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: Applied Embryology
Date of Form Completion: 25\10\2022

Dean 's Name
Assistant Professor
Dr. Wasan Adnan Abdulhameed
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 course that contributes to the program.	
1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Applied Embryology**
3. Program Title	**Applied Embryology**
4. Title of Final Award	**Master of Embryology Application**
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 applied embryology 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. To make valuable contributions to society through responsible and ethical practice in the profession of applied embryology techniques.

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 applied embryology techniques.
A 2 - Enable students to obtain knowledge and understanding of the various standards in applied embryology.
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 applied embryology 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	NEMAE.M 11	First semester	Masters
3	2	General Embryology	NEMAE.M 12		
-	2	Medical Statistics	NEMAE.M 13		
3	2	Histology	NEMAE.M 14		
-	2	Reproduction	NEMAE.M 15		
-	1	English	NEMAE.M 21	Second Semester	
3	2	Experimental Embryology	NEMAE.M 22		
3	2	Special Embryology	NEMAE.M 23		
3	2	Assisted Reproductive Technologies	NEMAE.M 24		
3	2	Biochemistry	NEMAE.M 25		
-	1	Teratology	NEMAE.M 26		
-	1	Seminar	NEMAE.M 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.

1 -Postgraduate studies instructions from the Ministry of Higher Education and Scientific Research.

2- A graduate of the Faculties of Science (Life Sciences exclusively), the Faculty of Medicine, the Faculty of Veterinary Medicine.

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
D 5	D 4	D 3	D 2	D 1	C 4	C 3	C 2	C 1	B 3	B 2	B 1	A 6	A 5	A 4	A 3	A 2	A 1					
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Title	English	NEMAE.M 11	Second Semester	Masters
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Title	General Embryology	NEMAE.M 12		
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Title	Medical Statistics	NEMAE.M 13		
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Title	Histology	NEMAE.M 14		
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Title	Reproduction	NEMAE.M 15		
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Title	English	NEMAE.M 21		

	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**Experimental Embryology**	**NEMAE.M 22**	**Second Semester**	
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**Special Embryology**	**NEMAE.M 23**		
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**Assisted Reproductive Technologies**	**NEMAE.M 24**		
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**Biochemistry**	**NEMAE.M 25**		
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**Teratology**	**NEMAE.M 26**		
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	**Title**	**Seminar**	**NEMAE.M 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	**Applied Embryology**
3. Course title/code	**NEMAE.M 11 \ English**
4. Modes of Attendance offered	**Presence**
5. Semester/Year	**2021-2022**
6. Number of hours tuition (total)	**75 hours**
7. Date of production/revision of this specification	**25\10\2022**
8. 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.	

9· 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.

10. 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**	**1 hour**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 1: International student Reading: Going abroad to study Following instructions: filling in forms**	**Unit 1: International student Reading: Going abroad to study Following instructions: filling in forms**	**1 hour**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Reading methods: skim; scan; intensive reading; extensive reading Writing: Checking your writing error correction Writing an informal email**	**Reading methods: skim; scan; intensive reading; extensive reading Writing: Checking your writing error correction Writing an informal email**	**1 hour**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Vocabulary development: Reading a paragraph and re-write it using the student's own words**	**Vocabulary development: Reading a paragraph and re-write it using the student's own words**	**1 hour**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Listening Comprehension Exercises**	**Listening Comprehension Exercises**	**1 hour**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 2: where in the world Reading?**	**Unit 2: where in the world Reading?**	**1 hour**	**6.**

		Three countries Skimming and scanning: reading the general idea, and for particular information Writing: My country Brainstorming ideas Linking ideas	**Three countries Skimming and scanning: reading the general idea, and for particular information Writing: My country Brainstorming ideas Linking ideas**		
		First Exam	**First Exam**	**1 hour**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 3: Newspaper articles: Reading: an unexpected journey Writing: mistaken identity Vocabulary development: word building**	**Unit 3: Newspaper articles: Reading: an unexpected journey Writing: mistaken identity Vocabulary development: word building**	**1 hour**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 4: Modern technology Reading: Innovation Identifying the main message: using topic sentence to identify paragraph content Writing: Technology - good or bad? Varying vocabulary**	**Unit 4: Modern technology Reading: Innovation Identifying the main message: using topic sentence to identify paragraph content Writing: Technology - good or bad? Varying vocabulary**	**1 hour**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 5: Conference and visits**	**Unit 5: Conference and visits**	**1 hour**	**10.**

