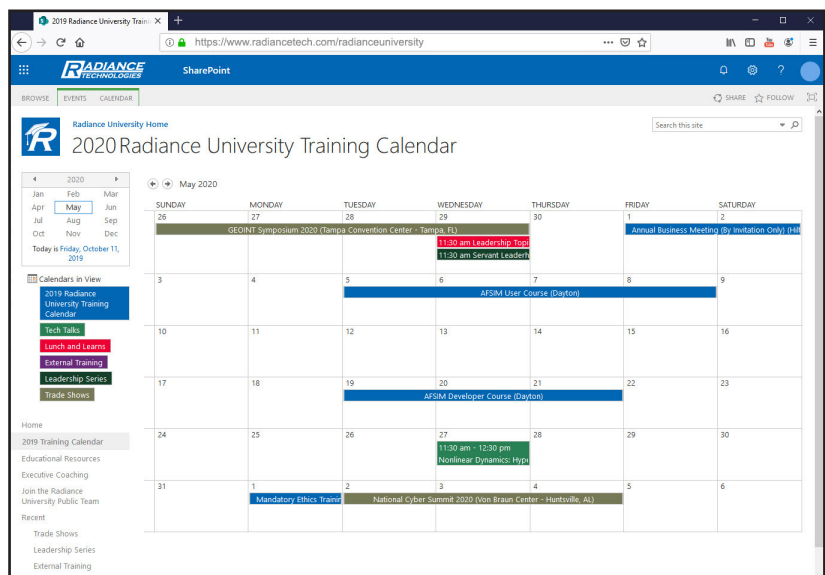
2020 LEARNING EVENTS

LEADERSHIP SERIES:

- January 29: Leading in a Complex World: Huntsville
- April 29: Servant Leadership: Huntsville
- July 29: Huntsville
- October 28: Huntsville

TECH TALKS:

- February 26: Blockchain Technology: All Locations
- May 27: Nonliner Dynamics: Hypersonics: All Locations
- August 26: Business Analytics & PowerBI: All Locations
- November 18: Secure Software Development: All Locations

LUNCH AND LEARNS:

- January 29: Image Background Supression: Dayton
- March 25: Kalman FIltering: Huntsville
- April 29: Leadership Topic: Dayton
- June 24: Leadership & Culture: Huntsville
- July 29: Graphics Applications: Dayton
- September 30: Teams, OneDrive, & Sharepoint Online: Huntsville
- October 28: Coding in Google Cloud: Dayton

ANNUAL BUSINESS MEETING:

By Invitation Only

- May 1–2: Hilton Head, SC

PODCASTS:

- February 3: A Brief History of Radiance
- April 1: What is Radiance University?
- June 1: Intern Spotlight
- August 3: Radiance Gives
- October 1: What Does it Mean to be an Employee-Owner?
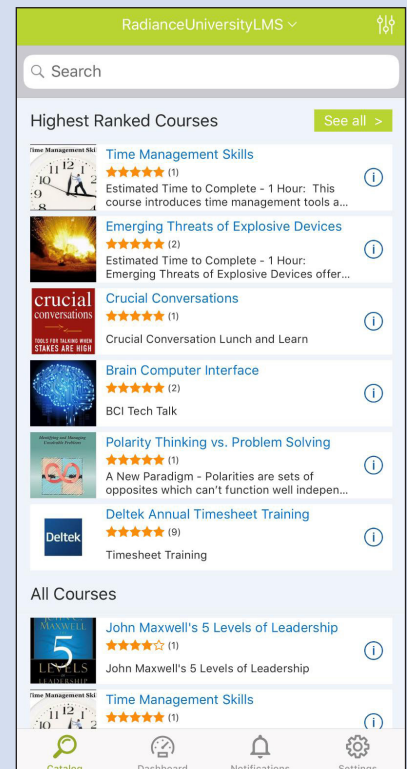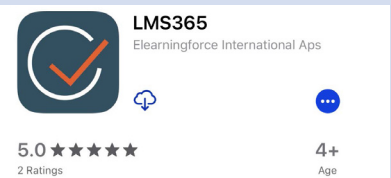- December 1: The Year in Review

YOUTUBE CHANNEL:

- Microlearning Videos

RADIANCE EMPLOYEE-OWNERS: ACCESS THE COURSE CATALOG ON YOUR MOBILE DEVICE

Start by downloading the LMS365 mobile app from your device's native app store.

