



Faculty of Nursing  
Cairo University  
Level: Doctorate  
Second Semester 2025-2026  
Evaluation and Measurement in Education (02808)



---

# Evaluation and Measurement Term Paper

---



## Content of the Term Paper

Course Specification  
Exam Blue Print  
Exam  
Model Answer of the Exam

## **Prepared by**

**Asmaa Hassan Abd Elaty**  
**Heba Sobhy Abdelbaky**  
**Samah Abdallah Mahmoud**  
**Abdelhamed Hassan Awawdeh**

## **Under Supervision**

**Prof. Effat Elkarmalawy**  
**Prof. Enas Helmy**  
**Prof. Heba Ahmed**

2025

جامعة القاهرة.  
كلية التمريض  
برنامج: ماجستير فصل دراسي ثاني

توصيف مقرر دراسي  
2021-2022

1- بيانات المقرر		
الفرقة / المستوى: الثاني	أسم المقرر: علاج الألم (مقرر إختياري)	الرمز الكودي: 024705
عدد الوحدات الدراسية : نظري: 2 ساعات معتمدة		

The Aim Of This Course Is To Equip The Student With Knowledge, Skills And Attitudes Needed To Manage Pain.	2- المقرر هدف
	3- المستهدف من تدريس المقرر:
A1- Describe The Anatomy Of Central Nervous System A2- Discuss Principles Of Ethics In Managing Pain A3-Discuss Factors Affecting Pain Perception A4- Describe Maternal Pain Assessment A5-Discuss Phases Of Pain A6- Describe The Component Of Pain A 7- Recognize The Physiology Of Pain A 8-. Identify Barriers To Effective Pain Assessment A9- Explain Pain Management Methods A10- Identify Barriers To Effective Pain Assessment And Management Related To The Patient, Their Family And Health-Care Professionals. 11.Recognize Any Complications Which May Arise During Pain Management	ا-المعلومات والمفاهيم
B1- Relate Legal And Ethical Issues To Maternity Nursing B2- Sketch Nursing Care Plan For Women In Pain B3-Design Nursing Care Plan For Woman In Pain During Pregnancy, Labor, And Postpartum In Normal And Abnormal Conditions Using The Assessment Data. B4- Compare Between Types Of Pain B5- Compare Between Methods Of Pain Management B6- Interpret Assessment Findings As Related To Abnormal Condition During Assessment Of Woman In Pain B7- Formulate Nursing Diagnosis To Women D In Pain During Pregnancy, Labor, And Postpartum Period As Well As High Risk Conditions Based On Assessment Data. B8- Differentiate Between Normal And Abnormal Findings Of Maternal Pain Assessment	ب - المهارات الذهنية

<p>B9- Demonstrate An Understanding Of The Consequences Of Unrelieved Pain</p> <p>B10- Distinguish Between Different Types Of Acute, Persistent, And Breakthrough Pain In Terms Of Mechanisms, Assessment, And Management</p> <p>B11- Interpret Findings Of Maternal Pain Assessment</p>	
<p>C1- Apply Knowledge Of Anatomy, Physiology, Pharmacology, Psychology, And Sociology To The Assessment And Management Of People With Pain</p> <p>C2- Recognize Any Complications Which May Arise During Pain Management</p> <p>C3- Engage In Evidence-Based Pain Assessment And Care Planning That Takes Into Account Social, Psychological, And Biological Components Of The Pain Condition</p> <p>C4- Predict Any Deviation From Normal During Assessment Of The Woman In Pain</p> <p>C5- Use Valid And Reliable Pain-Assessment Tools That Are Appropriate To The Needs Of The Individual Patient And The Demands Of The Care Situation</p> <p>C6- Prepare Educational Classes For Women In Pain During Pregnancy, Labor And Postpartum Periods</p> <p>C7- Appraise Appropriateness Prior To Administering Prescribed Analgesics And Evaluate Their Effects On Patients' Pain And Function</p> <p>C8- Prevent And Manage Common Adverse Effects Associated With Pain Treatment</p>	<p>ج- المهارات المهنية الخاصة بالمقرر</p>
<p>D1- Show Positive Attitude In Dealing With Colleagues And Professors</p> <p>D2- Show Responsibility, Accountability And Leadership Abilities While Working With Colleagues And Professors</p> <p>D3- Apply Information Technology, Evidence-Based Nursing Practice And Nursing Research In Obstetrics And Gynecological Nursing</p> <p>D4- Provide Patients And Family Members With Information About A Variety Of Pain-Management Interventions</p> <p>D5.- Write Pain Assessments Document</p>	<p>د - المهارات العامة</p>

