About the Course

The National Imaging Informatics Course (NIIC) is an imaging informatics foundations hybrid course. This course introduces current and future imaging professionals to the core imaging informatics concepts. The 5-days of live instruction features 16 general informatics sessions + radiology and pathology centric informatics tracks. Participants have access to all tracks content.

In addition to the 24 live sessions, participants have access to 40+ pre-recorded lectures, including introductory hands-on practice in both basic and generative AI. To assess imaging informatics mastery, participants will complete a series of assignments, including pre-test + survey (no passing score need – completion only), 5 homework assignments, approx. 20 live session quizzes and post survey + test (70%+ passing score needed). The Post Test will include content covered in both live and recorded sessions. Understanding the busy lives of our attendees, all live sessions are recorded.

After the close of the live week, participants will have 3 months to review all live and recorded content and complete all assignments, except for completing the Pre-Survey and Pre-Test which take less than 30-minutes to complete. Participants will retain access for 2 years from the close of the course.

Live Course Schedule – March 2025

Mon	3/17/2025	12:00 PM	12:55 PM	1001	Introduction to Imaging Informatics	Ms.	Charlene	Tomaselli
Mon	3/17/2025	1:00 PM	1:55 PM	1002	Why Do We Need Standards?	Dr.	Nabile	Safdar
Mon	3/17/2025	2:00 PM	2:55 PM	1003	Introduction to DICOM	Mr.	Kevin	O'Donnell
Mon	3/17/2025	3:00 PM	3:55 PM	1004.1	The Role of DICOM in Digital Pathology	Dr.	Mustafa	Yousif
Mon	3/17/2025	3:00 PM	3:55 PM	1004.2	Life Cycle of a Radiology Exam	Dr.	Marc	Kohli
Tue	3/18/2025	12:00 PM	12:55 PM	2001	Foundational Knowledge for Enterprise Imaging	Ms.	Kimberley	Garriott
Tue	3/18/2025	1:00 PM	1:55 PM	2002	Introduction to Data Science	Dr.	Paul	Nagy
Tue	3/18/2025	2:00 PM	2:55 PM	2003	Fundamentals of AI	Dr.	Katherine	Andriole
Tue	3/18/2025	3:00 PM	3:55 PM	2004.1	The Why and How of AI Implementation in Pathology	Dr.	Rajendra	Singh

Tue	3/18/2025	3:00 PM	3:55 PM	2004.2	Working w/ Your Imaging IT - What Radiologist Should Know when Working w/ Imaging Support	Mr. Ms.	Jeff Tonya	Plum Edge
Wed	3/19/2025	12:00 PM	12:55 PM	3001	Small Group Discussion Breakouts		Group	Moderated
Wed	3/19/2025	1:00 PM	1:55 PM	3002	Keeping Devices and Systems Secure: The Rapidly Evolving Security Landscape	Dr. Dr. Mr. Mr.	Sanaz Safwan Shawn Axel	Vahdati| Halabi Clark Wirth
Wed	3/19/2025	2:00 PM	2:55 PM	3003	The Intersection of Radiology & Pathology	Dr.	John	Groth
Wed	3/19/2025	3:00 PM	3:55 PM	3004.1	Deploying AI/ML in the Clinical Laboratory	Dr.	Jansen	Seheult
Wed	3/19/2025	3:00 PM	3:55 PM	3004.2	Informatics in Radiology Private Practice - Flipped Classroom	Dr. Dr.	Rishi| Nick	Seth Galante
Thu	3/20/2025	12:00 PM	12:55 PM	4001	How to Get Your Good Idea Supported, Funded and Executed	Dr.	Christopher	Roth
Thu	3/20/2025	1:00 PM	1:55 PM	4002	Ethics of Ai Panel Discussion	Dr. Dr. Dr.	Geoffrey Peter Tara	Smith Harri Retson
Thu	3/20/2025	2:00 PM	2:55 PM	4003	Regulating Informatics	Dr.	John	Mongan
Thu	3/20/2025	3:00 PM	3:55 PM	4004.1	Industry Partnerships: Rules of Engagement	Dr.	Anil	Parwani
Thu	3/20/2025	3:00 PM	3:55 PM	4004.2	The Art and $cience of Thorough Radiology Reporting	Dr.	Colin	Segovis
Fri	3/21/2025	12:00 PM	1:55 PM	5001	Generative AI	Dr.	Woojin	Kim
Fri	3/21/2025	1:00 PM	1:55 PM	5002	Where does imaging informaticists fit in the AI puzzle?	Dr. Dr. Dr. Dr.	Avi Tessa Toby Don Audrey	Sharma Cook Cornish Dennison Verde
Fri	3/21/2025	2:00 PM	2:55 PM	5003	Radiology Path	Dr.	Mirabela	Rusu
Fri	3/21/2025	3:00 PM	3:55 PM	5004	How Imaging Informatics Will Affect Your Future	Mr.	Don	Dennison

Course Curriculum

01 Introduction to Informatics [INTRO]

- What is informatics?
- Why are you here?
- What will you learn?
- Housekeeping

02 Standards [STD]

- DICOM
- HL7 (including CDA, FHIR)
- IHE (include XDS)
- RadLex
- CPT, ICD-10, SNOMED-CT, LOINC, UMLS, etc.

03 Computers and Networking [COMPNET]

- Hardware
- Software and APIs
- Networks and gateways
- Servers
- Active Directory
- Internet of Things (IoT)
- Service-oriented architecture
- Cloud computing

04 PACS and Archives [PACS]

- Archives
- DICOM
- Viewers
- Storage
- Compression
- Downtime procedures
- Data integrity & other policies
- Advanced 3-D Visualization
- Monitors, hardware, and perception

05 Life Cycle of a Radiology Exam [LIFECYCLE]

- RIS, order entry, scheduling
- Scheduling
- Modalities and modality worklist
- Exams and procedure steps
- Dictation and report generation
- Structured reporting
- Billing
- Report distribution (e.g. back to PACS/EHR/other destinations)
- Non-radiology imaging

06 Radiology as Seen from Outside the Department [OUTSIDE]

- CDS/CPOE
- Reporting
- Critical results reporting

- Non-critical results
- Patient portals
- Implications of regulations
- Enterprise imaging
- Reading room
- Layout, ergonomics, environmental factors
- Centralized vs. decentralized
- Social media

07 Privacy and Security [PRIVSEC]

- Layers of security, (physical, device, access, policy, network)
- How not to get hacked (phishing, DOS attacks, two factor authentication, password management)
- PHI in medical Images (how to inspect DICOM metadata, how to get rid of "burned in" data)

08 Data and Data Plumbing [DATA]

- Data
- Data types and locations
- "Big data"
- Data plumbing
- Validation
- Normalization
- Access
- Visualization
- Database management
- Business intelligence

09 Algorithms for Image and Non-Image Analytics [ALGOS]

- Basic image processing algorithms and methods
- Thresholding
- Morphological operations
- Segmentation
- Registration
- Natural language processing
- Introduction, capabilities, challenges
- Machine learning
- Supervised versus. unsupervised learning
- Image data versus. text data
- Statistics

10 The Business of Informatics [BUSINESS]

- Working with vendors (RFP, vendor selection, COIs, contract process, SLAs, performance reviews, etc.)
- Revenue cycle (structured reporting, coding engines, etc.)
- Impact on regulations on informatics (e.g., MU, PAMA, HIPAA, HITECH, etc.)

11 Beyond Imaging Informatics [BEYOND]

- EHRs
- HIEs
- Image sharing
- Clinical informatics
- Formal certification