

Media Kit

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Optical Short Course International Inc.

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Company Profile

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Company Profile

Optical Short Course International (OSCI) was created to meet and exceed the optical engineering training/educational needs for individuals and companies around the world. OSCIs goal is to accelerate engineers and support staff up the steep learning curve of optical engineering topics. This focus means we develop and teach standard and/or custom courses for our clients worldwide. These courses are delivered in a variety of formats, such as DVDs, live Webinar, live at conferences, and private in-house at facilities worldwide. We have been teaching optical engineering training courses worldwide to Fortune100 companies.

In addition to our training/educational courses, OSCI perform strategic technical and optical science based consulting for our clients worldwide. Our consulting service focuses on two specific areas: Optical Instrument Development and Illumination Design Services. We have a proven track record with over twenty years of experience assisting companies to create high value and we are passionate about the optical technology in these areas.

Instructor

Mr. Pate is the President of Optical Short Course International (OSCI), an educational and technical consulting firm. He holds a Masters Degree in Optical Sciences from the Optical Science Center at the University of Arizona, and an Executive MBA from the University of California, Irvine. Mr. Pate has 21 years of optical engineering experience in new product development of [optical instruments](#) including R&D, optical system design, optical manufacturing, optical components, and system testing; as well as optical alignment, thin films, and radiometric design and analysis. Most recently, he has performed [strategic and technical consulting](#) on digital projectors, course development, and teaching illumination design at University of Arizona. He holds nine patents with 25 additional patents pending.

Mr. Michael Pate has been developing and teaching optical courses worldwide to Fortune 100 companies for the last 9 years. His visually oriented teaching style is backed up with clear, non-complicated explanations of difficult technical subjects and concepts. These instruction techniques, combined with his interactive teaching style and humor, enable clients to accelerate up the complex learning curve of optical systems technology.

Memberships and Affiliations

Society of Photo-Optical Instrumentation Engineers (SPIE)

A professional organization for scientists and engineers. <http://www.spie.org/>

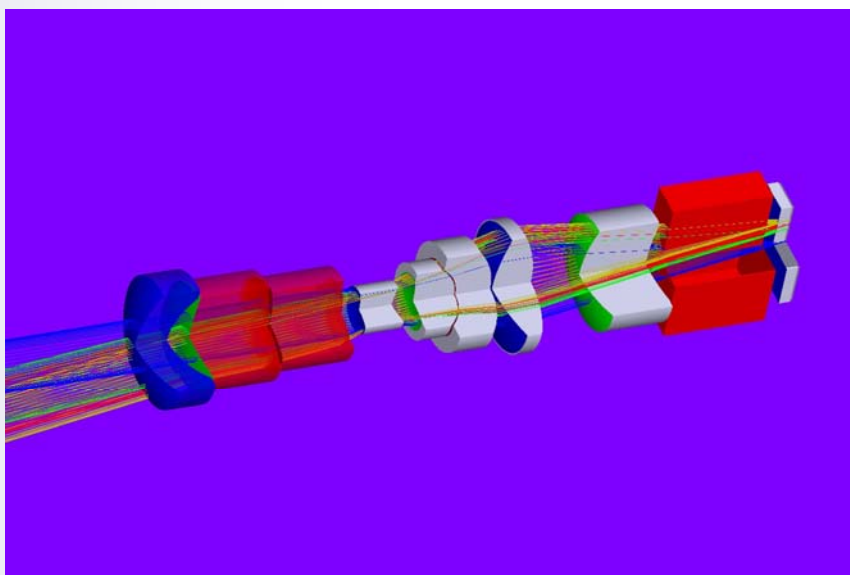
Arizona Optics Industry Association (AOIA)

Tucson is often referred to as "Optics Valley" because of its high concentration of highly visible optics-related companies and the large talent pool that has located here. The Optics Cluster represents a broad range of products and services, including optical design and engineering, fiber optic components for telecommunications, lasers and semiconductors, metrology instrumentation, high precision optical fabrication, high volume precision plastic optics, precision measuring and positioning equipment, microscopes, and telescopes, opto-electronics, image processing, software and optical coatings/thin films.

