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| **COURSE IDENTIFICATION FORM** |
| **Course Code and Name:**SM-548 Endocrinological Applications in Aquaculture | **Department of :**Fisheries M.Sc. |
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| **Semester** |

 | **Theoretic Hour** | **Practice Hour** | **Total Hour** | **Credits** | **ECTS** | **Education Language** | **Type: Compulsory Elective** |
|  | 2 | 2 | 3 | 3 | 5 | Turkish | Optional |
| **Prerequisite (s)** | None |
| **Instructor** | Prof. Dr. Durali DANABAŞ | **Mail : ddanabas@munzur.edu.tr****Web :** |
| **Course Assistant** |  | **Mail :****Web :** |
| **Groups / Classes** |  |  |
| **Course Aim** | The aim of this course is to provide gripping of hormonal control in inducing of gametogenesis and ovulation; of hormonal and environmental control of fish reproduction; of mechanism of sexual control; of environmental and dietary effects on growth and metabolism in hormonal development; and of using of endocrinological components in stress, adaptation, aquaculture, resistance to diseases. |
| **Course Goals** | It will be explained the hormonal control in inducing of gametogenesis and ovulation; hormonal and environmental control of fish reproduction; mechanism of sexual control; environmental and dietary effects on growth and metabolism in hormonal development; and using of endocrinological components in stress, adaptation, aquaculture, resistance to diseases. |
| **Course Learning Outs and Proficiencie*s*** | 1. He will be able to know the hormonal control mechanism in inducing of gametogenesis and ovulation.  1.1. He knows hormones in charge of inducing of gametogenesis and ovulation.  1.2. He was gripped how to be able to induce. 2. He will be able to grip subjects about hormonal and environmental control of fish reproduction. 2.1. He knows mechanism of reproduction in fish.  2.2. He knows hormones in charge in reproduction. 3. He will be able to know using of endocrinological components in stress, adaptation, aquaculture, resistance to diseases. 3.1. He knows which endocrinological components will be able to effect.  3.2. He applies his wings.  |
| **Course Basic and Auxiliary Contexts** | * Emre, Y., Kürüm, V., 2007. Havuz ve Kafeslerde Alabalık Yetiştiriciliği. Posta Basım, İstanbul, 272s.
* Tekelioğlu, N., 2005. İç Su Balıkları Yetiştiriciliği. Adana Nobel Kitabevi Yayınları, Adana, 278s.
* Tekelioğlu, N., 1998. Deniz Balıkları Yetiştiriciliği, Baki Kitabevi Yayınları, Adana, 226s.
* Timur, M., 2006. Balık Fizyolojisi. Nobel Yayın Dağıtım, Nobel Yayın No: 957, Ankara, 183s.
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| **Methods of Give a Lecture** | Lecture, Question and answer, Discussion, Brain storming, Individual work |

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| **Assessment Criteria** |  | **If Available, to Sign (x)** | **General Average Percentage (%) Rate** |
| **1. Quiz** | **X** | **40** |
| **2. Quiz** |  |  |
| **3. Quiz** |  |  |
| **4. Quiz** |  |  |
| **5. Quiz** |  |  |
| **Oral Examination** |  |  |
| **Practice Examination (Laboratory, Project etc.)** |  |  |
| **Final Examination** | **X** | **60** |
| **Semester Course Plan** |
| **Week** | **Subjects** |
| **1** | 1. Week: The endocrine system and endocrinological components in fish,
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| **2** | 1. Week: The aim of using endocrinological components in fish, Using fields of endocrinological components in fish,
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| **3** | 1. Week: Importance and aim of sexual control in fish, Using of endocrinological components in sexual control of fish, Feminization,
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| **4** | 1. Week: Androgenization, Spying, Application methods of sexual control mechanism,
 |
| **5** | 1. Week: Investigation and discussion of articles related to using of endocrinological components in sexual control of fish,
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| **6** | 1. Week: Importance of control of reproduction in fish, Hormonal control of reproduction, Environmental control of reproduction, Inducing of laying and its importance, Inducing methods,
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| **7** | 1. Week: Importance of metabolic levels in fish, Importance of growth in fish and its occurring, Effective endocrinological components on growth and metabolism,
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| **8** | 1. Week: Vise,
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| **9** | 1. Week: Endocrinological components applying for growth and gonad development in fish, Growth hormone and its derivatives, Their properties, Their application methods,
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| **10** | 1. Week: Anabolic steroids, Their properties and varieties, Their application methods,
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| **11** | 1. Week: Thyroid hormones, Their properties, Insulin, Their application methods,
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| **12** | 1. Week: Investigation and discussion of articles related to using of effective endocrinological components on growth and metabolism of fish,
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| **13** | 1. Week: Using of endocrinological components in realizing of stress, adaptation, aquaculture, resistance to diseases in fish,
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| **14** | 1. Week: Investigation and discussion of articles related to using of endocrinological components in realizing of stress, adaptation, aquaculture, resistance to diseases in fish,
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