

### Mapping of Cardiac Nursing Diploma Curricular Competencies with Assessment Tools

This outline maps curricular competencies/objectives with the assessment tools and potential test type. Tests will emphasize certain parts of the outline, and no single test will include questions on all aspects. Questions may include content that is not included in this outline.

Construct	Domain	Module	Level	Code	Performance indicator (Curriculum)	Page #	Learning Domain	Assessment Method					
							(1:Cognitive, 2:Skills, 3:Attitude)	MCQ - Part I Written	MCQ - Final Written	OSCE - Final Clinical	SOE - Final Clinical		
A Medical expert	A1 Basic science	Foundational human anatomy and physiology of the cardiac system	Y1	A1.1	Describe the location of the heart	18	1	*	*			*	
				A1.2	Describe the function of the pericardium	18	1	*	*			*	
				A1.3	Identify the major vessels and chambers of the heart and describe the flow of blood through the heart	18	1	*	*			*	
				A1.4	Identify the major valves of the heart and describe their functions	18	1	*	*			*	
				A1.5	Describe the heart wall and explain the purpose of coronary circulation	18	1	*	*			*	
				A1.6	Identify the events of the cardiac cycle	18	1	*	*			*	
				A1.7	Describe the relationship between cardiac structures and their role in the cardiac cycle	18	1	*	*			*	
				A1.8	Relate heart sounds to the events of the cardiac cycle.	18	1	*	*			*	
				A1.9	Describe the types of cardiac muscle cells	18	1	*	*			*	
				A1.10	Identify the parts of the cardiac conduction pathway and their functions	18	1	*	*			*	
				A1.11	Discuss cardiac conduction and its relationship to an ECG	18	1	*	*			*	
				A1.12	Define stroke volume and cardiac output	18	1	*	*			*	
				A1.13	Discuss the relationship between heart rate, stroke volume, and cardiac output	18	1	*	*			*	
				A1.14	Identify the factors that control cardiac output	18	1	*	*			*	
		A1.15	Overview of the circulatory system Size and location of the heart Linings of the heart Wall of the heart Heart chambers and valves Skeleton of the heart Path of blood through the heart Blood supply to the heart Heart sounds Cardiac conduction system Paths of circulation Pulmonary circuit Systemic circuit Arterial system: •Principal branches of the aorta •Arteries to the shoulder and upper limbs •Arteries to the pelvis and lower limbs Venous system: •Veins from the brain, head, and neck •Veins from the upper limbs and shoulders •Veins from the abdominal and thoracic walls •Veins from the lower limbs and pelvis Portal circulation	18-19	1	*	*			*			
		A1.16	Histological structure of the heart and blood vessels	19	1	*	*			*			
		A1.17	Apply knowledge of anatomy and physiology in clinical practice	19	1	*	*			*			
			Health promotion, prevention, and rehabilitation	Y1	A1.18	Demonstrate essential knowledge of modifiable, non-modifiable, novel, and emerging cardiac risk factors across the lifespan	19	1	*	*			*
			Fundamentals of cardiac pathophysiology	Y1	A1.19	Describe atherosclerotic disease and associated conditions, such as ischemic heart disease, and peripheral vascular disease;	20	1	*	*			*
					A1.20	Describe heart rhythm and conduction disorders, such as tachy/brady arrhythmia and conduction defects;	20	1	*	*			*
					A1.21	Describe structural abnormalities of the heart, such as congenital heart disease and valve disease;	20	1	*	*			*
					A1.22	Describe heart muscle disorders, such as inflammatory, acute, and chronic heart failure.	20	1	*	*			*

			<ul style="list-style-type: none"> <li>1) Pathophysiology and clinical manifestations</li> <li>3) Atherosclerotic disease <ul style="list-style-type: none"> <li>•Coronary artery disease</li> <li>•Chronic stable angina pectoris</li> <li>•Acute coronary syndrome (ACS) (unstable angina pectoris and non-ST-segment elevation myocardial infarction)</li> <li>•ST-segment elevation myocardial infarction</li> </ul> </li> <li>4) Health rhythm and conduction</li> <li>5) Basic electrophysiology: <ul style="list-style-type: none"> <li>•Electrophysiology</li> <li>•Principles of electrocardiography</li> <li>•Intraventricular conduction defects</li> </ul> </li> <li>6) Structural abnormalities <ul style="list-style-type: none"> <li>•Aortic disease: <ul style="list-style-type: none"> <li>o Aortic aneurysm and aortic dissection</li> </ul> </li> <li>•Acquired valvar heart disease: <ul style="list-style-type: none"> <li>o Mitral and aortic insufficiency</li> <li>o Mitral and aortic stenosis</li> </ul> </li> <li>•Atrial septal defect, ventricular septal defect, patent ductus arteriosus, coarctation of the aorta</li> </ul> </li> <li>7) Heart Muscle Disorders <ul style="list-style-type: none"> <li>•Infection and inflammatory heart disease: <ul style="list-style-type: none"> <li>o Pericarditis</li> <li>o endocarditis</li> <li>o myocarditis</li> </ul> </li> <li>•Heart failure</li> </ul> </li> </ul>	20-21	1	*	*		*
Cardiac pharmacology	Y1	A1.23	Describe the pathophysiology of certain disease states and the rationale for the use of selected pharmacotherapy interventions;	22	1	*	*		*
		A1.24	Explain the pharmacology (mechanism of action, effects, pharmacokinetics, side effects, etc.) Of drugs considered for each disease;	22	1	*	*		*
		A1.25	Anticipate potential side effects, recognize adverse reactions, and discuss their management;	22	1	*	*		*
		A1.26	Be familiar with critical principles of pharmacology as they relate to applications in nursing;	22	1	*	*		*
		A1.27	Administration of medication A review of arithmetic Principles of medication administration Preparation and administration of medication via various routes Principles of drug action Agents used in the treatment of ischemic heart disease Agents used in the treatment of heart failureVasodilators and blood viscosity-reducing agents Anti-dysrhythmics Anti-hypertensives Anti-platelets, anticoagulants, fibrinolytics, and blood components Anti-hyperlipidemic drugs Inotropes	22	1	*	*		*
		A1.28	Apply the principles and routes of drug administrations and storage forms.	23	1	*	*		*
		A1.29	Describe homodynamic formulas and normal values.	23	1	*	*		*
Epidemiology	Y1	A1.30	Describe the mechanisms and dynamics of disease transmission in populations and the risk factors that determine their distribution;	24	1	*	*		*
		A1.31	Explain the different mechanisms used to describe disease prognosis in quantitative terms for groups of patients;	24	1	*	*		*
		A1.32	Demonstrate knowledge by identifying the dynamics of disease transmission and occurrence of diseases.	24	1	*	*		*
		A1.33	Demonstrate knowledge by identifying roles of genetic and other environmental factors that contribute to the causation and occurrence of diseases.	24	1	*	*		*
In general	Y2	A1.34	Integrate knowledge of nursing and health sciences in the care of patients with CVD;	5	1		*		*
		A1.35	Apply basic and advanced concepts in the provision of care for patients with CVD;	5	1		*		*
Advanced cardiac care nursing	Y2	A1.36	Understand the critical care environment;	27	1		*		*
		A1.37	Define different cardiac diseases and other diseases;	27	1		*		*
		A1.38	Identify the pathophysiological basis of the clinical manifestation of different cardiac and other diseases;	27	1		*		*
		A1.39	Describe common pathophysiological processes, etiology, and management involved in generalized shock.	27	1		*		*
ECG interpretation – Advanced	Y2	A1.40	Describe normal cardiac anatomy and the flow of blood through the heart;	29	1		*		*
		A1.41	Identify the parts of the cardiac conduction system and their functions;	29	1		*		*
		A1.42	Describe the origin and spread of the electrical impulse through the heart;	29	1		*		*
		A1.43	Identify the waves and intervals of the cardiac cycle and state their normal values;	29	1		*		*
		A1.44	State the five steps of rhythm interpretation;	29	1		*		*
		A1.45	Describe pacemakers (coding, normal function, loss of capture, loss of sensing);	29	1		*		*
		A1.46	State the commonly used drugs and correct dosages used to treat each of the arrhythmias below;	29	1		*		*

