光 研 科 学
Photonics is Our Profession

**WaveLab Scientific Pte. Ltd.**

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# ZEMAX COURSE IN PENANG, Malaysia

**27-29 July 2009**

## Course Organizer: Wavelab Scientific Pte Ltd

## Course Venue: Vistana Hotel, Penang

**Course Material: All the course notes edited by ZEMAX Corp,USA.**

**It is same as USA and Europe Course**

**Certificate: Every participate will get certificate which issued by ZEMAX Corp and Wavelab.**

**Cost: SGD1150/persons. 30% off discount for group customers( 3 or above)**

## Inquire: Phone:65-65649624 Ex 102, Email:training@wavelab-sci.com

## Service: We provide one meal each day. Refreshment also to be served.

## Course introduction and features

This 3 days course is combination of Basic, Advanced and Illumination topics. Our main Goal is to benefit attendee in small time with wide range of topics. We consider one day for every level.

Basic Course provide information of parameter which designer need to take care during design of optical system such as focal length, F#; aberration, total length of system, beam quality and many more with the help of Hand on Experience of singlet doublet and cooke triplet design during training session.

Advanced Course in which we teach how to design optical system / set-up such as solar concentrator; Telescope; Interferometers as well as Tolerancing, Laser Beam Modeling, Fiber Coupling Efficiency calculation.

Illumination is a real optical system design; in which we talk only about real parameter such as LUX, Lumens by taking example of LED Modeling. Other important topic which we cover are Stray Light Analysis, ghost Analysis which effect system performance indirectly and damage lens.

## Tutor Introduction

**Mr. Neeraj Lakhotia**", holds a Master Degree in Applied Optics from Indian Institute of Technology, Delhi (IITD), INDIA, one of the premier technical Institute. He had more than 4 year's job experience in field of optics, Holography and Data Storage. He Provided Lectures on ZEMAX at Nanyang Technological University (NTU), Singapore. He also He completed 2 Projects in Wakayama University, JAPAN

**Mr Melvin Lim**, holds a Degree in Physics from National University of Singapore. He is Technical support engineer of Wavelength Technology Singapore Pte Ltd. He has more than 4 years of experience in Optical Industry and has good knowledge on optics, optical coating manufacturing and laser optics application. Melvin has conduct laser optics training to Taiwan customers

## Course Timetable

| Time | Day 1 | Day 2 | Day 3 |
|---|---|---|---|
| 9:00-10:30 | Introduction of ZEMAX. ZEMAX interface Stop and Pupils | Optimization<br>Aspheric Lens Design | LED Modeling |
| 10.30-10:45 | Tea break | Tea break | Tea break |
| 10:45-12.00 | Basic Optics: Glass Definition and Properties. | Test Plate fitting<br>Tolerancing<br>Sensitivity analysis | Stray Light Analysis<br>Ghost image Analysis<br>Scattering |
| 12:00-13:30 | Lunch break | Lunch break | Lunch break |
| 13:30-14:30 | First order optics<br>Third order optics | Gaussian Beam Analysis<br>Physic optics<br>proportion | Optimization<br>Light Pipe<br>CAD import and export<br>Free form reflector |
| 14:30-14:45 | Tea break | Tea break | Tea break |
| 14:45-16:30 | Intensity and Vigrattiy<br>Double Lens | Efficiency<br>Fiber Coupling Calculation | Projection system design |
| 16:30-17:00 | Afocal system<br>Multi-configuration Zoom lens | Polarization<br>Diffraction | Illumination system design |