		Writing academic emails and letters Word building	**Writing academic emails and letters Word building**		
Short oral and written exams	**Attendance lecture, explanations**	**Listening Comprehension Exercises**	**Listening Comprehension Exercises**	**1 hour**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 6: Science and our world Making notes: organizing, recording, and remembering important information Paraphrasing and summarizing Associated words**	**Unit 6: Science and our world Making notes: organizing, recording, and remembering important information Paraphrasing and summarizing Associated words**	**1 hour**	**12.**
		Second Exam	**Second Exam**	**1 hour**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 7: Three famous writers Using original sources: Information on the Net Using the Internet: Developing a search plan**	**Unit 7: Three famous writers Using original sources: Information on the Net Using the Internet: Developing a search plan**	**1 hour**	**14.**
		Final Exam	**Final Exam**	**1 hour**	**15.**

11. Infrastructure	
Head way Academic skills Level 1 Reading, writing, and study skills By Sarah Philpot & Lasley Curnick .	**1. Books Required reading:**

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…**

12. 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	**Applied Embryology**
3. Course title/code	**NEMAE.M 12 \ General Embryology**
4. Modes of Attendance offered	**Presence**
5. Semester/Year	**2021-2022**
6. Number of hours tuition (total)	**75 hours**
7. Date of production/revision of this specification	**25\10\2022**
8. Aims of the Course	
Educate graduate students (Masters) with gametogenesis, embryonic development, implantation and embryonic malformations.	

9· 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.

10. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Introduction and Gametogenesis: Spermatogenesis**	**Introduction and Gametogenesis: Spermatogenesis**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Gametogenesis, Oogenesis and types of ova**	**Gametogenesis, Oogenesis and types of ova**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**First week: Ovulation & fertilization**	**First week: Ovulation & fertilization**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**First week: Pre-implantation embryology – level of Cleavage**	**First week: Pre-implantation embryology – level of Cleavage**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Implantation**	**Implantation**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Second week of development: Development of bilaminar germ disc**	**Second week of development: Development of bilaminar germ disc**	**5 hours**	**6.**
Short oral and written exams	**Attendance lecture, explanations**	**Fate mapping and Morphogenetic movements**	**Fate mapping and Morphogenetic movements**	**5 hours**	**7.**
		Mid-term Examination	**Mid-term Examination**	**5 hours**	**8.**

Short oral and written exams	**Attendance lecture, explanations**	**Introduction to molecular regulation and signaling**	**Introduction to molecular regulation and signaling**	**5 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Third week: Formation Trilaminar germ disc**	**Third week: Formation Trilaminar germ disc**	**5 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**Development from third to eight weeks I**	**Development from third to eight weeks I**	**5 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Development from third to eight weeks II**	**Development from third to eight weeks II**	**5 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**The gut tube and body cavities**	**The gut tube and body cavities**	**5 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Third months to birth (the fetus and placenta)**	**Third months to birth (the fetus and placenta)**	**5 hours**	**14.**
		Final exam	**Final exam**	**5 hours**	**15.**

11. Infrastructure	
[Sadler T.W.] Langman's Medical Embryology	**1. Books Required reading:**
Langman's Medical Embryology, 12th Edition	**2. Main references (sources)**
Journal of Fertility and sterility	**A- Recommended books and references (scientific journals, reports…).**

Larsen's Human Embryology **https://b-ok.asia/book/2664768/1fdcd7** **Lanckmann in Medical Embryology** **https://b-ok.asia/book/5644915/31e13b**	**B-Electronic references, Internet sites…**

12. 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.

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1. Teaching Institution	**Al-Nahrain University\Higher Institute for Infertility Diagnosis and Assisted Reproductive Technologies**
2. University Department/Centre	**Applied Embryology**
3. Course title/code	**NEMAE.M 13 \ Medical Statistics**
4. Modes of Attendance offered	**Presence**
5. Semester/Year	**2021-2022**
6. Number of hours tuition (total)	**75 hours**
7. Date of production/revision of this specification	**25\10\2022**
8. Aims of the Course	
Educate graduate students (Masters) with gametogenesis, embryonic development, implantation and embryonic malformations.	

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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.**
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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.