				<ul style="list-style-type: none"> <li>1) Mechanisms of arrhythmias               <ul style="list-style-type: none"> <li>•Disorders of impulse generation</li> <li>•Disorders of impulse conduction</li> <li>•Reentry                   <ul style="list-style-type: none"> <li>•Abnormal automaticity</li> <li>•Triggered activity</li> </ul> </li> </ul> </li> <li>2) Advanced concepts in conduction system disease               <ul style="list-style-type: none"> <li>•Sinoatrial exit block and entrance block</li> <li>•AV node idiosyncrasies</li> <li>•The His bundle electrogram</li> <li>•Advanced concepts in atrial fibrillation</li> <li>•Automatic versus reentry atrial tachycardia</li> <li>•"Triggered" atrial arrhythmias</li> </ul> </li> <li>4) Wide QRS tachycardia               <ul style="list-style-type: none"> <li>•Morphology of VT versus aberrant conduction</li> <li>•Pre-excited tachycardia</li> </ul> </li> <li>5) Pre-excitation (Wolff-Parkinson-White syndrome)               <ul style="list-style-type: none"> <li>•Physiological basis of pre-excitation</li> <li>•Location of accessory pathways</li> <li>•Arrhythmias seen due to accessory pathways</li> <li>•Other pre-excitation syndromes</li> </ul> </li> <li>6) Paroxysmal SVT               <ul style="list-style-type: none"> <li>•Common causes of PSVT</li> <li>•Identifying electrophysiological causes of PSVT</li> <li>•P-wave timing and PSVT mechanisms</li> </ul> </li> <li>7) Applying physiology to ventricular arrhythmias               <ul style="list-style-type: none"> <li>•Distinguishing automatic versus reentry VT</li> <li>•Identification of VT site of origin                   <ul style="list-style-type: none"> <li>•Brugada syndrome</li> </ul> </li> </ul> </li> <li>8) Idiopathic ventricular arrhythmias               <ul style="list-style-type: none"> <li>•"Idiopathic" ventricular arrhythmias</li> <li>•VT arising from right ventricular outflow tract</li> <li>•Arrhythmogenic right ventricular dysplasia/cardiomyopathy</li> <li>•Idiopathic left ventricular (Belhassen's) tachycardia</li> </ul> </li> <li>9) Long QT Syndrome               <ul style="list-style-type: none"> <li>•Electrophysiological events of the cardiac cycle</li> <li>•Genetic basis of repolarization</li> <li>•Varieties of congenital long QT syndrome                   <ul style="list-style-type: none"> <li>•"Torsades de pointes"</li> <li>•Drug-induced long QT syndrome</li> </ul> </li> </ul> </li> <li>10) Introduction to pacemakers               <ul style="list-style-type: none"> <li>•Types of pacemakers</li> <li>•Identifying normal pacemaker function</li> <li>•Recognizing loss of capture</li> <li>•Problems with under sensing</li> </ul> </li> </ul>	29-30	1		*		*
	Emotional and spiritual well-being	Y2	A1.48		31	1		*		*
			A1.49	Discuss the potential effect that different personality traits and associated negative emotions may have upon health related quality of life, compliance, and prognosis;	31	1		*		*
			A1.50	Consider the significance of religion and spirituality as moderators of well-being in patients living with CVD and their families.	31	1		*		*
			A1.51	Emotional and coping responses to a diagnosis of CVD	31	1		*		*
			A1.52	Quantifying the prevalence and incidence of negative emotional responses (e.g., stress, anxiety, depression, hostility, anger, and denial) and their impact on psychological adjustment and health related quality of life	31	1		*		*
			A1.53	The role of religion/spirituality in psychological adjustment to CVD	31	1		*		*
A2 Assessment & Diagnosis	Foundational human anatomy and physiology of the cardiac system	Y1	A2.1	Recognize the clinical manifestations of cardiac disease.	19	1	*	*		*
			A2.2	Conduct adult physical assessment.	19	2			*	
	Health promotion, prevention, and rehabilitation	Y1	A2.3	Demonstrate advances in genetic testing for cardiac patient.	19	1	*	*		*
			A2.4	Describe individualized and family centered cardiac risk assessment;	19	1	*	*		*
			A2.5	Describe clinical guidelines in practice.	19	1	*	*		*
			A2.6	Use effective interview skills to obtain patient history to identify cardiac risk factors.	19	2			*	
			A2.7	Identify patients at risk for unnecessary hospitalization and readmission.	19	1	*	*		*
	Fundamentals of cardiac pathophysiology	Y1	A2.8	<ul style="list-style-type: none"> <li>1) clinical manifestations</li> <li>2) Recognizing clinical deterioration</li> <li>3) Atherosclerotic disease               <ul style="list-style-type: none"> <li>•Coronary artery disease</li> <li>•Chronic stable angina pectoris</li> <li>•Acute coronary syndrome (ACS) (unstable angina pectoris and non-ST-segment elevation myocardial infarction)</li> <li>•ST-segment elevation myocardial infarction</li> </ul> </li> <li>4) Health rhythm and conduction</li> <li>5) Basic electrophysiology:               <ul style="list-style-type: none"> <li>•Electrophysiology</li> <li>•Principles of electrocardiography</li> <li>•Intraventricular conduction defects</li> <li>•ECG changes in myocardial infarction</li> </ul> </li> <li>6) Structural abnormalities               <ul style="list-style-type: none"> <li>•Aortic disease:                   <ul style="list-style-type: none"> <li>o Aortic aneurysm and aortic dissection</li> </ul> </li> <li>•Acquired valvar heart disease:                   <ul style="list-style-type: none"> <li>o Mitral and aortic insufficiency</li> <li>o Mitral and aortic stenosis</li> </ul> </li> <li>•Atrial septal defect, ventricular septal defect, patent ductus arteriosus, coarctation of the aorta</li> </ul> </li> <li>7) Heart Muscle Disorders               <ul style="list-style-type: none"> <li>•Infection and inflammatory heart disease:                   <ul style="list-style-type: none"> <li>o Pericarditis</li> <li>o endocarditis</li> <li>o myocarditis</li> </ul> </li> <li>•Heart failure</li> </ul> </li> </ul>	20-21	1	*	*		*