LMS365
Elearningforce International Aps

5.0 ★★★★★
2 Ratings

4+
Age

RadianceUniversityLMS ⌄

🔍 Search

Highest Ranked Courses   See all >

Time Management Skills
★★★★★ (1)
Estimated Time to Complete - 1 Hour: This course introduces time management tools a...

Emerging Threats of Explosive Devices
★★★★★ (2)
Estimated Time to Complete - 1 Hour: Emerging Threats of Explosive Devices offer...

Crucial Conversations
★★★★★ (1)
Crucial Conversation Lunch and Learn

Brain Computer Interface
★★★★★ (2)
BCI Tech Talk

Polarity Thinking vs. Problem Solving
★★★★★ (1)
A New Paradigm - Polarities are sets of opposites which can't function well indepen...

Deltek Annual Timesheet Training
★★★★★ (9)
Timesheet Training

All Courses

John Maxwell's 5 Levels of Leadership
★★★★☆ (1)
John Maxwell's 5 Levels of Leadership

Time Management Skills
★★★★★ (1)

Catalog   Dashboard   Notifications   Settings

THANK YOU TO ALL OF OUR INSTRUCTORS!

|		
Dr. Laird Burns	Chris Gulliford	Mike Messuri
Bill Bailey	Stephen Hartzell	Paige Nix
GEN Bowen Ballard	Rita Hill	Frank Odom
Boe Bowman	Will Halcomb	Dr. Bob Overbeek
Jeanette Calvert	Robert Jesionowski	Stan Patterson
Jose Caraballo	Bill Johnson	Jacob Schneider
Bob Case	Bryan Johnson	Kristin Scroggin
Randy Cash	Nikki Kincaid	Garry Shackley
Jeremy Christopher	Rick Krug	Jacob Stange
LTG Joe Cosumano (ret)	Michael Lee	Jay Stenmark
Rob Doherty	Nick Longinow	Marc Stettner
Lane Fabby	Kristi Looney	Dr. Ashley Verhoff
Welman Gebhart	David Lyman	Dr. Ryan Weber
Solomon Gibbs	Nicholas Marquart	Allan Westenhofer
Connor Griffith	Rob Martin	Dr. Richard Wiebe

LTG Joe Cosumano (ret) **Rita Hill** **Bryan Johnson** **Nikki Kincaid**
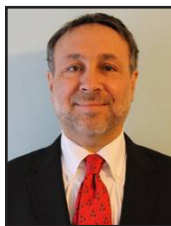
David Lyman **Marc Stettner** **Paige Nix** **Dr. Laird Burns**

RADIANCE EMPLOYEE-OWNERS: EDUCATIONAL RESOURCES

Radiance University is always in search of new ways to educate our employees-owners. There are free resources available on our Inside Site for employee-owners based on location and specific educational needs.

Examples Include:

O'Reilly Safari (Air Force NIPR)

Maury Oceanographic Library

D'Azzo Research Libary (AFRL)

Defense Acquisition University

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 or email your company purchase order, tuition voucher, or other billing authorization to the Radiance University Registration Office. You will receive confirmation after your registration has been processed. Please review your confirmation letter carefully for the latest course information. The registration fee for non-credit courses includes any required text, course materials, and lab fees.

WITHDRAWAL POLICY
Failure to participate in a course or program does not constitute withdrawal. Substitutions are permitted with one week prior notice. For a refund, the Radiance University Registration Office must be notified in writing at least one week prior to the course start date. Send notifications to lane.fabby@radiancetech.com.

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

TRAINING ENVIRONMENT
Courses are presented in various Radiance Location Training Centers, unless otherwise noted. Computer technology courses are conducted in state-of-the-art computer labs. Classroom courses are held in rooms designed for the adult learner.

COURSE CANCELLATION AND INCLEMENT WEATHER
Non-credit courses are self-supporting and classes are 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.

ACCEPTABLE PROOF OF U.S. CITIZENSHIP
For select courses, participants must be U.S. citizens and provide verification of citizenship. Email lane.fabby@radiancetech.com for more details.

