



Program Specification for Doctorate Degree in Gerontological Nursing

- Program specification for doctorate degree.
- Course specification for doctorate degree.

<u>First term:</u>

- 1. Seminars in issues and recent trends in Gerontological nursing.
- 2. Nursing seminars in the area of general specialty, Gerontological nursing
- 3. Nursing seminars in the area of specific specialty, Gerontological nursing

Second term:

- 1. Nursing seminars in the area of general specialty, Gerontological nursing
- 2. Nursing seminars in the area of specific specialty, Gerontological nursing

Faculty of Nursing Zagazig University 2018/ 2019

Specifications of the Gerontological postgraduate

Gerontological postgraduate nurse should be able to:

Provide a unique blend of nursing and medical care to geriatric patients and their families, as well as provide high quality health care services in an advanced practice role in a variety of settings, including clinics, urgent care, emergency rooms, with physician groups and in private practice, in nursing homes and assisted living. In addition to meeting the health care needs of a growing older adult population. This requires competence (skill, knowledge, attitude, judgment, and behaviors) in the following: 1) identifying and consideration of normal age related physiological changes, 2) analyzing, selecting, and administering valid, reliable assessment/diagnostic/screening tools, 3) completing a nursing history and physical examination when there is a change in health status or acute illness and chronic health conditions, 4) identifying older adults' use of prescription medications, over-the-counter medications, herbal remedies and complementary and alternative therapy, 5) identifying factors associated with increased risks specific to physiological complications (i.e. cardiovascular disease, renal disease, diabetes, and neuropsychiatric disorders) and recommending a management plan that minimizes the risks for adverse outcomes, 6) recognizing and utilizing assessment approaches that specifically address geriatric syndromes (e.g. falls, incontinence, delirium, frailty, pressure ulcers) common to care needs of older adults, 7) applying evidence-based standards/best practice guidelines to promote health promotions activities (e.g., rest/sleep, activity and exercise in older adults), 8) planning appropriate intervention to promote function in response to change in activities of daily living (ADL) and instrumental activities of daily living (IADL).

Gerontological postgraduate program vision and mission



The vision of the Gerontological postgraduate program is to prepare highly-level postgraduate students in the field of health care of the elderly.



The mission of the Gerontological postgraduate program is to prepare high qualified postgraduate students who are able to provide high quality nursing care for the elderly in the different settings through using knowledge and practical skills in the field of gerontological nursing to develop strategies for illness prevention, health maintenance to promote independence and improve the quality of life of older adults.



This course focuses on providing knowledge and attitude toward gerontological nursing and role of gerontological nurse to the gerontological postgraduate students. It involves the role of gerontological nurse in the three levels of prevention.



After completion of this course, the postgraduate student will be able to recognize the essential knowledge, skills and attitudes needed to determine the role of gerontological nurse through the three levels of preventions.

Program Specification(2) Gerontological nursing (Doctorate)

A- Basic Information

1-	Program Title:	Gerontological nursing Doctorate program
2-	Program Type:	Single \checkmark Double \square Multiple \square
3-	Department(s):	Gerontological nursing Department
4-	Coordinator:	Assist. Prof. Eman Shokry Abd Allah
5-	External Evaluator :	Prof. Faten ElGendy & Prof. Soheir Badr Eldeen
6-	Last date of program sp	pecification approval: 2014/2015

B- Professional Information:

1- Program Aim:

The aim of this program is to prepare future leaders in the field of gerontological nursing by providing the highest quality education and practice opportunities in theories, approaches, methods, and other issues pertinent to gerontological nursing to enable candidates to develop a sound academic base for gerontological nursing, to develop theoretical and practical aspects of management and clinical practice, and to develop the candidate's critical awareness of relevant research findings and facilitate integration of these findings into gerontological nursing practice.

2- Intended Learning Outcomes (ILOs)

a- Knowledge and Understanding :

By the end of the program the candidate should be able to:

- al- Identify a knowledge base in the essential concepts relevant to gerontological nursing.
- a2- Identify cultural factors, health data and patient preferences that influence care of the older adult and frail elder.
- a3- Identify the principles and techniques of a number of application areas in gerontological nursing informed by the research findings.
- a4- Describe the legal and ethical principles of professional practice in the area of gerontological nursing.
- a5- Recognize components of nursing process appropriate to individual health needs.

b- Intellectual Skills:

By the end of the program the candidate should be able to:

- b1- Formulate a research project on a specific area
- b2- Apply effective problem solving and decision making techniques using appropriate management skills
- b3- Exercise critical thinking, and clinical reasoning within standard of practice.
- b4- Utilize appropriate health education to elderly, analyze appropriate methods according to elderly and the situations

c- Professional and practical skills:

By the end of the program the candidate should be able to:

- c1- Use professional guidelines and evidence-based standards in planning and delivering safe, quality care to older adults
- c2- Practice nursing according to ethical and professional standards.
- c3- Utilize accountability for nursing practice.
- c4- Apply knowledge and skills of gerontological nursing in providing high quality elderly-centered comprehensive nursing care in the different settings.
- c5- Apply professional attitudes, values and expectations about physical and mental aging in planning safe, patient-centered care for older adults.
- c6- Implement field work with due regard for safety and risk management
- c7- Demonstrate awareness with the professional and ethical responsibilities of the practicing nursing profession
- c8- Provide priority nursing based care independent and collaborating application of the nursing process to individual theory.

d- General and transferable skills:

By the end of the program the candidate should be able to:

- d1- Demonstrate effective communication with older adults and their families
- d2- Demonstrate the ability to work in team, encourage team work activity and lead team effectively
- d3- Apply effective and different methods of communication skills in clinical, educational, and professional contexts
- d4- Implement information technology in a way that serves professional practices.
- d5- Effectively manages time and resources and set priorities
- d6- Demonstrate an ability to adapt where necessary to meet changes in demand on community nursing
- D7 Motivate self-learning and continuous self-evaluation

e- Attitude and behavioral skills: By the end of the program the candidate should be able to:

- e1- Appreciate and promote elderly patient/ client rights to autonomy, respect, privacy, and dignity, and access to information.
- e2- Value his/her role as a model for less experienced nursing students.
- e3- Respect and encourage the patients' participations in decision about health care and services.

