

Certified Medical Assistant (CMA)

Course Name	Certified Medical Assistant (CMA)		Course = 1 Carnegie Unit Credit
Course Description	Certified Medical Assistant (CMA) course provides preparation for the American Association of Medical Assistants (AAMA) CMA certification exam. The course also instills the knowledge and standards needed for excellence in Certified Medical Assistant practice. The AAMA CMA certification is an approved certification found on the Career Development Incentive Program (CDIP) approved programs list.		
Note:	• This is a suggested scope and sequence for the course content. The content will work with any textbook or instructional resource. If locally adapted, make sure all competencies are covered. • Please contact your local community college partner for credit options available. • There is no age requirement for the CMA exam, but programs must be a CAAHEP or ABHES-accredited post-secondary program, which typically translates to 18+.		
Schedule:	Schedule calculation based on 120 contact hours. 60% of instruction time should be geared in meeting the course competencies in the scope and sequence. The remaining 40% of the instructional time allows for guest speakers, student presentations, field trips, remediation, or other content topics.		
All courses taught in an approved CTE program must include Essential Skills embedded into the course content. The Essential Skills Framework for this course can be found at https://www.cde.state.co.us/standardsandinstruction/essentialskill			
Instructional Unit Topic	Suggested Length of Instruction	CTE or Academic Standard Alignment (NHSS)	Competency / Outcomes
Clinical Workflow: Patient Intake and Discharge		NHSS 10.1	1. Vital Signs a. Blood pressure principles and technique b. Pulse points and techniques i. Rate and rhythm c. Height/Weight/BMI d. Body temperature techniques and equipment e. Pulse oximetry f. Respiration rate and pattern g. Pain scale h. Pediatric measurements/Growth chart i. Recognize/Document/Report age-specific normal and abnormal vital signs
		NHSS 1.1.1, 2.2	2. Medical Terminology

			a. Word parts (roots, combining forms, prefixes, suffixes) b. Diagnostic procedures c. Surgical procedures
		NHSS 2.1	3. Interviewing Techniques a. Obtain concise and accurate reporting of relevant information b. Open-ended/Exploratory questions c. Closed/Direct questions
		NHSS 2.3	4. Documentation of Care a. Chief complaint b. Subjective data/Present illness c. Review of systems d. Past medical history e. Reconciliation of medications and/or allergies f. Family history g. Social and occupational history h. Objective data/Examination i. Treatment/Compliance j. Making addendums/corrections
		NHSS 9.1.3	5. Patient Screenings/Wellness Assessments a. Cancer prevention and screening b. Prevention/Screening of sexually transmitted infections c. Nicotine risks and cessation d. Recognition of substance use/ addiction e. Osteoporosis screening f. Domestic violence screening and detection g. Suicide awareness and response h. Depression screening
		NHSS 9.1.1	6. Processing Provider Orders a. Diabetic teaching b. Instructions on use of mobility equipment and assistive devices (e.g., crutches, cane, walker, wheelchair) c. Pre-/Post procedure/treatment instructions d. Patient-administered treatments and medications (e.g., self injections, nebulizers) e. Home monitoring (e.g., blood pressure, anticoagulation, blood sugar)

			f. Alternative medicine/Massage/ Acupuncture g. Nutrition counseling i. Basic nutritional elements 1. Carbohydrates 2. Fats 3. Proteins and amino acids 4. Minerals and electrolytes 5. Vitamins 6. Fiber 7. Water ii. Function of dietary supplements and herbs iii. Special dietary needs 1. Weight control 2. Diabetes 3. Cardiovascular disease/ Hypertension 4. Cancer 5. Food sensitivity/intolerance (e.g., lactose, gluten, nut) 6. Kidney disease iv. Food label interpretation v. Eating disorders
Safety and Infection Control		NHSS 7.1	1. Infectious Agents a. Bacteria b. Viruses c. Protozoa/Parasites d. Fungi/Yeast
		NHSS 7.1	2. Infection Cycle/Chain of Infection a. Body's natural barriers
		NHSS 7.1	3. Modes of Infectious Transmission a. Direct b. Indirect
		NHSS 3.1.1.c	4. Standard Precautions and Exposure Control a. Occupational Safety and Health Administration (OSHA) b. Personal protective equipment c. Hand hygiene (handwashing, alcohol-based gel) d. Post-exposure protocol/Eyewash station e. Sharps/Needle safety
		NHSS 7.1.2	5. Medical Asepsis

