

## Course Details

Module	Description and objectives
Introduction	<ul style="list-style-type: none"><li>● Core concepts for media authentication and admissibility in legal proceedings</li><li>● Identifying the current landscape and capabilities in media authentication</li><li>● How media creation affects authentication</li><li>● How media transmission/processing affects authentication</li></ul>
Image Structure and Metadata	<ul style="list-style-type: none"><li>● Image file composition and Exif data</li><li>● Decyphering tables and compression values</li><li>● Understanding JPEG Compression</li><li>● Image Sensor artifact and Source Identification</li></ul>
Image Content Analysis	<ul style="list-style-type: none"><li>● DCT and content comparison</li><li>● Local pixel and relational analysis</li><li>● Geometric analysis</li></ul>
Video Structural Analysis	<ul style="list-style-type: none"><li>● Introduction to video file structure</li><li>● Deterministic comparison of video structural signatures</li><li>● Identifying editing/processing of video files</li><li>● Generative AI, synthetic media, deepfake considerations</li></ul>
Video Metadata Manipulation	<ul style="list-style-type: none"><li>● Fundamentals of metadata storage</li><li>● Identifying proprietary metadata not recognized by analysis tools</li><li>● How processing/transmission affects metadata</li><li>● Detection of metadata manipulation</li></ul>
Video Content Analysis	<ul style="list-style-type: none"><li>● Video compression schema and artifacts</li><li>● Identifying outliers in for double compression</li><li>● CTU and Macroblock Analysis</li><li>● Pixel and block content analysis</li><li>● Source identification and tampering</li></ul>
Expressing results	<ul style="list-style-type: none"><li>● Formulation of opinions and articulating results</li><li>● Assessing confidence in findings</li><li>● Expressing opinions in testimony</li></ul>
Hands-On Practical Exercises	<ul style="list-style-type: none"><li>● Students are provided with a scenario</li><li>● Students use practical skills learned to authenticate media</li></ul>