Cardiac nursing: Assessment, planning, and managing care	Y1	A2.9	Demonstrate the ability to collect data in a systematic manner that accurately reflects the immediate condition or anticipated needs of the patient;	21	2	*	*		*
		A2.10	Determine the nursing diagnosis or health-related complaint from assessment data;	21	1	*	*		*
		A2.11	Knowledge of how to collect cardiac health assessment data (by taking a cardiac history and focused physical assessment) and a review of life support skills	21	1	*	*		*
		A2.12	Diagnostic tests, including ECG/telemetry (non-invasive imaging, such as echocardiography, magnetic resonance imaging, computerized tomography, and nuclear imaging, as well as invasive imaging, such as cardiac cauterization and angiography)	21	1	*	*		*
Cardiac pharmacology	Y1	A2.13	Correlate pharmacological responses to the type of drug therapy of various physical systems;	22	1	*	*		*
		A2.14	Utilize the systems of drug dose and drug level measurements (units of measurement).	23	1	*	*		*
Epidemiology	Y1	A2.15	Calculate measures of morbidity, mortality, incidence, and prevalence;	24	1	*	*		*
		A2.16	Assess the validity and reliability of diagnostic and screening tests;	24	1	*	*		*
		A2.17	Assess the efficacy of preventive and therapeutic measures via randomized trials;	24	1	*	*		*
Appendix P	Y1 +Y2	A2.18	Assessment: Cardiac	64	1,2	*	*	*	*
		A2.19	Assessment: Focused	64	1,2	*	*	*	*
		A2.20	Assessment: General Survey	64	1,2	*	*	*	*
		A2.21	Assessment: Head and Neck	64	1,2	*	*	*	*
		A2.22	Assessment: Intake and Output	64	1,2	*	*	*	*
		A2.23	Assessment: Musculoskeletal and Neurologic	64	1,2	*	*	*	*
		A2.24	Assessment: Nutrition Screening	64	1,2	*	*	*	*
		A2.25	Assessment: Orthostatic Vital Signs	64	1,2	*	*	*	*
		A2.26	Assessment: Respiration	64	1,2	*	*	*	*
		A2.27	Assessment: Thorax and Lungs	64	1,2	*	*	*	*
		A2.28	Assessment: Abdomen, Genitalia, and Rectum	64	1,2	*	*	*	*
		A2.29	Assessment: Visual Acuity	64	1,2	*	*	*	*
		A2.30	Assessment: Wounds	64	1,2	*	*	*	*
		A2.31	Blood and Fluid Pressure Infusers	64	1,2	*	*	*	*
		A2.32	Blood and Fluid Warmers	64	1,2	*	*	*	*
		A2.33	Blood Glucose Monitoring	64	1,2	*	*	*	*
		A2.34	Blood Pressure (Systolic): Palpation	64	1,2	*	*	*	*
		A2.35	Blood Pressure Measurement Education	64	1,2	*	*	*	*
		A2.36	Blood Pressure: Lower Extremity	64	1,2	*	*	*	*
		A2.37	Blood Pressure: Upper Extremity	64	1,2	*	*	*	*
		A2.38	Blood Products Administration	64	1,2	*	*	*	*
		A2.39	Blood Specimen Collection: Blood Cultures	64	1,2	*	*	*	*
		A2.40	Atrial Electrogram	64	1,2	*	*	*	*
		A2.41	Auto-PEEP Calculation	64	1,2	*	*	*	*
		A2.42	Hand Washing and Hygiene	64	1,2	*	*	*	*
A2.43	Pain Assessment and Reassessment	64	1,2	*	*	*	*		
A2.44	Wound Dressing	64	1,2	*	*	*	*		
A2.45	Medication Administration	64	1,2	*	*	*	*		

			A2.46	Indwelling Catheterization	64	1,2	*	*	*	*
			A2.47	TPN and Fat Emulsion Administration	64	1,2	*	*	*	*
			A2.48	Enteral Feeding	64	1,2	*	*	*	*
			A2.49	Blood and Blood Product Administration	64	1,2	*	*	*	*
			A2.50	Peripheral IV Insertion	64	1,2	*	*	*	*
			A2.51	NGT Insertion	64	1,2	*	*	*	*
			A2.52	Central Parenteral Nutrition	64	1,2	*	*	*	*
			A2.53	Feeding Tube: Small-Bore Insertion and Care	64	1,2	*	*	*	*
			A2.54	Feeding Tube: Verification of Placement	64	1,2	*	*	*	*
			A2.55	Feeding Tubes: PEG, Gastrostomy, and Jejunostomy Care	64	1,2	*	*	*	*
			A2.56	Ambulation Aids: Patient Education	64	1,2	*	*	*	*
			A2.57	Aquathermia and Heating Pads	64	1,2	*	*	*	*
			A2.58	Aspiration Precautions	64	1,2	*	*	*	*
			A2.59	Cardiac Monitor Setup and Lead Placement	64	1,2	*	*	*	*
			A2.60	Perform 12 Lead ECG	64	1,2	*	*	*	*
			A2.61	Electrocardiogram: Right Precordial and Left Posterior Leads	64	1,2	*	*	*	*
			A2.62	Automated External Defibrillator (AED)	64	1,2	*	*	*	*
			A2.63	Transcutaneous Cardiac Pacing	64	1,2	*	*	*	*
			A2.64	External Defibrillation	64	1,2	*	*	*	*
			A2.65	Cardioversion	64	1,2	*	*	*	*
			A2.66	Alteplase for Acute Myocardial Infarction	65	1,2	*	*	*	*
			A2.67	Tenecteplase for Acute Myocardial Infarction	65	1,2	*	*	*	*
			A2.68	Alteplase for Pulmonary Embolism	65	1,2	*	*	*	*
			A2.69	Arterial and Venous Sheath Removal	65	1,2	*	*	*	*
			A2.70	Arterial-Venous Oxygen Calculations	65	1,2	*	*	*	*
			A2.71	Apical Pulse	65	1,2	*	*	*	*
			A2.72	Radial Pulse	65	1,2	*	*	*	*
			A2.73	Pulse Measurement Education	65	1,2	*	*	*	*
			A2.74	Lumbar Puncture: Advanced Practice	65	1,2	*	*	*	*
			A2.75	Arterial Catheter Insertion (Assisting), Care, and Removal	65	1,2	*	*	*	*
			A2.76	Arterial Catheter: Blood Sampling	65	1,2	*	*	*	*
			A2.77	Arterial Pressure-Based Cardiac Output Monitoring	65	1,2	*	*	*	*
			A2.78	Cardiac Output Measurement	65	1,2	*	*	*	*
			A2.79	Central Venous Catheter Insertion	65	1,2	*	*	*	*
			A2.80	Central Venous Catheter: Blood Sampling	65	1,2	*	*	*	*
			A2.81	Central Venous Catheter: Removal	65	1,2	*	*	*	*
			A2.82	Continuous ST-Segment Monitoring	65	1,2	*	*	*	*
			A2.83	Central Venous Catheter: Site Care	65	1,2	*	*	*	*

