Republic of Iraq
Ministry of Higher Education & Scientific
Research Supervision and Scientific
Evaluation Directorate Quality Assurance and
Academic Accreditation International
Accreditation Dept.

Academic Program Specification Form for The Academic

(2021-2022)

University: Al-Nahrain University
College: Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies
Number Of Departments in The College: Clinical Reproductive Physiology
Date of Form Completion: 25\10\2022

Dean 's Name
Assistant Professor
Dr. Mufeda Ali Jwad
Date: /25 /10/2022
Signature

Dean 's Assistant for Scientific Affairs
Assistant Professor
Dr. Lubna Amer Abd Al-Hussain Al-Anbari
Date: / /
Signature

The College Quality Assurance and
University Performance Manager
Assistant Lecturer
Abbas AbdulWahhab Jumaah Al-Salihi
Date: /25 /10 /2022
Signature

Dean of the Institute
Assistant Professor
Dr. Manal Taha Meteab Al-Obaidi
Date: 6 / 11 / 2022
Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Program Specification provides a concise summary of the main features of the program and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each coursethat contributes to the program.	
1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Program Title	**Clinical Reproductive Physiology**
4. Title of Final Award	**1 .Higher Diploma (equivalent to a Master's) in Clinical Infertility and Assisted Reproductive Technologies. 2. Ph.D. in Infertility and Clinical Reproduction.**
5. Modes of Attendance offered	**Semester courses**
6. Accreditation	**Ministry of Higher Education and Scientific Research**
7. Other external influences	**Preparation of master's theses, doctoral theses, laboratory training, deans' committee**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Program	
1 .Preparing specialists well versed in the basics and details of Clinical Reproductive Physiology techniques, theoretically and practically, who are able to fill the labor market's need in infertility laboratories and assisted reproductive technologies, to provide society with scientific expertise and competencies with a modern scientific vision. 2 .Conducting academic and applied scientific research within an annual research plan, trying to keep pace with scientific development, and motivating researchers and students to publish the results of their research in international journals with a high impact factor. 3 .Cooperation with hospitals and infertility centers in the private and public sectors by providing advice and scientific advice and conducting training courses, workshops, scientific seminars and conferences. 4 .Holding scientific seminars with the participation of faculty members and graduate students in order to spread scientific awareness among the department's cadres and students. 5 .Providing academic curricula based on bridging theoretical knowledge with laboratory experience and updating them periodically. 6. Make valuable contributions to society through responsible and ethical practice in the profession of infertility and assisted reproductive technologies.	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Cognitive goals

A 1- The department's mission is to supply the labor market with qualified graduates who are qualified to work in the field of modern Clinical Reproductive Physiology techniques.

A 2 - Enable students to obtain knowledge and understanding of the various standards in Clinical Reproductive Physiology.

A 3- Enable students to acquire knowledge and understanding of assisted reproductive technology systems and their applications.

A 4- Enable the student to read the literature of the specialized scientific article.

A 5- The student acquires the largest possible number of specialized terms.

A 6- It provides students with the knowledge, skills and efforts required to work in diagnosing infertility cases through Laboratory tests.

B. The skills goals special to the programme.

B1 - Extracurricular activities, scientific skills, reminder and analysis skills, use and development skills.

B 2 - Holding discussion and cultural seminars for faculty members and students, and injecting a good amount of information, terminology, and specialized equations regarding the scientific subject.

B 3 - Familiarity with the vocabulary of the specialization capable of working in medical laboratories and performing laboratory analyzes while meeting quality standards and raising the professional skills of this specialization to contribute to building a society and strengthening scientific ties with universities and Arab and international research centers.

Teaching and Learning Methods

1 -Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students.

2 -Presenting lectures through PowerPoint.

3- Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.

Assessment methods

1 -Theoretical exam.

2 -The practical exam.

3 -Classroom and extra-curricular activities, assign grades for them.

4 -Laboratory exam.

5 -Practical evaluation.

6 -Oral and surprise exams.

7 -Side discussions during the lecture.

8. grades to attend.

C. Affective and value goals

C. 1- Requesting a SEMINAR from students with different topics within the same academic subject.

C 2- Homework.

C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.

C 4- Guiding students to research and academic journals that invest in their scientific potential.

Teaching and Learning Methods
1 -Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. 2 -Lectures with discussions. 3 -Solving a set of practical examples by the academic staff (lab skills). 4 -Seminars. 5 -Reports. 6 -Oral exams. 7 -An electronic class, presentation slides. 8 -Guidelines. 8- Using the Internet to conduct research on homework and the topic of the cultural episode.
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. 2 -Written and oral exams with multiple-choice questions that require scientific skills. 3 -Laboratory training and examination. 4 -Participation scores for the competing questions for the study subjects. 5 -Daily sharing. 6- Setting grades for class and extracurricular duties.

D. General and Transferable Skills (other skills relevant to employability and personal development)
D 1- Qualifying graduates and their numbers through the Graduate Qualification Unit at the Institute. D 2 - Number of graduates and develop their skills by conducting training courses and participating in conferences. D 3- Putting graduates into the labor market through follow-up and qualification. D 4- Research skill, listening skill, practical skill, decision making skill, computer and internet skill. D 5- Sharing students' graduation researches to win Science Day prizes.
Teaching and Learning Methods
1 -Learn how to arrange posters for participation in conferences. 2 -Students also demonstrate management, organizational and communication skills through the use of critical thinking in accessing advanced technologies in routine laboratory practice and problem solving. 3 -Forming discussion groups during the lectures to discuss topics in Clinical Reproductive Physiology that require thinking and analysis. 4 -Giving students in-class and extra-curricular assignments that require subjective explanations. 5. Use PowerPoint to present research.
Assessment Methods
1 -Oral discussions 2 -Daily exams with class and extra-curricular questions that are self-solving 3 -Participation marks for competition questions related to the subject. 4 -Quality standards. 5 -The participating student obtains a certificate of participation or a mural. 6 -Posting congratulations to the student on the department bulletin board. 7 -Publication of the news on the institute's website. 8. Using question-and-answer, snap exams, worksheets, research and reports

11. Program Structure					
Credit rating		Course or Module Title	Course or Module Code	Level / Year	
Practical	Theory				
-	1	English	NEMRPHY.HD 11	First semester	Higher Diploma (Equivalent to a master's degree)
-	1	Medical Statistics	NEMRPHY.HD 12		
3	2	Reproductive Embryology	NEMRPHY.HD 13		
3	2	Reproductive Physiology	NEMRPHY.HD 14		
3	2	Clinical Biochemistry	NEMRPHY.HD 15		
-	1	Infertility	NEMRPHY.HD 16		
-	1	English	NEMRPHY.HD 21	Second Semester	
3	2	Cytogenetic & Molecular Biology	NEMRPHY.HD 22		
3	2	Assisted Reproductive Technologies	NEMRPHY.HD 23		
3	2	Andrology	NEMRPHY.HD 24		
3	2	Reproductive Micromanipulation	NEMRPHY.HD 25		
-	1	Research Methods & Seminars	NEMRPHY.HD 26		
3	2	Applied Reproductive Physiology	NEMRPHY.PhD 11	First semester	PhD
3	2	Assisted Reproduction	NEMRPHY.PhD 12		
3	2	Applied Embryology	NEMRPHY.PhD 13		
-	1	Reproductive Genetic	NEMRPHY.PhD 14		
-	2	Reproductive Pathology	NEMRPHY.PhD 15		
-	2	English	NEMRPHY.PhD 21	Second Semester	
3	2	Reproductive Biotechnology	NEMRPHY.PhD 22		
3	2	Advanced Infertility	NEMRPHY.PhD 23		
3	2	Advanced Embryology	NEMRPHY.PhD 24		
3	2	Advanced Andrology	NEMRPHY.PhD 25		
-	2	Advanced Statistics	NEMRPHY.PhD 26		
-	1	Research Methods & Seminars	NEMRPHY.PhD 27		

12. Personal Development Planning

1 -Certain units within the program related to personal development plans. Students will also take the opportunity and encouragement to engage in professionally relevant qualifications. The bases of business elements are used throughout the set of units, which allow the student to reflect on their own professional development.

2 -Follow-up on scientific development through contacting international universities via the Internet, and continuous review of literature and modern sources.

3 -Participation in scientific conferences, workshops and scientific symposia inside and outside the country.

4 -Holding educational seminars for students with the aim of developing the student's self.

5. Using the virtual library to get some modern books in electronic format.

13. Admission criteria.	
Postgraduate studies instructions from the Ministry of Higher Education and Scientific Research.	
Higher Diploma (Master's Equivalent) in Clinical Infertility and Assisted Reproductive Technologies	**Bachelor's degree in human medicine And he has a practice or residence in one of the Branches of gynecology, obstetrics, urology or infertility Or holds a higher degree (diploma or above) in the above specializations.**
PhD In Infertility and Clinical Reproduction	**Medical Doctor with a Master's Degree in Applied Embryology Or a medical doctor with a higher diploma (equivalent to a master's degree) In Clinical Infertility and Assisted Reproductive Technologies.**

14- Key sources of information about the programme
1 -University requirements.
2 -Local scientific trends.
3 -International scientific requirements.
4 -Covering the specialized staff at the institute.
5 -The website of the Higher Institute for Infertility Diagnostics and Assisted Reproductive Technologies / Al-Nahrain University.
6- Student Graduation Guide.

Curriculum Skills Map																							
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																							
Programme Learning Outcomes																							
General and Transferable Skills (or) Other skills relevant to employability and personal development					Thinking Skills				Subject-specific skills			Subject-specific skills							Core (C) Title or Option (O)	Course Title	Course Code	Year / Level	
D5	D4	D3	D2	D1	C4	C3	C2	C1	B3	B2	B1	A6	A5	A4	A3	A2	A1						
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Title	English	NEMRPHY.HD 11	First semester	Masters	
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Title	Medical Statistics	NEMRPHY.HD 12			
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Title	Reproductive Embryology	NEMRPHY.HD 13			
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Title	Reproductive Physiology	NEMRPHY.HD 14			
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Title	Clinical Biochemistry	NEMRPHY.HD 15			
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Title	Infertility	NEMRPHY.HD 16			
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Title	English	NEMRPHY.HD 21	Second Semester		
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Title	Cytogenetic & Molecular Biology	NEMRPHY.HD 22			
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Title	Assisted Reproductive Technologies	NEMRPHY.HD 23			

	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**Andrology**	**NEMRPHY.HD 24**		
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**Reproductive Micromanipulation**	**NEMRPHY.HD 25**		
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**Research Methods & Seminars**	**NEMRPHY.HD 26**		
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**Applied Reproductive Physiology**	**NEMRPHY.PhD 11**	**First semester**	**PhD**
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**Assisted Reproduction**	**NEMRPHY.PhD 12**		
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**Applied Embryology**	**NEMRPHY.PhD 13**		
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**Reproductive Genetic**	**NEMRPHY.PhD 14**		
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**Reproductive Pathology**	**NEMRPHY.PhD 15**		
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**English**	**NEMRPHY.PhD 21**	**Second Semester**	
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**Reproductive Biotechnology**	**NEMRPHY.PhD 22**		
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**Advanced Infertility**	**NEMRPHY.PhD 23**		
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**Advanced Embryology**	**NEMRPHY.PhD 24**		
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**Advanced Andrology**	**NEMRPHY.PhD 25**		
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**Advanced Statistics**	**NEMRPHY.PhD 26**		
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**Research Methods & Seminars**	**NEMRPHY.PhD 27**		

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY.HD 11\English**
4. Title of Final Award	**Higher Diploma (equivalent to a Master's).**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**15 hours**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
This course focuses on developing the specific skills required for academic studies and exploring strategies for success in academic learning. It also provides guidance in key areas of study and provides plenty of practice to encourage student independence.	