MISPRINTS
Radiance University shall not be held responsible for misprints in printed or digital media. We apologize for any inconvenience.
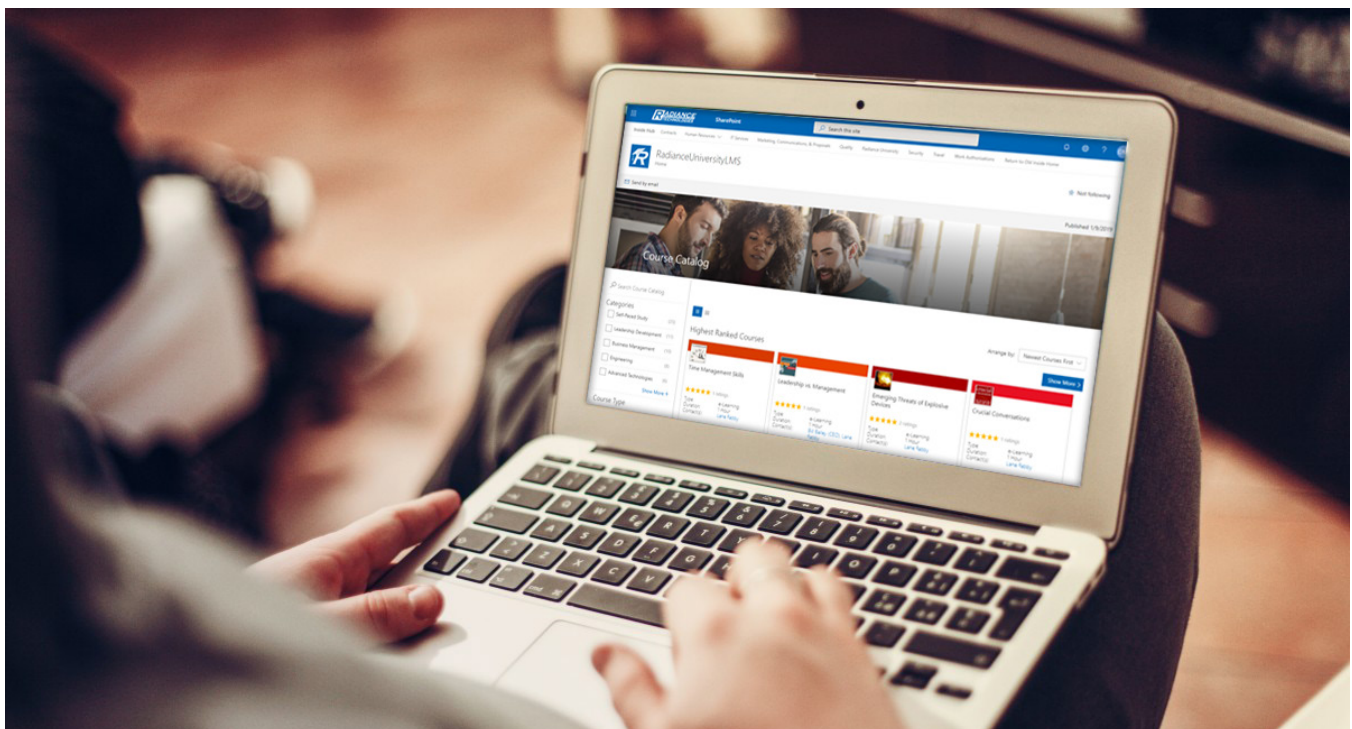
TECHNICAL

- AFSIM Developer & User Certificate
- Aviation Maintenance Certificate
- Brain Computer Interface
- Emerging Threats of Explosive Devices
- Forensic Capture & Analysis
- Fundamentals of Hypersonics
- Fundamentals of Military Space Operations
- Fundamentals of Systems Exploitation
- High Energy Laser Certificate
- Integrated Air Defense Systems
- Introduction to Industrial Communication Protocols
- Introduction to Microelectronics
- Principles of Machine Learning & Artificial Intelligence
- Principles of Radar & Sensors
- Python Programming Language
- Robotics, UAVs, & Unmanned Systems
- Security+ Exam Prep
- Software Reverse Engineering Certificate

BUSINESS/LEADERSHIP

- Change Management
- Conflict Management
- Critical Thinking Skills
- Delegation & Accountability
- Effective Decision Making Skills
- Emotional Intelligence
- Foundations of Technical Writing
- Generational Differences
- High Performance Teams
- Introduction to Professional Project Management
- Leadership Foundations & Management Certificate
- Mentoring & Coaching
- PMP/CAPM Exam Preparation Bootcamp
- Problem Solving vs. Polarity Thinking
- Strategic Thinking
- Trust & Transparency