			A2.84	Chest Tube Insertion	65	1,2	*	*	*	*
			A2.85	Chest Tube Removal	65	1,2	*	*	*	*
			A2.86	Closed Drainage Systems	65	1,2	*	*	*	*
			A2.87	Code Management	65	1,2	*	*	*	*
			A2.88	Donation After Cardiac Death	65	1,2	*	*	*	*
			A2.89	Endotracheal and Tracheostomy Tube Cuff Care	65	1,2	*	*	*	*
			A2.90	Emergent Sternotomy and Internal Defibrillation	65	1,2	*	*	*	*
			A2.91	Endotracheal Tube and Tracheostomy Tube: Oxygen Administration	65	1,2	*	*	*	*
			A2.92	Endotracheal Tube Extubation and Tracheostomy Tube Decannulation	65	1,2	*	*	*	*
			A2.93	Endotracheal Tube Intubation	65	1,2	*	*	*	*
			A2.94	Endotracheal Tube: Skin and Oral Care	65	1,2	*	*	*	*
			A2.95	External Jugular Venous Access	65	1,2	*	*	*	*
			A2.96	Implantable Cardioverter-Defibrillator: Deactivation and Reactivation	65	1,2	*	*	*	*
			A2.97	Implantable Cardioverter-Defibrillator: Emergency Management	65	1,2	*	*	*	*
			A2.98	Implanted Venous Port: Access, De-access, and Care	65	1,2	*	*	*	*
			A2.99	Intra-compartmental Pressure Measurement	65	1,2	*	*	*	*
			A2.100	Intra-aortic Balloon Pump Management	65	1,2	*	*	*	*
			A2.101	Mechanical Ventilation: Volume and Pressure Modes	65	1,2	*	*	*	*
			A2.102	Mechanical Ventilation: Weaning	65	1,2	*	*	*	*
			A2.103	Nasopharyngeal Airway Insertion	65	1,2	*	*	*	*
			A2.104	Needle Thoracostomy: Advanced Practice	65	1,2	*	*	*	*
			A2.105	Pacemaker Insertion Temporary Transvenous: Advanced Practice	65	1,2	*	*	*	*
			A2.106	Preoperative Care	65	1,2	*	*	*	*
			A2.107	Postoperative Care: Immediate Recovery Period	65	1,2	*	*	*	*
			A2.108	Pacemaker: Assessment of Function	65	1,2	*	*	*	*
			A2.109	Pacing: Epicardial Wire Removal	65	1,2	*	*	*	*
			A2.110	Pacing: Temporary Transvenous and Epicardial	65	1,2	*	*	*	*
			A2.111	Pericardial Catheter Management	65	1,2	*	*	*	*
			A2.112	Pericardiocentesis	65	1,2	*	*	*	*
			A2.113	Pulmonary Artery Catheter Insertion (Assisting) and Monitoring	65	1,2	*	*	*	*
			A2.114	Pulmonary Artery Catheter: Mixed Venous Oxygen Saturation Sample	65	1,2	*	*	*	*
			A2.115	Pulmonary Artery Catheter: Removal	65	1,2	*	*	*	*
			A2.116	Pulmonary Artery Catheter	65	1,2	*	*	*	*
			A2.117	Pulsus Paradoxus Assessment Troubleshooting	66	1,2	*	*	*	*
			A2.118	Streptokinase for Acute Myocardial Infarction	66	1,2	*	*	*	*
			A2.119	Suctioning: Endotracheal and Tracheostomy Tube	66	1,2	*	*	*	*
			A2.120	Thoracentesis	66	1,2	*	*	*	*
			A2.121	Tracheostomy Tube: Care and Suctioning	66	1,2	*	*	*	*

			A2.122	Ventricular Assist Devices	66	1,2	*	*	*	*
			A2.123	Resuscitation Bag: Manual Self-Inflating in Mechanically Ventilated Patients	66	1,2	*	*	*	*
			A2.124	Seizure Precautions	66	1,2	*	*	*	*
			A2.125	Transesophageal Echocardiography	66	1,2	*	*	*	*
			A2.126	Right Atrial and Central Venous Pressure Monitoring	66	1,2	*	*	*	*
			A2.127	Ventilation: Noninvasive CPAP, BIPAP, and NIMV	66	1,2	*	*	*	*
			A2.128	EVD and ICP Monitoring and Troubleshooting	66	1,2	*	*	*	*
			A2.129	Restraint Application and Monitoring	66	1,2	*	*	*	*
			A2.130	Organ Donation	66	1,2	*	*	*	*
			A2.131	Grief Support for Patients and Family	66	1,2	*	*	*	*
In general	Y2		A2.132	Assess common risk factors that may adversely affect the physical and psychosocial well-being of adult patients with CVD	5	1		*		*
			A2.133	Utilize an evidence-based approach in evaluating nursing practice within cardiac units	5	1		*		*
Advanced cardiac care nursing	Y2		A2.134	Identify signs and symptoms of different cardiac and other diseases;	27	1		*		*
			A2.135	Discuss the diagnostic tests used for patients with cardiac and other diseases;	27	1		*		*
			A2.136	1) Introduction to the critical care environment roles and responsibilities 6) Common problems in cardiac critical care •Psychosocial alteration •Sleep alteration •Sedation assessment 7) Pacemakers and implantable defibrillators •Pacemakers •Implantable defibrillators 8) Hemodynamic monitoring •Arterial pressure monitoring •Central venous pressure monitoring •Pulmonary artery pressure monitoring •Cardiac output determination •Evaluation of oxygen delivery and demand balance 11) Sudden cardiac death and cardiac arrest •Definition of sudden death •Pathophysiology and cause of sudden cardiac death	27-28	1		*		*
ECG interpretation – Advanced	Y2		A2.137	Illustrate proper electrode and lead wire placement for a five and a 3 wire system to obtain lead v1 (or mcl1) and v6 (or mcl6);	29	2			*	
			A2.138	Identify the following arrhythmias from a rhythm strip: •Sinus rhythm, sinus bradycardia, sinus tachycardia, sinus arrhythmia, sinus arrest, sinus exit block •Premature atrial complexes, wandering atrial pacemaker, multifocal atrial tachycardia, atrial tachycardia, atrial flutter, atrial fibrillation, supra ventricular tachycardia (svt). •Junctional rhythm, accelerated junctional rhythm, junctional tachycardia, premature ventricular complexes, idioventricular rhythm, junctional tachycardia •Idioventricular rhythm, accelerated ventricular rhythm, ventricular tachycardia (vt), ventricular fibrillation, first degree atrioventricular (av) block, second degree av block (type i and type ii), high grade av block, third degree av block, asystole, right and left bundle branch block.	29	1		*		*
			A2.139	1) Mechanisms of arrhythmias •Disorders of impulse generation •Disorders of impulse conduction •Reentry •Abnormal automaticity •Triggered activity 2) Advanced concepts in conduction system disease •Sinoatrial exit block and entrance block •AV node idiosyncrasies •The His bundle electrogram •Evaluating "trifascicular" block 3) Applying physiology to atrial arrhythmias •Distinguishing different types of atrial flutter	29-30	1		*		*