10. 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**	**2 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Population & normal distribution curve**	**Population & normal distribution curve**	**2 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Presentation of statistics, graphs, tables & others**	**Presentation of statistics, graphs, tables & others**	**2 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Measures of central tendency, mean, mode, median**	**Measures of central tendency, mean, mode, median**	**2 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**	**2 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**	**2 hours**	**6.**
		Mid-term Examination	**Mid-term Examination**	**2 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**	**2 hours**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Correlation**	**Correlation**	**2 hours**	**9.**

Short oral and written exams	**Attendance lecture, explanations**	**Regression**	**Regression**	**2 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**Experimental designs**	**Experimental designs**	**2 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**	**2 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**Computer packages for statistical evaluation**	**Computer packages for statistical evaluation**	**2 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Applications of statistical methods in research**	**Applications of statistical methods in research**	**2 hours**	**14.**
		Final Exam	**Final Exam**	**2 hours**	**15.**

11. 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…**

12. 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	**Applied Embryology**
3. Course title/code	**NEMAE.M 14 \ Histology**
4. Modes of Attendance offered	**Presence**
5. Semester/Year	**2021-2022**
6. Number of hours tuition (total)	**75 hours**
7. Date of production/revision of this specification	**25\10\2022**
8. Aims of the Course	
Educate graduate students (Masters) with gametogenesis, embryonic development, implantation and embryonic malformations.	

9· 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.

10. 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**	**Cell I**	**Cell I**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Cell II**	**Cell II**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Epithelial tissue and glands**	**Epithelial tissue and glands**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Connective tissue & Muscular tissue**	**Connective tissue & Muscular tissue**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Nervous Tissue**	**Nervous Tissue**	**5 hours**	**6.**
Short oral and written exams	**Attendance lecture, explanations**	**Endocrine system II**	**Endocrine system II**	**5 hours**	**7.**
		Mid-term Examination	**Mid-term Examination**	**5 hours**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Urinary system**	**Urinary system**	**5 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Male Reproductive system**	**Male Reproductive system**	**5 hours**	**10.**

Short oral and written exams	**Attendance lecture, explanations**	**Female Reproductive system**	**Female Reproductive system**	**5 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Histological changes of placental and umbilical cord**	**Histological changes of placental and umbilical cord**	**5 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**Immune system and lymphoid tissue**	**Immune system and lymphoid tissue**	**5 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Apoptosis**	**Apoptosis**	**5 hours**	**14.**
		Final Exam	**Final Exam**	**5 hours**	**15.**

11. Infrastructure	
Text book of histology	**1. Books Required reading:**
Text book of histology	**2. Main references (sources)**
Histology: A Text and Atlas	**A- Recommended books and references (scientific journals, reports…).**
Histology: A Text and Atlas **https://book4you.org/book/5001185/6d1add** **https://book4you.org/book/2280912/b996a3** **https://book4you.org/book/5794364/25e704**	**B-Electronic references, Internet sites…**

12. 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	**Applied Embryology**
3. Course title/code	**NEMAE.M 15 \ Reproduction**
4. Modes of Attendance offered	**Presence**
5. Semester/Year	**2021-2022**
6. Number of hours tuition (total)	**75 hours**
7. Date of production/revision of this specification	**25\10\2022**
8. Aims of the Course	
Educate graduate students (Masters) with gametogenesis, embryonic development, implantation and embryonic malformations.	

9· Learning Outcomes, Teaching, Learning and Assessment Methode

A- Cognitive goals

A1 - Immune mechanisms that control spermatogenesis and steroidogenesis in the male reproductive system.

A2- The immune mechanisms that control the menstrual cycle and pregnancy in the female reproductive system.

A3 - Effects of leukocytes in sperm on male infertility.

B - Skills objectives of the course

B1 - Evaluation of leukocytes in the semen of infertile men.

B2 - Immunological aspects of male and female sterility.

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.