3- Academic Standards

3.1. The faculty adopted National Academic Standard (NARS) for post graduate studies, which follow the national authority for quality assurance and accreditation of education. February, 2009

4- The Benchmarks

4.1. Not applicable

5- The structure and contents of the program :

- 5.1. Program duration : 32 weeks
- 5.2. Program structure : 1st semester- 2nd semester

- Weekly hours :	Lectures 240	Practical	Total	240
- Credit hours:	Required	Extra	Elective	
- Credit hours of basi	c sciences courses :	No. 3	%	60
- Credit hours of soci	al/humanities sciences courses:	No.	%	
- Credit hours of spec	ialized courses :	No. 2	%	40
- Credit hours for othe	er cou ses:	No	%	

- **Practical field training**: Practical training in outpatient clinics - nursing homes - social clubs for the elderly and through field visits and home visits

- Program levels (in credit hours system) : Not applicable

- 5.3. Program levels (in credit hours system) :
 - Level 1: Required to pass Unit as follow :

Required \dots Optional \dots Elective \dots

 Level 2 : Required to pass Unit as follow : Required√..... Optional Elective

6- Program Courses :

6.1. Level / in program Gerontological nursing(Specialty) Semester : first Semester a. Required

Code	Course Title	I India	weekly hours		
Code	Course Title			Practical	Exercises
493	Seminars in issues and recent	-	3	-	-
	trends in Gerontological nursing				
494	Nursing seminars in the area of	-	3	-	-
	general specialty				
495	Nursing seminars in the area of	-	3	-	-
	specific specialty				

b- Extra Courses: Not applicable

c- Elective Courses: Not applicable

6.2. Level / in program: Gerontological nursing(Specialty) Semester : second Semester a. Required

Code	Course Title	Units	weekly hours		
Coue	Course Thie	Units	Lectures	Practical	Exercises
496	Nursing seminars in the area of	-	2	-	-
	general specialty				
497	Nursing seminars in the area of	-	4	-	-
	specific specialty				

b- Extra Courses: Not applicable

c- Elective Courses: Not applicable

7- Program admission Requirements for: (Regulations- Courses -)

- 1. The applicant must have master degree in specialty course or related specialties from a university in the Arab Republic of Egypt at least a good grade or an equivalent degree from a college or a scientific institute last recognized by the Supreme Council of Universities.
- 2. Registration begins from first Jun to 1^{st} august every year.
- 3. Pass an English language (TOEFL) with minimum score of 500.
- 4. Full time students are allowed to be enrolled at least for one year after they had master degree

8- Methods of the Assessment of the learning target output :

No.	Method	Learning target output
1	Written exam	Assessment of Knowledge &
		understanding and intellectual skills
2	Oral exam	Assessment of knowledge and
		understanding & Transferable and
		intellectual skills
3	Semester work (Seminars	Assessing the Transferable,
	,presentation ,clinical field work,	professional & practical skills
	practical exam) in addition to thesis	Completing the practical copybook

9- Methods of the program evaluation:

No.	Evaluator	Method	Sample
1	Students of final level	Questionnaire	70-100%
2	Graduates	Questionnaire	70-100%
3	Business owners	Questionnaire	30-50%
4	External Evaluator	Questionnaire	Not yet
5	Other methods		

10- Array of knowledge and skills of the education program:

Knowledge	Intellectual Skills	Professional skills	General skills
A1,A2	B1,	C1,	D1, D2,
A3,A4	B2,	С2,	D3, D4
A5,A6	B3	C3	D5, D6, D7
A7,A8			
			D1, D2,
A1,A2	B1,	C1,	D3, D4
A3,A4	,	C2	D5, D6
A5,A6	B3		
A7,A8			
A9,A11			
A12			
A1,A2,	B1,B2	C1,	D1, D2,
A3,A4,	B3,B4,	C2	D3,
A5,A6,	B5		D5, D6
A7			
A1,A2	B1,B2,	C1	D1, D2,
A3,A4	B3,B4		D3, D4
A5,A6,			D5, D6
A7,A8			
A9			
A1,A2	B1,B2	C1,	D1, D2,
A3,A4	B3,B4,	C2	D3,
A5,A6,A8	B5,B6		D5, D6
	A1,A2 A3,A4 A5,A6 A7,A8 A1,A2 A3,A4 A5,A6 A7,A8 A9,A11 A12 A1,A2, A3,A4, A5,A6, A7 A1,A2, A3,A4, A5,A6, A7 A1,A2 A3,A4 A5,A6, A7,A8 A9 A1,A2 A3,A4	A1,A2 B1, A3,A4 B2, A5,A6 B3 A7,A8 B1, A3,A4 B2, A5,A6 B3 A7,A8 B1, A3,A4 B2, A3,A4 B2, A3,A4 B2, A3,A4 B2, A3,A4 B3 A7,A8 B3 A7,A8 B3 A7,A8 B3 A7,A8 B3,B4, A5,A6, B5 A7 B1,B2, A3,A4 B3,B4, A5,A6, B5 A7 A1,A2 A1,A2 B1,B2, A3,A4 B3,B4 A5,A6, A5,A6, A7 A1,A2 A1,A2 B1,B2, A3,A4 B3,B4 A5,A6, A9 A1,A2 B1,B2 A3,A4 B3,B4,	$\begin{array}{c c c c c c c c c c c c c c c c c c c $

Program Coordinator :

Signature :

Prof Dr/ Eman shokry Abd allah

Date :5/9/2019

<u>Course specification of First term courses:</u>

- 1. Seminars in issues and recent trends in Gerontological nursing.
- 2. Nursing seminars in the area of general specialty, Gerontological nursing
- 3. Nursing seminars in the area of specific specialty, Gerontological nursing

Course Specification

(Seminars in issues and recent trends in Gerontological nursing (PHD 1st)

1- Basic information

		n issues and recent Level : Doctorate 1 st semester Gerontological nursing	r
	(PHD 1 st ter	6 6	
Credit hours : 0		Theoretical :48Practical :	
Program(s) on which the course	e is given	: Doctorate Program (Gerontological nursing)	
Major or minor element of prog	gram	: Major	
Department offering the progra	m	: Gerontological nursing Department	
Department offering the course		: Gerontological nursing Department	
Date of specification approval		: 2014	
Academic year		: 2018-2019	

2- Overall Aims of Course:

This course provides the candidate with recent issues and new trends of gerontological nursing to intervene effectively with common and various health problems of older adults in different community settings

3- Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding :

By the completion of this course the student should be able to

- A.1. Discuss the health and health promotion models.
- A.2. Discuss Evidence-based guidelines for gerontological nursing.
- A.3. Discuss ethical issues that nurses commonly address when caring for older adults
- A.4. Identify cultural aspects and role of nurses regarding of legal and ethical issues.
- A.5. Explain different types of Complementary and alternative therapies
- A.6. Explain health education program.
- A.7. Discuss complementary therapy for elderly
- A.8. Discuss autonomy and elderly rights
- A.9. Identify evidence based practice for gerontological nursing
- A.10 Discuss quality of nursing education and practice.
- A.11 Discuss Theories of aging.
- A.12 Identify Types and Examples of Health Promotion Interventions for Older

b- Intellectual Skills

By the completion of this course the student should be able to

- B.1. Utilize and use resources for evidence-based health promotion programs for older adults.
- B.2. Utilize resources for improving competence in care of older adults.
- B.3. Employ the role of gerontological nurse in solving elderly health problems in different health care settings.
- B.4. Interpret research findings data in order to provide information that would benefit in caring of older adults in different settings.

- B.5. Select the areas of evidence based research and conduct a scientific research and other scholarly activity about one of the problem in the field of gerontological nursing
- B.6. Utilize critical thinking to provide comprehensive and continues nursing care to elderly.
- B.7. Apply the nursing theory and research applications in gerontological nursing.
- B.8 Apply the health promotion models in caring for elders

c- Professional and practical skills

By the completion of this course the student should be able to

- C.1. Incorporate evidence based nursing to promote health and wellness of older adults
- C.2. Apply nursing interventions to promote health and wellness of older adults.
- C.3. Implement standardized protocols, and guidelines when providing nursing care for elderly, and document judgment of decisions and actions.
- C.4. Use reasoning and problem solving skills in prioritizing actions, and care provided for elderly.
- C.5. Practice nursing according to ethical and professional standards.
- C.6. Use professional guidelines and evidence-based standards in planning and delivering safe, quality care to older adults
- C.7. Document and report the outcomes of nursing care and other interventions
- C.8. Use information and technology in planning and delivering safe, quality care to older adults

d- General and transferable skills By the completion of the course the student should be able to

- D.1. Utilize interpersonal skills to communicate effectively.
- D.2. Demonstrate leadership ability in conducting and managing the scientific seminars.
- D.3. Demonstrate effective communication with older adults and their families at different setting.
- D.4. Work productively in a team
- D.5. Manage effectively time, resources and set priorities
- D.6. Apply problem solving skills at different situation faced at different clinical Setting.
- D.7. Search effectively in websites relevant to certain subjects.

E- Attitude

By the completion of the course the student should be able to

E1-Appreciate and promote elderly patient/ client rights to autonomy, respect, privacy, and dignity, and access to information.

F2 Value his/her role on a model for loss experienced av

E2-Value his/her role as a model for less experienced nursing students.

E3-Respect and encourage the patients' participations in decision about health care and services.

4- Course Contents:

		No. of hours	
Weeks	Topics	Lecture 48 hours	practical 0 hours
1 2 3 4 5	Unit 1: 1- Evidence based practice for gerontological nursing 2- Complementary therapy 3- Nursing theory and research	6 6 6	-
6 7 8 9	 Unit 2:Legal and ethical concerns Autonomy and rights Legal issues specific to long term care setting ethical issues commonly addressed in gerontological nursing cultural aspects of legal and ethical issues role of nurses regarding legal and ethical issues 	3 3 3 3 2	- - - -
10 11 12 13 14 15	 Unit 3: Health education. Health promotion 	8 8	
15	Final Exam		

5- Teaching and learning methods :

5.1 Lecture

5.2 Group discussion

5.3 Semester work (Self learning via research papers presentation, report writing)

6- Student Assessment :

- A- Assessment Method
- A.1 Class presentation
- A.2 Semester work
- A.3 Oral Examination
- A.4 Final term Examination

B- Time Schedule

class presentations	Week : through semester

Semester work	Week : through semester
oral Examination	Week : 15
Final - term Examination	Week : 16

C- Grading system

Class presentations	% 10
Semester work	% 10
Oral Examination	% 20
Final - term Examination	% 60

7- List of References

A - Course Note:	Handouts: prepared by the candidate doctorate degree of the course.					
B -Required Books:	Touhy, T. A., Jett, K. F., Boscart, V., & McCleary, L. (2018). Ebersole and Hess' Gerontological Nursing and Healthy Aging in Canada-E-Book. Elsevier Health Sciences.					
	Akhtar, S and Rosenbaum, S. (2018). Principles of Geriatric Critical Care. Cambridge University Press					
C-Recommended Books:	 Dunning, T. (2018).The Art and Science of Personalising Care with Older People with Diabetes. Springer Rizzo, M(2018) The Wiley Handbook on the Aging Mind and Brain. John Wiley & Sons 					
D- Periodicals, Web Sites,etc	 American Journal of Geriatric Nursing Archives of Gerontology and Geriatrics Journal of the American Geriatrics Society Nursing research. WWW.medscape.com 					
8- Facilities requir	 www.pubmed.com www.nursingcenter.com ed for teaching and learning 					

Computer and data show.

Course Coordinator:	Prof. Eman Shokry Abd Allah Prof. Salwa Abbas
Head of Department	Prof. Eman Shokry Abd Allah
Date: 5 / 9 /2019	

Array of knowledge and skills of (Seminars in issues and recent trend in Gerontological nursing (PHD 1st)

Course content	Knowledge	Intellectual Skills	Professional skills	General skills	Attitude	Teaching and learning methods
Unit 1: 1- Evidence based practice for gerontological nursing 2- Complementary therapy 3- Nursing theory and research	A1 A2 A3	B1 B2 B3	C1 C2 C3	D1 D2		 Lecture, Class presentat ion
 Unit 2:Legal and ethical concerns Autonomy and rights Legal issues specific to long term care setting ethical issues commonly addressed in gerontological nursing cultural aspects of legal and ethical issues role of nurses regarding legal and ethical issues 	A3 A4 A5	B4 B5 B6 B7	C4 C5 C6	D3 D4	E1,E2,E 3	Course paper/ project
Unit 3:Health education.Health promotion	A6 A7 A8 A9 A10	B7 B8 B9	C6 C7 C8	D5 D6 D7	E1,E2,E 3	Case studies Role plays practical training