			a. Sanitization b. Disinfection c. Cleaning (equipment, examination room, procedure area, business office, reception/scheduling areas)
		NHSS 7.4	6. Biohazard Disposal/Regulated Waste a. Blood/Body fluids/Body tissue disposal b. Spill kit (when and how to use)
		NHSS 7.4	7. Safety Resources a. Safety signs, symbols, labels b. Safety data sheets (SDS)/ Globally Harmonized System of Classification and Labeling Chemicals (GHS)
		NHSS 7.5	8. Safety and Emergency Procedures a. Workplace safety/Emergency preparedness/Evacuation b. Crash cart supplies/equipment c. Fire prevention/regulations/ extinguisher
		NHSS 10.1.2	9. Emergency Management, Identification, and Response/Basic First Aid a. Bleeding control b. Burns c. Cardiac/Respiratory arrest d. Foreign body obstruction e. Diabetic ketoacidosis f. Insulin shock g. Bone fractures h. Poisoning i. Seizures j. Shock k. Cerebrovascular accident (CVA) l. Syncope m. Lacerations/Avulsions/Punctures/Abrasions n. Cold/Heat exposure o. Joint dislocations/Sprains/Strains p. Asthmatic attack q. Hyperventilation r. Animal/Insect bite s. Head trauma t. Chemical exposure
		NHSS 7.2.2	10. Body Mechanics/Ergonomics

		NHSS 5.2.7	11. Risk Management, Quality Assurance, and Safety Procedures a. Reporting unsafe or unlawful activities and behaviors b. Conflicts of interest c. Incident reporting/Patient safety variance reporting
Procedures/Examinations		NHSS 7.2.2	1. Prepare Patients for Examinations, Procedures, and Treatments a. Examination Methods i. Auscultation ii. Inspection iii. Mensuration iv. Palpation v. Percussion b. Body positioning i. Dorsal recumbent ii. Fowler's iii. Knee-chest iv. Lithotomy v. Prone vi. Sims vii. Supine c. Pediatric examinations d. Obstetric/Gynecologic examinations
			2. Supplies, Equipment, Techniques, and Patient Instruction a. Eye irrigation b. Ear irrigation c. Suture/Staple removal d. Cast care/Splints/Slings
			3. Surgical Assisting a. Surgical asepsis b. Surgical scrub c. Surgical tray prep/Sterile field boundaries d. Antiseptic skin prep
			4. Wound Care a. Chronic/Non-healing b. Bandaging/Dressing change c. Post-op incision care d. Ostomy care
			5. Instruments a. Classifications

			b. Identification c. Use d. Sterilization techniques/Autoclave i. Preparing items ii. Wrapping items/Label/Date iii. Sterilization indicators/Quality control measures
		NHSS 1.1, 1.2	6. Anatomy and Physiology a. Human growth and development b. Normal developmental patterns/ milestones across the life-span c. Structural units (cell/tissue/organ) d. Anatomical divisions, body cavities e. Anatomical positions and directions f. Body planes and quadrants g. Body systems, NORMAL structure and function i. Integumentary ii. Musculoskeletal iii. Nervous iv. Cardiovascular, hematopoietic, and lymphatic v. Respiratory vi. Digestive 1. Urinary vii. Reproductive viii. Endocrine ix. Sensory h. Body systems, ABNORMAL structure and function, recognition and etiology i. Integumentary ii. Musculoskeletal iii. Nervous iv. Cardiovascular, hematopoietic, and lymphatic v. Respiratory vi. Digestive vii. Urinary viii. Reproductive ix. Endocrine x. Sensory
		NHSS 7.1.2	7. Specimen Collection Techniques a. Methods of collection