10. Learning Outcomes, Teaching, Learning and Assessment Methode
A- Cognitive goals **A1 - Develop strategies to improve reading speed and improve ability in complex academic texts.** **A2 - Develop strategies to produce more coherent writing and to provide clear, appropriate, and consistent feedback from academic texts.** **A3 - Encouraging students to adopt different methods of dealing with new or unknown vocabulary.**
B - Skills objectives of the course **B1 - Exploring and evaluating research techniques and resources as well as approving information sources.** **B2 - Enhancing students' independence by encouraging them to return to previous study skills to refresh their memories.**
Teaching and Learning Methods
1. Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students. **2. Presenting lectures through PowerPoint.** **3. Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**
Assessment methods
1. Theoretical exam. **2. The practical exam.** **3. Classroom and extra-curricular activities, assign grades for them.** **4. Laboratory exam.** **5. Practical evaluation.** **6. Oral and surprise exams.** **7. Side discussions during the lecture** **8. Grades for attendance.**
C- Emotional and value goals **A 1- Requesting a SEMINAR from students with different topics within the same academic subject.** **C 2- Homework.** **C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.** **C 4- Guiding students to research and academic journals that invest in their scientific potential.**

Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. **2- Lectures with discussions.** **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1. Theoretical exams, the mid-course exam and the final exam. **2. Written and oral exams with multiple-choice questions that require scientific skills.** **3. Laboratory training and examination.** **4. Participation scores for the competing questions for the study subjects.** **5. Daily sharing.** **6. Setting grades for class and extra-curricular assignments.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Basic English sentences -The study of cell structure**	**Basic English sentences -The study of cell structure**	**1 hour**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Tenses in English-part 1 -Epithelial tissue**	**Tenses in English-part 1 -Epithelial tissue**	**1 hour**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Tenses in English-part 2**	**Tenses in English-part 2**	**1 hour**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Punctuations Genes & Chromosomes-**	**Punctuations Genes & Chromosomes-**	**1 hour**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Articles**	**Articles**	**1 hour**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Sources of energy**	**Sources of energy**	**1 hour**	**6.**
		Examination	**Examination**	**1 hour**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Nouns in English -The limits of medicine**	**Nouns in English -The limits of medicine**	**1 hour**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Adjectives -The limits of medicine**	**Adjectives -The limits of medicine**	**1 hour**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Adverbs -A Mongol Baby**	**Adverbs -A Mongol Baby**	**1 hour**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**-Prepositions -Neoplasia**	**-Prepositions -Neoplasia**	**1 hour**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Passives-The nervous system**	**Passives-The nervous system**	**1 hour**	**12.**

Short oral and written exams	**Attendance lecture, explanations**	**-Conditional -Proteins**	**-Conditional -Proteins**	**1 hour**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Conjunctions**	**Conjunctions**	**1 hour**	**14.**
		Overview	**Overview**	**1 hour**	**15.**

12. Infrastructure	
Headway (Academic skill) Reading, writing and skills Head way Academic skills Level 1 Reading, writing, and study skills By Sarah Philpot & Lasley Curnick. Oxford: Oxford university press.	**1. Books Required reading:**
https://books.google.iq/books/about/Headway_Academic_Skills_1_Reading_Writin.html?id=P7D0tgAACAAJ&redir_esc=y	**2. Main references (sources)**
Headway Academic Skills https://books.google.iq/books/about/Headway_Academic_Skills.html?id=qIxszgEACAAJ&redir_esc=y	**A- Recommended books and references (scientific journals, reports…).**
https://books.google.iq/books/about/Academic_Skills.html?id=Ov4nGQAACAAJ&redir_esc=y	**B-Electronic references, Internet sites…**

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY.HD 12\Medical Statistics**
4. Title of Final Award	**Higher Diploma (equivalent to a Master's).**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**15 hours**
8. Date of production/revision of this specification	**25\10\2022**

9. Aims of the Course
This course focuses on developing the specific skills required for academic studies and exploring strategies for success in academic learning. It also provides guidance in key areas of study and provides plenty of practice to encourage student independence.

10. Learning Outcomes, Teaching, Learning and Assessment Methode
A- Cognitive goals **A 1- To understand the early developmental stages of the human fetus.** **A 2 - Understand the factors that may contribute to the developmental disorder.** **A 3- Knowing the stages of anomaly development.** **A 4 - Understand congenital malformations.**
B - Skills objectives of the course **B1 - Evaluation of gamete abnormalities by microscopy.** **B2 - Evaluation of the fetus in the early stages of development in the ICSI laboratory.**
Teaching and Learning Methods
1. Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students. **2. Presenting lectures through PowerPoint.** **3. Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**
Assessment methods
1. Theoretical exam. **2. The practical exam.** **3. Classroom and extra-curricular activities, assign grades for them.** **4. Laboratory exam.** **5. Practical evaluation.** **6. Oral and surprise exams.** **7. Side discussions during the lecture.** **8. Grades for attendance.**
C- Emotional and value goals **A 1- Requesting a SEMINAR from students with different topics within the same academic subject.** **C 2- Homework.** **C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.** **C 4- Guiding students to research and academic journals that invest in their scientific potential.**

Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. **2- Lectures with discussions.** **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Collection of data & sampling**	**Collection of data & sampling**	**1 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Population & normal distribution curve**	**Population & normal distribution curve**	**1 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Presentation of statistics, graphs, tables & others**	**Presentation of statistics, graphs, tables & others**	**1 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Measures of central tendency, mean, mode, median**	**Measures of central tendency, mean, mode, median**	**1 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Measures of dispersion, standard deviation & standard error or the mean**	**Measures of dispersion, standard deviation & standard error or the mean**	**1 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Tests of significance, t-test, F-test & Chi-square I**	**Tests of significance, t-test, F-test & Chi-square I**	**1 hours**	**6.**
		Examination	**Examination**	**1 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Tests of significance, t-test, F-test & Chi-square II**	**Tests of significance, t-test, F-test & Chi-square II**	**1 hours**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Correlation**	**Correlation**	**1 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Regression**	**Regression**	**1 hours**	**10.**

Short oral and written exams	**Attendance lecture, explanations**	**Experimental designs**	**Experimental designs**	**1 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Clinical trials, single blind, double blind & multi – centre studies**	**Clinical trials, single blind, double blind & multi – centre studies**	**1 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**Computer packages for statistical evaluation**	**Computer packages for statistical evaluation**	**1 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Applications of statistical methods in research**	**Applications of statistical methods in research**	**1 hours**	**14.**
		Overview	**Overview**	**1 hours**	**15.**

12. Infrastructure	
Medical Statistics: A Guide to SPSS, Data Analysis, and Critical Evaluation Jennifer Peat, Belinda Barton	**1. Books Required reading:**
medical statistics	**2. Main references (sources)**
Statistics Workbook for Evidence-Based Health Care **https://book4you.org/book/2156247/8946a7**	**A- Recommended books and references (scientific journals, reports…).**
https://book4you.org/book/2369996/34ead5 **https://book4you.org/book/16955113/1da1f1**	**B-Electronic references, Internet sites…**

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY.HD 13\Reproductive Embryology**
4. Title of Final Award	**Higher Diploma (equivalent to a Master's).**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**75 hours**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
Educating postgraduate students (higher diploma equivalent to Masters) with gamete formation, embryonic development, implantation and embryonic malformations.	

10. Learning Outcomes, Teaching, Learning and Assessment Methode

A- Cognitive goals

A 1- To understand the early developmental stages of the human fetus.

A 2 - Understand the factors that may contribute to the developmental disorder.

A 3- Knowing the stages of anomaly development.

A 4 - Understand congenital malformations.

B - Skills objectives of the course

B1 - Evaluation of gamete abnormalities by microscopy.

B2 - Evaluation of the fetus in the early stages of development in the ICSI laboratory.

Teaching and Learning Methods

1. **Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students.**
2. **Presenting lectures through PowerPoint.**
3. **Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**

Assessment methods

1. **Theoretical exam.**
2. **The practical exam.**
3. **Classroom and extra-curricular activities, assign grades for them.**
4. **Laboratory exam.**
5. **Practical evaluation.**
6. **Oral and surprise exams.**
7. **Side discussions during the lecture.**
8. **Grades for attendance.**

C- Emotional and value goals

A 1- Requesting a SEMINAR from students with different topics within the same academic subject.

C 2- Homework.

C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.

C 4- Guiding students to research and academic journals that invest in their scientific potential.

Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. **2- Lectures with discussions.** **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Introduction, general features of development**	**Introduction, general features of development**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Gametogenesis, spermatogenesis & oogenesis**	**Gametogenesis, spermatogenesis & oogenesis**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Ovulation, Fertilization**	**Ovulation, Fertilization**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Normal and abnormal embryonic development (PN, cleavage stage**	**Normal and abnormal embryonic development (PN, cleavage stage**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Pre-implantation embryology (blast stage embryo)**	**Pre-implantation embryology (blast stage embryo)**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Implantation**	**Implantation**	**5 hours**	**6.**
		Examination	**Examination**	**5 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Formation of bilaminar germ disc**	**Formation of bilaminar germ disc**	**5 hours**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**The trilaminar germ disc**	**The trilaminar germ disc**	**5 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Embryonic development & fetal period**	**Embryonic development & fetal period**	**5 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**The placenta & fetal circulation**	**The placenta & fetal circulation**	**5 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Development & derivative of ectoderm**	**Development & derivative of ectoderm**	**5 hours**	**12.**

Short oral and written exams	**Attendance lecture, explanations**	**Development & derivative of mesoderm**	**Development & derivative of mesoderm**	**5 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Development & derivative of endoderm**	**Development & derivative of endoderm**	**5 hours**	**14.**
Short oral and written exams	**Attendance lecture, explanations**	**Embryonic development and fetal period**	**Embryonic development and fetal period**	**5 hours**	**15.**

12. Infrastructure	
• **LANGMAN'S Medical Embryology, T.W. Saldler, 13th Ed.** • **Atlas of Human Genetic** • **Basic of histology (Tun Queira)** • **Atlas of histology (Victor P. Ero Schenko)** **Sadler's Book of Embryology**	**1. Books Required reading:**
Professors' lectures with Linkman's book on Medical Embryology	**2. Main references (sources)**
Specialized journals in applied embryology and infertility	**A- Recommended books and references (scientific journals, reports…).**
Larsen in Embryology **https://b-ok.asia/book/2664768/1fdcd7** **Lanckmann in Medical Embryology** **https://b-ok.asia/book/5644915/31e13b**	**B-Electronic references, Internet sites…**

13. The development of the curriculum plan
Development and updating are carried out according to the information available from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY.HD 14\Reproductive Physiology**
4. Title of Final Award	**Higher Diploma (equivalent to a Master's).**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**75 hours**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
To educate postgraduate students of Higher Diploma (equivalent to MSc) with new reproductive immunological information.	

10. Learning Outcomes, Teaching, Learning and Assessment Methode
A- Cognitive goals **A 1- The relationship between the immune system and the lymphatic system.** **A 2- The different mechanisms of sperm apoptosis and their relationship to male infertility.**
B - Skills objectives of the course **B1 - Extensive knowledge of the histological structure of tissues and their functions and their relationship to the immune system.**
Teaching and Learning Methods
1. Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students. **2. Presenting lectures through PowerPoint.** **3. Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**
Assessment methods
1. Theoretical exam. **2. The practical exam.** **3. Classroom and extra-curricular activities, assign grades for them.** **4. Laboratory exam.** **5. Practical evaluation.** **6. Oral and surprise exams.** **7. Side discussions during the lecture.** **8. Grades for attendance.**
C- Emotional and value goals **A 1- Requesting a SEMINAR from students with different topics within the same academic subject.** **C 2- Homework.** **C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.** **C 4- Guiding students to research and academic journals that invest in their scientific potential.**

Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. **2- Lectures with discussions.** **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Physiological anatomy of female reproductive system**	**Physiological anatomy of female reproductive system**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Puberty & menarche**	**Puberty & menarche**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Abnormal puberty & abnormal gender differentiation**	**Abnormal puberty & abnormal gender differentiation**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Monthly menstrual cycle: Follicular phase**	**Monthly menstrual cycle: Follicular phase**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Monthly menstrual cycle: Ovulation**	**Monthly menstrual cycle: Ovulation**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Monthly menstrual cycle: Luteal phase**	**Monthly menstrual cycle: Luteal phase**	**5 hours**	**6.**
		Examination	**Examination**	**5 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Monthly endometrial cycle & menstruation**	**Monthly endometrial cycle & menstruation**	**5 hours**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Menopause and andropause**	**Menopause and andropause**	**5 hours**	**9.**

Short oral and written exams	**Attendance lecture, explanations**	**Physiological anatomy of male sexual organ & Accessory glands**	**Physiological anatomy of male sexual organ & Accessory glands**	**5 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**Normal & abnormal puberty & gender differentiation**	**Normal & abnormal puberty & gender differentiation**	**5 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Hypothalamic & pituitary hormonal control of male sexual functions**	**Hypothalamic & pituitary hormonal control of male sexual functions**	**5 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**Hormonal control of spermatogenesis**	**Hormonal control of spermatogenesis**	**5 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Male sexual acts & psychological effect on sperm production**	**Male sexual acts & psychological effect on sperm production**	**5 hours**	**14.**
Short oral and written exams	**Attendance lecture, explanations**	**Endocrine disruptors**	**Endocrine disruptors**	**5 hours**	**15.**

12. Infrastructure	
• **Review of Medical Physiology, W.F. Ganong, 25th Ed.** • **Textbook of Assisted Reproductive** • **Technologies/5th Ed.; Vol. II: Clinical Perspectives** **basic reproduction**	**1. Books Required reading:**
Reproduction basics	**2. Main references (sources)**
Human reproduction journal	**A- Recommended books and references (scientific journals, reports…).**

Human reproduction **https://book4you.org/book/934765/e92133** **https://book4you.org/book/2314080/9f0de3**	**B-Electronic references, Internet sites…**

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY.HD 15\Clinical Biochemistry**
4. Title of Final Award	**Higher Diploma (equivalent to a Master's).**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**75 hours**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
Awareness of the postgraduate student (Masters) about the important aspects of human metabolism, congenital error in metabolism, mechanism of action of hormones, reactive oxygen species on fertility, structure of DNA and RNA and methods of its evaluation in addition to the lipid kinetics of steroid hormones and drugs used in the treatment of infertility when Male and female.	