<http://www.aoia.org/>

InfoComm International®

is the international trade association of the professional audiovisual and information communications industries. <http://www.infocomm.org/>



Custom In-house Courses

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Custom In-house Training & Consulting

OSCI's goal in assisting companies worldwide is to:

We are Optical Engineering Specialists teaching optical engineering in-house custom courses to Fortune 100 companies around the world for over 20 years. We have been assisting high-volume manufacturing companies to define and refine their optical system processes including training their engineers, technicians, and operators on their manufacturing machines.

Products and technologies are developed world wide at an accelerating pace and it is critical to either stay up to speed or come up to speed on these technologies. Time is of the essence. Companies cannot afford low utilization on their expensive high volume manufacturing and metrology machines.

OSCI is dedicated to develop custom optical engineering training for high volume manufacturing companies to enable them to accelerate up the learning curve on optical systems and to raise the common foundation of knowledge in a particular technology area.

OSCI's goal in assisting companies worldwide:

- Create a process for the technicians and operators to record various cardinal points in the optical system
- **Increase** the utilization and the productivity of optical based manufacturing and metrology machines
 - Cut the cycle time in half
 - Make the optical based manufacturing and metrology machines the shortest leg in the process
 - Reduce the need for additional optical based manufacturing and metrology machines caused by down time or high cycle time
- **Increase** the overall knowledge base of the engineers, technicians, and operator on high volume optical based manufacturing and metrology machines.
 - Work with the manufacture and lead engineers to provide a theory of how the optical based manufacturing and metrology machines operate
 - Provide a diagnostic solution and develop a procedure to test, measure, and diagnose optical issues

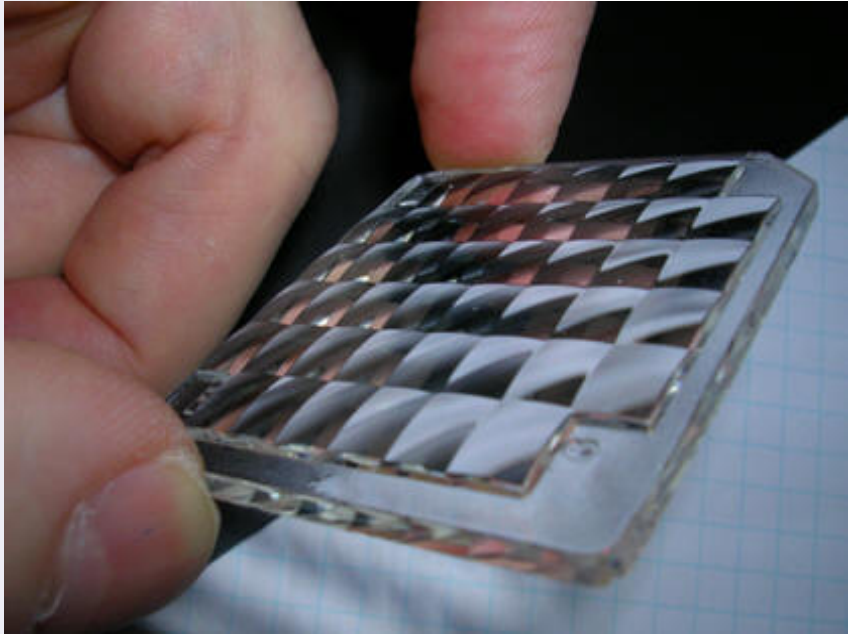
Custom In-house Training & Consulting

Custom In-house Training & Consulting, cont'

- Specific training on the optical system operation and general maintenance
 - Step-by-step instruction before and after each optical element to ensure the optical system is performing with the correct parameters
 - Create tests to certify engineers, technicians, and operators on the knowledge, theory, and operation of the machine
 - Alignment of the optical system and the tools required for the cardinal points in this system
- **Decrease** the need to purchase additional optical based manufacturing and metrology machines to keep up with production demands.
- **Decrease** the down time required to maintain or repair the optical systems
- **Decrease** the number of engineers, technician, and operators required to run and maintain the optical systems on high volume optical based manufacturing and metrology machines.