<p>E1- Exhibit As A Role Model And Clinical Expert In The Maternity Area</p> <p>E2- Exhibit Responsibility, Accountability And Leadership Abilities While Working With Colleagues And Professors</p> <p>E3- Support Woman Rights, Respect, Privacy, Dignity And Access To Information.</p> <p>E4- Exhibit Caring Attitude Towards Colleagues.</p> <p>E5-Employ Legal Aspects And Ethical Behaviors Based On The Code Of Ethics For Nurses When Dealing With Colleagues And Professors</p>	<p>هـ- الإتجاهات</p>
<p>-Introduction To The Course</p> <p>-Anatomy And Physiology Of Pain</p> <p>-Multidimensional Nature Of Pain</p> <p>-Pain Assessment And Measurement</p> <p>-Pain Management</p> <p>-Pharmacological Pain Relief</p> <ul style="list-style-type: none"> <li>• Systematic</li> <li>• Inhalation</li> <li>• Regional Gas</li> <li>• General</li> <li>• Pca</li> </ul> <p>-Pain Management</p> <p>B- Non-Pharmacological Pain Relief</p> <ul style="list-style-type: none"> <li>• Relaxation</li> <li>• Cutaneous Stimulation</li> <li>• Mental Stimulation</li> <li>• Psychological</li> </ul>	<p>4- المحتوي المقرر:</p>
<p>Presentations</p> <p>Group Discussion</p> <p>Critical Thinking</p>	<p>5- أساليب التعليم والتعلم</p>
<p>Na</p>	<p>6-أساليب التعليم والتعلم للطلاب ذوي الاحتياجات الخاصة</p>
<p>Oral Presentation</p> <p>Term Paper</p> <p>Final Written Exam</p>	<p>7-تقويم الطلاب:</p>
<p>Ongoing Assessment</p> <p>Assessment 1</p> <p>Assessment 2</p>	<p>أ- الأساليب المستخدمة:</p> <p>Oral Presentation</p> <p>Term Paper</p> <p>Final Exam</p>
<p>Ongoing Assessment</p> <p>Assessment 1</p> <p>Assessment 2</p>	<p>ب- التوقيت</p> <p>Oral Presentation</p> <p>Term Paper                      Week 12</p> <p>Final Exam                        Week 15</p>

Ongoing Assessment	Oral Presentation	30 Marks	ج- توزيع الدرجات:
Assessment 1	Term Paper	10 Marks	
Assessment 2	Final Exam	60 Marks	
Total		100 Marks	
			8-قائمة الكتب الدراسية والمراجع
Na			أ – مذكرات
1- Pillitter, A (2018). Maternal And Child Health Nursing: Care Of Childbearing And Childrearing Family. 8th Edition			ب- كتب ملزمة
2-Beth. M, Kelsey. E, (2019), Midwifery And Women's Health Nurse Practitioner Certification Review Guid , 3 <sup>rd</sup> Edition .			
3-Deering,S., (2019). A Practical Manual To Labor And Delivery, 2 <sup>nd</sup> Edition, Usa.			
4-Magowan,B. , Owen,Ph And Thomson,A. ,(2019), Clinical Obstetrics And Gynecology 4th Edition , El Sliver.			
Moore, H., (2019). Essentials Of Obstetrics And Gynecology, 6 <sup>th</sup> Edition, Elsevier			ج- كتب مقترحة
Www.Pain Management.Com			د – دوريات علمية أو نشرات ... إلخ