			i. Blood 1. Venipuncture technique (site selection/patient prep) 2. Equipment/Needles 3. Tube additives 4. Specimen preparation (serum/plasma/whole blood) 5. Capillary/Dermal puncture (finger, heel, ear) ii. Urine 1. Random 2. Midstream clean catch 3. Timed (e.g., 24-hour) collection 4. Catheterization 5. Pediatric urine collection 6. Drug screen/Chain of custody iii. Fecal specimen iv. Sputum specimen v. Swabs 1. Throat 2. Wound 3. Nasopharyngeal
		NHSS 2.3	8. Prepare, Process, and Examine Specimens a. Proper specimen labeling b. Sources of specimen contamination c. Specimen preservation i. Refrigeration ii. Fixative d. Centrifuge e. Microscope f. Wet mount (saline and KOH) slides
		NHSS 11.1	9. Laboratory Quality Control/Quality Assurance/Clinical Laboratory Improvement Act (CLIA) Requirements a. Testing records and performance logs b. Equipment calibration and maintenance c. Quality control testing d. Monitor and document temperature controls
		NHSS 1.2	1. Laboratory Panels and Selected Tests a. Urinalysis i. Physical

- ii. Chemical
- iii. Microscopic
- b. Hematology
 - i. Hematocrit
 - ii. Hemoglobin
 - iii. Erythrocytic sedimentation rate (ESR)
 - iv. Automated cell counts
 - 1. Red blood cell (RBC)
 - 2. White blood cell (WBC)
 - 3. White cell differential
 - 4. Platelet
 - v. Coagulation testing (INR)
- c. Chemistry/Metabolic testing
 - i. Glucose
 - ii. Kidney function
 - iii. Liver function
 - iv. Lipid profile
 - v. Hemoglobin A1 C
 - vi. Electrolytes
 - vii. Thyroid function
- d. Specialized testing
 - i. Mononucleosis
 - ii. Rapid Group A Streptococcus
 - iii. C-reactive protein (CRP)
 - iv. HCG (pregnancy test)
 - v. H. pylori
 - vi. Influenza
 - vii. Genetic/Hereditary
 - viii. Tuberculosis tests/Purified protein derivative (PPD) skin test
 - ix. Cardiovascular
 - 1. Electrocardiography
 - a. Perform standard 12-lead
 - b. Recognize and eliminate artifacts
 - c. Recognize rhythms, arrhythmias
 - 2. Holter/Event monitors
 - 3. Cardiac stress test
 - x. Vision

			1. Color vision 2. Visual acuity a. Near vision b. Distance vision 3. Ocular pressure/Tonometry 4. Visual fields xi. Audiometric/Hearing 1. Pure tone audiometry 2. Speech and word recognition 3. Tympanometry xii. Allergy 1. Scratch test 2. Intradermal skin test 3. Patch test 4. Radioallergosorbent test (RAST) xiii. Respiratory 1. Pulmonary function tests (PFTs) 2. Spirometry 3. Peak flow rate xiv. Diagnostic imaging (e.g., MRI, CT scan, nuclear, ultrasound) e. Differentiate between normal and abnormal laboratory and diagnostic test results
Pharmacology			1. Medications a. Classes of drugs b. Drug actions/Desired effects/Indications for use c. Adverse reactions/Side effects/ Allergic reactions d. Contraindications e. Storage of drugs/Inventory control
		NHSS 1.1, 2.3	2. Preparing and Administering Oral and Parenteral Medications a. Rights of medication administration b. Dosage of medications i. Metric conversion ii. Units of measure iii. Calculations of medication dosage c. Routes of administration including safety precautions i. Intramuscular ii. Z-track