Custom In-house Training & Consulting, cont'

Consulting Services	Description
<p><u>Optical Instrument Development</u></p>	<p>OSCI has been involved with the design, manufacturing, assembly, and testing of optical instruments for over 20 years. Our consulting services have been used for standard, custom, or state of the art optical instrument for numerous optical systems in Fortune 100 companies. Optical Instrument Concept, Specification, Design, Analysis, Development, Testing, and Characterization</p>
<p><u>Illumination System Design, Modeling, and Analysis</u></p>	<p>Consulting services include, but are not limited to:</p> <ul style="list-style-type: none"> • Light Source Selection, Measurement, Analysis, and Modeling. • Illumination System Design with LEDs • Illumination System Design with Plasma Sources: High Pressure Mercury and Xenon • Radiometric Testing and Analysis of Illumination System • Light Engine Specification, Design, and Development • Radiometric Testing and Analysis • Color Wheel Design, Analysis, Testing, and Measurement • Scattered and Stray Light Design and Analysis
<p><u>Reverse Engineering</u></p>	<p>Over the years, our clients have required deeper understanding of the optical design of their products, instruments, and optical systems. Our clients want to know the optical prescription, critical layout, optical alignment, or opto-mechanical design parameters to make some improvements to pass along to their clients and customers. Sometimes they simply do not have the optical or opto-mechanical prescription or drawings. This is where our reverse optical engineering service can help meet our client's needs in determining the optical or opto-mechanical prescription or layout.</p>



Educations and Training

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Education & Training Goals

Products and technologies are developed worldwide at an accelerated pace. It is *critical* to either stay current or come up to speed quickly with these products and technologies. OSCIs short courses are designed to enable you to accelerate up the learning curve in a particular optical science subject rapidly. Our courses are used by all functional areas on engineering teams, such as R&D, development engineers, optical engineers, mechanical engineers, product engineers, marketing, finance, supply chain, call centers, technicians, managers, CFOs, CEOs, to name a few. OSCIs goal is to raise the common foundation of knowledge in a particular technology area for our clients. Besides the high value and money saved on training budgets, there are additional other benefits including:

- Build a common knowledge base for the whole team very quickly to make an impact on a critical project.
- Learn the key buzzwords and components of instruments and the function these instruments provide.
- Accelerate up the steep learning curve of new high growth technologies.
- Discover how to analyze and test systems; and know what test standards are being used.
- Discover where research is being performed to push the technology.
- Learn what tough questions to ask suppliers and what key data to analyze.
- Learn how to perform key calculations to determine system performance.
- Maintain control of company confidential research and development projects by bringing classes in-house.
- Freely discuss technology questions with team members and instructor in confidential controlled location.

Education & Training Goals cont'

COURSE	DESCRIPTION	FORMATS
<u>Top 10 Laws of Optics</u>	<p>The Top 10 Laws of Optics is a course with over three hours of information on the key principles of optics that every serious optical engineer should know and love.</p>	<p>DVD only</p>
<u>Color in Digital Projectors</u>	<p>This course covers the two color paths, electronic and optical, that converge to achieve colors on the screen of a digital projection system. For a digital projector display system, these two paths are complicated and complex. In this course, we teach you the details of both the color electronic signal path from the digital or analog source to the screen and the optical color path from the light source through the optical light engine to the screen. We discuss the color measurement instruments, tests, standards, and discuss methods to improve color in digital projectors.</p>	<p>DVD only</p>
<u>Optics of Digital Projectors</u>	<p>Optics of Digital Projectors course is a over 71/2 hours of comprehensive training on the optics of digital projectors—from the fireball to the screen.</p>	<p>DVD, Scheduled Live and Webinar courses, Private, In-House Course</p>
<u>Fisheye Lens Design, Analysis, and Testing</u>	<p>Fisheye lens design, analysis, and testing is a new course aimed at instructing engineers who need to design, develop, test, and use fisheye lenses in various scientific areas. It would be appropriate for advanced amateur and professional photographers, who need to understand their equipment better. This would be an excellent introduction for patent agents and patent attorneys who are working in this area. This course consists of over six hours of fisheye lens information. A certain level of optical engineering education and experience is assumed. During the live course and live webinar course, we use Zemax® optical design and analysis software to design, analyze, and illustrate various points about fisheye lenses. We may also use Essential Macleod Thin Film Design and Analysis software to demonstrate the coating design and analysis information in the course.</p>	<p>DVD, Scheduled Live and Webinar courses, Private, In-House Course</p>
<u>Applied Digital Projector Design with Zemax®</u>	<p>Applied Digital Projector Design with Zemax® is a new course aimed at experienced users of Zemax® optical design and analysis software. This applied design course consists of one day of compressed high-level optics of digital projector course to bring the students up to speed quickly on the basics of the optics in digital projectors. A certain level of optical engineering education and experience is assumed. During day two and day three, we use Zemax® optical design and analysis software to design and analyze a single panel DLP projector. **We also teach this same course using FRED and ASAP illumination design software.</p>	<p>Scheduled Live and Webinar courses, Private, In-House Course</p>

