

SYLLABUS

Firearm Fundamentals for Customer Service Professionals

COURSE NUMBER: GIQI002

Overview: This course covers the basic fundamentals of firearms and ballistics. It is tailored to customer service and sales personnel, gunsmiths, and other professionals who interface with potential firearm users or buyers on a daily basis.

Goals: To present the relevant technologies and the mechanics of the most important function of firearms, ammunition, and the interaction between them. At course completion, the student will have gained an advanced technical knowledge of firearms and ammunition.

At course completion students will:

- Understand the mechanism of projectile launch, case obturation, powder burn and the basics of interior ballistics
- Have gained a full understanding of spin stabilization, ballistic coefficient, yaw, and other parameters of exterior ballistics
- Be able to explain what happens at the muzzle and the effects of muzzle attachments
- Recognize the importance of headspace with a full understanding of how it is measured on different cartridge types
- Recognize the importance of primary extraction as it relates to reliability
- Be able to explain recoil, free recoil energy, impulse, and firearm controllability
- Will know how barrels are manufactured, what materials are used, their respective advantages, and the mechanism of bore wear and barrel failure
- Understand the effects of barrel stiffness, vibration and barrel mounting
- Comprehend the difference between dispersion and accuracy and understanding target measurements
- Understand impact energy implications and terminal effects
- Recognize the types of failure modes common in firearms
- Be a more knowledgeable and effective customer service professional or firearm technician

Gun IQ International LLC

Lectures: Courses are taught at an informal level with interaction between student and lecturer encouraged. Two options are offered for this course:

Option 1: A single interactive course lasting 4- 6 hours

Option 2: Three (3), one hour lecture series including:

2a: Interior Ballistics

2b: Exterior Ballistics

2c: Firearm Fundamentals

Texts and Related Course Material

Each student will receive course study guide (optional)

Course Topics

Option 1—Single course duration 4-6 hours

- Chamber interactions at time of projectile launch
- Interior Ballistics
- Exterior Ballistics
- System Accuracy Life
- Barrel Tube Structure & Design
- Mechanical & Heat Effects Elements of Bore Wear
- Barrel Materials
- Barrel Manufacturing Technologies
- Bore finishes
- Chambering
- OD Fluting
- Barrel Vibration
- Dispersion vs Accuracy
- Barrel Length Effects
- Crown Geometry
- Mechanical Dampers
- Barrel Mounting
- Free Floating Barrels
- Proof Firing
- Terminal Effects
- Common failure modes

Timing and Cost:

Courses are offered in-person or virtually as a single interactive course lasting 4- 6 hours or three, 1-hour lecture series. Pricing upon request.