Program Coordinator :

Signature :

Prof Dr/ Eman shokry Abd allah

Date :5/9/2019

Course Specification

Nursing seminars in the area of general specialty (Gerontological nursing), (PHD 1st)

1- Basic information Code: 494	-	alty (Gerontological	Level : Doctorate 1 st semester
Credit hours : 0	Г	Theoretical :48	Practical :
Program(s) on which the cour	se is given :	Doctorate Program	(Gerontological nursing)
Major or minor element of pro	ogram :	Minor	
Department offering the prog	ram :	Gerontological nurs	ing Department
Department offering the cours	e :	Gerontological nurs	ing Department
Date of specification approval	:	2014	
Academic year	:	2018-2019	

2- Overall Aims of Course:

This course aims to apply the knowledge and skills of gerontological nursing in providing high quality of care to older adults in different community settings. Also this course prepares the candidate to design, implement, and evaluate of health programs for elderly individual, family & community

3- Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding : By the completion of this course the student should be able to

- A.1. Discuss the most common skin problems in elderly.
- A.2. Explain professional and clinical standards of gerontological nursing
- A.3. Describe delirium and discuss nursing assessment and interventions related to delirium.
- A.4. List the factors that affect the risk for development of dementia and factors That Interfere With the Assessment of Dementia
- A.5. Describe theories that explain late-life depression and its functional consequences.
- A.6. Discuss the care giver and gerontological nurse challenges.
- A.7. Discuss the palliative care.
- A.8. Identify Types and Examples of sleep diorders Interventions for Older Adult
- A.9. Discuss the informatics technology and gerontechnology
- A.10. Explain the common problems at the end of life.
- A.11. Discuss the range of nursing and legal interventions directed toward preventing and alleviating elder abuse.
- A.12. Describe the nurse's opportunities for interventions for elder abuse in different practice settings.

b- Intellectual Skills

By the completion of this course the student should be able to

- B.1. Utilize resources for evidence-based palliative programs for older adults.
- B.2. Formulate interventions for addressing dementia-related behaviors, including environmental modifications and communication techniques.
- B.3. Compare characteristics of Alzheimer's disease, vascular dementia, frontotemporal dementia, and dementia with Lewy bodies.
- B.4. Formulate palliative programs and interventions that are pertinent to older adults.

- B.5. Formulate nursing interventions to promote health and wellness of older adults.
- B.6. Identify interventions for addressing risk factors, improving cognitive and affective function, and teaching about antidepressants, psychosocial therapies, and complementary and alternative modalities.
- B.7. Classify signs and symptoms of skin problems
- B.8. Differentiate Delirium and Dementia

c- Professional and practical skillsBy the completion of this course the student should be able to

- C.1. Apply the nursing interventions for sleep disorders in elderly
- C.2. Apply the procedure of a nursing assessment of the cognitive function of older adults
- C.3. Implement standardized protocols, and guidelines when providing nursing care for elderly, and document judgment of decisions and actions.
- C.4. Apply Nursing Interventions for elderly People With Dementia
- C.5. Apply Nursing Interventions for elderly People With Alzheimer's disease
- C.6. Apply Nursing Interventions for elderly People With depression
- C.7. Use guidelines for initial and ongoing assessment of cognitively impaired older adults.
- C.8. Examine risk factors that cause or contribute to depression in older adults.
- C.9. Use professional guidelines and evidence-based standards in planning and delivering safe, quality care to older adults

d- General and transferable skills By the completion of the course the student should be able to

- D.1. Utilize interpersonal skills to communicate effectively.
- D.2. Communicate patients' values preferences and experienced needs to other members of health care team.
- D.3. Demonstrate effective communication with older adults and their families at different setting.
- D.4. Work productively in a team
- D.5. Manage effectively time, resources and set priorities
- D.6. Apply problem solving skills at different situation faced at different clinical Setting.
- D.7. Search effectively in websites relevant to certain subjects.

E- Attitude

By the completion of the course the student should be able to

E1-Appreciate and promote elderly patient/ client rights to autonomy, respect, privacy, and dignity, and access to information.

E2-Value his/her role as a model for less experienced nursing students.

E3-Respect and encourage the patients' participations in decision about health care and services.

4- Course Contents:

		No. of hours		
Weeks	Topics	Lecture 48 hours	practical 0 hours	
	Unit 1:Gerontological nursing	40 110015	0 110013	
1	 Overview of gerontological nursing 	4	-	
2	s overview of geromotogreat harbing			
	• Skin problems	6	-	
3	L			
4				
5	Unit 2: Nursing intervention of:			
6	Alzheimer's	6	-	
7	• Impaired cognitive function :Delirium and	6	-	
8	Dementia	4	-	
9	• Impaired affective function: Depression	4	-	
10				
11	Unit 3:	_	-	
12	Palliative care	4		
13	Sleep disorders	4	-	
14		6 4		
15	Oral-exam			
16	Final Exam			

5- Teaching and learning methods :

- 5.1 Lecture
- 5.2 Group discussion
- 5.3 Semester work (Self learning via research papers presentation, report writing)

6- Student Assessment :

- A- Assessment Method
- A.1 Class presentation
- A.2 Semester work
- A.3 Oral Examination
- A.4 Final term Examination

B- Time Schedule

class presentations	Week : through semester
Semester work	Week : through semester
oral Examination	Week : 15
Final - term Examination	Week : 16

C- Grading system

Class presentations	% 10
Semester work	% 10
Oral Examination	% 20
Final - term Examination	% 60

7- List of References

A - Course Note: Handouts: prepared by the candidate doctorate degree of the course.

B -Required Books: Jean-Pierre, M., Beattie, B. L., Martin, F. C., & Walston, J. D. (Eds.). (2018). Oxford textbook of geriatric medicine. Oxford University Press.