Education & Training Goals cont'

OSCI Available Course Formats*

DVDs

Our DVD courses are ideal for clients who have smaller training/educational budget, but still have the same needs and wants as larger companies do—accelerating their engineering staff up the steep learning curve of optical science technology.

Currently four of our five courses are offered in DVD format. Each DVD course offers many detailed, color illustrations that need to come up to speed on specific technologies. The length of each DVD course varies from three hours to well over seven hours of highly technical materials and illustrations.

**We strive to offer a variety of training and educational formats to fit all of our clients needs.*

Scheduled Live—Courses (including Webinars)

Our scheduled Live and Webinar courses are offers numerous times each year to accommodate our clients needs. Generally held two to four times each quarter, OSCI strives to offer a variety of course times and dates, because we understand engineering teams are extremely busy.

Our courses are specifically designed to be interactive, and we strongly encourage our clients to ask questions. With both the Live and Webinar courses, our clients get immediate feedback to their specific questions during the class. What better way to learn, than with immediate feedback.

Webinars are an exciting new addition to our repertoire of course formats available to our clients. Exciting because our clients who are unable to travel for our scheduled live courses, can still reap the benefits from attending our live courses without having to leave the comfort of their home, office, or place with web access. By using the telephone clients dial into a conference call bridge line (phone line with multiple lines) to access our Webinar courses go through the visual illustrations with the verbal and visual discussion. Clients will be able to ask questions using your telephone or type a message on the message board during the scheduled course time. Technical illustrations can be marked up as if we were looking at a notebook in person. On-line white boards are also used to demonstrate drawing new illustrations to communicate a technical point. This is very powerful technology. In addition, Webinars save our clients time and money. You will not have to pay for travel cost and other associated travel hassles.

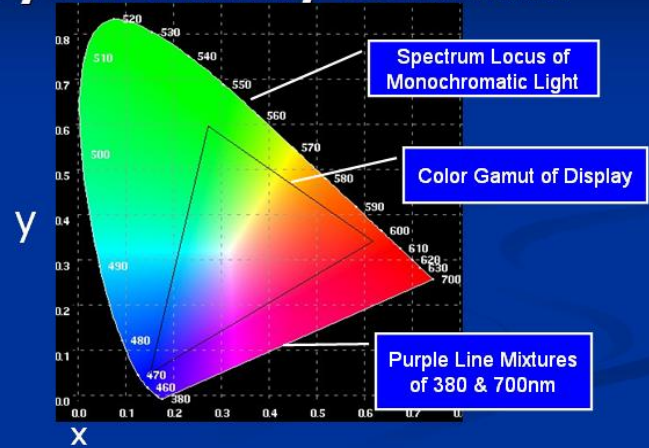
Education & Training Goals cont'

Live—Private, In-house Courses (Worldwide)

Many of our clients have from three to sometimes over 100 team members who need to be trained in specific areas the optical science technologies. For these clients scheduling a private, in-house course is the most appropriate use of their training budget. Considering the cost of airplanes, hotels, meals, rental cars, and hassle factors of sending three or more people to a training course in a distant city or country, companies often-bringing request that the course be brought to them. This is highly valued by our clients.

