

<b>Module Title:</b> Poultry Farming Systems and Sustainable Environment					
<b>Module code</b>	<b>Student workload</b>	<b>Credits</b>	<b>Semester</b>	<b>frequency</b>	<b>Duration</b>
APL803	3 hours	2 Units	First Semester	Every Academic Session	1 semester
<b>1</b>	<b>Types of courses</b> a) Lectures b) Class Discussions on Recent Topics/Seminars	<b>contact hours</b> 39 hours / Semester	<b>independent study</b> 13 hours	<b>class size</b> 10 students	
<b>2</b>	<b>Prerequisites for participation</b> The students must have successfully completed undergraduate degree in Animal Science and register for short course in English Language				
<b>3.</b>	<b>Course Description:</b> <b>Poultry Farming Systems and Sustainable Environment:</b> Past and Present Scenario of Poultry Industry, Poultry housing, Livestock Environment; Macro Environment and Micro Environment, Climate Change, Food Security and Safety:  Seminar: One Topic per student Practical: Farm Visit				
<b>4</b>	<b>Learning outcomes:</b> <ul style="list-style-type: none"><li>• Students will be acquainted with the different environments of the poultry production systems and to engender a sustainable environment for a stable food production.</li><li>• Students are expected to understand the problems of and opportunities available in systems of poultry production as well coordinate livestock issues with other agricultural disciplines.</li></ul>				
<b>5</b>	<b>Subject aims:</b> This course aimed at: 1. Encouraging students to develop a well-rounded interest in poultry production and different systems of production. 2. Exploring the attendant effects of climate change on the efficiency of poultry production to engender sustainable production and environment.				
<b>6</b>	<b>Teaching methods</b> Lectures accompanied by class discussions/seminars supported by power point presentations as well as farm visit.				
<b>7</b>	<b>Assessment methods:</b> Continuous Assessment Test, Quiz, Term Paper and Examination				
<b>8</b>	<b>This module is used in the following degree programme:</b> Master of Agriculture in Livestock Science and Sustainable Environment (M.AgSE)				
<b>9</b>	<b>Responsibility for module:</b> <b>Module I</b> <b>Past and Present Scenario of Poultry Industry</b> <ul style="list-style-type: none"><li>✓ Domestication of Poultry<ul style="list-style-type: none"><li>○ Genetic Classification of Chicken and other species of Poultry- Layers, Broiler, and other class of Poultry – Hybrids available</li></ul></li><li>✓ American, English, Mediterranean, Asiatic, Indian breeds, dual purpose breeds and non-descript birds</li><li>✓ Terms used in Poultry farming</li><li>✓ Growth of Poultry industry in Nigeria<ul style="list-style-type: none"><li>○ Poultry population and other Poultry related statistics, per capita meat and egg availability</li></ul></li></ul>				