10. Learning Outcomes, Teaching, Learning and Assessment Methode
A- Cognitive goals **A1. Have knowledge of biochemical and metabolic disorders that may contribute to fertility.** **A 2- Action and metabolism of some drugs routinely used in infertility.** **A 3- The shape and structure of DNA and RNA.** **A 4- Modern methods of DNA and RNA evaluation.** **A5 - Methods used to evaluate reactive oxygen species and minerals that have effects on fertility.**
B - Skills objectives of the course **B1. Evaluation of hormones.** **B 2. Evaluation of DNA structure and abnormalities.** **B3. Evaluation of free radicals.**
Teaching and Learning Methods
1. Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students. **2. Presenting lectures through PowerPoint.** **3. Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**
Assessment methods
1. Theoretical exam. **2. The practical exam.** **3. Classroom and extra-curricular activities, assign grades for them.** **4. Laboratory exam.** **5. Practical evaluation.** **6. Oral and surprise exams.** **7. Side discussions during the lecture.** **8. Grades for attendance.**
C- Emotional and value goals **A 1- Requesting a SEMINAR from students with different topics within the same academic subject.** **C 2- Homework.** **C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.** **C 4- Guiding students to research and academic journals that invest in their scientific potential.**

Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. **2- Lectures with discussions.** **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**The metabolism, integration pathway**	**The metabolism, integration pathway**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Inborn error of metabolism**	**Inborn error of metabolism**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Mechanism of hormone action**	**Mechanism of hormone action**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Biochemistry of steroidal hormones Biochemistry of non-steroidal hormones**	**Biochemistry of steroidal hormones Biochemistry of non-steroidal hormones**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**The importance of trace minerals**	**The importance of trace minerals**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Effect of ROS on Fertility**	**Effect of ROS on Fertility**	**5 hours**	**6.**
		Examination	**Examination**	**5 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Nucleic acid's structure**	**Nucleic acid's structure**	**5 hours**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Nucleic acid replication, transcription and protein synthesis**	**Nucleic acid replication, transcription and protein synthesis**	**5 hours**	**9.**

Short oral and written exams	**Attendance lecture, explanations**	**DNA & RNA polymerase and basis of polymerase chain reaction (PCR)**	**DNA & RNA polymerase and basis of polymerase chain reaction (PCR)**	**5 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**Pharmaceutical and pharmadynamic action of fertility drugs (bioavailability, excretion)**	**Pharmaceutical and pharmadynamic action of fertility drugs (bioavailability, excretion)**	**5 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Pharmaceutical and pharmadynamic action of fertility drugs (facters modifying drug action)**	**Pharmaceutical and pharmadynamic action of fertility drugs (facters modifying drug action)**	**5 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**Hormonal Drugs used in male infertility**	**Hormonal Drugs used in male infertility**	**5 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Hormonal Drugs used in female infertility**	**Hormonal Drugs used in female infertility**	**5 hours**	**14.**
		Overview	**Overview**	**5 hours**	**15.**

12. Infrastructure	
Textbook of Assisted Reproductive Technologies/4th and 5th Edition (2012, 2018) **Textbook of Biochemistry for Medical Students**	**1. Books Required reading:**
Textbook of Biochemistry for Medical Students	**2. Main references (sources)**
Textbook of Biochemistry with Clinical Correlations, 7th Edition **Practical Textbook of Biochemistry for Medical Students**	**A- Recommended books and references (scientific journals, reports…).**

https://book4you.org/s/Textbook%20Biochemistry https://book4you.org/book/2515179/4ebf40 https://book4you.org/book/3416352/dcdace https://book4you.org/book/3270691/fc7de3 https://book4you.org/book/11208609/3eef15	**B-Electronic references, Internet sites…**

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY.HD 16\Infertility**
4. Title of Final Award	**Higher Diploma (equivalent to a Master's).**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**75 hours**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
To educate postgraduate students of Higher Diploma (equivalent to a Masters) of the reasons for knowledge and management of male and female infertility.	

10. Learning Outcomes, Teaching, Learning and Assessment Methode
A- Cognitive goals **A 1. How to examine infertile couples.** **A 2. Review the possible causes of infertility.** **A 3. Infectious and immunological causes of infertility.** **A 4. Causes of male infertility.**
B - Skills objectives of the course **B 1. Clinical evaluation of infertile couples.** **B2. Immunological evaluation.**
Teaching and Learning Methods
1. Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students. **2. Presenting lectures through PowerPoint.** **3. Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**
Assessment methods
1. Theoretical exam. **2. The practical exam.** **3. Classroom and extra-curricular activities, assign grades for them.** **4. Laboratory exam.** **5. Practical evaluation.** **6. Oral and surprise exams.** **7. Side discussions during the lecture.** **8. Grades for attendance.**
C- Emotional and value goals **A 1- Requesting a SEMINAR from students with different topics within the same academic subject.** **C 2- Homework.** **C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.** **C 4- Guiding students to research and academic journals that invest in their scientific potential.**
Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. **2- Lectures with discussions.** **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.**

5- Reports. **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Investigations of infertile couple**	**Investigations of infertile couple**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Higher center cause of infertility: Primary hypogonadotropic hypogonadism**	**Higher center cause of infertility: Primary hypogonadotropic hypogonadism**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Higher center cause of infertility: secondary hypogonadotropic hypogonadism**	**Higher center cause of infertility: secondary hypogonadotropic hypogonadism**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Ovulatory cause of infertility: PCOS**	**Ovulatory cause of infertility: PCOS**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Ovulatory cause of infertility: Poor responders**	**Ovulatory cause of infertility: Poor responders**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Mechanical cause of infertility (Cervical, uterine, tubal)**	**Mechanical cause of infertility (Cervical, uterine, tubal)**	**5 hours**	**6.**
		Examination	**Examination**	**5 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Infectious cause of female infertility**	**Infectious cause of female infertility**	**5 hours**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Immunological disorders of pregnancy**	**Immunological disorders of pregnancy**	**5 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Higher center cause of male infertility (Hypogonadotropic hypogonadism, hyperprolactinemia)**	**Higher center cause of male infertility (Hypogonadotropic hypogonadism, hyperprolactinemia)**	**5 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**Testicular cause of infertility: Distractive (causes, diagnoses, treatment)**	**Testicular cause of infertility: Distractive (causes, diagnoses, treatment)**	**5 hours**	**11.**

Short oral and written exams	**Attendance lecture, explanations**	**Testicular cause of infertility: Obstructive (causes, diagnoses, treatment)**	**Testicular cause of infertility: Obstructive (causes, diagnoses, treatment)**	**5 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**Ejaculatory cause of infertility**	**Ejaculatory cause of infertility**	**5 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Abnormal spermatogenesis**	**Abnormal spermatogenesis**	**5 hours**	**14.**
Short oral and written exams	**Attendance lecture, explanations**	**Unexplained couple infertility**	**Unexplained couple infertility**	**5 hours**	**15.**

12.Infrastructure	
Textbook of Assisted Reproductive Technologies/5th Ed.; Vol. II: Clinical Perspectives **Williams Gynecology, Third Edition** **Dewhurst's Textbook of Obstetrics and Gynecology** **Campbell-Walsh Urology by Alan J. Wein 10th Edition (2011)**	**1. Books Required reading:**
Textbook of Assisted Reproductive Technologies/5th Ed.; Vol. II: Clinical Perspectives **Williams Gynecology, Third Edition** **Dewhurst's Textbook of Obstetrics and Gynecology** **Campbell-Walsh Urology by Alan J. Wein 10th Edition (2011)**	**2. Main references (sources)**
Textbook of Assisted Reproductive Technologies/5th Ed.; Vol. II: Clinical Perspectives **Williams Gynecology, Third Edition** **Dewhurst's Textbook of Obstetrics and Gynecology** **Campbell-Walsh Urology by Alan J. Wein 10th Edition (2011)**	**A- Recommended books and references (scientific journals, reports…).**
Textbook of Assisted Reproductive Technologies/5th Ed.; Vol. II: Clinical Perspectives **Williams Gynecology, Third Edition** **Dewhurst's Textbook of Obstetrics and Gynecology** **Campbell-Walsh Urology by Alan J. Wein 10th Edition (2011)**	**B-Electronic references, Internet sites…**

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY.HD 21\English**
4. Title of Final Award	**Higher Diploma (equivalent to a Master's).**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**75 hours**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
This course focuses on developing the specific skills required for academic studies and exploring strategies for success in academic learning. It also provides guidance in key areas of study and provides plenty of practice to encourage student independence.	

10. Learning Outcomes, Teaching, Learning and Assessment Methode
A- Cognitive goals **A 1- To understand the early developmental stages of the human fetus.** **A 2 - Understand the factors that may contribute to the developmental disorder.** **A 3- Knowing the stages of anomaly development.** **A 4 - Understand congenital malformations.**
B - Skills objectives of the course **B1 - Evaluation of gamete abnormalities by microscopy.** **B2 - Evaluation of the fetus in the early stages of development in the ICSI laboratory.**
Teaching and Learning Methods
1. Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students. **2. Presenting lectures through PowerPoint.** **3. Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**
Assessment methods
1. Theoretical exam. **2. The practical exam.** **3. Classroom and extra-curricular activities, assign grades for them.** **4. Laboratory exam.** **5. Practical evaluation.** **6. Oral and surprise exams.** **7. Side discussions during the lecture.** **8. Grades for attendance.**
C- Emotional and value goals **A 1- Requesting a SEMINAR from students with different topics within the same academic subject.** **C 2- Homework.** **C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.** **C 4- Guiding students to research and academic journals that invest in their scientific potential.**
Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems.

2- Lectures with discussions. **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Introduction**	**Introduction:**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 6: Science and our world Reading, p. 34-35 & Writing p. 31**	**Unit 6: Science and our world Reading, p. 34-35 & Writing p. 31**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 6: Science and our world Vocabulary Development p. 32 & Review p. 33**	**Unit 6: Science and our world Vocabulary Development p. 32 & Review p. 33**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 7: People: past & present Reading, p. 40-41 & Research p. 42-43**	**Unit 7: People: past & present Reading, p. 40-41 & Research p. 42-43**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 7: People: past & present Writing, p. 43-44 & Review p. 45**	**Unit 7: People: past & present Writing, p. 43-44 & Review p. 45**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 8: The world of IT Reading: Computers, p. 46-47 & Writing, IT, p. 48**	**Unit 8: The world of IT Reading: Computers, p. 46-47 & Writing, IT, p. 48**	**5 hours**	**6.**

Short oral and written exams	**Attendance lecture, explanations**	**Unit 8: The world of IT Vocabulary Development p. 49 & Review p. 51**	**Unit 8: The world of IT Vocabulary Development p. 49 & Review p. 51**	**5 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Listening Skills: Listening Comprehension Exercises**	**Listening Skills: Listening Comprehension Exercises**	**5 hours**	**8.**
		Exam	**Exam**	**5 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 9: Inventions, discoveries, and processes Reading, how things work p. 52-53**	**Unit 9: Inventions, discoveries, and processes Reading, how things work p. 52-53**	**5 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 9: Inventions, discoveries, and processes Research, Reference books, p. 55-56 & Review p. 58**	**Unit 9: Inventions, discoveries, and processes Research, Reference books, p. 55-56 & Review p. 58**	**5 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 10: Travel and Tourism Reading: International tourism p. 58-59 & Vocabulary Development p. 60**	**Unit 10: Travel and Tourism Reading: International tourism p. 58-59 & Vocabulary Development p. 60**	**5 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 10: Travel and Tourism Writing, p. 61-62 & Review, p. 51**	**Unit 10: Travel and Tourism Writing, p. 61-62 & Review, p. 51**	**5 hours**	**13.**

Short oral and written exams	Attendance lecture, explanations	Listening Comprehension Exercises	Listening Comprehension Exercises	5 hours	14.
		Review	Review	5 hours	15.