				<ul style="list-style-type: none"> <li>•Advanced concepts in atrial fibrillation</li> <li>•Automatic versus reentry atrial tachycardia</li> <li>•"Triggered" atrial arrhythmias</li> <li>4) Wide QRS tachycardia</li> <li>•Detecting AV dissociation</li> <li>•Identifying "capture beats"</li> <li>•Pre-excited tachycardia</li> <li>5) Pre-excitation (Wolff-Parkinson-White syndrome)</li> <li>•Relating 12-lead ECGs to pre-excitation</li> <li>•Arrhythmias seen due to accessory pathways</li> <li>•Other pre-excitation syndromes</li> <li>6) Paroxysmal SVT</li> <li>•Common causes of PSVT</li> <li>•P-wave timing and PSVT mechanisms</li> <li>7) Applying physiology to ventricular arrhythmias</li> <li>•Distinguishing automatic versus reentry VT</li> <li>•Identification of VT site of origin</li> <li>•Brugada syndrome</li> <li>8) Idiopathic ventricular arrhythmias</li> <li>•"Idiopathic" ventricular arrhythmias</li> <li>•VT arising from right ventricular outflow tract</li> <li>•Arrhythmogenic right ventricular dysplasia/cardiomyopathy</li> <li>•Idiopathic left ventricular (Behrassen's) tachycardia</li> <li>9) Long QT Syndrome</li> <li>•"Torsades de pointes"</li> <li>•Drug-induced long QT syndrome</li> <li>10) Introduction to pacemakers</li> <li>•Recognizing loss of capture</li> <li>•Problems with under sensing</li> </ul>						
	Emotional and spiritual well-being	Y2	A2.140	Recognize the emotional impact that a cardiac diagnosis may have upon patients and their families;	31	1,3		*	*	*
			A2.141	Identification, screening, and outcome assessment tools designed to measure psychological status and health related quality of life	31	1,2		*	*	*
			A2.142	Demonstrate the ability to recognize and understand the emotions, needs, and concerns of patients and their families.	31	1,3		*	*	*
			A2.143	Use screening and assessment tools to assess emotions, coping, and health related quality of life in alignment with scope of practice.	31	2			*	
			A2.144	Recognize when referral to a mental health professional is warranted.	31	1		*		*
<b>A3 Management</b>	Health promotion, prevention, and rehabilitation	Y1	A3.1	Introduce the theory and principles of behavior change;	19	1		*	*	*
			A3.2	Describe clinical guidelines in practice.	19	1		*	*	*
			A3.3	Outlining key theories and principles that underpin health behavior change and relevance to clinical practice and cardiac rehabilitation	19	1		*	*	*
	Cardiac nursing: Assessment, planning, and managing care	Y1	A3.4	Demonstrate the ability to analyze data to plan care and attain defined outcomes for a range of cardiac disorders;	21	1		*	*	*
			A3.5	Implement an evidence-based plan of care and coordinate care delivery and evaluation for patients with a range of cardiac disorders.	21	1		*	*	*
			A3.6	Development, implementation, and evaluation of a nursing care plan using evidence-based clinical guidelines in practice with emphasis on nursing contribution	21	1		*	*	*
			A3.7	Principles and the safe practice of non-invasive procedures	21	1		*	*	*
			A3.8	Key diagnostic tests and how to prepare the patient, family, and environment	21	1		*	*	*
			A3.9	Review of life support skills in line with relevant clinical guidelines	21	1		*	*	*
	Cardiac pharmacology	Y1	A3.10	Compare and contrast dosage and forms of commonly used medications;	22	1		*	*	*
			A3.11	Apply arithmetic, including fractions, decimals, and conversion between systems of measurement, to calculate drug dosages accurately;	22	1,2		*	*	*
			A3.12	Compare and contrast dosage and forms of commonly used medications in critical care units;	22	1		*	*	*
			A3.13	Calculate appropriate dosage.	23	1,2		*	*	*
			A3.14	Administrate drugs safely and efficiently through a variety of routes.	23	2			*	
			A3.15	Demonstrate the specialized administration rates used in critical and emergency care.	23				*	
			A3.16	Administer medication.	23	2			*	
	In general	Y2	A3.17	Demonstrate the ability to manage sudden or acute deterioration in patients with CVD;	5	1		*		*
	Advanced cardiac care nursing	Y2	A3.18	Define expected outcomes of therapeutic management of different cardiac and other diseases;	27	1		*		*