علاج الألم (مقرر إختياري)	مسمى المقرر
024705	الرقم الكودي

جامعة القاهرة.  
كلية التمريض  
برنامج: ماجستير فصل دراسي ثاني

**Knowledge And Skills Specification**  
(مصنوفة المعارف والمهارات للمقرر الدراسي)

Course Content (المحتويات الرئيسية للمقرر)	Course Weeks	Knowledge (المعارف)	Intellectual (مهارات ذهنية)	Professional (مهارات مهنية)	General (مهارات عامة)	Attitude الاتجاهات
Introduction To The Course	1 <sup>st</sup>	-	B1	-	D1	E2,3,4,5
Anatomy And Physiology Of Pain	2 <sup>nd</sup>	A1,3,8	B2, 3, 4	C1,5	D,2,3	E2, ,3,4,5
Multidimensional Nature Of Pain	3 <sup>rd</sup> &4 <sup>th</sup>	A1,3,6	B1,5 , 6,10	C2	D2,3	E2,3,4,5
Pain Assessment And Measurement	5 <sup>th</sup>	A4,5,7,8,11	B1 ,6,7,8,11	C3,4,5	D,23,5	E1,2, ,3,4,5
Pain Management A-Pharmacological Pain Relief • Systematic • Inhalation • Regional Gas • General • Pca	6 <sup>th</sup> ,7 <sup>th</sup> 8 <sup>th</sup> ,9 <sup>th</sup> & 10 <sup>th</sup>	A9,10	B1,2,5	C3,7	D, 2,3,4	E1,2,3,4,5
Pain Management B- Non-Pharmacological Pain Relief • Relaxation • Cutaneous Stimulation • Mental Stimulation • Psychological	11 <sup>th</sup> , 12 <sup>th</sup> , 13 <sup>th</sup> , 14 <sup>th</sup> , 15 <sup>th</sup>	A9,10	B1,5	C2,3,6,8	D2,3,4,5	E1,2,3,4,5

### Exam Blueprint

- Course / Code: Pain Management (code: 024705)

- Semester: 2<sup>nd</sup>

- Date of exam: 4/1/ 2025

- Program of the course : Master

- PhD candidate: Asmaa Hassan – Heba Sobhy – Samah Abdallah – Abdelhamed Hassan

Level of ILOS  Course Content	Knowledge & understanding		Application		Analysis		Evaluation		Total No. of questions	1* Relative weight of topics
	3* Relative weight of cell	4* No. of quest	3* Relative weight of cell	4* No. of quest	3* Relative weight of cell	4* No. of quest	3* Relative weight of cell	4* No. of quest		
<b>Anatomy and Physiology of Pain</b> <ul style="list-style-type: none"> <li>• Anatomy of central nervous system,</li> <li>• Theories,</li> <li>• Pathway,</li> <li>• Adverse effect of excessive pain and labor pain</li> </ul>	12%	3	4%	1	8%	2	-	-	6	24%
<b>Multidimensional Nature of Pain</b> <ul style="list-style-type: none"> <li>• Components,</li> <li>• Phases;</li> <li>• Types;</li> <li>• Causes of pain;</li> <li>• Factors influencing pain perception;</li> <li>• Importance of pain;</li> </ul> Characteristics a principle of pain	12%	3	4%	1	8%	2	-	-	6	24%

<b>Pain Assessment and Measurement</b>	8%	2	8%	2	8%	2	-	-	6	20%
<b><u>Pain management</u></b> <b>pharmacological pain relief</b> <ul style="list-style-type: none"> <li>• Systematic</li> <li>• Inhalation</li> <li>• Regional gas</li> <li>• General</li> <li>• PCA</li> </ul>	4%	1	8%	2	4%	1	-	-	4	16%
<b><u>Pain management</u></b> <b>Non-pharmacological pain relief</b> <ul style="list-style-type: none"> <li>• Relaxation</li> <li>• Cutaneous stimulation</li> <li>• Mental stimulation</li> <li>• Psychological</li> </ul>	4%	1	4%	1	4%	1	-	-	3	16%
<b>2* Relative weight of ILOs /level</b>	40%	<b>10</b>	28%	<b>7</b>	32%	<b>8</b>	-	-	25	<b>100%</b>

<b>1* Relative weight of the topic =</b>	Number of topic ILOs	× 100
	Total Number of course ILOs	
<b>2* Relative weight of ILOs levels =</b>	Number of ILOs of single level in all topics	× 100
	Total Number of course ILOs	
<b>3* Relative weight of the cell =</b>	Relative weight of the ILOs × Relative weight of the topics	
	100	
<b>4* No. of questions in each call =</b>	Relative weight of the cell ×total Number of exam questions	
	100	