12. Infrastructure	
Headway (Academic skill) Reading, writing and skills Head way Academic skills Level 1 Reading, writing, and study skills By Sarah Philpot & Lasley Curnick. Oxford: Oxford university press.	1. Books Required reading:
https://books.google.iq/books/about/Headway_Academic_Skills_1_Reading_Writin.html?id=P7D0tgAACAAJ&redir_esc=y	2. Main references (sources)
Headway Academic Skills https://books.google.iq/books/about/Headway_Academic_Skills.html?id=qIxszgEACAAJ&redir_esc=y	A- Recommended books and references (scientific journals, reports…).
https://books.google.iq/books/about/Academic_Skills.html?id=Ov4nGQAACAAJ&redir_esc=y	B-Electronic references, Internet sites…

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY.HD 22\Cytogenetic & Molecular Biology**
4. Title of Final Award	**Higher Diploma (equivalent to a Master's).**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**75 hours**
8.Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
To educate postgraduate students of Higher Diploma (equivalent to MSc) in molecular biology, karyotyping, genetic mutation and stem cell technology.	

10. Learning Outcomes, Teaching, Learning and Assessment Methode
A- Cognitive goals **A 1. The structure and function of the nucleus.** **A 2. Cell cycle and cell biology.** **A 3. Karyotyping.** **A 4. A human genetic disorder.** **A 5. Genetic engineering.** **A 6. Stem cells and cloning.**
B - Skills objectives of the course **B 1. karyotyping** **B 2. FISH. Technique** **B 3. TUNEL assay**
Teaching and Learning Methods
1. Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students. **2. Presenting lectures through PowerPoint.** **3. Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**
Assessment methods
1. Theoretical exam. **2. The practical exam.** **3. Classroom and extra-curricular activities, assign grades for them.** **4. Laboratory exam.** **5. Practical evaluation.** **6. Oral and surprise exams.** **7. Side discussions during the lecture.** **8. Grades for attendance.**
C- Emotional and value goals **A 1- Requesting a SEMINAR from students with different topics within the same academic subject.** **C 2- Homework.** **C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.** **C 4- Guiding students to research and academic journals that invest in their scientific potential.**

Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. **2- Lectures with discussions.** **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**The structure and function of the nucleus**	**The structure and function of the nucleus**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Molecular biology of nucleic acids**	**Molecular biology of nucleic acids**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Cell division & cell cycle**	**Cell division & cell cycle**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Karyotyping & banding techniques**	**Karyotyping & banding techniques**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Fluorescent in situ hybridization**	**Fluorescent in situ hybridization**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Chromosomal abnormalities**	**Chromosomal abnormalities**	**5 hours**	**6.**
		Examination	**Examination**	**5 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Genes & mutations**	**Genes & mutations**	**5 hours**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Human genetic disorders(I)**	**Human genetic disorders(I)**	**5 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Human genetic disorders (II)**	**Human genetic disorders (II)**	**5 hours**	**10.**

Short oral and written exams	Attendance lecture, explanations	Cell & tissue culture	Cell & tissue culture	5 hours	11.
Short oral and written exams	Attendance lecture, explanations	Stem cells	Stem cells	5 hours	12.
Short oral and written exams	Attendance lecture, explanations	Genetic engineering	Genetic engineering	5 hours	13.
Short oral and written exams	Attendance lecture, explanations	Cloning	Cloning	5 hours	14.
Short oral and written exams	Attendance lecture, explanations	Tunel ssay	Tunel ssay	5 hours	15.

12. Infrastructure	
Textbook of Biochemistry for Medical Students	1. Books Required reading:
Textbook of Biochemistry for Medical Students	2. Main references (sources)
Textbook of Biochemistry with Clinical Correlations, 7th Edition Practical Textbook of Biochemistry for Medical Students	A- Recommended books and references (scientific journals, reports…).
https://book4you.org/s/Textbook%20Biochemistry https://book4you.org/book/2515179/4ebf40 https://book4you.org/book/3416352/dcdace https://book4you.org/book/3270691/fc7de3 https://book4you.org/book/11208609/3eef15	B-Electronic references, Internet sites…

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY.HD 23\Assisted Reproductive Technologies**
4. Title of Final Award	**Higher Diploma (equivalent to a Master's).**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**75 hours**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
To educate graduate students with a higher diploma (equivalent for master) with new ART techniques	

10. Learning Outcomes, Teaching, Learning and Assessment Methode
A- Cognitive goals **A 1 - Protocols to induce ovulation** **A 2 - The distinction of the round cells of the semen** **A3 - SFA**
B - Skills objectives of the course **B 1 - Endtz Test** **B2 - Collecting eggs with cleaning technology** **B 3 - Evaluation of semen parameters**
Teaching and Learning Methods
1. Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students. **2. Presenting lectures through PowerPoint.** **3. Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**
Assessment methods
1. Theoretical exam. **2. The practical exam.** **3. Classroom and extra-curricular activities, assign grades for them.** **4. Laboratory exam.** **5. Practical evaluation.** **6. Oral and surprise exams.** **7. Side discussions during the lecture.** **8. Grades for attendance.**
C- Emotional and value goals **A 1- Requesting a SEMINAR from students with different topics within the same academic subject.** **C 2- Homework.** **C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.** **C 4- Guiding students to research and academic journals that invest in their scientific potential.**
Teaching and Learning Methods

1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. **2- Lectures with discussions.** **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Principles of IUI**	**Principles of IUI**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Drugs used for ovulation induction**	**Drugs used for ovulation induction**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Ovulation Induction in low responders**	**Ovulation Induction in low responders**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Ovulation Induction in high responders**	**Ovulation Induction in high responders**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Pathophysiology and management of OHSS**	**Pathophysiology and management of OHSS**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Medical and anatomical problems in ART (endometriosis, hydrosalpings, uterine anomalies)**	**Medical and anatomical problems in ART (endometriosis, hydrosalpings, uterine anomalies)**	**5 hours**	**6.**
		Examination	**Examination**	**5 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Oocyte's retrieval**	**Oocyte's retrieval**	**5 hours**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Difficulties in IVF procedure**	**Difficulties in IVF procedure**	**5 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Embryo transfer**	**Embryo transfer**	**5 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**Significance of single embryo transfer and medical problems of multiple pregnancy**	**Significance of single embryo transfer and medical problems of multiple pregnancy**	**5 hours**	**11.**

Short oral and written exams	**Attendance lecture, explanations**	**Luteal support of fresh and frozen cycles**	**Luteal support of fresh and frozen cycles**	**5 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**Repeated Implantation failure**	**Repeated Implantation failure**	**5 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Anesthesia in IVF**	**Anesthesia in IVF**	**5 hours**	**14.**
Short oral and written exams	**Attendance lecture, explanations**	**Relation between stress and IVF outcome**	**Relation between stress and IVF outcome**	**5 hours**	**15.**

12. Infrastructure	
Textbook of Assisted Reproductive Technologies/4th and 5th Edition (2012, 2018)	**1. Books Required reading:**
Textbook of Assisted Reproductive Technologies/4th and 5th Edition (2012, 2018)	**2. Main references (sources)**
Textbook of Assisted Reproductive Technologies/4th and 5th Edition (2012, 2018)	**A- Recommended books and references (scientific journals, reports…).**
Textbook of Assisted Reproductive Technologies/4th and 5th Edition (2012, 2018)	**B-Electronic references, Internet sites…**

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY.HD 24\ Andrology**
4. Title of Final Award	**Higher Diploma (equivalent to a Master's).**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**75 hours**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
To educate postgraduate students of Higher Diploma (equivalent to Masters) with new male infertility management programmed	

10. Learning Outcomes, Teaching, Learning and Assessment Methode
A- Cognitive goals **A 1. Diagnosis of male infertility** **A 2. Causes and treatment** **A 3. SFA** **A 4. Highest male hypogonadism control center** **A5. Effect of environment and ROS on male fertility**
B - Skills objectives of the course **B 1. Semen analysis** **B2. Evaluation of semen parameters** **B 3. Endiz Test**
Teaching and Learning Methods
1. Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students. **2. Presenting lectures through PowerPoint.** **3. Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**
Assessment methods
1. Theoretical exam. **2. The practical exam.** **3. Classroom and extra-curricular activities, assign grades for them.** **4. Laboratory exam.** **5. Practical evaluation.** **6. Oral and surprise exams.** **7. Side discussions during the lecture.** **8. Grades for attendance.**
C- Emotional and value goals **A 1- Requesting a SEMINAR from students with different topics within the same academic subject.** **C 2- Homework.** **C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.** **C 4- Guiding students to research and academic journals that invest in their scientific potential.**
Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems.

2- Lectures with discussions. **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Physiology of testicular function**	**Physiology of testicular function**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Physiology of sperms maturation and fertilization**	**Physiology of sperms maturation and fertilization**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Classification of male fertility problem**	**Classification of male fertility problem**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Physical examination, diagnostic imaging, and laboratory tests**	**Physical examination, diagnostic imaging, and laboratory tests**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Semen analysis**	**Semen analysis**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Sperm's quality and function tests**	**Sperm's quality and function tests**	**5 hours**	**6.**
		Examination	**Examination**	**5 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Testicular biopsy and histology**	**Testicular biopsy and histology**	**5 hours**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Disease of hypothalamus and pituitary (Aging male and late onset hypogonadism)**	**Disease of hypothalamus and pituitary (Aging male and late onset hypogonadism)**	**5 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Disease of testicular level, and testicular dysfunction in systemic disease**	**Disease of testicular level, and testicular dysfunction in systemic disease**	**5 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**Environmental influence on male reproductive health**	**Environmental influence on male reproductive health**	**5 hours**	**11.**

Short oral and written exams	**Attendance lecture, explanations**	**Testosterone therapy**	**Testosterone therapy**	**5 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**Empirical treatment for Idiopathic male infertility**	**Empirical treatment for Idiopathic male infertility**	**5 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Psychology of fertility disease**	**Psychology of fertility disease**	**5 hours**	**14.**
Short oral and written exams	**Attendance lecture, explanations**	**Effect of oxidative stress on male infertility**	**Effect of oxidative stress on male infertility**	**5 hours**	**15.**

12. Infrastructure	
• **Basics of Human Andrology** • **WHO laboratory manual for the examination and processing of human semen/1999, 2010, and 2021**	**1. Books Required reading:**
• **Basics of Human Andrology** • **WHO laboratory manual for the examination and processing of human semen/1999, 2010, and 2021**	**2. Main references (sources)**
• **Basics of Human Andrology** • **WHO laboratory manual for the examination and processing of human semen/1999, 2010, and 2021**	**A- Recommended books and references (scientific journals, reports…).**
• **Basics of Human Andrology** • **WHO laboratory manual for the examination and processing of human semen/1999, 2010, and 2021**	**B-Electronic references, Internet sites…**

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY.HD 25\Reproductive Micromanipulation**
4. Title of Final Award	**Higher Diploma (equivalent to a Master's).**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**75 hours**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
To educate postgraduate students of Higher Diploma (equivalent to Masters) of the up-to-date technical aspects of ART laboratories and the micromanipulation procedures used in the ICSI laboratory.	

10. Learning Outcomes, Teaching, Learning and Assessment Methode
A- Cognitive goals **A 1. ICSI laboratory quality control.** **A 2. Evaluation and preparation of male and female gametes in the laboratory.** **A3 - Up-to-date knowledge of culture methods used in gametes and embryo culture.** **A4 - New ART techniques.**
B - Skills objectives of the course **B 1. ICSI.** **B2 - IVF.** **B3 - IVM.** **B4. Cryopreservation of gametes and embryo.** **B5. Preimplantation Genetic Diagnosis (PGD).**
Teaching and Learning Methods
1. Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students. **2. Presenting lectures through PowerPoint.** **3. Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**
Assessment methods
1. Theoretical exam. **2. The practical exam.** **3. Classroom and extra-curricular activities, assign grades for them.** **4. Laboratory exam.** **5. Practical evaluation.** **6. Oral and surprise exams.** **7. Side discussions during the lecture.** **8. Grades for attendance.**
C- Emotional and value goals **A 1- Requesting a SEMINAR from students with different topics within the same academic subject.** **C 2- Homework.** **C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.** **C 4- Guiding students to research and academic journals that invest in their scientific potential.**

Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. **2- Lectures with discussions.** **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Quality Control maintaining stability of ICSI lab**	**Quality Control maintaining stability of ICSI lab**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Oocyte's preparation, assessment, and selection for ICSI**	**Oocyte's preparation, assessment, and selection for ICSI**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Oocytes IVM**	**Oocytes IVM**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Evaluation, and preparation of sperms for ICSI (Direct sample, and biopsy sample)**	**Evaluation, and preparation of sperms for ICSI (Direct sample, and biopsy sample)**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**ICSI (technical aspect)**	**ICSI (technical aspect)**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Analysis of fertilization and embryos assessment**	**Analysis of fertilization and embryos assessment**	**5 hours**	**6.**
		Examination	**Examination**	**5 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Culture system of different stages**	**Culture system of different stages**	**5 hours**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Preimplantation Genetic Testing (PGD)**	**Preimplantation Genetic Testing (PGD)**	**5 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Assisted hatching**	**Assisted hatching**	**5 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**Human embryo blastomere biopsy and polar body biopsy**	**Human embryo blastomere biopsy and polar body biopsy**	**5 hours**	**11.**

Short oral and written exams	**Attendance lecture, explanations**	**Cryopreservation of gametes**	**Cryopreservation of gametes**	**5 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**Human embryos vitrification**	**Human embryos vitrification**	**5 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Sperms preparation for gender selection**	**Sperms preparation for gender selection**	**5 hours**	**14.**
Short oral and written exams	**Attendance lecture, explanations**	**Human Embryonic Stem Cells**	**Human Embryonic Stem Cells**	**5 hours**	**15.**

12. Infrastructure	
Textbook of Assisted Reproductive Technologies/4th and 5th Edition (2012, 2018)	**1. Books Required reading:**
Textbook of Assisted Reproductive Technologies/4th and 5th Edition (2012, 2018)	**2. Main references (sources)**
Textbook of Assisted Reproductive Technologies/4th and 5th Edition (2012, 2018)	**A- Recommended books and references (scientific journals, reports…).**
Textbook of Assisted Reproductive Technologies/4th and 5th Edition (2012, 2018)	**B-Electronic references, Internet sites…**

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY. PhD 11\Applied Reproductive Physiology**
4. Title of Final Award	**PhD**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**75 hours**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
To educate postgraduate (PhD) students on new aspects of human reproductive physiology.	

