

MS in Climate Smart Agriculture
Institute of Climate Smart Agriculture
Patuakhali Science and Technology University, Dumki, Patuakhali

Course Profile

Course Code: CSA 5116

Course Title: Agriculture in a Changing Climate

Credit Hour: 2

Student Level: Level-6, Semester-2

Rationale: Agriculture in Bangladesh will face enormous challenges in the coming century. Climate will have far reaching consequences on agriculture and food systems. In addition, the demand of food will increase while the variety of food items will also change in the coming decade. Specifically, people will search for a more nutritious, healthier diet. Since climate change is inevitable and will have negative consequences on food production, any government including Bangladesh need to design its future agriculture well ahead of the start of climate induced consequences. As part of the human resources development for facing the challenges in climate change in agriculture, the course will look at the long term consequences of climate change on agriculture in Bangladesh taking a broad look at the future. We will not only look at impact of crops and farms but at how whole food systems need to change to adapt to future challenges.

Objectives: At the end of this course, the students will gain considerable-

- (i) Knowledge of the long term impact of climate and socio-economic change on agriculture in Bangladesh
- (ii) Knowledge on future scenarios for agriculture in Bangladesh.
- (iii) Knowledge and possible strategic changes in food systems in Bangladesh.

Learning Outcomes	Course Content	Teaching-Learning Strategy	Assessment Strategy
-Understand the potential impacts of long term climate change on food systems and the agricultural sector in Bangladesh -Explain the different between first order and higher order impact of climate change on the	Long term impact of climate change on Agriculture in Bangladesh Lectures and reading assignment on the long term impact of climate on agriculture especially focusing on higher level impacts, such as, impact on whole food systems, including trade, food security and the impacts on changes in diet. Discussing potential large ranging impacts such as consecutive cyclones, large floods,	Lecture Reading assignment Individual writing assignment	-Short Answer -Essay

<p>different components of the food systems</p>	<p>long term droughts and large scale salt water intrusions.</p> <p>Individual writing assignment on potential long term impacts of climate change on a component of the food supply chain</p>		
<p>-Understand how future socio-economic change affects the future of agriculture in Bangladesh</p> <p>-Design scenarios for future Agriculture in Bangladesh</p>	<p>Scenarios for future agriculture in Bangladesh</p> <p>Lectures and reading on RCP-SSP scenario framework of the IPCC.</p> <p>Future socio-economic scenarios for Bangladesh. And how future socio-economic interact with climate change impacts on agriculture.</p> <p>Group Assignment on developing scenarios for future the of agriculture in Bangladesh</p>	<p>Lecture</p> <p>Reading assignment</p> <p>QA</p>	<p>-Short Answer</p> <p>-Essay</p> <p>-Completion</p>
<p>-understand the different autonomous, incremental and transformative adaptation.</p> <p>- design a plan for transformative adaptation for an agricultural system</p>	<p>Transformative Adaptation of Agriculture</p> <p>Lectures and reading material on the difference between autonomous, incremental and transformative adaptation.</p> <p>Lecture and reading material on the need for transformative adaptation and limits to adaptation</p> <p>Individual/group assignment on designing a plan for transformative adaptation of an agricultural system</p>	<p>Field Trip</p> <p>Group assignment</p> <p>Presentation</p> <p>Report</p>	<p>-Field trip report</p> <p>- Group presentation</p> <p>Group report</p>