

COURSE NAME:	Advanced Medical Coding
TOTAL DURATION:	45 Hrs
MODE OF DELIVERY	PHYSICAL CLASSROOM TRAINING AT RESPECTIVE COLLEGES
TRAINER TO STUDENT RATIO:	1:50
TOTAL MARKS:	75

TABLE 1	
OVERALL COURSE OBJECTIVE:	<ul style="list-style-type: none"> ● To equip students with practical skills in navigating ICD-10-CM and CPT codes for accurate medical record coding. ● To develop proficiency in analysing and coding complex medical scenarios, including inpatient and outpatient cases. ● To introduce students to industry-standard medical coding software tools, fostering hands-on technical expertise. ● To ensure understanding and application of ethical practices and compliance with healthcare regulations like HIPAA. ● To prepare students for real-world challenges in medical coding through case studies and project-based learning.
LEARNING OUTCOME:	<ul style="list-style-type: none"> ● Demonstrate proficiency in using ICD-10-CM and CPT manuals to identify and assign correct codes. ● Apply coding guidelines to accurately document and code inpatient, outpatient, and specialty medical cases. ● Analyze medical records to extract relevant information and determine appropriate E/M service levels. ● Perform coding audits and quality assurance tasks to ensure compliance and reduce documentation errors. ● Create a comprehensive coding project that integrates theoretical knowledge with practical application for healthcare scenarios.

TABLE 2: MODULE WISE COURSE CONTENT AND OUTCOME
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SL. NO	MODULE NAME	MODULE CONTENT	MODULE LEARNING OUTCOME	DURATION (45HRS)
1	Medical Terminology, Anatomy, and ICD-10-CM Coding	<ul style="list-style-type: none"> - Advanced medical terminology, anatomy, and physiology. - Detailed ICD-10-CM coding conventions, guidelines, and applications. 	<ul style="list-style-type: none"> - Demonstrate proficiency in navigating and applying ICD-10-CM coding guidelines for complex medical diagnoses. - Analyze anatomical terms and medical terminology to ensure accurate assignment of ICD-10-CM codes. 	10
2	CPT, HCPCS, and E/M Coding	<ul style="list-style-type: none"> - Advanced procedural coding, modifiers, E/M services, HCPCS codes. - Detailed E/M coding guidelines, documentation requirements. 	<ul style="list-style-type: none"> - Apply coding guidelines to accurately document and code complex medical procedures and services using CPT and HCPCS codes. - Evaluate E/M service levels and apply appropriate codes to inpatient and outpatient medical cases. 	10
3	Compliance, Regulatory Guidelines, and Ethical Coding Practices	<ul style="list-style-type: none"> - HIPAA, OIG compliance, fraud and abuse prevention, coding ethics. - Use of coding software tools like Encoder Pro, 3M Coding, and 	Evaluate coding practices to ensure adherence to ethical standards and regulatory guidelines, including HIPAA and OIG	10

		grouping tools.	compliance. - Demonstrate proficiency in utilizing industry-standard coding software tools for efficient and accurate coding.	
4	Auditing, Quality Assurance, and Specialty Coding	<ul style="list-style-type: none"> - Coding audit processes, quality improvement, error identification. - Coding for specialties like cardiology, oncology, orthopaedics, etc. 	<ul style="list-style-type: none"> - Perform coding audits to assess coding accuracy and implement quality improvement strategies for better compliance and error reduction. - Apply specialty-specific coding knowledge to accurately assign codes for complex medical procedures in cardiology, oncology, and orthopaedics. 	5
5	Advanced Case Studies and Real-World Applications	<ul style="list-style-type: none"> - Complex coding scenarios, real-life case studies, problem-solving. - Preparation for certification exams and review of test-taking strategies. 	<ul style="list-style-type: none"> - Synthesize advanced coding knowledge to solve real-world medical coding problems through case studies and practical applications. - Create comprehensive coding solutions, integrating theoretical knowledge with practical coding applications for healthcare scenarios, 	10

			preparing for professional certifications.	
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TABLE 3: OVERALL COURSE LEARNING OUTCOME ASSESSMENT CRITERIA AND USECASES			
LEARNING OUTCOME	ASSESSMENT CRITERIA	PERFORMANCE CRITERIA	USECASES
Advanced Diagnosis Coding Skills	- Accuracy and specificity in ICD-10-CM coding	- Demonstrates precise ICD-10-CM code assignment with minimal errors. - Accurately identifies diagnoses with multiple comorbidities.	Use Case 1: Code complex diagnoses with multiple comorbidities. Use Case 2: Assign codes for rare diseases using ICD-10-CM.
Proficiency in Procedural Coding	- Correct use of CPT and HCPCS codes and modifiers	- Correctly applies CPT and HCPCS codes for multi-step procedures. - Uses modifiers accurately in complex procedural coding.	Use Case 1: Code surgical procedures with multiple steps and modifiers. Use Case 2: Assign appropriate HCPCS codes for medical supplies and equipment.
Compliance and Ethical Coding Practices	- Adherence to regulations and ethical guidelines	-Identifies and resolves coding discrepancies such as upcoding or unbundling. - Ensures patient data	Use Case 1: Identify and correct upcoding and unbundling errors. Use Case 2:

		privacy and compliance with regulations.	Ensure patient data privacy during coding processes.
Coding Audit and Quality Improvement	- Ability to audit and enhance coding quality	- Conducts thorough coding audits and identifies discrepancies or areas for improvement. - Suggests effective strategies for improving coding accuracy and quality.	Use Case 1: Perform an audit on a set of medical records to identify coding errors. Use Case 2: Develop a plan to improve coding accuracy in a clinic.
Specialty Coding Expertise	- Handling of specialty-specific coding scenarios	- Demonstrates proficiency in coding complex treatments and procedures in specialties. - Accurately applies codes for specialty surgeries and treatments.	Use Case 1: Code complex oncology treatments and chemotherapy sessions. Use Case 2: Assign codes for orthopaedic surgeries involving implants.