				<ul style="list-style-type: none"> <li>1) Introduction to the critical care environment roles and responsibilities</li> <li>6) Common problems in cardiac critical care               <ul style="list-style-type: none"> <li>•Psychosocial alteration</li> <li>•Sleep alteration</li> <li>•Nutrition alteration and management</li> <li>•Pain and pain management</li> <li>•Peri anesthesia management</li> <li>•Sedation management</li> <li>•Implantable defibrillators</li> </ul> </li> <li>9) CVDs and management               <ul style="list-style-type: none"> <li>•Cardiomyopathies</li> <li>•Pulmonary hypertension</li> <li>•Hypertensive emergencies</li> <li>•Carotid artery disease</li> <li>•Venous thromboembolism</li> <li>•End-stage heart disease</li> <li>•Cardiac trauma</li> <li>•Cardiac tumor</li> <li>•Shock</li> <li>•Multi-organ dysfunctions</li> </ul> </li> <li>10) Cardiac Surgery               <ul style="list-style-type: none"> <li>•Trends in cardiac surgery</li> <li>•Surgical techniques</li> <li>•Cardiac revascularization</li> <li>•Valvar heart surgery</li> <li>•Cardiac transplantation</li> <li>•Patient management</li> </ul> </li> <li>11) Sudden cardiac death and cardiac arrest               <ul style="list-style-type: none"> <li>•Management of sudden cardiac arrest</li> </ul> </li> </ul>	27-28	1		*		*
	Emotional and spiritual well-being	Y2	A3.20	Nursing interventions to support emotional and spiritual well-being	31	1		*		*
			A3.21	Relevant clinical guidelines and their implementation in clinical practice	31	1		*		*
			A3.22	Promote EBP by accessing and maintaining European Society of Cardiology guidelines and other high quality evidence to promote the emotional and spiritual well-being of those in your care.	31	1		*		*
	<b>A4 Health promotion &amp; illness prevention</b>	Y1	A4.1	Describe primary and secondary prevention strategies at the population and individual level;	19	1	*	*		*
			A4.2	Describe interventions (population, individual, and family focused) to promote a healthy lifestyle and support adherence to prescribed medications;	19	1	*	*		*
			A4.3	Demonstrating knowledge and understanding of EBP prevention guidelines for the management of hypertension, tobacco smoking, dyslipidemia, diabetes and metabolic syndromes, and lifestyle	19	1	*	*		*
			A4.4	Describing prevention interventions used to reduce CVD mortality and morbidity.	19	1	*	*		*
			A4.5	Educate the patient and family about the importance of risk factor management and support self-management of healthy lifestyle changes.	19	2		*		
			A4.6	Select appropriate prevention programs for implementation by multidisciplinary team.	20	1	*	*		*
	Cardiac pharmacology	Y1	A4.7	Medication errors	22	1	*	*		*
			A4.8	Apply basic precautions and safe drug administration.	23	1,2	*	*	*	*
	In general	Y2	A4.9	Apply infection control measures when caring for patients with CVD;	5	1,2				
	Evaluation of quality of care	Y2	A4.10	Key principles of risk assessment, patient safety, auditing and evaluation of adverse events, integrating care that includes interception of errors by other-near misses	32	1		*		*
			A4.11	Identify, develop, and enhance activities that promote a culture of safety.	32	1		*		*
			A4.12	Initiate safety measures based on evidence-based guidelines.	32	1		*		*
	<b>B Communicator</b>	Y1	B1	Educate the patient and family about the importance of risk factor management and support self-management of healthy lifestyle changes.	19	2		*		*
			B2	Develop, document, and evaluate prevention plans.	20	1,2	*	*	*	*
	Cardiac pharmacology	Y1	B3	Communicate appropriate patient education information regarding drug therapy for a given disease.	22	2		*		*
	In general	Y2	B4	Demonstrate interpersonal and psychomotor skills in implementing effective nursing care to patients with CVD;	5	2		*		*
			B5	Provide health education and counseling to patients with CVD;	5	2		*		*
	Advanced cardiac care nursing	Y2	B6	<ul style="list-style-type: none"> <li>1) Introduction to the critical care environment roles and responsibilities</li> <li>5) Crisis management               <ul style="list-style-type: none"> <li>•Communication skills</li> <li>•Family counseling</li> <li>•Framework for crisis management</li> <li>•Transcultural issues in death and dying</li> <li>•Grief counseling</li> </ul> </li> </ul>	27-28	1,2		*	*	*
	Evaluation of quality of care	Y2	B7	Apply basic and advanced information technology skills to electronic medical records.	32	1,2		*	*	*
	Nursing informatics	Y2	B8	Describe the foundation of nursing informatics as an emerging field in the nursing profession;	32	1		*		*

			B9	Identify key factors and legislative organizations that help shape nursing informatics;	32	1		*		*		
			B10	Discuss evolving models and theories of informatics that define roles and competencies in nursing informatics;	32	1		*		*		
			B11	Explain the implications of nursing informatics for nursing practice, administration, education, and research;	32	1		*		*		
			B12	Demonstrate skills in the acquisition and retrieval of nursing information using health information systems within the institution and through the worldwide web and varied electronic resources;	32	2			*			
			B13	Apply approaches that safeguard data and information integrity while maintaining privacy and confidentiality.	32	2			*			
			B14	1) Introduction and overview of nursing informatics 2) Nursing informatics goals, standards, and scope of practice 3) Nursing informatics competencies (i.e., computer literacy skills, informatics literacy skills, etc.) 4) Models and theories of informatics 5) Internet search engines and electronic databases and resources 6) Selection of health care information systems 7) System implementation, maintenance, and development 8) Data integrity, security, and confidentiality 9) Intranet, extranet, and network integration 10) Information technology in patient education 11) Integrating computers and information technology in nursing education and practice	33	1			*		*	
			B15	Assess the application of information and communication technology in management of patient related data.	33	1			*		*	
			B16	Identify different models of computerized health care service electronic records.	33	1			*		*	
			B17	Differentiate between models of health information management systems.	33	1			*		*	
			B18	Analyze implications for healthcare delivery arising from telehealth and telemedicine.	33	1			*		*	
			B19	Assess the impact of the information technology revolution on nursing practice.	33	1			*		*	
			B20	Apply skills to access, create, store, and retrieve nursing related information from the worldwide web.	33	2				*		
			B21	Demonstrate ways of integrating nursing informatics to areas of nursing administration, education, clinical practice, and research.	33	2				*		
			B22	Utilize security regulations to safeguard patients' and organizations' data and information.	33	2				*		
			B23	Understand ethical issues related to nursing informatics.	33	1			*		*	
			B24	Assess the future of information technology and its impact on nursing practice.	33	1			*		*	
			Professional performance	Y2	B25	Differentiate between effective versus ineffective communication;	34	1		*		*
					B26	Discuss the meaning of active listening;	34	1		*		*
					B27	Identify three skills necessary for active listening;	34	1		*		*
					B28	Describe ways in which patients and coworkers benefit when nurses communicate effectively;	34	1		*		*
					B29	Discuss the difference between "I" statements and "you" statements;	34	1		*		*
					B30	Identify the skills required for therapeutic communication.	34	1		*		*
					B31	1) Sources of data for EBP 2) Education processes (teaching and learning principles) 3) Legal issues 4) Ethical issues 5) Patient advocacy 6) Quality assurance 7) Professional development 8) Multidisciplinary collaboration 9) Effective communication	35	1		*		*
					B32	1) Communication with depressed patients 2) Therapeutic communication 3) Communication with anxious patients 4) Situation, background, assessment, and recommendation based communication	35	1,2		*	*	*
C Collaborator	Evaluation of quality of care	Y2	C1	Recognize the role of teamwork, communication, and the work environment in influencing patient safety.	32	1		*		*		
	Leadership and management	Y2	C2	Collaborate with multidisciplinary health care team members in prioritizing and coordinating quality/cost effective healthcare;	33	2		*				
	Professional performance	Y2	C3	Provide care in an inter professional environment;	34	2		*				
D Manager/ Leader	Health promotion, prevention, and Ethics in nursing and dimensions of care	Y1	D1	Describe the burden of cardiac disease in the Kingdom of Saudi Arabia and around the world;	19	1	*	*		*		
			D2	Analyze conflicting duties and rights inherent in moral dilemmas;	23	1	*	*		*		
			D3	Demonstrate knowledge by distinguishing between moral and legal concepts in relation to trauma diagnosis and treatment.	23	1	*	*		*		
			D4	Demonstrate knowledge by identifying ethical and cultural life and death considerations applied in the Kingdom of Saudi Arabia.	23	1	*	*		*		