**N.B → All Formulas must be calculated as the order above.**

**Types of question;** Multiple choices, True and false, matching, short answers and essay questions.

**Total number of exam questions:** 25 questions



Department: General  
Academic year: 2025-2026  
Semester: 2nd semester

<b>Academic level:</b> 2 <sup>nd</sup> semester <b>Program: Master</b>	<b>Course name/code:</b> Pain Management/ 024705	<b>Time: 2 hours</b> <b>Date: 4-1-2025</b>	<b>Total marks: 60</b> <b>Marks</b>	<b>No. of exam pages: 2</b> <b>No. of sections: 5</b> <b>No. of questions: 25</b>
--	--	---	--	---

**General exam instructions for the students:**

- Answer ALL questions.
- Read each question carefully before answering.
- Write clearly and legibly.
- Marks are indicated against each question.
- The exam consists of five sections

**Final Exam**

**Section I: Multiple Choice Questions (5 Marks, 1 mark each) Choose the one best answer for each question.**

1. Which structure is primarily responsible for pain perception in the brain?
  - A. Cerebellum
  - B. Thalamus
  - C. Medulla oblongata
  - D. Hypothalamus
2. Which nerve fibers are responsible for transmitting slow, dull pain?
  - A. Alpha fibers
  - B. Beta fibers
  - C. A-delta fibers
  - D. C fibers
3. The emotional response to pain is mainly related to which component?
  - A. Sensory
  - B. Cognitive
  - C. Affective
  - D. Behavioral
4. Which pain assessment tool is most suitable for an unconscious adult patient?
  - A. Behavioral Pain Scale
  - B. Numeric Rating Scale
  - C. Visual Analogue Scale
  - D. Verbal Descriptor Scale
5. The gate control theory of pain explains pain modulation at the level of the:
  - A. Cerebral cortex
  - B. Peripheral nerve endings
  - C. Spinal cord
  - D. Brainstem

**Section II: True or False (5 Marks – 5 questions, 1 mark each) Write (True) or (False).**

1. Pain signals are transmitted only through motor neurons ( )
  2. The sensory component of pain is responsible for emotional reactions ( )
  3. Numeric Rating Scale is suitable for unconscious patients ( )
  4. PCA allows patients to administer unlimited analgesic doses ( )
  5. Relaxation techniques have no physiological effect on pain perception ( )
- 

**Section III: Matching (5 Marks – 5 questions, 1 mark each) Match each item in Column (A) with the most appropriate answer from Column (B). Each item is matched once only**

Column A	Column (B)
1. Affective component of pain	A. Emotional response
2. PCA	B. Self-administered analgesia
3. Gate control theory	C. Cutaneous stimulation
4. Behavioral pain scale	D. Unconscious patients
5. Relaxation techniques	E. Non-pharmacological pain management
	F. Acute inflammatory pain

---

**Section IV: Short Answer Questions (15 Marks, 3 mark each) Answer the following questions briefly and concisely.**

1. Define pain according to the International Association for the Study of Pain (IASP).
  2. Mention two factors influencing pain perception.
  3. List two adverse effects of excessive pain.
  4. State two advantages of Patient Controlled Analgesia.
  5. Give two examples of non-pharmacological pain relief methods.
- 

**Section V: Essay Questions (25 Marks, 5 mark each) Answer ALL questions. Support your answers with relevant points and examples where appropriate.**

1. Discuss the anatomy and physiology of pain including pain pathways
2. Explain the multidimensional nature of pain
3. Describe pain assessment and measurement tools used in clinical practice
4. Evaluate pharmacological methods of pain management
5. Discuss non-pharmacological pain management techniques and the nurse's role

**End of Examination  
Best of Luck**

Department: General  
Academic year: 2025-2026  
Semester: 2nd semester

<b>Academic level:</b> 2 <sup>nd</sup> semester <b>Program: Master</b>	<b>Course name/code:</b> Pain Management/ 024705	<b>Time: 2 hours</b> <b>Date: 4-1-2025</b>	<b>Total marks: 60</b> <b>Marks</b>	<b>No. of exam pages: 2</b> <b>No. of sections: 5</b> <b>No. of questions: 25</b>
--	--	---	--	---