10. 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**	**2 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Normal puberty and abnormal gender differentiation in female**	**Normal puberty and abnormal gender differentiation in female**	**2 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Hypothalamic and Pituitary hormonal control of female sexual functions**	**Hypothalamic and Pituitary hormonal control of female sexual functions**	**2 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Monthly menstrual cycle**	**Monthly menstrual cycle**	**2 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**The role of Kisspeptin on Hypothalamic and Pituitary hormonal control**	**The role of Kisspeptin on Hypothalamic and Pituitary hormonal control**	**2 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Immunology of female reproductive system**	**Immunology of female reproductive system**	**2 hours**	**6.**
		Mid-term Examination	**Mid-term Examination**	**2 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Hypothalamic and Pituitary hormonal control of**	**Hypothalamic and Pituitary hormonal**	**2 hours**	**8.**

		male sexual functions	**control of male sexual functions**		
Short oral and written exams	**Attendance lecture, explanations**	**Normal puberty and abnormal gender differentiation in male**	**Normal puberty and abnormal gender differentiation in male**	**2 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Seminal fluid analysis**	**Seminal fluid analysis**	**2 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**Leukocytospermia**	**Leukocytospermia**	**2 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**The immunology of male reproductive system**	**The immunology of male reproductive system**	**2 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**Male sexual acts and psychological effect on sperm production**	**Male sexual acts and psychological effect on sperm production**	**2 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Menopause and Andropause**	**Menopause and Andropause**	**2 hours**	**14.**
		Final Exam	**Final Exam**	**2 hours**	**15.**

11. Infrastructure	
Essential Reproduction	**1. Books Required reading:**
Essential Reproduction	**2. Main references (sources)**

Journal of Human Reproduction	**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…**

12. 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	**Applied Embryology**
3. Course title/code	**NEMAE.M 21 \ English**
4. Modes of Attendance offered	**Presence**
5. Semester/Year	**2021-2022**
6. Number of hours tuition (total)	**75 hours**
7. Date of production/revision of this specification	**25\10\2022**
8. 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.	

9· 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 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.

10. 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**	**1 hour**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 1: International student Reading: Going abroad to study Following instructions: filling in forms**	**Unit 1: International student Reading: Going abroad to study Following instructions: filling in forms**	**1 hour**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Reading methods: skim; scan; intensive reading; extensive reading Writing: Checking your writing error correction Writing an informal email**	**Reading methods: skim; scan; intensive reading; extensive reading Writing: Checking your writing error correction Writing an informal email**	**1 hour**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Vocabulary development: Reading a paragraph and re-write it using the student's own words**	**Vocabulary development: Reading a paragraph and re-write it using the student's own words**	**1 hour**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Listening Comprehension Exercises**	**Listening Comprehension Exercises**	**1 hour**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 2: where in the world Reading?**	**Unit 2: where in the world Reading?**	**1 hour**	**6.**

		Three countries Skimming and scanning: reading the general idea, and for particular information Writing: My country Brainstorming ideas Linking ideas	**Three countries Skimming and scanning: reading the general idea, and for particular information Writing: My country Brainstorming ideas Linking ideas**		
		First Exam	**First Exam**	**1 hour**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 3: Newspaper articles: Reading: an unexpected journey Writing: mistaken identity Vocabulary development: word building**	**Unit 3: Newspaper articles: Reading: an unexpected journey Writing: mistaken identity Vocabulary development: word building**	**1 hour**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 4: Modern technology Reading: Innovation Identifying the main message: using topic sentence to identify paragraph content Writing: Technology - good or bad? Varying vocabulary**	**Unit 4: Modern technology Reading: Innovation Identifying the main message: using topic sentence to identify paragraph content Writing: Technology - good or bad? Varying vocabulary**	**1 hour**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 5: Conference and visits**	**Unit 5: Conference and visits**	**1 hour**	**10.**

		Writing academic emails and letters Word building	**Writing academic emails and letters Word building**		
Short oral and written exams	**Attendance lecture, explanations**	**Listening Comprehension Exercises**	**Listening Comprehension Exercises**	**1 hour**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 6: Science and our world Making notes: organizing, recording, and remembering important information Paraphrasing and summarizing Associated words**	**Unit 6: Science and our world Making notes: organizing, recording, and remembering important information Paraphrasing and summarizing Associated words**	**1 hour**	**12.**
		Second Exam	**Second Exam**	**1 hour**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Unit 7: Three famous writers Using original sources: Information on the Net Using the Internet: Developing a search plan**	**Unit 7: Three famous writers Using original sources: Information on the Net Using the Internet: Developing a search plan**	**1 hour**	**14.**
		Final Exam	**Final Exam**	**1 hour**	**15.**

11. Infrastructure	
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…**

12. 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	**Applied Embryology**
3. Course title/code	**NEMAE.M 22 \ Experimental Embryology**
4. Modes of Attendance offered	**Presence**
5. Semester/Year	**2021-2022**
6. Number of hours tuition (total)	**75 hours**
7. Date of production/revision of this specification	**25\10\2022**
8. Aims of the Course	
Educate graduate students (Masters) with gametogenesis, embryonic development, implantation and embryonic malformations.	