Higgs,p and Gilleard, C. (2017). Ageing, Dementia and the Social Mind. John Wiley & Sons

- C-Recommended
 Yennurajalingam, S., and Bruera, E. (2016). Oxford American Handbook of Hospice and Palliative Medicine and Supportive Care. Oxford University PressMurray, R.B., Zentner, J.P., Pangman, V., & Pangman, C. (2009). Health promotion strategies through the lifespan (2nd Ed.). Pearson Prentice Hall: Toronto.
 - Wasserman, M and Riopelle, J. (2017). Primary Care for Older Adults: Models and Challenges. Springer
- **D**-Periodicals, ✓ American Journal of Geriatric Nursing
 - ✓ Archives of Gerontology and Geriatrics
 - ✓ Journal of the American Geriatrics Society
 - \checkmark Nursing research.
 - ✓ Alzheimer's Association
 - ✓ Alzheimer's Disease Education and Referral (ADEAR) Center
 - ✓ Alzheimer's Society of Canada
 - ✓ Dementia Advocacy and Support Network (DASN) International
 - ✓ Family Caregiver Alliance
 - ✓ National Institute on Aging (NIA)
 - ✓ National Institute of Neurological Disorders and Stroke

8- Facilities required for teaching and learning

Computer and data show.

Web Sites....etc

Course Coordinator:	Prof. Eman Shokry Abd Allah Prof. Salwa Abbas
Head of Department	Prof. Eman Shokry Abd Allah

Head	ot .	Depart	ment	
Date:	5	/ 9	/2019	

Array of knowledge and skills of Nursing seminars in the area of general specialty (Gerontological nursing), (PHD 1st)

Course content	Knowledge	Intellectual Skills	Professional skills	General skills	Attitude	Teaching and learning methods
 Unit 1:Gerontological nursing Overview of gerontological nursing Skin problems 	A1 A2 A3	B1 B2 B3	C1 C2 C3	D1 D2	E1,E2	Discussion/d ebates
 Unit 2: Nursing intervention of: Alzheimer's Impaired cognitive function :Delirium and Dementia Impaired affective function: Depression 	A5 A6 A7 A8	B4 B5 B6	C4 C5 C6	D3 D4 D5	E1,E2, E3	practical training; Demonstratio n method
Unit 3:Palliative careSleep disorders	A9 A10 A11 A12	B7 B8	C7 C8 C9	D6 D7	E1,E2, E3	Lecture, seminar, Collaborative work;

Program Coordinator : Prof Dr/ Eman shokry Abd Allah

Signature :

Date :5/9/2019

Course Specification

Nursing seminars in the area of specific specialty (Gerontological nursing), (PHD 1st)

1-	Basic information					
	Code : 495	Nursing sen	nin	ars in the area of	Level : Doctorate 1 st semester	
				alty (Gerontological		
		nursing), (PI	HD	1 st term)		
	Credit hours : 0		T	heoretical :48	Practical :	
Pro	gram(s) on which the cour	se is given	:	Doctorate Program (Gerontological nursing)		
Ma	jor or minor element of pr	ogram	:	Minor		
Dep	artment offering the prog	ram	:	Gerontological nursi	ng Department	
Department offering the course : Internal Medicine Department			epartment			
Dat	e of specification approval		:	2014		
Aca	demic year		:	2018-2019		

2- Overall Aims of Course:

This course provides the candidate with knowledge and skills of gerontological nursing in order to be able to intervene effectively with common and various health problems of older adults in different community settings.

3- Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding :

By the completion of this course the student should be able to

- A.1. List age-related changes and risk factors that contribute to constipation in older adults.
- A.2. Discuss the Adverse Effects of Antihypertensive Agents in older adults.
- A.3. Explain Viral Hepatitis B & C
- A.4. Explain interventions directed toward management of hypertension and diabetes in the elderly.
- A.5. List age-related changes that affect digestive system.
- A.6. Explain upper GIT bleeding
- A.7. Discuss investigations of liver diseases and how they guide management
- A.8. Describe age-related changes that affect an older adult's normal body temperature.
- A.9. Describe age-related changes that affect respiratory function.
- A.10. Discuss common causes and classification of Fever of Unknown origin in the elderly
- A.11. Discuss Bronchial Asthma and COPD in the elderly
- A.12. Discuss Gastro esophageal reflux disease (GERD) in older adults
- A.13. Enumerate characteristics of liver diseases in the elderly.
- A.14. Discuss diverticulitis in the elderly.
- A.15. Identify risk factors that affect the digestion and nutrition of older adults.
- A.16. Explain the effects of age-related changes and risk factors on digestion and nutrition.

b- Intellectual Skills

By the completion of this course the student should be able to

- B.1. Provide priority based nursing care o geriatric patients through independent and collaborative application of the nursing process.
- B.2. Classify structural and microscopic changes occur as the liver ages.
- B.3. Discriminate risk factors that increase the risk of pneumonia of older adults.
- B.4. Differentiate the types of Fever of Unknown origin in the elderly
- B.5. Differentiate Hepatitis B and Hepatitis C virus infection
- B.6. Select interventions to improve respiratory function and reduce risk factors that interfere with respiratory wellness.
- B.7. Identify the Effects of Aging on the Liver.
- B.8. Exercise critical thinking and clinical reasoning when providing nursing intervention for hearing, vision, and nutritional problem.

c- Professional and practical skills By the completion of this course the student should be able to

- C.1. Examine age-related changes and risk factors that affect digestion.
- C.2. Perform General management principles in advanced liver disease
- C.3. Assess aspects of nutrition, digestion, behaviors that affect eating and food preparation, and oral care pertinent to care of older adults.
- C.4. Assess respiratory function in older adults, and recognize normal and pathologic respiratory changes.
- C.5. Implement health promotion interventions for preventing hypothermia and hyperthermia in older adults.

General and transferable skills

d- By the completion of the course the student should be able to

- D.1. Utilize interpersonal skills to communicate effectively.
- D.2. Demonstrate effective use of technology and standardized practice that support safe practice
- D.3. Search effectively in websites relevant to certain subjects.
- D.4. Work productively in a team
- D.5. Use the Internet to find information about fall-prevention products used in clinical practice.
- D.6. Locate evidence reports related to clinical practice topics and guidelines with appropriate database.

E- Attitude

By the completion of the course the student should be able to

E1-Appreciate and promote elderly patient/ client rights to autonomy, respect, privacy, and dignity, and access to information.

E2-Value his/her role as a model for less experienced nursing students.

E3-Respect and encourage the patients' participations in decision about health care and services.