TABLE 4: LIST OF FINAL PROJECTS (20 PROJECTS THAT COMPREHENSIVELY COVER ALL THE LEARNING OUTCOME)

- 1) Develop a virtual assistant script that schedules appointments based on user input.
- 2) Create prompts for an AI tutor that provides explanations for complex topics in simple terms.
- 3) Design a chatbot for customer service that can handle FAQs effectively.
- 4) Craft prompts to generate creative story ideas in specific genres.
- 5) Build a prompt set that helps generate marketing copy for new products.
- 6) Optimize prompts for translating documents between multiple languages accurately.
- 7) Create a prompt workflow for summarizing legal documents.
- 8) Develop prompts for generating data analysis reports from raw data descriptions.
- 9) Design an AI system that provides personalized book

recommendations based on user preferences.

- 10) Create prompts that assist in code debugging by analysing error messages.
- 11) Build a knowledge base assistant that answers questions about company policies.
- 12) Develop prompts for generating social media content that aligns with brand voice.
- 13) Craft an AI-driven interview simulator to help users prepare for job interviews.
- 14) Create prompts for an AI that can compose music lyrics in various styles.
- 15) Design a virtual tour guide that provides information about tourist attractions.
- 16) Optimize prompts for sentiment analysis of customer reviews.
- 17) Develop an AI model that assists in medical diagnosis based on symptom descriptions (ethical considerations applied).
- 18) Create prompts for generating personalized meal plans based on dietary restrictions.
- 19) Build a language learning tool that helps users practice conversation in a new language.
- 20) Design prompts for an AI that generates design ideas for architectural projects.

TABLE 5: COURSE ASSESSMENT RUBRICS (TOTAL MARKS: 75)

ASSESSMENT CRITERIA	DESCRIBE THE CRITERIA OF THE BELOW CATEGORY PERFORMANCE			TOTAL MARKS
	FAIR (1-5)	GOOD (6-8)	EXCELLENT (9-10)	
1. Accuracy in Medical Coding (ICD-10-CM and CPT)	<ul style="list-style-type: none"> - Demonstrates limited application of ICD-10-CM and CPT codes with frequent errors. - Rarely synthesizes coding manuals effectively. 	<ul style="list-style-type: none"> - Applies ICD-10-CM and CPT codes with minimal errors and uses manuals efficiently. - Assigns most codes correctly. 	<ul style="list-style-type: none"> - Demonstrates exceptional proficiency in applying ICD-10-CM and CPT codes accurately across varied cases. - Consistently evaluates 	10

			and refines the coding process to ensure precision.	
	FAIR (0-7)	GOOD (8-12)	EXCELLENT (13-15)	
2.Procedural Coding Proficiency (CPT, HCPCS, Modifiers)	<ul style="list-style-type: none"> - Struggles with applying complex procedures and modifiers. - Fails to differentiate when modifiers should be applied. 	<ul style="list-style-type: none"> - Applies CPT and HCPCS codes and modifiers to most procedural scenarios with minor errors. - Analyses procedural requirements and applies modifiers appropriately. 	<ul style="list-style-type: none"> - Demonstrates full command in applying CPT, HCPCS, and modifiers to multi-step procedures and specialized cases. - Critically evaluates the use of modifiers and codes in complex cases. 	15
3.Compliance and Ethical Practices in Coding	<ul style="list-style-type: none"> - Identifies some ethical coding issues but fails to resolve them adequately. - Overlooks regulatory and privacy standards. 	<ul style="list-style-type: none"> - Applies ethical guidelines and HIPAA regulations with minor lapses. - Analyses coding errors and ethical issues but occasionally misses fine details. 	<ul style="list-style-type: none"> - Consistently adheres to ethical coding practices and HIPAA regulations. - Critically evaluates coding practices for compliance and resolves discrepancies with clarity and precision. 	15
4. Coding	<ul style="list-style-type: none"> - Identifies 	<ul style="list-style-type: none"> - Analyses 	<ul style="list-style-type: none"> - Evaluates 	15

<p>Audit and Quality Assurance</p>	<p>coding errors but provides limited or ineffective solutions. - Misses key issues in coding documentation.</p>	<p>coding errors and recommends solutions with good accuracy. - Applies quality assurance methods to improve coding.</p>	<p>medical records for errors with great attention to detail. - Synthesizes audit results into actionable plans that significantly improve coding accuracy and compliance.</p>	
<p>5.Specialty-Specific Coding</p>	<p>- Struggles with specialty coding tasks, making frequent errors in assigning codes. - Lacks understanding of specialty-specific coding requirements.</p>	<p>- Applies correct specialty-specific codes in most cases with some minor mistakes. - Demonstrates a basic understanding of specialty coding practices.</p>	<p>- Excels in coding complex procedures and treatments in various specialties (e.g., oncology, cardiology, orthopaedics). - Critically analyses specialty-specific coding issues and applies the most appropriate solutions.</p>	<p>10</p>
<p>6.Application of Advanced Coding Knowledge (Case Studies)</p>	<p>- Fails to apply coding knowledge effectively in case studies. - Struggles to synthesize</p>	<p>- Applies advanced coding knowledge in case studies with minor</p>	<p>- Synthesizes advanced coding principles to solve real-world case</p>	<p>10</p>

	theoretical knowledge into practical coding solutions.	errors. - Synthesizes theory with practical coding solutions but occasionally overlooks key factors.	studies with flawless application. - Critically evaluates complex scenarios, integrating theoretical knowledge with precise coding practice.	
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