

MICROSCOPY (MIC)

MIC-4211: Polarized Light Microscopy (2 hours)

Principles, theory and practice of polarized light microscopy (PLM) useful for particle and materials characterization and identification. Prerequisites: CHE-2211/2212 and CHE-3311/3312 each sequence with a 3.0 GPA or better. BIO/CHE elective with approval. Fee: Required.

MIC-4212: Polarized Light Mic Practicum (1 hour)

Practicum for MIC-4211. Taken immediately following MIC-4211 in same term. Prerequisite: B grade or higher in MIC-4211 at Hooke College. BIO/CHE elective with approval. Upon successful completion of MIC-4212, students will receive a certificate of IACET CEUs. Fee: Required.

MIC-4221: Scanning Electron Microscopy (2 hours)

Foundation, theory and use of scanning electron microscopy. Prerequisites: CHE-2211/2212 and CHE3311/3312 each sequence with a 3.00 GPA or better. BIO/CHE elective with approval. Fee: Required.

MIC-4222: Scanning Electron Mic Practicum (1 hour)

Practicum for MIC-4221. Taken immediately following MIC-4221 in same term. Prerequisite: B grade or higher in MIC-4221 at Hooke College. BIO/CHE elective with approval. Upon successful completion of MIC-4222, students will receive a certificate of IACET CEUs. Fee: Required.

MIC-4231: Infrared Microscopy (2 hours)

Foundation, theory and use of infrared microscopy. Prerequisite: CHE-2211/2212 and CHE-3311/3312 each sequence with a 3.0 GPA or better. BIO/CHE elective with approval. Fee: Required.

MIC-4232: Infrared Microscopy Practicum (1 hour)

Practicum for MIC-4231. Taken immediately following MIC-4231 in same term. Prerequisite: B grade or higher in MIC-4231 at Hooke College. BIO/CHE elective with approval. Upon successful completion of MIC-4232, students will receive a certificate of IACET CEUs. Fee: Required.

MIC-4241: Sample Preparation Techniques (2 hours)

Particle isolation, manipulation and mounting in preparation for various types of microscopic examination. Prerequisite: CHE-2211/2212 and CHE-3311/3312 each sequence with a 3.0 GPA or better. BIO/CHE elective with approval. Fee: Required.

MIC-4242: Sample Prep Technques Practicm (1 hour)

racticum for MIC-4241. Taken immediately following MIC-4241 in same term. Prerequisite: B grade or higher in MIC-4241 at Hooke College. BIO/CHE elective with approval. Upon successful completion of MIC-4242, students will receive a certificate of IACET CEUs. Fee: Required.

MIC-4251: X-Ray Microanalysis (2 hours)

Microanalysis of samples using energy-dispersive X-ray spectrometry. Prerequisites: CHE-2211/2212 and CHE-3311/3312 each sequence with a 3.0 GPA or better; MIC-4221/4222 with a B grade or better. BIO/CHE elective with approval. Fee: Required.

MIC-4252: X-Ray Microanalysis Practicum (1 hour)

Practicum for MIC-4251. Taken immediately following MIC-4251 in same term. Prerequisite: B grade or higher in MIC-4251 at Hooke College. BIO/CHE elective with approval. Upon successful completion of MIC-4252, students will receive a certificate of IACET CEUs. Fee: Required.

MIC-4261: Adv Tech Scanning Electron Mic (1 hour)

Techniques to achieve optimal SEM images for difficult samples or challenging operating conditions. Prerequisites: CHE-2211/2212 and CHE-3311/3312 each sequence with a 3.0 GPA or better; MIC4221/4222 with a B grade or better. BIO/CHE elective with approval. Fee: Required.

MIC-4262: Adv Tech Scanning Practicum (1 hour)

Practicum for MIC-4261. Taken immediately following MIC-4261 in same term. Prerequisite: B grade or higher in MIC-4261 at Hooke College. BIO/CHE elective with approval. Upon successful completion of MIC-4262, students will receive a certificate of IACET CEUs. Fee: Required.

MIC-4271: Infrared Spectral Interpret. (2 hours)

Techniques to determine unknown molecular structures from infrared spectra. Prerequisites: CHE2211/2212 and CHE-3311/3312 each sequence with a 3.0 GPA or better; MIC-4231/4232 with a B grade or better. CHE elective with approval. Fee: Required.

MIC-4281: Raman Microspectroscopy (2 hours)

Analysis of unknowns using the spectrum of scattered laser light. Prerequisites: CHE-2211/2212 and CHE-3311/3312 each sequence with a 3.00 GPA or better; MIC-4231/4232 with a grade of B or better. BIO/CHE elective with approval. Fee: Required.

MIC-4282: Raman Micro. Practicum (1 hour)

Practicum for MIC-4281. Taken immediately following MIC-4281 in same term. Prerequisite: MIC-4281 with a B grade or higher at Hooke College. BIO/CHE elective with approval. Upon successful completion of MIC-4282, students will receive a certificate of IACET CEUs. Fee: Required.

MIC-4291: Hair Comparison (2 hours)

Techniques for the identification of human and animal hairs and introduction to the principles and practice of forensic hair comparison. Prerequisites: CHE-2211/2212 and CHE-3311/3312 each sequence with a 3.0 GPA or better; MIC-4211/4212 with a grade of B or higher. BIO/CHE elective with approval. Fee: Required.

MIC-4292: Hair Comparison Practicum (1 hour)

Practicum for MIC-4291. Taken immediately following MIC-4291 in same term. Prerequisite: B grade or higher in MIC-4291 at Hooke College. BIO/CHE elective with approval. Upon successful completion of MIC-4292, students will receive a certificate of IACET CEUs. Fee: Required.

