COURSE PROGRAMME: ADVANCED PRACTICAL GEMMOLOGY COURSE SPAIN 2017

Day 1:	• Introduction: Gem Identification process + steps • Visual observation: colour / Cut + shape / Transparency / Optical phenomena • Exercises on use of refractometer for isotropic and anisotropic gems • Filling in the worksheet
Day 2:	• Polariscope • Optical character: Single refractive / Double refractive Uniaxial / Biaxial / Aggregate / Abnormal double refractive • Dichroscope – Pleochroism • Spectroscope • Exercises on polariscope, dichroscope, refractometer,spectroscope
Day 3:	• Physical properties of gemstones • Practice on refractometer, polariscope, density and dichroscope, spectroscope • Basic principles of gem identification

Day 4:	• Microscopic investigation of gemstones • Classification and examination of inclusions • Natural corundum: ruby and sapphire. Typical inclusions and origins
Day 5:	• Natural beryl : emerald and other varieties. Typical inclusions and origins
Day 6:	• Theory on Chrysoberyl, Spinel, Zircon Topaz, Peridot and Tourmaline • Theory on Quartz. Gem identification on all stones seen until now
Day 7:	• Synthetic Stones: What? • Verneuil and Czochralsky synthesis • Flux synthesis Identification of synthetic stones

Day 8:	• Hydrothermal synthesis • Natural versus synthetic ruby, sapphire, emerald Identification of synthetic stones
Day 9:	• Corundum treatments : - Introduction - Different treatments : - heat treatment - surface diffusion treatments - fissure filling w/colourless or coloured substances • Emerald treatments : - Introduction - Treatment - Detection Disclosure of enhancements
Day 10:	**<u>Intermediate Practical test</u>**
Day 11:	• Spodumene • Jade • Garnet

	• Opal • Feldspar
Day 12:	• Rare coloured stones Practice on all stones studied untill now
Day 13:	• Introduction Diamond Grading and identification: The 4C's Diamond simulants Practice on all stones studied untill now
Day 14:	• Synthetic quartz • Synthetic opal • Synthetic glass • Assembled gems • Other treatments : - irradiation - colourless coatings and impregnations - dyeing - coloured coatings and impregnations - bleaching Practice on all stones studied untill now
Day 15:	**<u>Final Practical Test (19/20 is needed to succeed)</u>**