10. Learning Outcomes, Teaching, Learning and Assessment Methode
A- Cognitive goals **A 1. Central control of hormones related to fertility.** **A 2. New aspects of normal and abnormal gamete formation.** **A 3. Physiology of fetal development.** **A 4. Molecular control of embryo implantation.** **A 5. Hormonal control of the female menstrual cycle.** **A 6. Physiology of endometriosis.**
B - Skills objectives of the course **B1. Evaluation of the High Fertility Control Center for males and females.** **B2. Understand the factor associated with transplantation.**
Teaching and Learning Methods
1. Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students. **2. Presenting lectures through PowerPoint.** **3. Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**
Assessment methods
1. Theoretical exam. **2. The practical exam.** **3. Classroom and extra-curricular activities, assign grades for them.** **4. Laboratory exam.** **5. Practical evaluation.** **6. Oral and surprise exams.** **7. Side discussions during the lecture.** **8. Grades for attendance.**
C- Emotional and value goals **A 1- Requesting a SEMINAR from students with different topics within the same academic subject.** **C 2- Homework.** **C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.** **C 4- Guiding students to research and academic journals that invest in their scientific potential.**

Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. **2- Lectures with discussions.** **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Hypothalamic-Pituitary-Gonadal function, sexual maturation & Gametogenesis.**	**Hypothalamic-Pituitary-Gonadal function, sexual maturation & Gametogenesis.**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**New aspects in Gametogenesis, and Recent Hormones Control of gametogenesis.**	**New aspects in Gametogenesis, and Recent Hormones Control of gametogenesis.**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Pathophysiology of abnormal Gametogenesis (oligo, astheno, terato, and azospermia)**	**Pathophysiology of abnormal Gametogenesis (oligo, astheno, terato, and azospermia)**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Physiology of Epididymes, seminal vesicles & ejaculatory duct, and vasdeferens**	**Physiology of Epididymes, seminal vesicles & ejaculatory duct, and vasdeferens**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Pathophysiology of Nerosexual disorder**	**Pathophysiology of Nerosexual disorder**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Physiology of fertilization & Embryonic development.**	**Physiology of fertilization & Embryonic development.**	**5 hours**	**6.**
		Examination	**Examination**	**5 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Improvement of endometrial receptivity, implantation.**	**Improvement of endometrial receptivity, implantation.**	**5 hours**	**8.**

Short oral and written exams	**Attendance lecture, explanations**	**Molecular bases for failed fertilization & implantation.**	**Molecular bases for failed fertilization & implantation.**	**5 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Metabolic disorders, and obesity effect on male Reproduction.**	**Metabolic disorders, and obesity effect on male Reproduction.**	**5 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**Metabolic disorders, and obesity effect on female Reproduction.**	**Metabolic disorders, and obesity effect on female Reproduction.**	**5 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Progesterone during ovulation cycle**	**Progesterone during ovulation cycle**	**5 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**Effect of endocrine disorder on female Reproduction.**	**Effect of endocrine disorder on female Reproduction.**	**5 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Physiology of Amenorrhea, Premature ovarian failure**	**Physiology of Amenorrhea, Premature ovarian failure**	**5 hours**	**14.**
Short oral and written exams	**Attendance lecture, explanations**	**Physiology of Endometrosis**	**Physiology of Endometrosis**	**5 hours**	**15.**

12. Infrastructure	
• **Review of Medical Physiology, W.F. Ganong, 25th Ed.** • **Principle of Anatomy and Physiology, Rao et al., 2013** • **Fox's Human Physiology 12th Edition**	**1. Books Required reading:**
• **Review of Medical Physiology, W.F. Ganong, 25th Ed.** • **Principle of Anatomy and Physiology, Rao et al., 2013** • **Fox's Human Physiology 12th Edition**	**2. Main references (sources)**
• **Review of Medical Physiology, W.F. Ganong, 25th Ed.** • **Principle of Anatomy and Physiology, Rao et al., 2013**	**A- Recommended books and references (scientific journals, reports…).**

• **Fox's Human Physiology 12th Edition**	
• **Review of Medical Physiology, W.F. Ganong, 25th Ed.** • **Principle of Anatomy and Physiology, Rao et al., 2013** • **Fox's Human Physiology 12th Edition**	**B-Electronic references, Internet sites…**

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY. PhD 12\Assisted Reproduction**
4. Title of Final Award	**PhD**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**75 hours**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
Educating graduate students (PhD) the pathological aspects of human reproduction.	

10. Learning Outcomes, Teaching, Learning and Assessment Methode
A- Cognitive goals **A 1. Introduction to human pathology.** **A 2. Diseases of the female reproductive system.** **A 3. Pathological aspect of the endocrine system.** **A 4. Pathology of the male reproductive system.**
B - Skills objectives of the course **B 1. A practical session in examining the pathological tissues of the samples.** **B 2. Histopathological evaluation of the various genital organs.** **B3. Evaluation of pathological tissues of endocrine organs related to the reproductive system.**
Teaching and Learning Methods
1. Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students. **2. Presenting lectures through PowerPoint.** **3. Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**
Assessment methods
1. Theoretical exam. **2. The practical exam.** **3. Classroom and extra-curricular activities, assign grades for them.** **4. Laboratory exam.** **5. Practical evaluation.** **6. Oral and surprise exams.** **7. Side discussions during the lecture.** **8. Grades for attendance.**
C- Emotional and value goals **A 1- Requesting a SEMINAR from students with different topics within the same academic subject.** **C 2- Homework.** **C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.** **C 4- Guiding students to research and academic journals that invest in their scientific potential.**

Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. **2- Lectures with discussions.** **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Recent scientific development in Assisted Reproduction.**	**Recent scientific development in Assisted Reproduction.**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Controlled Ovarian Hyperstimulation**	**Controlled Ovarian Hyperstimulation**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Oocytes Retrieval**	**Oocytes Retrieval**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Oocytes Micromanpulation and selection of best Oocytes**	**Oocytes Micromanpulation and selection of best Oocytes**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Sperm processing & Selection techniques in an IVF / ICSI**	**Sperm processing & Selection techniques in an IVF / ICSI**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**IVF Culture System: an overview**	**IVF Culture System: an overview**	**5 hours**	**6.**
		Examination	**Examination**	**5 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**New criteria for assessment of embryonic development & selection of best Embryos**	**New criteria for assessment of embryonic development & selection of best Embryos**	**5 hours**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Clinical interpretation of Embryo-Transfer and Role of single Embryo transfer**	**Clinical interpretation of Embryo-Transfer and Role of single Embryo transfer**	**5 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Luteal phase support**	**Luteal phase support**	**5 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**Complications of assisted reproduction.**	**Complications of assisted reproduction.**	**5 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Indication of PGD & factors to consider when setting up a PGD lab.**	**Indication of PGD & factors to consider when setting up a PGD lab.**	**5 hours**	**12.**

Short oral and written exams	**Attendance lecture, explanations**	**Why IMSI & ICSI not IUI (indications & results).**	**Why IMSI & ICSI not IUI (indications & results).**	**5 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Gametes & Embryo Cryopreservation: Future of ART for embryonic stem cells.**	**Gametes & Embryo Cryopreservation: Future of ART for embryonic stem cells.**	**5 hours**	**14.**
Short oral and written exams	**Attendance lecture, explanations**	**Future developments**	**Future developments**	**5 hours**	**15.**

12. Infrastructure	
• **Atlas of Human Embryology: from Oocytes to Preimplantation Embryos, Volume 27** • **Supplement 1 August 2012 (Oxford University Press)** • **An Atlas of HUMAN GAMETES AND CONCEPTUSES (1999)** • **Atlas of human embryology**	**1. Books Required reading:**
• **Atlas of Human Embryology: from Oocytes to Preimplantation Embryos, Volume 27** • **Supplement 1 August 2012 (Oxford University Press)** • **An Atlas of HUMAN GAMETES AND CONCEPTUSES (1999)** • **Atlas of human embryology**	**2. Main references (sources)**
• **Atlas of Human Embryology: from Oocytes to Preimplantation Embryos, Volume 27** • **Supplement 1 August 2012 (Oxford University Press)** • **An Atlas of HUMAN GAMETES AND CONCEPTUSES (1999)** • **Atlas of human embryology**	**A- Recommended books and references (scientific journals, reports…).**
• **Atlas of Human Embryology: from Oocytes to Preimplantation Embryos, Volume 27** • **Supplement 1 August 2012 (Oxford University Press)** • **An Atlas of HUMAN GAMETES AND CONCEPTUSES (1999)** • **Atlas of human embryology**	**B-Electronic references, Internet sites…**

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY. PhD 13\Applied Embryology**
4. Title of Final Award	**PhD**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**75 hours**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
To educate graduate students (PhD) on new aspects of human embryonic development.	

10. Learning Outcomes, Teaching, Learning and Assessment Methode

A- Cognitive goals

A 1. Development of the male and female reproductive system.

A 2. A genomic and proton approach for determining sperm production.

A 3. Epigenetic patterning in the male germ cell.

A 4. Early events affecting oocyte development.

A 5. Evaluation of the ultrastructure of the oocyte.

A 6. Nuclear and additional cytoplasmic features of oocytes.

B - Skills objectives of the course

B 1. Evaluation of sperm damage.

B2. Genomic evaluation of sperm and eggs.

B3. Proteomic evaluation of sperm and eggs.

Teaching and Learning Methods

1. **Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students.**
2. **Presenting lectures through PowerPoint.**
3. **Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**

Assessment methods

1. **Theoretical exam.**
2. **The practical exam.**
3. **Classroom and extra-curricular activities, assign grades for them.**
4. **Laboratory exam.**
5. **Practical evaluation.**
6. **Oral and surprise exams.**
7. **Side discussions during the lecture.**
8. **Grades for attendance.**

C- Emotional and value goals

A 1- Requesting a SEMINAR from students with different topics within the same academic subject.

C 2- Homework.

C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.

C 4- Guiding students to research and academic journals that invest in their scientific potential.

Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. **2- Lectures with discussions.** **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**The male reproductive tract and spermatogenesis**	**The male reproductive tract and spermatogenesis**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Sperm chromatin stability and susceptibility to damage in relation to its structure**	**Sperm chromatin stability and susceptibility to damage in relation to its structure**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Genomic and proteomic approaches to defining sperm production and function**	**Genomic and proteomic approaches to defining sperm production and function**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Reactive oxygen species: friend or foe**	**Reactive oxygen species: friend or foe**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Epigenetic patterning in male germ cells: importance of DNA methylation to progeny outcome**	**Epigenetic patterning in male germ cells: importance of DNA methylation to progeny outcome**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Sperm maturation in the human epididymis**	**Sperm maturation in the human epididymis**	**5 hours**	**6.**
		Examination	**Examination**	**5 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Female reproductive tract and oocyte development**	**Female reproductive tract and oocyte development**	**5 hours**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Key events in early oogenesis affecting oocyte competence in women**	**Key events in early oogenesis affecting oocyte competence in women**	**5 hours**	**9.**

Short oral and written exams	**Attendance lecture, explanations**	**Cumulus-enclosed oocyte, Oocyte maturation stage, and Oocyte size and shape**	**Cumulus-enclosed oocyte, Oocyte maturation stage, and Oocyte size and shape**	**5 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**Cytoplasmic features of Oocyte, 1 Ooplasm 2 Metaphase plate**	**Cytoplasmic features of Oocyte, 1 Ooplasm 2 Metaphase plate**	**5 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Extra cytoplasmic features: Zona pellucida Perivitelline space, and Polar body**	**Extra cytoplasmic features: Zona pellucida Perivitelline space, and Polar body**	**5 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**Fertilization and egg activation**	**Fertilization and egg activation**	**5 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Pronuclear size, Pronuclear morphology, and Nucleolar precursor bodies**	**Pronuclear size, Pronuclear morphology, and Nucleolar precursor bodies**	**5 hours**	**14.**
Short oral and written exams	**Attendance lecture, explanations**	**Cytoplasmic morphology assessment of fertilized oocytes**	**Cytoplasmic morphology assessment of fertilized oocytes**	**5 hours**	**15.**

12. Infrastructure	
• **Atlas of Human Embryology: from Oocytes to Preimplantation Embryos, Volume 27** • **Supplement 1 August 2012 (Oxford University Press)** • **An Atlas of HUMAN GAMETES AND CONCEPTUSES (1999)** • **Atlas of human embryology**	**1. Books Required reading:**
• **Atlas of Human Embryology: from Oocytes to Preimplantation Embryos, Volume 27** • **Supplement 1 August 2012 (Oxford University Press)** • **An Atlas of HUMAN GAMETES AND CONCEPTUSES (1999)** • **Atlas of human embryology**	**2. Main references (sources)**

• Atlas of Human Embryology: from Oocytes to Preimplantation Embryos, Volume 27 • Supplement 1 August 2012 (Oxford University Press) • An Atlas of HUMAN GAMETES AND CONCEPTUSES (1999) • Atlas of human embryology	**A- Recommended books and references (scientific journals, reports…).**
• Atlas of Human Embryology: from Oocytes to Preimplantation Embryos, Volume 27 • Supplement 1 August 2012 (Oxford University Press) • An Atlas of HUMAN GAMETES AND CONCEPTUSES (1999) • Atlas of human embryology	**B-Electronic references, Internet sites…**

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY.PhD 14\Reproductive Genetic**
4. Title of Final Award	**PhD**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**15 hours**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
To educate graduate students (PhD) on new aspects of human reproductive genetics.	

10. Learning Outcomes, Teaching, Learning and Assessment Methode
A- Cognitive goals **A 1. Structure and function of DNA and RNA** **A 2. DNA harassment.** **A 3. The concept of codon.** **A 4. Polymorphism.** **A 5. Heredity and chromosomal abnormalities.** **A 6. The effect of teratogens and mutagens.**
B - Skills objectives of the course **B 1. Karyotyping.** **B2. Evaluation of genetic polymorphisms.** **B 3. Evaluation of teratogenicity and its effects.**
Teaching and Learning Methods
1. Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students. **2. Presenting lectures through PowerPoint.** **3. Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**
Assessment methods
1. Theoretical exam. **2. The practical exam.** **3. Classroom and extra-curricular activities, assign grades for them.** **4. Laboratory exam.** **5. Practical evaluation.** **6. Oral and surprise exams.** **7. Side discussions during the lecture.** **8. Grades for attendance.**
C- Emotional and value goals **A 1- Requesting a SEMINAR from students with different topics within the same academic subject.** **C 2- Homework.** **C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.** **C 4- Guiding students to research and academic journals that invest in their scientific potential.**

Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. **2- Lectures with discussions.** **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Introduction to genetics: - Structure of DNA and RNA, Function of nucleic acids**	**Introduction to genetics: - Structure of DNA and RNA, Function of nucleic acids**	**1 hour**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Replication of DNA, Transcriptions, The concept of the gene**	**Replication of DNA, Transcriptions, The concept of the gene**	**1 hour**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**The concept of codon, Translation, Protein structures and function**	**The concept of codon, Translation, Protein structures and function**	**1 hour**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Mutation and polymorphisim: - Genoma mutation,**	**Mutation and polymorphisim: - Genoma mutation,**	**1 hour**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Chromosome mutation, Gene mutation**	**Chromosome mutation, Gene mutation**	**1 hour**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Polymorphisim, DNA repair**	**Polymorphisim, DNA repair**	**1 hour**	**6.**
		Examination	**Examination**	**1 hour**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Basis of inheritance of genetic disease: - Single gene mendelation of inheritance**	**Basis of inheritance of genetic disease: - Single gene mendelation of inheritance**	**1 hour**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Chromosomal abnormalities, Multifactorial disease**	**Chromosomal abnormalities, Multifactorial disease**	**1 hour**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Single gene non classical Inheretance**	**Single gene non classical Inheretance**	**1 hour**	**10.**

Short oral and written exams	**Attendance lecture, explanations**	**Development: Developmental genes, Signaling through cells**	**Development: Developmental genes, Signaling through cells**	**1 hour**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Meiosis, pre-implantation genetics, Gamete maturation**	**Meiosis, pre-implantation genetics, Gamete maturation**	**1 hour**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**Prenatal development, Maturation and aging, Sexual development**	**Prenatal development, Maturation and aging, Sexual development**	**1 hour**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Birth defect and spontaneous abortion Congenital anomalies**	**Birth defect and spontaneous abortion Congenital anomalies**	**1 hour**	**14.**
Short oral and written exams	**Attendance lecture, explanations**	**Effect of teratogene and mutagenes,**	**Effect of teratogene and mutagenes,**	**1 hour**	**15.**
Short oral and written exams	**Attendance lecture, explanations**	**Cancer genetics, Genetic diagnosis**	**Cancer genetics, Genetic diagnosis**	**1 hour**	**16.**

12. Infrastructure	
• **Textbook of Assisted Reproductive Technologies/5th Ed.; Vol. II: Clinical Perspectives** • **Williams Gynecology, Third Edition** • **Dewhurst's Textbook of Obstetrics and Gynecology** • **Campbell-Walsh Urology by Alan J. Wein 10th Edition (2011)**	**1. Books Required reading:**
• **Textbook of Assisted Reproductive Technologies/5th Ed.; Vol. II: Clinical Perspectives** • **Williams Gynecology, Third Edition** • **Dewhurst's Textbook of Obstetrics and Gynecology** • **Campbell-Walsh Urology by Alan J. Wein 10th Edition (2011)**	**2. Main references (sources)**
• **Textbook of Assisted Reproductive Technologies/5th Ed.; Vol. II: Clinical Perspectives** • **Williams Gynecology, Third Edition** • **Dewhurst's Textbook of Obstetrics and Gynecology** • **Campbell-Walsh Urology by Alan J. Wein 10th Edition (2011)**	**A- Recommended books and references (scientific journals, reports…).**

• **Textbook of Assisted Reproductive Technologies/5th Ed.; Vol. II: Clinical Perspectives** • **Williams Gynecology, Third Edition** • **Dewhurst's Textbook of Obstetrics and Gynecology** • **Campbell-Walsh Urology by Alan J. Wein 10th Edition (2011)**	**B-Electronic references, Internet sites…**

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY.PhD 15\ Reproductive Pathology**
4. Title of Final Award	**PhD**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**30 hours**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
To educate graduate students (PhD) on the pathological aspects of human reproduction.	

10. Learning Outcomes, Teaching, Learning and Assessment Methode
A- Cognitive goals **A 1. Introduction to human pathology.** **A 2. Diseases of the female reproductive system.** **A 3. Pathological aspect of the endocrine system.** **A 4. Pathology of the male reproductive system.**
B - Skills objectives of the course **B 1. A practical session in examining the pathological tissues of the samples.** **B 2. Histopathological evaluation of the various genital organs.** **B3. Evaluation of pathological tissues of endocrine organs related to the reproductive system.**
Teaching and Learning Methods
1. Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students. **2. Presenting lectures through PowerPoint.** **3. Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**
Assessment methods
1. Theoretical exam. **2. The practical exam.** **3. Classroom and extra-curricular activities, assign grades for them.** **4. Laboratory exam.** **5. Practical evaluation.** **6. Oral and surprise exams.** **7. Side discussions during the lecture.** **8. Grades for attendance.**
C- Emotional and value goals **A 1- Requesting a SEMINAR from students with different topics within the same academic subject.** **C 2- Homework.** **C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.** **C 4- Guiding students to research and academic journals that invest in their scientific potential.**

Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. **2- Lectures with discussions.** **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Introduction to pathology**	**Introduction to pathology**	**2 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Introduction to pathology**	**Introduction to pathology**	**2 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Practical**	**Practical**	**2 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Practical**	**Practical**	**2 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Female reproductive pathology**	**Female reproductive pathology**	**2 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Vulva, Vagina**	**Vulva, Vagina**	**2 hours**	**6.**
		Examination	**Examination**	**2 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Uterine cervix, Uterus**	**Uterine cervix, Uterus**	**2 hours**	**8.**
		Examination	**Examination**	**2 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Fallopian tubes, ovary**	**Fallopian tubes, ovary**	**2 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**Pregnancy, trophoblastic disease & placenta**	**Pregnancy, trophoblastic disease & placenta**	**2 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Endocrine system**	**Endocrine system**	**2 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**Endocrine system**	**Endocrine system**	**2 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Male reproductive system external, prostate**	**Male reproductive system external, prostate**	**2 hours**	**14.**

Short oral and written exams	**Attendance lecture, explanations**	**Seminal vesicles & coppers glands**	**Seminal vesicles & coppers glands**	**2 hours**	**15.**
Short oral and written exams	**Attendance lecture, explanations**	**Testis, testicular adnexia, penis & scrotum**	**Testis, testicular adnexia, penis & scrotum**	**2 hours**	**16.**

12. Infrastructure	
• **Review of Medical Physiology, W.F. Ganong, 25th Ed.** • **Principle of Anatomy and Physiology, Rao et al., 2013** • **Fox's Human Physiology 12th Edition**	**1. Books Required reading:**
• **Review of Medical Physiology, W.F. Ganong, 25th Ed.** • **Principle of Anatomy and Physiology, Rao et al., 2013** • **Fox's Human Physiology 12th Edition**	**2. Main references (sources)**
• **Review of Medical Physiology, W.F. Ganong, 25th Ed.** • **Principle of Anatomy and Physiology, Rao et al., 2013** • **Fox's Human Physiology 12th Edition**	**A- Recommended books and references (scientific journals, reports…).**
• **Review of Medical Physiology, W.F. Ganong, 25th Ed.** • **Principle of Anatomy and Physiology, Rao et al., 2013** • **Fox's Human Physiology 12th Edition**	**B-Electronic references, Internet sites…**

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY.PhD 21\English**
4. Title of Final Award	**PhD**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**30 hours**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
This course focuses on developing the specific skills required for academic studies and exploring strategies for success in academic learning. It also provides guidance in key areas of study and provides plenty of practice to encourage student independence.	

10. Learning Outcomes, Teaching, Learning and Assessment Methode
A- Cognitive goals **A1 - Develop strategies to improve reading speed and improve ability for complex academic texts.** **A2 Develop strategies to produce more coherent writing and to provide clear, appropriate, and consistent feedback from academic texts.** **A 3- Encouraging students to adopt different methods of dealing with new or unknown vocabulary.**
B - Skills objectives of the course **B1 - Exploring and evaluating research techniques and resources as well as approving information sources.** **B2 - Enhancing students' independence by encouraging them to return to previous study skills to refresh their memories.**
Teaching and Learning Methods
1. Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students. **2. Presenting lectures through PowerPoint.** **3. Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**
Assessment methods
1. Theoretical exam. **2. The practical exam.** **3. Classroom and extra-curricular activities, assign grades for them.** **4. Laboratory exam.** **5. Practical evaluation.** **6. Oral and surprise exams.** **7. Side discussions during the lecture.** **8. Grades for attendance.**
C- Emotional and value goals **A 1- Requesting a SEMINAR from students with different topics within the same academic subject.** **C 2- Homework.** **C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.** **C 4- Guiding students to research and academic journals that invest in their scientific potential.**

Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. **2- Lectures with discussions.** **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Introduction: Overview of English Grammar**	**Introduction: Overview of English Grammar**	**2 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 1: Education & Learning: Reading: Good study habits Effective reading: survey; skim; scan: intensive reading**	**Unit 1: Education & Learning: Reading: Good study habits Effective reading: survey; skim; scan: intensive reading**	**2 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 2: Innovations in health& medicine: Reading: A musical cure Predicting content A new vaccine Avoiding plagiarism: rephrasing**	**Unit 2: Innovations in health& medicine: Reading: A musical cure Predicting content A new vaccine Avoiding plagiarism: rephrasing**	**2 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 3: Urban planning: A model of good urban planning Paragraph purpose: how understanding the purpose of a paragraph helps you to understand a text Text cohesion: Linking strategies between paragraphs**	**Unit 3: Urban planning: A model of good urban planning Paragraph purpose: how understanding the purpose of a paragraph helps you to understand a text Text cohesion: Linking strategies between paragraphs**	**2 hours**	**4.**