			iii. Subcutaneous iv. Oral/Sublingual/Buccal v. Topical/Transdermal vi. Inhalation vii. Instillation (eye, ear, nose) viii. Intradermal ix. Vaginal/Rectal d. Injections i. Site selection ii. Needle length and gauge e. Medication documentation i. Documenting administration of medications ii. Reporting medication errors
			3. Immunization Resources a. Centers for Disease Control and Prevention (CDC) i. Childhood/Adult immunizations ii. Recordkeeping for immunizations iii. Vaccine Information Statement (VIS) iv. Vaccine Adverse Event Reporting System (VAERS) v. Vaccine storage
Legal and Ethical Issues		NHSS 5.1	1. Health Insurance Portability and Accountability Act (HIPAA) a. Maintain confidentiality/patient privacy (verbal and written) b. Health Information Technology for Economic and Clinical Health Act (HITECH) c. Patients' right to inspect, amend, and restrict access to their medical records d. Patients' Bill of Rights legislation/Patient Care Partnership e. Security of electronic transmission of information (encryption, password, firewall, activity log)
			2. Protected Health Information (PHI) a. Authorization to release i. Drug and alcohol treatment records ii. HIV-related information iii. Mental health records iv. Genetic Information Nondiscrimination Act of 2008 (GINA) v. Release for continuity of care

			b. Authorization to rescind release c. Use and disposal of PHI
		NHSS 5.2.4	3. Consent a. Informed/Written b. Implied/Verbal c. Exceptions (e.g., mature or emancipated minor, dependent adult, emergency situations)
		NHSS 7.2.1, 11.1.4	4. Federal and State Regulations a. Professional Liability Torts i. Negligence ii. Slander iii. Libel iv. Abandonment v. Assault vi. Battery b. Current standard of care c. Legal terms and doctrines i. Subpoena/Subpoena duces tecum ii. Deposition iii. Respondeat superior iv. Good Samaritan laws/acts d. Contracts (physician-patient relationships) i. Legal obligations to the patient ii. Termination of medical care 1. Elements/Behaviors for withdrawal of care 2. Patient notification/documentation
			5. Pharmaceutical Laws a. Prescriptions/e-Prescribing b. Drug schedules c. Controlled substances (use and abuse)
		NHSS 5.1.1	6. Mandatory Reporting/Public Health Statutes a. Communicable diseases b. Vital statistics c. Abuse/Neglect/Exploitation of child, elder, partner d. Wounds of violence
		NHSS 4.1	7. Ethical Standards (Behaviors, Decisions, and Reporting)
			8. Medical Directives a. Advance directives

			b. Living will (Do Not Resuscitate [DNR] and Do Not Intubate [DNI]) c. Medical durable power of attorney d. Patient Self Determination Act (PSDA)
Communication		NHSS 2.1, 8.2.2.a	1. Interpersonal Relationship Skills/ Customer Service a. Understanding human behavior and mental health b. Defense mechanisms: recognition and adaptive responses c. Identify and adapt approach to communication barriers with empathy and compassion i. Death and dying/Terminal illness ii. Visually/Hearing impaired/Interpreter iii. Non-English speaking/English as a second language/Interpreter iv. Americans with Disabilities Act Amendments Act (ADAAA) compliance v. Illiterate vi. Intellectually challenged vii. Age-specific therapeutic/adaptive responses 1. Geriatric 2. Pediatric/Adolescent d. Non-verbal communication (e.g., posture, facial expression, eye contact, gestures, touch) e. Personal boundaries (e.g., sexual harassment, bullying, unwanted attention) f. De-escalation techniques g. Listening skills h. Service recovery/Patient satisfaction
		NHSS 2.1.2	2. Therapeutic/Adaptive Responses a. Cultural diversity and beliefs b. Recognize stereotypes and biases and display impartial conduct (race, religion, age, gender, etc.)
			3. Learning Styles a. Assessing and adapting to level of understanding (sender receiver-feedback) b. Identifying and overcoming barriers to communication (internal/external/environmental distractions)
		NHSS 4.1.1, 8.1, 8.2	4. Health Care Team Roles