MIC-4311: Forensic Fiber Identification (2 hours)

Principles and practice of using Polarized Light Microscopy to identify natural and man-made fibers. Prerequisites: CHE-2211/2212 and CHE-3311/3312 each sequence with a GPA of 3.0 or better, MIC 4211/4212 with a grade of B or better. BIO/CHE elective with approval. Fee: Required.

MIC-4312: Forensic Fiber Ident Practicum (1 hour)

Practicum for MIC-4311. Taken immediately following MIC-4311 in same term. Prerequisite: B grade or higher in MIC-4311 at Hooke College. BIO/CHE elective with approval. Upon successful completion of MIC-4312, students will receive a certificate of IACET CEUs. Fee: Required.

MIC-4331: Pigment Identification (2 hours)

Paint materials identification for conservation professionals in paintings and architecture. Prerequisite: CHE-2211/2212 and CHE-3311/3312 each sequence with a 3.0 GPA or better; MIC-4211/4212 with a grade of B grade or higher. CHE elective with approval. Fee: Required.

MIC-4332: Pigment Ident. Practicum (1 hour)

Practicum for MIC-4331. Taken immediately following MIC-4331 in same term. Prerequisite: B grade or higher in MIC-4331 at Hooke College. CHE elective with approval. Upon successful completion of MIC4332, students will receive a certificate of IACET CEUs. Fee: Required.

MIC-4341: White-Powder Unknowns (2 hours)

Principles and practices of using polarized light microscopy to identify the most common sources of over 40 white powders. Prerequisites: CHE-2211/2212 and CHE-3311/3312 each sequence with a 3.0 GPA or better; MIC-4211/4212 with a grade of B or higher at Hooke College. BIO/CHE elective with approval. Fee: Required.

MIC-4342: White-Powder Unknowns Practicum (1 hour)

Practicum for MIC-4341. Taken immediately following MIC-4341 in same term. Prerequisite: B grade or higher in MIC-4341 at Hooke College. BIO/CHE elective with approval. Upon successful completion of MIC-4342, students will receive a certificate of IACET CEUs. Fee: Required.

MIC-4351: Optical Crystallography (2 hours)

Identification of crystalline materials. Prerequisite: CHE-2211/2212 and CHE-3311/3312 each sequence with a 3.0 GPA or better; MIC-4211/4212 with a grade of B or higher. BIO/CHE elective with approval. Fee: Required.

MIC-4352: Opt. Crystallography Practicum (1 hour)

Practicum for MIC-4351. Taken immediately following MIC-4351 in same term. Prerequisite: B grade or higher in MIC-4351 at Hooke College. BIO/CHE elective with approval. Upon successful completion of MIC-4352, students will receive a certificate of IACET CEUs. Fee: Required.

MIC-4361: Gunshot Residue Identification (2 hours)

Forensic identification of gunshot residue analysis. Prerequisite: CHE-2211/2212 and CHE-3311/3312 each sequence with a 3.0 GPA or better; MIC-4221/4222 with a grade of B or higher. BIO/CHE elective with approval. Fee: Required.

MIC-4362: Gunshot Residue Id Practicum (1 hour)

Practicum for MIC-4361. Taken immediately following MIC-4361 in same term. Prerequisite: B grade or higher in MIC-4361 at Hooke College. BIO/CHE elective with approval. Upon successful completion of MIC-4362, students will receive a certificate of IACET CEUs. Fee: Required.

MIC-4372: Spectral Interpret. Practicum (1 hour)

Practicum for MIC-4371. Taken immediately following MIC-4371 in the same term. Prerequisite: B or higher in MIC-4371 at Hooke College. BIO/CHE elective with approval. Upon successful completion of MIC-4372, students will receive a certificate of IACET CEUs.

MIC-4381: Digital Photomicrography (2 hours)

Theoretical foundation and tools to perform scientific imaging solutions on a wide variety of subject matter using a wide variety of illumination methods. Prerequisites: CHE-2211/2212 and CHE-3311/3312 each sequence with a 3.00 GPA or better. BIO/CHE elective with approval. Fee: Required.

MIC-4391: Analysis of Low Explosives (2 hours)

Techniques to analyze low explosives in pre-blast and post-blast evidence from bomb scenes. CHE-2211/2212 and CHE-3311/3312 each sequence with a 3.00 GPA or better. CHE elective with approval. Fee: Required.

MIC-4392: Analysis Low Explos. Practicum (1 hour)

Practicum for MIC-4391. Taken immediately following MIC-4391 in the same term. Prerequisite: B grade or higher in MIC-4391 at Hooke College. CHE elective with approval. Upon successful completion of MIC-4392, students will receive a certificate of IACET CEUs. Fee: Required.

MIC-4411: Intro Forensic Trace Evidence (2 hours)

Principles and practical use of microscopy to analyze common trace evidence (hairs, fibers, paint and glass). Prerequisites: CHE-2211/2212 and CHE-3311/3312 each sequence with a 3.00 GPA or better; MIC-4211/4212 with a grade of B or higher. BIO/CHE elective with approval. Fee: Required.

MIC-4412: Intro -Forensic Trace Evid Prc (1 hour)

Practicum for MIC-4411. Taken immediately following MIC-4411 in the same term. Prerequisite: B grade or higher in MIC-4411 at Hooke College. BIO/CHE elective with approval. Upon successful completion of MIC-4412, students will receive a certificate of IACET CEUs. Fee: Required.

MIC-4999: Applied Science Capstone Crse (3 hours)

Collection of evidence or other data, analysis, and reporting of findings for a problem-solving scenario within a student's area of interest. Prerequisites: A minimum of 24 credit hours of MIC courses for the Microscopy major, 15 hours for the Microscopy minor. BIO/CHE elective with approval. Fee: Required.