## **Model Answer**

### **Final Exam Pain Management**

---

#### **Section I: MCQs (5 Marks)**

1. **Thalamus** → B (Thalamus)
  2. **C fibers** → D (C fibers)
  3. **Affective** → C (Affective)
  4. **Behavioral Pain Scale** → A (Behavioral Pain Scale)
  5. **Spinal cord** → C (Spinal cord)
- 

#### **Section II: True or False (5 marks)**

1. **False**
  2. **False**
  3. **False**
  4. **False**
  5. **False**
- 

#### **Section III: Matching (5 Marks)**

<b>Match Column (A)</b>	<b>With Column (B)</b>
1. Affective component of pain	<b>B. Emotional response</b>
2. Patient controlled anesthesia (PCA)	<b>D. Self-administered analgesia</b>
3. Gate control theory	<b>F. Cutaneous stimulation</b>
4. Behavioral pain scale	<b>E. Unconscious patients</b>
5. Relaxation techniques	<b>A. Non-pharmacological pain management</b>

## **Section IV: Short Answer Questions (15 Marks)**

### **1. Define pain (IASP).**

Pain is “an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage.”

### **2. Two factors influencing pain perception**

- Emotional and psychological state
- Past pain experiences  
(Other correct answers: cultural factors, fatigue, anxiety)

### **3. Two adverse effects of excessive pain**

- Increased heart rate and blood pressure
- Poor wound healing  
(Other options: sleep disturbance, reduced mobility, depression)

### **4. Two advantages of PCA**

- Provides **rapid, patient-controlled** pain relief
- Reduces risk of overdose through **preset limits**  
(Other: increases patient satisfaction)

### **5. Two examples of non-pharmacological pain relief**

- Relaxation and deep breathing
  - Heat/cold application  
(Other: massage, TENS, distraction)
- 

## **Section V: Essay Questions (Model Answers) (25 marks)**

### **1. Anatomy and physiology of pain**

Pain begins with nociceptors, sensory receptors located in skin, muscles, joints, and viscera. When stimulated by mechanical, thermal, or chemical stimuli, they generate impulses that travel along A-delta fibers (sharp, fast pain) and C fibers (dull, slow pain). These signals enter the dorsal horn of the spinal cord, synapse, then ascend via the spinothalamic tract to the thalamus, which relays information to the somatosensory cortex for perception.

Pain is modulated at several levels, especially in the spinal cord, where the gate control theory explains how touch and pressure can inhibit pain transmission. Descending pathways from the brainstem also release neurotransmitters (serotonin, endorphins) that reduce pain.

## **2. Multidimensional nature of pain**

Pain has:

- Sensory-discriminative dimension: location, intensity, and quality.
- Affective-emotional dimension: fear, anxiety, distress.
- Cognitive-evaluative dimension: beliefs, expectations, and meaning of pain. This makes pain a subjective and complex experience influenced by biological, psychological, and social factors.

## **3. Pain assessment and measurement tools**

Common tools include:

- Numeric Rating Scale (NRS): patient rates pain from 0–10.
- Visual Analogue Scale (VAS): a 10 cm line indicating pain intensity.
- Verbal Descriptor Scale (VDS): uses words such as mild, moderate, severe.
- Behavioral Pain Scale: used for non-verbal/unconscious patients, evaluates facial expression, limb movement, and ventilation.
- FLACC scale: commonly used in children.

## **4. Pharmacological pain management**

Includes:

- Non-opioid analgesics (paracetamol, NSAIDs) for mild–moderate pain.
  - Opioids (morphine, fentanyl) for severe pain.
  - Adjuvants (antidepressants, anticonvulsants) for neuropathic pain.
- Pharmacological treatment must balance efficacy with monitoring for adverse effects such as respiratory depression or gastrointestinal complications.

## **5. Non-pharmacological pain management and nurse's role**

Non-drug methods include relaxation, deep breathing, TENS, massage, heat/cold therapy, distraction, and cognitive-behavioral strategies.

The nurse assesses pain, selects appropriate methods, educates the patient, monitors effectiveness, documents outcomes, and provides reassurance and emotional support.