Short oral and written exams	**Attendance lecture, explanations**	**Listening Skills: Listening Comprehension Exercises**	**Listening Skills: Listening Comprehension Exercises**	**2 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 4: Water, food, and energy Reading: Finding information from more than one source Food chains: Identifying language for rephrasing and giving examples**	**Unit 4: Water, food, and energy Reading: Finding information from more than one source Food chains: Identifying language for rephrasing and giving examples**	**2 hours**	**6.**
		Examination	**Examination**	**2 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 5: Reading: Free trade and fair trade Distinguishing between facts, speculation, and reported opinions Is 'fair trade'fair? Identifying a point of view**	**Unit 5: Reading: Free trade and fair trade Distinguishing between facts, speculation, and reported opinions Is 'fair trade'fair? Identifying a point of view**	**2 hours**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 6: Conserving the past: Reading: The Terracotta Army Dealing with longer texts: 1) survey; question; read 2) recall; review**	**Unit 6: Conserving the past: Reading: The Terracotta Army Dealing with longer texts: 1) survey; question; read 2) recall; review**	**2 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 7: Wonders of the modern world: Reading: feats of engineering How to make reading easier 1)**	**Unit 7: Wonders of the modern world: Reading: feats of engineering How to make reading easier 1)**	**2 hours**	**10.**

		dealing with unknown words 2 (dealing with complex sentences Islands in the sun How to make reading easier 3) understand pronouns	**dealing with unknown words 2 (dealing with complex sentences Islands in the sun How to make reading easier 3) understand pronouns**		
Short oral and written exams	**Attendance lecture, explanations**	**Listening Comprehension Exercises**	**Listening Comprehension Exercises**	**2 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 8: Olympic business: Reading: The Olympic Games Making notes: different methods of recording what you read**	**Unit 8: Olympic business: Reading: The Olympic Games Making notes: different methods of recording what you read**	**2 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 9: Trends: Reading: Work Understanding visual information: graphics; Trends in education Interpreting data: looking for general patterns and then detail**	**Unit 9: Trends: Reading: Work Understanding visual information: graphics; Trends in education Interpreting data: looking for general patterns and then detail**	**2 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 10**	**Unit 10**	**2 hours**	**14.**
Short oral and written exams	**Attendance lecture, explanations**	**Review**	**Review**	**2 hours**	**15.**

12. Infrastructure	
Headway (Academic skill) Reading, writing and skills Head way Academic skills Level 1 Reading, writing, and study skills	**1. Books Required reading:**

By Sarah Philpot & Lasley Curnick. Oxford: Oxford university press.	
https://books.google.iq/books/about/Headway_Academic_Skills_1_Reading_Writin.html?id=P7D0tgAACAAJ&redir_esc=y	**2. Main references (sources)**
Headway Academic Skills https://books.google.iq/books/about/Headway_Academic_Skills.html?id=qIxszgEACAAJ&redir_esc=y	**A- Recommended books and references (scientific journals, reports…).**
https://books.google.iq/books/about/Academic_Skills.html?id=Ov4nGQAACAAJ&redir_esc=y	**B-Electronic references, Internet sites…**

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY.PhD 22\Reproductive Biotechnology**
4. Title of Final Award	**PhD**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**75 hours**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
To educate graduate students (PhD) with new wild world ART techniques especially in reproductive biotechnology.	

10. Learning Outcomes, Teaching, Learning and Assessment Methode
A- Cognitive goals **A 1. Freezing of ovarian and testicular tissue.** **A 2. Sperm from cells other than sperm.** **A 3. Sex selection according to molecular techniques.** **A 4. In vitro follicular isolation and culture for antivirals.** **A 5. Nanotechnology and reproduction.** **A 6. Fetal quality assessment: Time-lapse imaging to assess embryonic morphology.**
B - Skills objectives of the course **B 1. Cryopreservation.** **B 2. Choice of gender.** **B 3. Evaluation of the quality of the fetus.**
Teaching and Learning Methods
1. Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students. **2. Presenting lectures through PowerPoint.** **3. Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**
Assessment methods
1. Theoretical exam. **2. The practical exam.** **3. Classroom and extra-curricular activities, assign grades for them.** **4. Laboratory exam.** **5. Practical evaluation.** **6. Oral and surprise exams.** **7. Side discussions during the lecture.** **8. Grades for attendance.**
C- Emotional and value goals **A 1- Requesting a SEMINAR from students with different topics within the same academic subject.** **C 2- Homework.** **C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.** **C 4- Guiding students to research and academic journals that invest in their scientific potential.**

Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. **2- Lectures with discussions.** **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Sperm chromatin assessment Hyaluronic acid binding-mediated sperm selection for ICSI**	**Sperm chromatin assessment Hyaluronic acid binding-mediated sperm selection for ICSI**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Imaging modalities in normal female genital tract**	**Imaging modalities in normal female genital tract**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Ovarian and testicular tissue cryopreservation**	**Ovarian and testicular tissue cryopreservation**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Gonadal transplantation**	**Gonadal transplantation**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Sperms from cells other than spermatogonia**	**Sperms from cells other than spermatogonia**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Sex selection according to molecular techniques**	**Sex selection according to molecular techniques**	**5 hours**	**6.**
		Examination	**Examination**	**5 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**In vitro follicular isolation and culture for ART**	**In vitro follicular isolation and culture for ART**	**5 hours**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Use of in vitro maturation in a clinical setting: Patient populations and outcomes**	**Use of in vitro maturation in a clinical setting: Patient populations and outcomes**	**5 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Nanotechnology and reproduction**	**Nanotechnology and reproduction**	**5 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**Evaluation of embryo quality: Time-lapse imaging to assess embryo morphokinesis**	**Evaluation of embryo quality: Time-lapse imaging to assess embryo morphokinesis**	**5 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Assisted hatching, Human embryo biopsy procedures (PGD)**	**Assisted hatching, Human embryo biopsy procedures (PGD)**	**5 hours**	**12.**

Short oral and written exams	**Attendance lecture, explanations**	**Polar body biopsy and its clinical application**	**Polar body biopsy and its clinical application**	**5 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Embryonic development and fetal period**	**Embryonic development and fetal period**	**5 hours**	**14.**
Short oral and written exams	**Attendance lecture, explanations**	**Therapeutic cloning**	**Therapeutic cloning**	**5 hours**	**15.**

12. Infrastructure	
Textbook of Assisted Reproductive Technologies/4th and 5th Edition (2012, 2018)	**1. Books Required reading:**
Textbook of Assisted Reproductive Technologies/4th and 5th Edition (2012, 2018)	**2. Main references (sources)**
Textbook of Assisted Reproductive Technologies/4th and 5th Edition (2012, 2018)	**A- Recommended books and references (scientific journals, reports…).**
Textbook of Assisted Reproductive Technologies/4th and 5th Edition (2012, 2018)	**B-Electronic references, Internet sites…**

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY.PhD 23\Advanced Infertility**
4. Title of Final Award	**PhD**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**75 hours**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
To educate postgraduate (PhD) students on new aspects of the diagnosis and management of human infertility.	

10. Learning Outcomes, Teaching, Learning and Assessment Methode
A- Cognitive goals **A 1. Fragmentation in IVF.** **A 2. An ovarian reserve and stimulation protocol was used accordingly.** **A 3. The role of ultrasound, hysteroscopy and laparoscopy in infertility.** **A 4. Cycle regimen for frozen embryo transfer.** **A 5. Immune factors affecting fertility.** **A6. Diagnostic and treatment strategies for endometriosis, PCOs and OHSS.**
B - Skills objectives of the course **B1. Ultrasound evaluation.** **B 2. Heist and Score evaluation.** **B3. Laparoscopic evaluation.**
Teaching and Learning Methods
1. Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students. **2. Presenting lectures through PowerPoint.** **3. Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**
Assessment methods
1. Theoretical exam. **2. The practical exam.** **3. Classroom and extra-curricular activities, assign grades for them.** **4. Laboratory exam.** **5. Practical evaluation.** **6. Oral and surprise exams.** **7. Side discussions during the lecture.** **8. Grades for attendance.**
C- Emotional and value goals **A 1- Requesting a SEMINAR from students with different topics within the same academic subject.** **C 2- Homework.** **C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.** **C 4- Guiding students to research and academic journals that invest in their scientific potential.**

Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. **2- Lectures with discussions.** **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Segmentation of IVF treatment**	**Segmentation of IVF treatment**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Prognostic test for ovarian reserve, The use of ovarian reserve biomarkers to tailor ovarian stimulation for IVF**	**Prognostic test for ovarian reserve, The use of ovarian reserve biomarkers to tailor ovarian stimulation for IVF**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Role of Hysteroscopic surgery in ART**	**Role of Hysteroscopic surgery in ART**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Role of laproscopic surgery in ART**	**Role of laproscopic surgery in ART**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Treatment strategies in Assisted reproduction for the poor responder patient**	**Treatment strategies in Assisted reproduction for the poor responder patient**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Immunological factors and Infectious disease and Assisted Reproductive Techniques**	**Immunological factors and Infectious disease and Assisted Reproductive Techniques**	**5 hours**	**6.**
		Examination	**Examination**	**5 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Role of ultrasound in infertility**	**Role of ultrasound in infertility**	**5 hours**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Cycle regimes for frozen–thawed embryo transfer**	**Cycle regimes for frozen–thawed embryo transfer**	**5 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Endometriosis and ART**	**Endometriosis and ART**	**5 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**PCOS and Assisted reproduction**	**PCOS and Assisted reproduction**	**5 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Management of hydrosalpinx**	**Management of hydrosalpinx**	**5 hours**	**12.**

Short oral and written exams	**Attendance lecture, explanations**	**Fertility preservation strategies, uterus transplantation**	**Fertility preservation strategies, uterus transplantation**	**5 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Repeated implantation failure**	**Repeated implantation failure**	**5 hours**	**14.**
Short oral and written exams	**Attendance lecture, explanations**	**Severe ovarian hyperstimulation syndrome**	**Severe ovarian hyperstimulation syndrome**	**5 hours**	**15.**

12. Infrastructure	
• **Textbook of Assisted Reproductive Technologies/5th Ed.; Vol. II: Clinical Perspectives** • **Williams Gynecology, Third Edition** • **Dewhurst's Textbook of Obstetrics and Gynecology** • **Campbell-Walsh Urology by Alan J. Wein 10th Edition (2011)**	**1. Books Required reading:**
• **Textbook of Assisted Reproductive Technologies/5th Ed.; Vol. II: Clinical Perspectives** • **Williams Gynecology, Third Edition** • **Dewhurst's Textbook of Obstetrics and Gynecology** • **Campbell-Walsh Urology by Alan J. Wein 10th Edition (2011)**	**2. Main references (sources)**
• **Textbook of Assisted Reproductive Technologies/5th Ed.; Vol. II: Clinical Perspectives** • **Williams Gynecology, Third Edition** • **Dewhurst's Textbook of Obstetrics and Gynecology** • **Campbell-Walsh Urology by Alan J. Wein 10th Edition (2011)**	**A- Recommended books and references (scientific journals, reports…).**
• **Textbook of Assisted Reproductive Technologies/5th Ed.; Vol. II: Clinical Perspectives** • **Williams Gynecology, Third Edition** • **Dewhurst's Textbook of Obstetrics and Gynecology** • **Campbell-Walsh Urology by Alan J. Wein 10th Edition (2011)**	**B-Electronic references, Internet sites…**

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY.PhD 24\Advanced Embryology**
4. Title of Final Award	**PhD**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**75 hours**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
Educate graduate students (PhD) with gametogenesis, embryonic development, implantation and embryonic malformations.	

10. Learning Outcomes, Teaching, Learning and Assessment Methode

A- Cognitive goals

A 1- To understand the early developmental stages of the human fetus.

A 2 - Understand the factors that may contribute to the developmental disorder.

A 3- Knowing the stages of anomaly development.

A 4 - Understand congenital malformations.

B - Skills objectives of the course

B1 - Evaluation of gamete abnormalities by microscopy.

B2 - Evaluation of the fetus in the early stages of development in the ICSI laboratory.

Teaching and Learning Methods

1. **Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students.**
2. **Presenting lectures through PowerPoint.**
3. **Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**

Assessment methods

1. **Theoretical exam.**
2. **The practical exam.**
3. **Classroom and extra-curricular activities, assign grades for them.**
4. **Laboratory exam.**
5. **Practical evaluation.**
6. **Oral and surprise exams.**
7. **Side discussions during the lecture.**
8. **Grades for attendance.**

C- Emotional and value goals

A 1- Requesting a SEMINAR from students with different topics within the same academic subject.

C 2- Homework.

C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.

C 4- Guiding students to research and academic journals that invest in their scientific potential.

Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. **2- Lectures with discussions.** **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**The cleavage stage embryo, cell numbers, blastomere size: 'stage specific' versus 'non-stage specific**	**The cleavage stage embryo, cell numbers, blastomere size: 'stage specific' versus 'non-stage specific**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**The cleavage stage embryo nucleation, and cytoplasmic anomalies**	**The cleavage stage embryo nucleation, and cytoplasmic anomalies**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**The cleavage stage embryo Spatial orientation**	**The cleavage stage embryo Spatial orientation**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Fragmentation**	**Fragmentation**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Compaction**	**Compaction**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Blastocyst degree of expansion, ICM morphology, and TE morphology**	**Blastocyst degree of expansion, ICM morphology, and TE morphology**	**5 hours**	**6.**
		Examination	**Examination**	**5 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Cellular degeneration in blastocysts**	**Cellular degeneration in blastocysts**	**5 hours**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Cytoplasmic strings/bridges between ICM and TE**	**Cytoplasmic strings/bridges between ICM and TE**	**5 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Vacuoles/vacuolation**	**Vacuoles/vacuolation**	**5 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**Blastocyst hatching**	**Blastocyst hatching**	**5 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Early embryogenesis**	**Early embryogenesis**	**5 hours**	**12.**

Short oral and written exams	**Attendance lecture, explanations**	**Human organogenesis**	**Human organogenesis**	**5 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**The biology and therapeutic potential of embryonic stem cells**	**The biology and therapeutic potential of embryonic stem cells**	**5 hours**	**14.**
Short oral and written exams	**Attendance lecture, explanations**	**Ethical considerations for clinical embryology**	**Ethical considerations for clinical embryology**	**5 hours**	**15.**

12. Infrastructure	
• **Atlas of Human Embryology: from Oocytes to Preimplantation Embryos, Volume 27** • **Supplement 1 August 2012 (Oxford University Press)** • **An Atlas of HUMAN GAMETES AND CONCEPTUSES (1999)** • **Atlas of human embryology**	**1. Books Required reading:**
• **Atlas of Human Embryology: from Oocytes to Preimplantation Embryos, Volume 27** • **Supplement 1 August 2012 (Oxford University Press)** • **An Atlas of HUMAN GAMETES AND CONCEPTUSES (1999)** • **Atlas of human embryology**	**2. Main references (sources)**
• **Atlas of Human Embryology: from Oocytes to Preimplantation Embryos, Volume 27** • **Supplement 1 August 2012 (Oxford University Press)** • **An Atlas of HUMAN GAMETES AND CONCEPTUSES (1999)** • **Atlas of human embryology**	**A- Recommended books and references (scientific journals, reports…).**
• **Atlas of Human Embryology: from Oocytes to Preimplantation Embryos, Volume 27** • **Supplement 1 August 2012 (Oxford University Press)** • **An Atlas of HUMAN GAMETES AND CONCEPTUSES (1999)** • **Atlas of human embryology**	**B-Electronic references, Internet sites…**

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY.PhD 25\Advanced Andrology**
4. Title of Final Award	**PhD**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**75 hours**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
To educate graduate students (PhD) to know how to deal with males who complain of infertility.	

10. Learning Outcomes, Teaching, Learning and Assessment Methode
A- Cognitive goals **A 1. Causes and diagnosis of male infertility.** **A 2. Discuss the cause of male infertility according to the level of the defect.** **A 3. Updated investigations of male infertility.** **A 4. Medications and empirical treatment used for male infertility.** **5 causes of male hypogonadism and its management.**
B - Skills objectives of the course **B 1. Semen analysis.** **B 2. Examination of sperm function.** **B 3. Evaluation of varicocele by ultrasound.**
Teaching and Learning Methods
1. Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students. **2. Presenting lectures through PowerPoint.** **3. Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**
Assessment methods
1. Theoretical exam. **2. The practical exam.** **3. Classroom and extra-curricular activities, assign grades for them.** **4. Laboratory exam.** **5. Practical evaluation.** **6. Oral and surprise exams.** **7. Side discussions during the lecture.** **8. Grades for attendance.**
C- Emotional and value goals **A 1- Requesting a SEMINAR from students with different topics within the same academic subject.** **C 2- Homework.** **C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.** **C 4- Guiding students to research and academic journals that invest in their scientific potential.**

Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. **2- Lectures with discussions.** **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Classification of Andrological Disorders**	**Classification of Andrological Disorders**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Endocrine Laboratory Diagnosis**	**Endocrine Laboratory Diagnosis**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Semen Analysis**	**Semen Analysis**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Sperm Quality and Function Tests**	**Sperm Quality and Function Tests**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Testicular Biopsy and Histology**	**Testicular Biopsy and Histology**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Environmental Influences on Male Reproductive Health**	**Environmental Influences on Male Reproductive Health**	**5 hours**	**6.**
		Examination	**Examination**	**5 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Diseases of the Hypothalamus and the Pituitary Gland**	**Diseases of the Hypothalamus and the Pituitary Gland**	**5 hours**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Disorders at the Testicular Level Diseases of the Seminal Ducts**	**Disorders at the Testicular Level Diseases of the Seminal Ducts**	**5 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Pathophysiology and management of varicocele**	**Pathophysiology and management of varicocele**	**5 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**Disorders of Androgen Target Organs**	**Disorders of Androgen Target Organs**	**5 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Testicular Dysfunction in Systemic Diseases**	**Testicular Dysfunction in Systemic Diseases**	**5 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**The Aging Male and Late-Onset Hypogonadism**	**The Aging Male and Late-Onset Hypogonadism**	**5 hours**	**13.**

Short oral and written exams	**Attendance lecture, explanations**	**Testosterone Therapy**	**Testosterone Therapy**	**5 hours**	**14.**
Short oral and written exams	**Attendance lecture, explanations**	**Empirical Therapies for Idiopathic Male Infertility**	**Empirical Therapies for Idiopathic Male Infertility**	**5 hours**	**15.**

12. Infrastructure	
• **Basics of Human Andrology** • **WHO laboratory manual for the examination and processing of human semen/1999, 2010, and 2021**	**1. Books Required reading:**
• **Basics of Human Andrology** • **WHO laboratory manual for the examination and processing of human semen/1999, 2010, and 2021**	**2. Main references (sources)**
• **Basics of Human Andrology** • **WHO laboratory manual for the examination and processing of human semen/1999, 2010, and 2021**	**A- Recommended books and references (scientific journals, reports…).**
• **Basics of Human Andrology** • **WHO laboratory manual for the examination and processing of human semen/1999, 2010, and 2021**	**B-Electronic references, Internet sites…**

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Clinical Reproductive Physiology**
3. Course title/code	**NEMRPHY.PhD 26\Advanced Statistics**
4. Title of Final Award	**PhD**
5. Modes of Attendance offered	**Presence**
6. Semester/Year	**2021-2022**
7. Number of hours tuition (total)	**30 hours**
8. Date of production/revision of this specification	**25\10\2022**
9. Aims of the Course	
This course focuses on developing the specific skills required for academic studies and exploring strategies for success in academic learning. It also provides guidance in key areas of study and provides plenty of practice to encourage student independence.	

10. Learning Outcomes, Teaching, Learning and Assessment Methode
A- Cognitive goals **A1 - Develop strategies to improve reading speed and improve ability for complex academic texts.** **A2 Develop strategies to produce more coherent writing and to provide clear, appropriate, and consistent feedback from academic texts.** **A 3- Encouraging students to adopt different methods of dealing with new or unknown vocabulary.**
B - Skills objectives of the course **B1 - Exploring and evaluating research techniques and resources as well as approving information sources.** **B2 - Enhancing students' independence by encouraging them to return to previous study skills to refresh their memories.**
Teaching and Learning Methods
1. Using modern methods of communicating information in a scientific and understandable way, such as using the interactive whiteboard with students, modern presentation methods and video presentations to facilitate the delivery of information to students. **2. Presenting lectures through PowerPoint.** **3. Involve students in the lecture by encouraging them to discuss their ideas and make groups for students to compete among them to complete a set of questions.**
Assessment methods
1. Theoretical exam. **2. The practical exam.** **3. Classroom and extra-curricular activities, assign grades for them.** **4. Laboratory exam.** **5. Practical evaluation.** **6. Oral and surprise exams.** **7. Side discussions during the lecture.** **8. Grades for attendance.**
C- Emotional and value goals **A 1- Requesting a SEMINAR from students with different topics within the same academic subject.** **C 2- Homework.** **C 3- Encouraging students to appreciate the scientific specialization and its importance in serving the community.** **C 4- Guiding students to research and academic journals that invest in their scientific potential.**

Teaching and Learning Methods
1- Providing students with the basics and additional topics related to previous education outcomes for skills to solve practical problems. **2- Lectures with discussions.** **3- Solving a set of practical examples by the academic staff (lab skills).** **4- Seminars.** **5- Reports.** **6- Oral exams.** **7- An electronic class, presentation slides.** **8- Guidelines.** **9- Using the Internet to conduct research on homework and the topic of the cultural session.**
Assessment methods
1 -Theoretical exams, the mid-course exam and the final exam. **2 -Written and oral exams with multiple-choice questions that require scientific skills.** **3 -Laboratory training and examination.** **4 -Participation scores for the competing questions for the study subjects.** **5 -Daily sharing.** **6. Setting grades for class and extracurricular duties.**
D - Transferred general and qualification skills (other skills related to employability and personal development). **D 1- Academic speech skills.** **D 2- Academic text strategies skills.** **D 3- Listening skill, practical skill, decision making skill, computer and internet skill.** **D 4- Research and analytical skills.**

11. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Introduction about Biostatistics: Organization & Summarizing Data.**	**Introduction about Biostatistics: Organization & Summarizing Data.**	**2 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Application of Statistical analysis in medical research, use SPSS program in the examples of medical research with Excel program.**	**Application of Statistical analysis in medical research, use SPSS program in the examples of medical research with Excel program.**	**2 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Frequency distribution, Measures of central Tendency, Measures of distribution of grouped data, Application with SPSS program.**	**Frequency distribution, Measures of central Tendency, Measures of distribution of grouped data, Application with SPSS program.**	**2 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Correlation & simple Linear Regression α, β, Person correlation (r) Simple linear regression, Coefficient of determination(R2) The Multiple Regression Model, using the Multiple Regression equation.**	**Correlation & simple Linear Regression α, β, Person correlation (r) Simple linear regression, Coefficient of determination(R2) The Multiple Regression Model, using the Multiple Regression equation.**	**2 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Use SPSS program in the examples of Linear regression, Scatter diagram, Hypothesis Test for β, show Excel program.**	**Use SPSS program in the examples of Linear regression, Scatter diagram, Hypothesis Test for β, show Excel program.**	**2 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**ANOVA table, F-test, One way, Two – way Analysis of variance. The population coefficient of determination (P2).**	**ANOVA table, F-test, One way, Two – way Analysis of variance. The population coefficient of determination (P2).**	**2 hours**	**6.**
		Examination	**Examination**	**2 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Use SPSS program in the examples of ANOVA.**	**Use SPSS program in the examples of ANOVA.**	**2 hours**	**8.**

Short oral and written exams	Attendance lecture, explanations	Cooperation between variables. T-test, Application of T-test.	Cooperation between variables. T-test, Application of T-test.	2 hours	9.
Short oral and written exams	Attendance lecture, explanations	Application of statistical analysis in medical research.	Application of statistical analysis in medical research.	2 hours	10.
Short oral and written exams	Attendance lecture, explanations	Coefficient of Association (r), Rank Correlation coefficient of spearman (r sp).	Coefficient of Association (r), Rank Correlation coefficient of spearman (r sp).	2 hours	11.
Short oral and written exams	Attendance lecture, explanations	Goodness Fit test-Chi-square(X2), Observed(O), Expected (E).	Goodness Fit test-Chi-square(X2), Observed(O), Expected (E).	2 hours	12.
Short oral and written exams	Attendance lecture, explanations	Application of Chi-square in the medical statistic with SPSS.	Application of Chi-square in the medical statistic with SPSS.	2 hours	13.
Short oral and written exams	Attendance lecture, explanations	Screening, Evaluation of screen program.	Screening, Evaluation of screen program.	2 hours	14.
Short oral and written exams	Attendance lecture, explanations	Data analysis	Data analysis	2 hours	15.

12. Infrastructure	
Medical Statistics: A Guide to SPSS, Data Analysis, and Critical Evaluation Jennifer Peat, Belinda Barton	1. Books Required reading:
medical statistics	2. Main references (sources)
Statistics Workbook for Evidence-Based Health Care https://book4you.org/book/2156247/8946a7	A- Recommended books and references (scientific journals, reports…).
https://book4you.org/book/2369996/34ead5 https://book4you.org/book/16955113/1da1f1	B-Electronic references, Internet sites…

13. The development of the curriculum plan
Development and updating are carried out according to the available information from modern sources, in addition to developing illustrations to increase the student's understanding and awareness of the course material.