Billing, Coding and Insurance			a. Understanding/Communicating plan of care and referral coordination b. Serving as patient navigator/ advocate/case manager/health coach c. coach d. Utilizing a team approach to patient care management e. Identifying medical specialties
		NHSS 4.1	5. Professional Telephone Etiquette/ Techniques a. Message protocols b. Screening/Gathering data
		NHSS 11.1	1. Coding Applications a. Procedural coding (Current Procedural Terminology [CPT]) i. Modifiers ii. Upcoding/Downcoding iii. Bundling/Unbundling of charges b. Diagnostic coding (International Classification of Diseases, Clinical Modification [ICD-CM]) c. Healthcare Common Procedure Coding System (HCPCS Level II) d. Linkage of procedure and diagnostic coding to meet medical necessity guidelines
		NHSS 3.1.4	2. Insurance Fraud and/or Abuse
		NHSS 3.1.4	3. Coverage for Patient Services and Waivers a. Insurance eligibility verification b. Insurance claims i. Submission ii. Explanation of benefits (for patients) iii. Remittance advice (for providers) iv. Claim rejection and follow-up v. Tracking unpaid claims c. Advance Beneficiary Notice (ABN)
		NHSS 3.1.4	4. Insurance Types/Third-Party Payers a. Commercial plans b. Medicare/Medicare Advantage Plans c. Medicaid/State Children's Health Insurance Program (SCHIP) d. TRICARE/CHAMPVA e. Managed care

			f. Workers' compensation
			5. Authorizations and Resources a. Precertification/Prior authorization i. Diagnostic and surgical procedures ii. Medications/Drug formulary b. Denials/Appeals
			6. Financial Terminology a. Accounts receivable b. Accounts payable c. Debits d. Credits/Credit balance e. Deductible
			7. Patient Account Financial Procedures a. Post charges b. Post payments c. Post adjustments/Write-offs d. End-of-day reconciliation
		NHSS 1.3	8. Financial Calculations
		NHSS 1.3	9. Billing/Collections a. Itemized statements b. Aging of accounts c. Collecting payments (e.g., co-pay, pre-pay, co-insurance, self-pay) d. Preplanned payment options/ credit arrangements e. Use of collection agencies f. Account collection rules
Scheduling Appointments and Health Information Management		NHSS 11.1	1. Scheduling Appointments a. New patient b. Established patient c. Routine versus urgent d. Coordinate facility/equipment/ personnel requirements e. Ancillary services (laboratory, X-ray, surgery, outpatient procedures, hospital admissions) f. Cancellations/No-shows/Physician delay or unavailability
			2. Medical Reception/Patient Registration a. Patient identification/Obtain patient demographics b. Identity theft protection c. Obtain accurate billing information

		NHSS 11.1	1. Electronic Health Records - Patient portal - Recognize/Identify/Organize medical reports - History and physical - Discharge summary - Operative note - Diagnostic test/Laboratory report - Clinic progress note - Consultation report - Growth charts, graphs, tables - Medical record preparation/Previsit planning - Obtain copy of patients' outside medical record and/or pertinent test results
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Academic Standards Alignment

Colorado CTE courses are required to integrate academic and essential skills into course content. The following academic standards have been identified as aligned to this course and should be integrated throughout instruction.

[CO CTE Academic Standards Resources](#) (Rubrics, integration strategies, etc)

[CDE Colorado Academic Standards Online](#) (Online standards lookup tool)

Reading, Writing, & Communicating

Standard 1: Oral Expression and Listening

- **Prepared Graduate 1:** Collaborate effectively as group members or leaders who listen actively and respectfully; pose thoughtful questions, acknowledge the ideas of others; and contribute ideas to further the group's attainment of an objective.
- **Prepared Graduate 2:** Deliver effective oral presentations for varied audiences and varied purposes.

Standard 2: Reading for All Purposes

- **Prepared Graduate 3:** Read a wide range of literary texts to build knowledge and to better understand the human experience.

Standard 3: Writing and Composition

- **Prepared Graduate 9:** Demonstrate mastery of their own writing process with clear, coherent, and error-free polished products.

Standard 4: Research Inquiry and Design

- **Prepared Graduate 10:** Gather information from a variety of sources; analyze and evaluate its quality and relevance; and use it ethically to answer complex questions.

Note: Mathematics and Science standards will be added in the future. Visit the [Colorado Academic Standards](#) page for the most current version.