9· 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.

10. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Sperm viability and function test I**	**Sperm viability and function test I**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Sperm viability and function test II**	**Sperm viability and function test II**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Clinical impact of sperm antibody**	**Clinical impact of sperm antibody**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Sperm preparation for gender selection**	**Sperm preparation for gender selection**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Applications of sperm preparation techniques for IUI**	**Applications of sperm preparation techniques for IUI**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Testicular biopsy and histology**	**Testicular biopsy and histology**	**5 hours**	**6.**
Short oral and written exams	**Attendance lecture, explanations**	**Immunocytoch emistry**	**Immunocytoch emistry**	**5 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Cell and Tissue culture**	**Cell and Tissue culture**	**5 hours**	**8.**
		Mid-term Examination	**Mid-term Examination**	**5 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Immunology of implantation**	**Immunology of implantation**	**5 hours**	**10.**

Short oral and written exams	**Attendance lecture, explanations**	**Cryology**	**Cryology**	**5 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Cryo-Protectants**	**Cryo-Protectants**	**5 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**Applied Cryopreservation**	**Applied Cryopreservation**	**5 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Experimental avain embryology**	**Experimental avain embryology**	**5 hours**	**14.**
Short oral and written exams	**Attendance lecture, explanations**	**Experimental Mammalian Embryology**	**Experimental Mammalian Embryology**	**5 hours**	**15.**

11. Infrastructure	
Basics of Human Andrology: A Textbook Handbook of Human Oocyte Cryopreservat	**1. Books Required reading:**
Basics of Human Andrology: A Textbook Handbook of Human Oocyte Cryopreservat	**2. Main references (sources)**
Andrology Journal	**A- Recommended books and references (scientific journals, reports…).**
Basics of Human Andrology: A Textbook Handbook of Human Oocyte Cryopreservat **https://book4you.org/book/3377117/1f8798**	**B-Electronic references, Internet sites…**

12. 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	**Applied Embryology**
3. Course title/code	**NEMAE.M 23 \ Special Embryology**
4. Modes of Attendance offered	**Presence**
5. Semester/Year	**2021-2022**
6. Number of hours tuition (total)	**75 hours**
7. Date of production/revision of this specification	**25\10\2022**
8. Aims of the Course	
Educate graduate students (Masters) with gametogenesis, embryonic development, implantation and embryonic malformations.	

9· 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.

10. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Development of the axial Skeletal system - skull - vertebral column**	**Development of the axial Skeletal system - skull - vertebral column**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**The development of the muscular system: - innervations of muscular - skeletal smooth cardiac muscle**	**The development of the muscular system: - innervations of muscular - skeletal smooth cardiac muscle**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Limb development**	**Limb development**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Development of cardio cardiovascular system -septum of the heart-**	**Development of cardio cardiovascular system -septum of the heart-**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**vascular system**	**vascular system**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Urogenital system (I) Urogenital system (II)**	**Urogenital system (I) Urogenital system (II)**	**5 hours**	**6.**
		Mid-Term Examination	**Mid-Term Examination**	**5 hours**	**7.**

Short oral and written exams	**Attendance lecture, explanations**	**Digestive system**	**Digestive system**	**5 hours**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Head &neck**	**Head &neck**	**5 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Respiratory system development**	**Respiratory system development**	**5 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**Development of the spinal cord& brain**	**Development of the spinal cord& brain**	**5 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Development of the cranial nerves& autonomic nervous system**	**Development of the cranial nerves& autonomic nervous system**	**5 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**Development of ear**	**Development of ear**	**5 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Development of eye**	**Development of eye**	**5 hours**	**14.**
Short oral and written exams	**Attendance lecture, explanations**	**Integumentary system**	**Integumentary system**	**5 hours**	**15.**

11. Infrastructure	
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…**

12. 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	**Applied Embryology**
3. Course title/code	**NEMAE.M 24 \ Assisted Reproductive Technologies**
4. Modes of Attendance offered	**Presence**
5. Semester/Year	**2021-2022**
6. Number of hours tuition (total)	**75 hours**
7. Date of production/revision of this specification	**25\10\2022**
8. Aims of the Course	
Educate graduate students (Masters) with gametogenesis, embryonic development, implantation and embryonic malformations.	