	<ul style="list-style-type: none"> <li>✓ Poultry Systems: small and large scale</li> <li>✓ Systems of rearing: free-range, free-to-range, semi intensive, intensive rearing (deep litter, cage and slat floors), etc.</li> <li>✓ Nutrition and management of poultry species in the different rearing systems</li> <li>✓ Introduction to rearing of Turkeys, Ducks, Japanese Quails, Guinea fowls and Geese for meat production</li> <li>✓ Poultry integration, Contract farming and Linkages</li> <li>✓ Scavengeable Feed Resource Base</li> </ul> <p><b>Poultry housing</b></p> <ul style="list-style-type: none"> <li>✓ Layout</li> <li>✓ Orientation</li> <li>✓ Water source</li> <li>✓ Different house designs</li> <li>✓ Roof and roofing material <ul style="list-style-type: none"> <li>○ Selection of poultry farm site and ideal location</li> </ul> </li> <li>✓ Future expansion facility – electricity – farm equipment – cleaning methods</li> <li>✓ Housing and different growing programs; All in and All out systems, batch system, etc.</li> </ul> <p><b>Module II</b></p> <p><b>Livestock Environment:</b></p> <p>Macro Environment</p> <ul style="list-style-type: none"> <li>✓ Poultry house temperature</li> <li>✓ humidity, cross ventilation, radiation, ammonia concentration, air flow, environmentally controlled house</li> </ul> <p>Micro Environment</p> <ul style="list-style-type: none"> <li>✓ Heat and moisture production from Poultry house, cooling/ heating of Poultry houses – movement of air, system of ventilation, Lighting management, critical temperature</li> <li>✓ Seasonal management.</li> </ul> <p>Climate Change</p> <ul style="list-style-type: none"> <li>✓ Observed climate change</li> <li>✓ Complex interactions of temperature and precipitation</li> <li>✓ Impact of climate change on poultry production and food safety</li> <li>✓ Adaptation and best management practices</li> </ul> <p>Food Security and Safety</p>
<b>10</b>	<p><b>Other information</b></p> <p><b>Practical:</b> Farm Visits</p> <p>Instructor: Dr. O. M. Sogunle</p> <p>Department of Animal Production and Health, Federal University of Agriculture, Abeokuta</p>
<b>11</b>	<b>Course Outline</b>
<b>Week</b>	<b>Lecture Topics</b>
<b>1</b>	Introduction: Past and Present Scenario of Poultry Industry Growth of Poultry industry in Nigeria
<b>2, 3 &amp; 4</b>	Poultry Farming Systems: small and large scale <ul style="list-style-type: none"> <li>✓ Systems of rearing: free-range, free-to-range, semi intensive, intensive rearing (deep litter, cage and slat floors), etc.</li> </ul>
<b>5</b>	Nutrition and management of poultry species in the different rearing systems
<b>6 &amp; 7</b>	Introduction to rearing of Turkeys, Ducks, Japanese Quails, Guinea fowls and Geese for meat production
<b>8 &amp; 9</b>	Poultry integration, Contract farming and Linkages Scavengeable Feed Resource Base
<b>10 &amp; 11</b>	Poultry housing <ul style="list-style-type: none"> <li>✓ Layout</li> </ul>

	<ul style="list-style-type: none"> <li>✓ Orientation</li> <li>✓ Water source</li> <li>✓ Different house designs</li> <li>✓ Roof and roofing material <ul style="list-style-type: none"> <li>○ Selection of poultry farm site and ideal location</li> </ul> </li> <li>✓ Future expansion facility – electricity – farm equipment – cleaning methods</li> <li>✓ Housing and different growing programs; All in and All out systems, batch system, etc.</li> </ul>
<p><b>12 &amp; 13</b></p>	<p>Livestock Environment:</p> <p>Macro Environment</p> <ul style="list-style-type: none"> <li>✓ Poultry house temperature</li> <li>✓ humidity, cross ventilation, radiation, ammonia concentration, air flow, environmentally controlled house</li> </ul> <p>Micro Environment</p> <ul style="list-style-type: none"> <li>✓ Heat and moisture production from Poultry house, cooling/ heating of Poultry houses – movement of air, system of ventilation, Lighting management, critical temperature</li> <li>✓ Seasonal management.</li> </ul> <p>Climate Change</p> <ul style="list-style-type: none"> <li>✓ Observed climate change</li> <li>✓ Complex interactions of temperature and precipitation</li> <li>✓ Impact of climate change on poultry production and food safety</li> <li>✓ Adaptation and best management practices</li> </ul> <p>Food Security and Safety</p>

**References:**

1. The Role of Livestock in developing communities: Enhancing multi-functionality by Frans Swanepoel, Aldo Stroebeel and Siboniso Moyo (2010)
2. Oluyemi, J. A. and Roberts, F.A. (2000). *Poultry Production in Warm Wet Climates*. London: Macmillan Publishers Ltd. Pp. 18 – 34.
3. Saxena, H.C. and Ketelaars, E. H. (1993). *Poultry Production in Hot Climate Zone*. New Delhi –Ludhiang: Kalyani Publisher.,
4. Rice, J. E. and H. E. Botsford (1959). *Practical Poultry Management* (6th ed) New York & London: John Wiley and Sons, Inc. Pp. 118 – 138.
5. Olomu, J.M. (1995). *Monogastric Animal Nutrition*. Principles and Practices. (1st ed). Jachem Publication. Pp 67-74.
6. Climate Change Mititigation and Agriculture by Wollenberg et al., 2012
7. Poultry Production and Hot Climate by Dagher (2008)