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| **Benha University**  **Faculty of Science**  **جامعة بنهاDepartment of Zoology** | | | | | |
| **Course Specification**  **404 Z:Selective topics in zoology** | | | | | | |
| **A- Affiliation** | | | | | | |
| **Relevant program:** | Biotechnology B.Sc. Program | | | | | |
| **Department offering the program:** | | | Department of Zoology | | | |
| **Department offering the course:** | | | Department of Zoology | | | |
| **Academic year/level:** | | | Fourth level | | | |
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| B - Basic information | | | | | | |
| **Title:** Selective topics in zoology | | **Code:**404 Z | | | **Year/level:** Fourth level | |
| **Teaching Hours:** | | **Lectures:** 2 | | | **Tutorial:** 0 | |
|  | | **Practical:**2 | | | **Total:**3 h/week | |
| C - Professional information | | | | | | |
| **1 – Course Learning Objectives:** | | | | | | |
| Allowing the student to gain the necessary knowledge and skills in zoology that selected by the department. | | | | | | |

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| **2 - Intended Learning Outcomes (ILOS)** |
| **a - Knowledge and understanding:**  On successful completion of the course, the student should demonstrate knowledge and understanding of:  a1- Memorize the excretory system structure, function, regulation and mechanism of action.  a2- Identify types of hormones.  a3- Recognize the action mechanism of hormones.  a4- Describe lymph tissues structure.  a5- Recognize the function lymph tissues.  a6- Identity diseases related to the lymphatic system. |
| **b - Intellectual skills:**  On successful completion of the course, the student should be able to.  b1- Compare between hormone types and their action mechanisms.  b2- Link between the urine formation process and regulation of urine.  b3- Interpret of diseases related to the lymphatic system.  b4- Combine the structure and function of lymphoid tissues. |
| **c - Practical and professional skills:**  On successful completion of the course, the student should be able to:  c1- Identity types of salts found in urine slide.  c2- Draw lymphoid tissues.  c3- Describe some diseases related to the lymphatic system |
| d - General and transferable skills:  On successful completion of the course, the student should be able to:  d1- Collaborate effectively with teamwork members.  d2- Effectively manages tasks, time, and resources.  d3- Search for information and engage in life-long self learning discipline. |

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| **3 - Contents** | | | |
| **Topic** | **Lecture hours** | **Tutorial hours** | **Practical hours** |
| Introduction to excretion | 2 | 0 | 2 |
| The urinary system | 2 | 0 | 2 |
| Physiological functions of kidneys | 2 | 0 | 2 |
| Urine formation and regulation of urine concentration | 2 | 0 | 2 |
| Types of hormones | 2 | 0 | 2 |
| The action mechanism of hormones | 2 | 0 | 2 |
| Pineal gland | 2 | 0 | 2 |
| Thymus gland | 2 | 0 | 4 |
| Introduction to lymphatic system | 2 | 0 | 2 |
| Lymph tissues (lymph nodes and spleen) | 2 | 0 | 2 |
| Lymph tissues(tonsils and thymus) | 2 | 0 | 2 |
| Lymph tissues(peyer's patches and gut associated lymphoid tissue) | 2 | 0 | 2 |
| Functions of lymphatic system | 2 | 0 | 2 |
| Names of diseases related to the Lymphac system,( symptoms and  diagnosis ) .  Names of diseases related to the Lymphac system,( symptoms and  diagnosis ) .  Names of diseases related to the Lymphac system,( symptoms and  diagnosis ) .  Diseases related to the lymphatic system | 2 | 0 | 2 |
| **Total hours** | **28** | 0 | **28** |

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| **4 - Teaching and Learning methods:** |

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| **Intended Learning Outcomes** | | | **Lecture** | **Presentations & Movies** | **Discussions & Seminars** | **Practical** | **Problem solving** | **Brain storming** |
| **Knowledge & Understanding** | a1 | Memorize the excretory system structure, function, regulation and mechanism of action. | x | x | x | x | x | x |
| a2 | Identify types of hormones. | x | x | x | 0 | x | x |
| a3 | Recognize the action mechanism of hormones. | x | x | x | 0 | x | x |
| a4 | Describe lymph tissues structure. | x | 0 | x | x | 0 | x |
| a5 | Recognize the function lymph tissues. | x | 0 | x | 0 | 0 | x |
| a6 | Identity diseases related to the lymphatic system. | x | 0 | x | x | 0 | x |
| **Intellectual Skills** | b1 | Compare between hormone types and their action mechanisms. | x | **x** | **x** | 0 | **x** | **x** |
| b2 | Link between the urine formation process and regulation of urine. | x | **x** | **x** | 0 | **x** | **x** |
| b3 | Interpret of diseases related to the lymphatic system. | x | **x** | **x** | **x** | **x** | **x** |
| b4 | Combine the structure and function of lymphoid tissues. | x | 0 | x | x | 0 | x |
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| **Practical and professional skills** | c1 | Identity types of salts found in urine slide. | 0 | 0 | 0 | x | x | 0 |
| c2 | Draw lymphoid tissues. | 0 | 0 | 0 | x | 0 | 0 |
| c3 | Describe some diseases related to the lymphatic system. | x | 0 | 0 | x | 0 | 0 |
| **General Skills** | d1 | Collaborate effectively with teamwork members. | 0 | 0 | x | x | x | x |
| d2 | Effectively manages tasks, time, and resources. | 0 | 0 | 0 | x | x | 0 |
| d3 | Search for information and engage in life-long self learning discipline. | x | 0 | 0 | x | x | x |
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| **5- Students’ Assessment Methods and Grading:** |

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| **Tools** | **To Measure** | **Time schedule** | **Grading** |
| Mid-Term Exam + Semester Work | a1 to a3, b1 to b2 and d1 to d3 | sixth week | 12 |
| Oral exam | a1 to a6 and b1to b4 | Bi-weekly | 16 |
| Practical exams | c1 to c3 | Fourteenth week | 24 |
| Written exam | a1 to a6 and b1to b4 | Sixteenth week | 48 |
| Total | | | 100 % |

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| **6- List of references:** |
| **6-1 Course notes:** Non   |  | | --- | | **6-2 Required books**  - Guyton, A.C. and Hall, J.E. (2006): Textbook of Medical Physiology.11th Ed. Elsevier Inc. Philadelphia.  -Harvey, R.A. and Ferrier, D.R. (2011): Lippincotts Illustrated Reviews: Biochemistry, North American Edition. 5th Ed, JB Lippincott, Philadelphia.  **6-3 Recommended books**  - Campbell, N. A.; Reece, J. B.; *et al.* (2002): Biology. 6thEd. Benjamin/Cummings.  **6-4 Periodicals, Web sites, etc.**  www.bu.edu.eg/staff/doaamohamed7/14789  www.rinconmedico.org | |

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| **7- Facilities required for teaching and learning:** |
| * Zoology Lab. * Class room, overhead projector, Data show and library. |

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| **Course coordinator:** |  |  |
| **Head of the Department:** | Prof. Dr. Moshira M.E. Seliem |  |
| **Date:** | 2018 / 2019 |  |