OSCI travels worldwide to deliver private, in-house courses for our clients. Our clients often ask us to use most of an existing course, but to put special emphasis in a few areas that are crucial to their organization. We understand and respect our client's proprietary and confidential information—which is why we develop specialized extensions to our regular live course subjects to ensure our client's needs/wants are met and exceeded in order to deliver high value for them. In addition, our clients get answers to their specific questions, live. This course is specifically designed to be interactive, and we strongly encourage it. What better way to learn, than with immediate feedback.

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Ebooks, Reports and Whitepapers

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EBooks and Special R&D Reports

EBooks/Special Reports	Description
<u>Digital Projector Technology</u>	This new ebook is jam packed with detailed technical information about everything dealing with digital projectors—from the light source to the screen. This is a compilation of 34 issues of our e-newsletter and has over 230 pages which were published throughout 2004.
<u>Xenon versus Mercury Lamps</u>	This new special report extensive detailed technical information about everything you ever wanted to know about the color differences between xenon and mercury lamps used in digital projectors.
<u>Riflescope Optical Design and Analysis</u>	This new ebook is loaded with detailed technical information about everything dealing with riflescopes contained in over 90 pages including detailed optical design and analysis, aberration theory, optical layouts, and scattered light analysis.

Whitepapers

OSCI's white papers typically demonstrate solutions to tough optical system issues and introduce technology innovations. We feel our [white papers](#) are an integral part of the training and educational needs of individuals in the various areas of optical system technologies. Our white papers topics include the following areas of optical system technologies:

[Illumination System Design and Optical Instrument Modeling](#)

[Color in Digital Projectors Digital Display Selection LED](#)

[Illumination Design Technical Papers for Sci-Optics Forum](#)



Reviews and Testimonials

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Product Reviews

Recently, OSCIs Optics of Digital Projector DVD training and educational course was reviewed by Editor—Richard Cadena of Projection, Lighting and Stage News (PLSN) magazine. [PLSN](#) magazine specializes in information, news, and connections for the professional touring, staging, and lighting business.

*Optics of Digital Projectors: DVD Technical Short Course from
Optical Short Course International* by Editor, Richard Cadena (April 12, 2006)

Testimonials

"I needed an overview of the design concerns and how they affect performance. Your translations from verbiage (technical buzzwords) to geometric diagrams was most helpful. You were really good at making a very technical subject matter understood." *Supply Chain Manager*

"Allowed me to get a good foundation on the basics of optics and illumination in projectors. The words, vocabulary, concepts, and critical parameters for future design were very helpful. You provided some potential quality issues to measure and specify." *Reliability Engineer*

"The course gives me a better awareness of optical problems to look out for during prototyping and product development of projectors. This will help me to identify problems early on in the product development cycle." *Mechanical Engineer*

"The class helped me put together a lot of things I've learned over the last year on how our projectors work. This will help me better address how to solve customer problems and how to evaluate new projector designs." *Product Engineer, Digital Projectors*

"This class will help me as a product engineer because it enables me to understand design changes in the optical system of a projector and the implications, in terms of reliability and quality, of these changes." *Product Engineer, Digital Projectors*

"A lot of good information for understanding system level trade-offs between modulators and optical system, very useful course. Would recommend that anyone joining projector projects to take this course." *Product Development Manager*

"This is a great overview as I am in the process of transferring from "X" group to the "Y" group. My experience is in IC's and fab processing, so I didn't have a systems understanding until I took this course." *Senior Fabrication Process Engineer*

"When there are customer requirement that are related to illumination and optics, I will have a better understanding of the system. I liked the flow of the course, use of humor, and the show and tell items - Great Job!" *New Product Development Manager*

"Instruction was clear! Samples of lenses, light engine, and modulator and the part they play in projector are excellent. Excellent class!" *Opto-Mechanical Technician*