4- Course Contents:

		No. of hours			
Weeks	Topics	Lecture	practical		
		48 hours	0 hours		
1	Unit 1:				
2	Aging and the liver	8			
3	Unit 2:				
4	Aging and the Respiratory system	12			
5		12			
6	Unit 3:	_			
7	Fever of Unknown origin in the elderly	6			
8	Unit 4:				
9	Aging and the Digestive system	10			
10					
11	Unit 5:	(
12	Aging and Hypertension	6			
13	Unit 6:	4			
14	Aging and Diabetes	6			
15	Oral-exam				
16	Final Exam				

5- Teaching and learning methods :

- 5.1 Lecture
- 5.2 Group discussion

5.3 Semester work (Self learning via research papers presentation, report writing)

6- Student Assessment :

A- Assessment Method

- A.1 Class presentation
- A.2 Semester work
- A.3 Oral Examination
- A.4 Final term Examination

B- Time Schedule

class presentations	Week : through semester	
Semester work	Week : through semester	
oral Examination	Week : 15	
Final - term Examination	Week : 16	

C- Grading system

Class presentations	% 10
Semester work	% 10
Oral Examination	% 20
Final - term Examination	% 60

7- List of References

A - Course Note:	Handouts: prepared by the candidate doctorate degree of the course.
B -Required Books:	Yennurajalingam, S., and Bruera, E. (2016). Oxford American Handbook of Hospice and Palliative Medicine and Supportive Care. Oxford University PressGray-Miceli, D. (2008). Preventing falls in acute care. In E. Capezuti, D. Zwicker, M. Mezey, & T. Fulmer (Eds.), Evidence-based geriatric nursing protocols for best practice (3rd ed., pp. 57–82, 161–198). New York: Springer Publishing Co.
	Poduri, K. (2017). Geriatric Rehabilitation: From Bedside to Curbside. CRC Press
	Skidmore-Roth, L. (2018). Mosby's 2019 Nursing Drug Reference E-Book. Elsevier Health Sciences
C-Recommended Books:	Allen, S. R., & Kaplan, L. J. (2018). Geriatric Critical Care Units: Model for Interdisciplinary Approach. Principles of Geriatric Critical Care.
	Jean-Pierre, M., Beattie, B. L., Martin, F. C., & Walston, J. D. (Eds.). (2018). Oxford textbook of geriatric medicine. Oxford University Press.
D- Periodicals, Web Sites,etc	 American Journal of Geriatric Nursing Archives of Gerontology and Geriatrics Journal of the American Geriatrics Society Fall Prevention Center of Excellence National Arthritis and Musculoskeletal and Skin Diseases National Institute on Aging (NIA) National Resource Center for Safe Aging
8- Facilities required factorial Computer and data sho	f or teaching and learning ow.
Course Coordinator:	Prof. Maysaa AbdAlla Prof.Saher Elnamer

Head of Department	Prof. Eman Shokry Abd Allah
Date: 5 / 9 /2019	-

Array of knowledge and skills of Nursing seminars in the area specific specialty (Gerontological nursing), (PHD 1st)

Course content	Knowledge	Intellectual Skills	Professional skills	General skills	Attitude	Teaching and learning methods
Unit 1: Aging and the liver	A1 A2 A3	B1 B2	C1 C2	D1 D2	E1	practical training; Demonstratio n method
Unit 2: Aging and the Respiratory system	A4 A5 A6 A7	B3 B4	C3 C4	D1 D2	E1, E2	Lecture, seminar, Collaborative work;
Unit 3: Fever of Unknown origin in the elderly	A8 A9 A10	B4 B5	C3 C4	D1 D2	E1,E2, E3	Course paper/project; Brain storming
Unit 4: Aging and the Digestive system	A11 A12	B5 B6	C3 C4	D3 D4	E1	Lecture, Class presentation
Unit 5: Aging and Hypertension	A13 A14	B6 B7	C4 C5	D4 D5	E1,E2	Discussion/d ebates
Unit 6: Aging and Diabetes	A15 A16	B6 B7	C4 C5	D5 D6	E1,E2	Lecture, seminar
e	Program Coordinator : Signature : Prof Dr/ Prof Maysaa AbdAlla Prof Saher Elnamer					

Prof Dr/ Prof. Maysaa AbdAlla Prof.Saher Elnamer

Date :5/9/2019

Course specification of Second term courses:

- 1. Nursing seminars in the area of general specialty, Gerontological nursing
- 2. Nursing seminars in the area of specific specialty, Gerontological nursing

Course Specification

Nursing seminars in the area of general specialty (Gerontological nursing), (PHD 2nd term)

ge	0	y (Gerontological	Level : Doctorate 2 nd semester		
Credit hours : 0	The	eoretical :48	Practical :		
Program(s) on which the course i	(Gerontological nursing)				
Major or minor element of progr	am :]	: Minor			
Department offering the program		Gerontological nurs	ing Department		
Department offering the course	: (Gerontological nurs	ing Department		
Date of specification approval	:	2014			
Academic year	:	2018-2019			

2- Overall Aims of Course:

This course provides the candidate with knowledge and skills of gerontological nursing in order to be able to intervene effectively with common and various health problems of older adults in different community settings. Also this course prepares the candidate to design, implement, and evaluate of health programs for elderly individual, family & community

3- Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding :

By the completion of this course the student should be able to

- A.1. Describe characteristics of aging population.
- A.2. Discuss the role of nurses in promoting wellness in older adults who are ill.
- A.3. Describe the palliative care model for addressing the needs of older adults during illness.
- A.4. Explain how to perform a nursing care of older adults with dysphagia
- A.5. Describe the role of nurses in current system models to guide care of elderly.
- A.6. Explain comprehensive geriatric assessment for older adults who are ill
- A.7. Identify the strategies for teaching Older Adults Individually.
- A.8. Explain the physiology and causes of pressure ulcer.
- A.9. Describe principles of different medication use in older adults.
- A.10. Describe personal and environmental barriers of communication
- A.11. Explain the nurse's role in end-of-life care and cancer.
- A.12. Describe barriers to teaching older adults.
- A.13. Discuss Nursing assessment and intervention of medication use and effect in older adults
- A.14. Discuss Causes and Risk Factors for malnutrition

b- Intellectual Skills

By the completion of this course the student should be able to

- B.1. Differentiate between stages of pressure ulcer
- B.2. Demonstrate communication with the hearing impaired elderly.