	In general	Y2	D5	Utilize the nursing process in the care of patients with CVD;	5	3			*			
			D6	Utilize critical thinking skills to improve health outcomes of patients with CVD;	5	3			*			
			D7	apply the concept of quality improvement in evaluating nursing care;	5	1			*		*	
			D8	manage ethical issues concerning the care of patients with CVD and their families in accordance with Saudi rules and regulations;	5	1			*		*	
			D9	Perform self-directed professional development activities	5	2				*		
	Advanced cardiac care nursing	Y2	D10	<p>1) Introduction to the critical care environment roles and responsibilities</p> <ul style="list-style-type: none"> <li>•Scope of practice</li> <li>•Professionalism and ethics</li> <li>•Accountability</li> <li>•Legal responsibility</li> <li>•Advanced practice role</li> <li>•Credentials</li> </ul> <p>2) Stressors in the critical care environment</p> <ul style="list-style-type: none"> <li>•Identifying stressors</li> <li>•Burn-out</li> <li>•Managing stress</li> <li>•Sensory deprivation</li> <li>•ICU stress reduction techniques</li> <li>•Patterns and routines</li> <li>•Team work</li> <li>•Acuity index</li> </ul> <p>4) Time management</p> <ul style="list-style-type: none"> <li>•Staff assignments</li> <li>•Prioritization</li> <li>•Delegation</li> </ul>	27-28	1			*		*	
	Evaluation of quality of care	Y2	D11	Comprehend the issues around quality of care;	32	1				*		*
			D12	Define the measurement of quality indicators for nursing care;	32	1				*		*
			D13	Possess broad knowledge of factors that influence care coordination and successful transition throughout a patient's journey;	32	1				*		*
			D14	Recognize the potential of emerging technologies for quality and safety in supportive care;	32	1				*		*
			D15	Key features of systems and organizational theory as they relate to the design, delivery, and evaluation of health care delivery	32	1				*		*
			D16	Standards of care within the present organization and associated challenges	32	1				*		*
			D17	The role that technology can play in the provision of quality of care	32	1				*		*
			D18	Ways in which patients' perspectives can be integrated into auditing and quality improvement efforts	32	1				*		*
			D19	Adhere to evidence-based standards to ensure optimal care.	32	3					*	
			D20	Apply relevant key indicators in quality care at the unit level.	32	3					*	
			D21	Apply auditing and evaluation techniques to improve service design and implement quality care.	32	2					*	
			D22	Participate in the development of new standards of care.	32	3					*	
			Leadership and management	Y2	D23	Analyze the components of organizational structure and culture;	33	1				*
	D24	Apply theories of effective leadership and management within selected health care arenas;			33	1,3				*	*	*
D25	Utilize the skills of the nursing process, critical thinking, ethical decision-making, communication, and therapeutic nursing intervention in managing the culturally competent and cost effective care of groups of patients across the wellness/illness continuum;	33			3					*		
D26	Demonstrate leadership and management of a care-giving team comprised of individuals with varied cultural backgrounds and varied levels of clinical knowledge and competencies;	33			3					*		
D27	Demonstrate professional accountability for effective leadership in nursing practice;	33			3					*		
D28	Contribute to organizational strategic planning and its implementation at different levels within healthcare organizations.	33			3							
D29	<p>1) Organizational structure and culture</p> <p>2) Application of leadership and management theories</p> <p>3) Organizational and personal mission, vision, and goals</p> <p>4) Critical thinking, problem solving, and effective decision making</p> <p>5) Quality and risk management</p> <p>6) Budgeting, cost, care delivery models, and staffing</p> <p>7) Communication, motivation, and team building</p> <p>8) Change and conflict management</p> <p>9) Role transition and delegation</p> <p>10) Strategic planning and strategic management</p> <p>11) Career planning</p>	34			1,2,3							