9· Learning Outcomes, Teaching, Learning and Assessment Methode

A- Cognitive goals

A 1- Preparation of sperm for ICSI and IVF.
A 2- Evaluation of embryos and their numbers.
A3 - Microinjection technique and placement.
A 4- Classification of eggs and embryos.

B - Skills objectives of the course

B1 - Subject-specific skills.

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.

10. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Hormonal therapy in Infertility**	**Hormonal therapy in Infertility**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Techniques of ova retrieval and embryo transfer**	**Techniques of ova retrieval and embryo transfer**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Biochemistry of culture media**	**Biochemistry of culture media**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Cytoplasmic and extra cytoplasmic features of oocyte and oocyte grading**	**Cytoplasmic and extra cytoplasmic features of oocyte and oocyte grading**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Oocyte maturation in vitro vas IVM**	**Oocyte maturation in vitro vas IVM**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Embryo Fragmentation**	**Embryo Fragmentation**	**5 hours**	**6.**
Short oral and written exams	**Attendance lecture, explanations**	**Normal and abnormal embryo development and embryo grading**	**Normal and abnormal embryo development and embryo grading**	**5 hours**	**7.**
		Mid-term Examination	**Mid-term Examination**	**5 hours**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Blastocyst culture and embryo transfer techniques**	**Blastocyst culture and embryo transfer techniques**	**5 hours**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Micro – manipulation techniques and ICSI**	**Micro – manipulation techniques and ICSI**	**5 hours**	**10.**

Short oral and written exams	**Attendance lecture, explanations**	**Blastomer biopsy and assisted hatching**	**Blastomer biopsy and assisted hatching**	**5 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Pre-implantation genetic diagnosis and embryonic genetics PGD**	**Pre-implantation genetic diagnosis and embryonic genetics PGD**	**5 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**Complication of ART**	**Complication of ART**	**5 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Ethical aspects of ART**	**Ethical aspects of ART**	**5 hours**	**14.**
		Final Exam	**Final Exam**	**5 hours**	**15.**

11. Infrastructure	
Textbook of Assisted Reproductive Techniques	**1. Books Required reading:**
Textbook of Assisted Reproductive Techniques	**2. Main references (sources)**
Journal of reproductive and fertility	**A- Recommended books and references (scientific journals, reports…).**
https://book4you.org/book/3419444/1e87d8 **https://book4you.org/book/3419445/763454**	**B-Electronic references, Internet sites…**

12. 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	**Applied Embryology**
3. Course title/code	**NEMAE.M 25 \ Biochemistry**
4. Modes of Attendance offered	**Presence**
5. Semester/Year	**2021-2022**
6. Number of hours tuition (total)	**75 hours**
7. Date of production/revision of this specification	**25\10\2022**
8. Aims of the Course	
Educate graduate students (Masters) with gametogenesis, embryonic development, implantation and embryonic malformations.	

9· 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 - assessment of hormones.

B2 - 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.

10. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Metabolism of Carbohydrate**	**Metabolism of Carbohydrate**	**5 hours**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Metabolism of lipid**	**Metabolism of lipid**	**5 hours**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Metabolism of protein**	**Metabolism of protein**	**5 hours**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**General characteristic of hormone system Mode of action Hormone receptor**	**General characteristic of hormone system Mode of action Hormone receptor**	**5 hours**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Biochemistry of steroidal hormones**	**Biochemistry of steroidal hormones**	**5 hours**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Biochemistry of non-steroidal hormones**	**Biochemistry of non-steroidal hormones**	**5 hours**	**6.**
		Mid-term Examination	**Mid-term Examination**	**5 hours**	**7.**
Short oral and written exams	**Attendance lecture, explanations**	**Basic structure components of nucleic acid, general features of DNA double helix and RNA, viral nucleic acids and their replication**	**Basic structure components of nucleic acid, general features of DNA double helix and RNA, viral nucleic acids and their replication**	**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**	**Biochemistry of Infertility (PCOs)**	**Biochemistry of Infertility (PCOs)**	**5 hours**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**General concepts of polymerase chain reaction (PCR) and its biomedical application**	**General concepts of polymerase chain reaction (PCR) and its biomedical application**	**5 hours**	**11.**
Short oral and written exams	**Attendance lecture, explanations**	**Renal function test**	**Renal function test**	**5 hours**	**12.**
Short oral and written exams	**Attendance lecture, explanations**	**Liver function test**	**Liver function test**	**5 hours**	**13.**
Short oral and written exams	**Attendance lecture, explanations**	**Reactive Oxygen Species**	**Reactive Oxygen Species**	**5 hours**	**14.**
		Final Exam	**Final Exam**	**5 hours**	**15.**