- B.3. Classify Community Care Models and Programs.
- B.4. Formulate Nursing intervention of medication use and effect
- B.5. Select appropriate nursing interventions to address symptoms commonly experienced by older adults with dysphagia and malnutrition.
- B.6. Differentiate between types of polypharmacy.

c- Professional and practical skills By the completion of this course the student should be able to

- C.1. Apply nursing actions which can promote wellness during illness
- C.2. Apply principles of wellness to nursing care of older adults experiencing pressure ulcer.
- C.3. Perform comprehensive nursing assessment for older adults
- C.4. Apply social cognitive theory in teaching of older adults.
- C.5. Provide appropriate assessment techniques for effective pressure ulcer management and patient advocacy for pain management issues.

d- General and transferable skills

By the completion of the course the student should be able to

Facilitate the use of new resources and strengthening the support resources that

- D.1. already are in place for older adults, their families, and caregivers
- D.2. Use reasoning and problem solving skills in prioritizing actions, and care provided for elderly.
- D.3. Communicate patients' values preferences and experienced needs to other members of health care team.
- D.4. Support and promote interpersonal relationships, including the development of new relationships and support resources, that can improve the older adult's health, functioning, and quality of life
- D.5. Manage effectively time, resources and set priorities
- D.6. Exercise problem solving skills at different situation faced at different clinical Setting.
- D.7. Search effectively in websites relevant to certain subjects.

E- Attitude

By the completion of the course the student should be able to

E1-Appreciate and promote elderly patient/ client rights to autonomy, respect, privacy, and dignity, and access to information.

E2-Value his/her role as a model for less experienced nursing students.

E3-Respect and encourage the patients' participations in decision about health care and services.

4- Course Contents:

		No. of hours		
Weeks	Topics	Lecture	practical	
		48 hours	0 hours	
1 2	- Unit 1: Aging population	4	-	
3 4	- Unit 2: Polypharmacy	6	-	
5 6	- Unit 3: Comprehensive geriatric assessment	6	-	
7	- Unit 4: Dysphagia and malnutrition	4	-	
8 9	- Unit 5: Using current system models to guide care of elderly	8	-	
10	- Unit 6: Communication	4	-	
11 12	- Unit 7: Teaching older adults	8	-	
13 14	- Unit8: pressure ulcer	8	-	
15	Oral-exam			
16	Final Exam			

5- Teaching and learning methods :

- 5.1 Lecture
- 5.2 Group discussion
- **5.3** Semester work (Self learning via research papers presentation, report writing)

6- Student Assessment :

A- Assessment Method

- A.1 Class presentation
- A.2 Semester work
- A.3 Oral Examination
- A.4 Final term Examination

B- Time Schedule

class presentations	Week : through semester
Semester work Week : through semester	
oral Examination	Week : 15
Final - term Examination	Week : 16

C- Grading system

Class presentations	% 10
Semester work	% 10
Oral Examination	% 20
Final - term Examination	% 60

7- List of References

A - Course Note:	Handouts: prepared by the candidate doctorate degree of the course.
B -Required Books:	Yennurajalingam, S., and Bruera, E. (2016). Oxford American Handbook of Hospice and Palliative Medicine and Supportive Care.
	Oxford University PressGray-Miceli, D. (2008). Preventing falls in acute care. In E. Capezuti, D. Zwicker, M. Mezey, & T. Fulmer (Eds.), Evidence-based geriatric nursing protocols for best practice (3rd ed., pp. 57–82, 161–198). New York: Springer Publishing Co.
	Poduri, K. (2017). Geriatric Rehabilitation: From Bedside to Curbside. CRC Press
	Skidmore-Roth, L. (2018). Mosby's 2019 Nursing Drug Reference E-Book. Elsevier Health Sciences
C-Recommended Books:	Allen, S. R., & Kaplan, L. J. (2018). Geriatric Critical Care Units: Model for Interdisciplinary Approach. Principles of Geriatric Critical Care.
	Jean-Pierre, M., Beattie, B. L., Martin, F. C., & Walston, J. D. (Eds.). (2018). Oxford textbook of geriatric medicine. Oxford University Press.
D -Periodicals, W Sites,etc	 Veb American Journal of Geriatric Nursing Archives of Gerontology and Geriatrics Journal of the American Geriatrics Society Fall Prevention Center of Excellence National Arthritis and Musculoskeletal and Skin Diseases National Institute on Aging (NIA) National Resource Center for Safe Aging

8- Facilities required for teaching and learning

Computer and data show.

Course Coordinator:	Prof. Eman Shokry Abd Allah
	Prof. Salwa Abbas

Head of Department Date: 5 / 9 /2019 Prof. Eman Shokry Abd Allah

Course Specification

Nursing seminars in the area of general specialty (Gerontological nursing), (PHD 2nd term)

Course content	Knowledge	Intellectual Skills	Professional skills	General skills	Attitude	Teaching and learning methods
Unit 1: Caring for older adults during illness	A1 A2 A3	B1 B2	C1	D1 D2	E1	practical training; Demonstratio n method
Unit 2: Caring for older adults experiencing pain	A4 A7 A9 A13	B3 B4	C2 C3 C5	D1 D2	E1, E2	Lecture, seminar, Collaborative work;
Unit 3: Caring for older adults at the end of life	A5 A6 A10 A11 A12	B3 B5	C1 C3 C4 C5	D1 D2	E1,E2, E3	Course paper/project; Brain storming
Unit 4: Aging and Cancer Osteoporosis in older adults	A8 A9 A14	B1 B6	C3 C4 C5	D3 D4	E1	Discussion/d ebates

Program Coordinator :

Prof. Eman Shokry Abd Allah Prof. Salwa Abbas Signature :

Date :5/9/2019

Course Specification

Nursing seminars in the area of specific specialty (Gerontological nursing), (PHD 2nd)

1-**Basic information** Nursing seminars in the area of Level : Doctorate 2nd semester **Code**: 497 specific specialty (Gerontological nursing), (PHD 2nd term) **Credit hours** : 0 **Theoretical :48** Practical : --**Program(s) on which the course is given** Doctorate Program (Gerontological nursing) : Major or minor element of program Minor : **Department offering the program** Gerontological nursing Department : : Internal Medicine Department **Department offering the course** Date of specification approval 2014 : Academic year : 2018-2019

2- Overall Aims of Course:

This course provides the candidate with knowledge and skills of gerontological nursing in order to be able to intervene effectively with common and various health problems of older adults in different community settings.

3- Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding : By the completion of this course the student should be able to

- A.1. Describe age-related changes that affect GIT.
- A.2. Identify methods of diagnosis of intestinal malignancies in older adults
- A.3. Define the various types of intestinal malignancies
- A.4. Identify risk factors that contribute to myocardial infarction.
- A.5. Delineate age-related changes that affect nutritional status in older adults.
- A.6. Discuss eating changes and problems common in older adults.
- A.7. Describe the risk factors, prevention, and complication of hepatocellular carcinoma cancer.
- A.9. Discuss the functional consequences of malnutrition.
- A.10. List the factors that affect the risk for development of GIT bleeding.
- A.11. List risk factors of elderly lung cancer.
- A.12. Identify the risk factors of intestinal malignancies

b- Intellectual Skills

By the completion of this course the student should be able to

- B.1. Examine risk factors that cause or contribute to intestinal malignancies in older adults.
- B.2. Identify risk factors that increase the risk of eating disorders
- B.3. Identify interventions to treat hepatocellular carcinoma. in older adults.
- B.4. Identify signs or symptoms of myocardial infarction.

B.5. Identify personal, environmental, and physiologic risk factors of lung cancer in older adults.

c- Professional and practical skills

By the completion of this course the student should be able to

- C.1. Examine age-related changes and risk factors of hepatocellular carcinoma. in older adults.
- C.2. Implement evidence-based sleep assessment tools for Assessing hepatocellular carcinoma.
- C.3. Examine the effect of chronic disease on diet in older adults.
- C.4 Implement strategies to help planning meals for elderly with chronic disease

d- General and transferable skills By the completion of the course the student should be able to

- D.1. Utilize interpersonal skills to communicate effectively.
- D.2. Use reasoning and problem solving skills in prioritizing actions, and care provided for elderly.
- D.3. Demonstrate effective communication with older adults and their families at different setting.
- D.4. Work productively in a team
- D.5. Search effectively in websites relevant to certain subjects.

E- Attitude

By the completion of the course the student should be able to

E1-Appreciate and promote elderly patient/ client rights to autonomy, respect, privacy, and dignity, and access to information.

E2-Value his/her role as a model for less experienced nursing students.

E3-Respect and encourage the patients' participations in decision about health care and services.

		No. of hours		
Weeks	Topics	Lecture	practical	
		48 hours	0 hours	
1	Unit1: Myocardial infarction			
2		4	-	
		4	-	
	Unit2: Older people and eating disorders			
3			-	
4		4	-	
-		4	-	
			_	
			-	

4- Course Contents:

5	Unit 3: Lung cancer in Older Adults		
6		4	-
U		4	-
			-
7	Unit 4: Geriatric intestinal malignancies		
8		4	
		2	
9		2	
10	Unit 5: Hepatocellular carcinoma		
11		4	
12		2	
12		2 2	
		_	
	Unit 6: Healthy Diet For Elderly		
13		4	
14			
		4	
15	Oral-exam		
15			
1(Final Exam		
16			
L			

5- Teaching and learning methods :

- 5.1 Lecture
- 5.2 Group discussion
- **5.3** Semester work (Self learning via research papers presentation, report writing)

6- Student Assessment :

A- Assessment Method

- A.1 Class presentation
- A.2 Semester work
- A.3 Oral Examination
- A.4 Final term Examination

B- Time Schedule

class presentations	Week : through semester
Semester work	Week : through semester
oral Examination	Week: 15
Final - term Examination	Week: 16

C- Grading system

Class presentations	% 10
Semester work	% 10
Oral Examination	% 20
Final - term Examination	% 60

7- List of References

A - Course Note:

Handouts: prepared by the candidate doctorate degree of the course.

B -Required Books:

Yennurajalingam, S., and Bruera, E. (2016). Oxford American

		Handbook of Hospice and Palliative Medicine and Supportive Care. Oxford University PressGray-Miceli, D. (2008). Preventing falls in acute care. In E. Capezuti, D. Zwicker, M. Mezey, & T. Fulmer (Eds.), Evidence-based geriatric nursing protocols for best practice (3rd ed., pp. 57–82, 161–198). New York: Springer Publishing Co.		
		Poduri, K. (2017). Geriatric Rehabilitation: From Bedside to Curbside. CRC Press		
		Skidmore-Roth, L. (2018). Mosby's 2019 Nursing Drug Reference E-Book. Elsevier Health Sciences		
C-Recommended Allen, S. R., & Kaplan, L. J. (2018). Geriatric Critical Care Un				
Books:	Model for Interdisciplinary Approach. Principles of Geriatric Critic Care.			
		Jean-Pierre, M., Beattie, B. L., Martin, F. C., & Walston, J. D. (Eds.). (2018). Oxford textbook of geriatric medicine. Oxford University Press.		
D -Periodicals,	Web	✓ American Journal of Geriatric Nursing		
Sites,etc		 Archives of Gerontology and Geriatrics Journal of the American Geriatrics Society Fall Prevention Center of Excellence National Arthritis and Musculoskeletal and Skin Diseases National Institute on Aging (NIA) National Resource Center for Safe Aging 		

8- Facilities required for teaching and learning Computer and data show.

Course Coordinator:	Prof. Mohamed El-Khashab Prof. Sahar Elnamer
Head of Department Date: 5 / 9 /2019	Prof. Eman Shokry Abd Allah

Course Specification Nursing seminars in the area of specific specialty (Gerontological nursing), (PHD 2nd)

Course content	Knowledge	Intellectual Skills	Professional skills	General skills	Attitude	Teaching and learning methods
Unit 1: Diabetic Mellitus	A1 A4	B4		D1 D2	E1	practical training; Demonstratio n method
Unit 2: Older people and eating disorders	A9	B2	C3 C4	D1 D2	E1, E2	Lecture, seminar, Collaborative work;
Unit 3: The Five Most Common Infections in Older Adults	A11			D1 D2	E1,E2, E3	Course paper/project; Brain storming
Unit 4: Geriatric GIT malignancies	A1 A2 A3 A7 A12	B1		D3 D4	E1, ,E2	Lecture, Class presentation
Unit 5: Geriatric GIT Bleeding	A1 A10			D4 D5	E1,E2	Discussion/d ebates
Unit 6: Rest and Sleep	A5 A6	B5 B3	C1 C2	D5 D6	E1,E2	Lecture, seminar

Program Coordinator : Prof. Mohamed El-Khashab Prof. Sahar Elnamer Signature :

Date :5/9/2019