			<ul style="list-style-type: none"> <li>1) Systems thinking</li> <li>2) Time management</li> <li>3) Information management</li> <li>4) Human resources management (i.e., staffing and scheduling, resource allocations, etc.)</li> <li>5) Financial management (cost analyses, budget forecasting, etc.)</li> <li>6) Quality and risk management (quality plans, risk management models, etc.)</li> <li>7) Change management and conflict resolution</li> <li>8) Strategic planning</li> <li>9) Strategic management</li> <li>10) Career planning</li> </ul>	34	1,2,3				
	Professional performance	Y2	D31	Assume responsibility for personal professional development;	34	3			
E Scholar	Health promotion, prevention, and	Y1	E1	Search for, appraise, and interpret published literature critically.	20	1,2			
	Cardiac nursing: Assessment, planning, and	Y1	E2	Relevant clinical guidelines and their implementation in practice.	21	1	*	*	*
	Ethics in nursing and dimensions of care	Y1	E3	Discuss the impact of current issues related to health care delivery;	23	1	*	*	*
	Epidemiology	Y1	E4	Conduct epidemiological study designs (cohort, cross-sectional, retrospective, and prospective);	24	2			
			E5	Differentiate between association and causation;	24	1	*	*	*
			E6	Identify potential bias, confounding factors, and interacting factors in an epidemiological study;	24	1	*	*	*
			E7	Explain the role of genetic and environmental factors in disease causation;	24	1	*	*	*
			E8	Apply epidemiologic methods to evaluate screening programs;	24	1	*	*	*
			E9	Identify sources of information on disease occurrence;	24	1	*	*	*
			E10	Critique medical and health research studies.	24	1	*	*	*
			E11	<ul style="list-style-type: none"> <li>1) Definition of epidemiology and health</li> <li>2) Dynamics of disease transmission</li> <li>3) Infectious disease epidemiology</li> <li>4) Measuring the occurrence of disease</li> <li>5) Assessing the reliability and validity of diagnostic and screening tests</li> <li>6) Assessing the efficacy of preventive and therapeutic measures through randomized trials</li> <li>7) Cohort studies</li> <li>8) Case control and cross-sectional studies</li> <li>9) Estimating risk determining association</li> <li>10) Estimating the potential for prevention</li> <li>11) From association to causation: deriving inferences from epidemiologic studies</li> <li>12) Bias, confounding factors, and interaction</li> <li>13) Roles of genetic and environmental factors in disease causation</li> <li>14) Ethical and professional issues in epidemiology</li> </ul>	24	1	*	*	*
			E12	Demonstrate knowledge by identifying basic principles in epidemiology.	24	1	*	*	*
			E13	Demonstrate knowledge by determining associations of diseases and estimating potential for disease prevention.	24	1	*	*	*
			Biostatistics	Y1	E14	Demonstrate familiarity with statistical terminology and the purpose of statistics;	25	1	*
	E15	Identify ways of organizing data;			25	1	*	*	*
	E16	Recognize measures of central tendency and variability;			25	1	*	*	*
	E17	Demonstrate an understanding of the analysis of statistical data within the research context;			25	1	*	*	*
	E18	Provide the necessary statistical background for analyzing data and drawing inferences from the analysis;			25	1	*	*	*
	E19	Discuss the logic of hypothesis testing.			25	1	*	*	*
	E20	<ul style="list-style-type: none"> <li>1) Descriptive statistics, frequencies, shapes, and measures of central tendency</li> <li>2) Univariate descriptive statistics, measures of variability, range of standard deviation scores within a distribution, Z scores, and standardized distribution</li> <li>3) Bivariate descriptive statistics</li> <li>4) Inferential statistics, probability, sampling distribution, and hypothesis testing</li> <li>5) Power analysis, type I and type II errors, level of significance/critical regions, confidence intervals, one-tailed and two-tailed tests, and parametric tests</li> <li>6) Bivariate inferential statistics, t tests for independent groups, paired t tests for dependent groups</li> <li>7) ANOVA, between group and within group analysis, non-parametric tests, Chi square, tests for independence, bivariate inferential statistics, and Pearson's r as an inferential statistic</li> </ul>			25	1	*	*	*
	E21	Demonstrate familiarity with the terminology listed in the module content.			25	1	*	*	*
	E22	Demonstrate the ability to organize data.			25	1	*	*	*
	E23	Apply measures of central tendency and variability.			25	1	*	*	*
E24	Demonstrate the logic of hypothesis testing.	25			1	*	*	*	

			E25	Demonstrate the ability to analyze data and draw inferences from the analysis.	25	1	*	*		*
			E26	Explain the role of statistical data within the research process.	25	1	*	*		*
In general	Y2		E27	Conduct a research project in the area of cardiac care nursing;	5	2				
Introduction to research and evidence-based practice	Y2		E28	Define the basic concepts of research methodology;	26	1		*		
			E29	Describe the different research designs;	26	1		*		
			E30	Describe the scientific process and its use in nursing research;	26	1		*		
			E31	Develop a research proposal for a project;	26	1				
			E32	Explain the steps of the research process in the proposal and/or conduct a circumscribed nursing research project;	26	1		*		
			E33	Identify research problems in the literature review process related to nursing practice;	26	1				
			E34	Compare and contrast research designs;	26	1		*		
			E35	Discuss appropriate statistical techniques in data analysis;	26	1		*		
			E36	Critique current studies of nursing practice;	26	1				
			E37	Describe the utilization of research findings;	26	1		*		
			E38	Define the historical perspective of ebp;	26	1		*		
			E39	Define and apply evidence-based nursing practice principles identified by nursing research.	26	1		*		*
			E40	Overview of nursing research	26	1		*		
			E41	Research methodology and process	26	1		*		*
			E42	Research design	26	1		*		*
			E43	Data collection and analysis	26	1,2				
			E44	Evidence-based research and application	26	1		*		*
			E45	Demonstrate familiarity with research terminology.	26	1		*		*
			E46	Demonstrate knowledge of research design.	26	1		*		*
			E47	Conduct a literature search using a range of resources (electronic and non-electronic).	26	2				
			E48	Gather and interpret relevant data to make judgments.	26	1,2				
			E49	Utilize evidence-based principles in applications of practice	26	1		*		*
			E50	Comprehend the application of a critical appraisal approach.	26	1		*		*
			E51	Critique journal articles.	26	1				
	E52	Formulate a research proposal for a topic of interest within the cardiac field.	26	1						
	E53	Design and implement a research project.	26	1,2						
	E54	Compose a manuscript for publication.	26	2						
Leadership and management	Y2		E55	Utilize skills of inquiry and research as a means to enhance knowledge base, facilitate change, and improve quality of care;	33	3				
Professional performance	Y2		E56	Initiate independent learning activities;	34	3				
f Health advocate	Professional performance	Y2	F1	Advocate for the health and safety of patients;	34	2,3				
G Professional	Health promotion, prevention, and	Y1	G1	Display a non-judgmental attitude and respect for patient choice.	20	3			*	
	Cardiac nursing: Assessment, planning, and	Y1	G2	Identify expected nurse sensitive outcomes with patients, families, and other healthcare providers;	21	1	*	*		*
	Cardiac pharmacology	Y1	G3	Appreciate the importance of applying legal and ethical standards in the preparation and administration of drugs in cardiac critical care areas; * Legal and ethical aspects of medication administration The nursing process and pharmacology	22	1	*	*		*
	Ethics in nursing and dimensions of care	Y1	G4	Examine the nature and role of ethical theories in guiding sound ethical decision making in workplace settings;	23	1	*	*		*

			G5	Discuss the ethical and legal context of professional nursing practice;	23	1	*	*		*
			G6	Examine key ethical issues occurring in nursing and related health care contexts;	23	1	*	*		*
			G7	Discuss processes for achieving desired moral outcomes in nursing and healthcare domains;	23	1	*	*		*
			G8	Use ethical reasoning to synthesize standards of practice, ethical principles, and legal/regulatory requirements in the resolution of ethical dilemmas;	23	1	*	*		*
			G9	Discuss ethical issues relevant to traumatized patients.	23	1	*	*		*
			G10	1) Introduction to moral and legal concepts 2) Credentials and licensing 3) Autonomy and paternalism 4) Life and death 5) Public health 6) Ethical issues related to emergency situations	23	1	*	*		*
			G11	Demonstrate knowledge by identifying common ethical dilemmas related to traumatized patients	23	1	*	*		*
	Advanced cardiac care nursing	Y2	G12	1) Introduction to the critical care environment roles and responsibilities •Professionalism and ethics •Professional relationships •Professional development •Professional portfolios  3) Ethical Dilemmas •Ethical concepts •Ethical theories •Framework for decision making •Brain death •Bioethics •Euthanasia	27-28	2001,2,3		*	*	*