11. Infrastructure	
Textbook Biochemistry	**1. Books Required reading:**
Textbook Biochemistry	**2. Main references (sources)**
Journal of gen	**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…**

12. 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	**Applied Embryology**
3. Course title/code	**NEMAE.M 26 \ Teratology**
4. Modes of Attendance offered	**Presence**
5. Semester/Year	**2021-2022**
6. Number of hours tuition (total)	**75 hours**
7. Date of production/revision of this specification	**25\10\2022**
8. Aims of the Course	
Educate graduate students (Masters) with gametogenesis, embryonic development, implantation and embryonic malformations.	

9· Learning Outcomes, Teaching, Learning and Assessment Methode

A- Cognitive goals

A 1- Genetic and chromosomal factors that cause birth defects.

A 2- Infectious agents that cause birth defects.

A 3- Clinical and laboratory. Diagnosis of birth defects.

B - Skills objectives of the course

B1 - Subject-specific skills.

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.

10. Course Structure					
Assessment Method	**Teaching Method**	**Unit/Module or Topic Title**	**ILOs**	**Hours**	**Week**
Short oral and written exams	**Attendance lecture, explanations**	**Basic teratology and epidemiology**	**Basic teratology and epidemiology**	**1 hour**	**1.**
Short oral and written exams	**Attendance lecture, explanations**	**Infectious agents as Teratogens**	**Infectious agents as Teratogens**	**1 hour**	**2.**
Short oral and written exams	**Attendance lecture, explanations**	**Physical Teratogens**	**Physical Teratogens**	**1 hour**	**3.**
Short oral and written exams	**Attendance lecture, explanations**	**Chemical Teratogens**	**Chemical Teratogens**	**1 hour**	**4.**
Short oral and written exams	**Attendance lecture, explanations**	**Genetic & chromosomal factors in teratology**	**Genetic & chromosomal factors in teratology**	**1 hour**	**5.**
Short oral and written exams	**Attendance lecture, explanations**	**Prenatal diagnosis of birth defects**	**Prenatal diagnosis of birth defects**	**1 hour**	**6.**
Short oral and written exams	**Attendance lecture, explanations**	**Management of birth defects & foetal therapy**	**Management of birth defects & foetal therapy**	**1 hour**	**7.**
		Mid-Term Examination	**Mid-Term Examination**	**1 hour**	**8.**
Short oral and written exams	**Attendance lecture, explanations**	**Musculo-skeletal mal formation**	**Musculo-skeletal mal formation**	**1 hour**	**9.**
Short oral and written exams	**Attendance lecture, explanations**	**Fotal circulation and congenital heart diseases**	**Fotal circulation and congenital heart diseases**	**1 hour**	**10.**
Short oral and written exams	**Attendance lecture, explanations**	**Digestive system mal formations**	**Digestive system mal formations**	**1 hour**	**11.**

Short oral and written exams	Attendance lecture, explanations	Uro-genital mal formations	Uro-genital mal formations	1 hour	12.
Short oral and written exams	Attendance lecture, explanations	Defects in sex differentiation	Defects in sex differentiation	1 hour	13.
Short oral and written exams	Attendance lecture, explanations	Head and neck mal formations	Head and neck mal formations	1 hour	14.
Short oral and written exams	Attendance lecture, explanations	Central nervous system mal formations	Central nervous system mal formations	1 hour	15.

11. Infrastructure	
Longman's Medical Embryology, 12th Edition	1. Books Required reading:
Longman's Medical Embryology, 12th Edition	2. Main references (sources)
Longman's Medical Embryology, 12th Edition	A- Recommended books and references (scientific journals, reports…).
Embryology and congenital malformations https://book4you.org/book/3520726/dea4fe	B-Electronic references, Internet sites…

12. 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.