



**Subject:** Innovative Solutions II- BSCIT14212

**Type of course:** Skill Enhancement Course

**Prerequisite:** Problem solving mind-set, Enthusiasm of learning new things, Reevaluate

**Rationale:**

This course is meant for beginners. The course is designed to develop Innovative Thinking understanding and mind-set for the 4th semester BSC IT students.

**Teaching and Examination Scheme:**

Teaching Scheme				Credits	Examination Marks				Total Marks
CI	T	P	C	SEE	CCE				Total Marks
0	0	4	2		LWA	V	ALA		
50	20	10	20	100					

Legends: CI-Class Room Instructions; T – Tutorial; P - Practical; C – Credit; SEE - Semester EndEvaluation; MSE- Mid Semester Examination; LWA - Lab Work Assessment; V – Viva voce; CCE-Continuous and Comprehensive Evaluation; ALA- Active Learning Activities.

**Course Content:**

This Course is designed to give very basic understanding of the finding Innovative Solutions of Current Problems. In IS 2, student will build the solution of the problem thy have identified and analyzed in IS I subject of 3<sup>rd</sup> semester. They will have to develop the software (website/ mobile app. / IOT / ML etc...) regarding their definition.

Module 2 (IS II): Implementing Innovative Solutions			
Generalize	Week	Description	Document Submission
Validate the solution	1	<ul style="list-style-type: none"> <li>• Prepare road map for the 4<sup>th</sup> semester Execution</li> </ul>	<ul style="list-style-type: none"> <li>• Logbook</li> </ul>
	2,3,4	<ul style="list-style-type: none"> <li>• Detailed Design (including all aspects of products, process, resources, standards etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Log book</li> </ul>
	5, 6, 7	<ul style="list-style-type: none"> <li>• Learning tools and technology for the implementation of the software product</li> </ul>	<ul style="list-style-type: none"> <li>• Log book</li> </ul>



Build and testing the Product	8, 9, 10, 11	<ul style="list-style-type: none"> <li>• Preparing prototype of software</li> <li>• Implementation of the software</li> <li>• Construction of code</li> <li>• Testing software</li> </ul>	<ul style="list-style-type: none"> <li>• Log book</li> <li>• Working environment details (software, Hardware, front end, back end etc...)</li> </ul>
		<ul style="list-style-type: none"> <li>• Customer Revalidation</li> <li>• Modification</li> </ul>	<ul style="list-style-type: none"> <li>• Log book</li> </ul>
		<ul style="list-style-type: none"> <li>• Final Working Product Preparation</li> </ul>	<ul style="list-style-type: none"> <li>• Log book</li> <li>• Final project</li> </ul>
Final Report	15	<ul style="list-style-type: none"> <li>• Certificate generation</li> <li>• Final Report</li> </ul>	<ul style="list-style-type: none"> <li>• Log book</li> <li>• Presentation</li> </ul>

### Continuous Assessment:

Sr. No.	Active Learning Activities	Marks
1	<b>Prototyping:</b> Students have to prepare prototype of respective project definition and they have to upload it on GMIU web portal.	10
2	<b>Innovation Odyssey:</b> Students are required to prepare a final report for their respective projects and submit it on the GMIU web portal.	10
<b>Total</b>		<b>20</b>

### Course Outcome:

After learning the course, the students should be able to:	
CO1	Develop a structured execution plan for software product development, incorporating phases such as design, implementation, testing, and deployment.
CO2	Analyze and apply detailed software design principles, considering product requirements, process workflows, resources, and industry standards.
CO3	Evaluate and integrate appropriate tools, frameworks, and technologies for software development and implementation.
CO4	Construct and implement software code following best practices in programming, security, and efficiency.
CO5	Prepare a comprehensive project report documenting all phases, methodologies, tools, challenges, and final outcomes of the software product.



**Instructional Method:**

Sr. No.	Particular	Sub-Head Weightage
1	<b>Project Planning &amp; Design</b> <ul style="list-style-type: none"> <li>➤ Clarity and feasibility of the roadmap</li> <li>➤ Completeness of the detailed design (product, process, resources, standards)</li> <li>➤ Proper selection of tools and technologies</li> </ul>	10
2	<b>Implementation &amp; Coding</b> <ul style="list-style-type: none"> <li>➤ Code efficiency, maintainability, and best practices</li> <li>➤ Proper integration of features and functionalities</li> <li>➤ Adherence to security and performance standards</li> </ul>	10
3	<b>Testing &amp; Validation</b> <ul style="list-style-type: none"> <li>➤ Quality and effectiveness of testing (unit, integration, and user acceptance)</li> <li>➤ Bug identification and resolution strategies</li> <li>➤ Feedback incorporation</li> </ul>	10
4	<b>Final Product &amp; Documentation</b> <ul style="list-style-type: none"> <li>➤ Functionality and usability of the final working product</li> <li>➤ Completeness and professionalism of the final report</li> </ul>	10
5	<b>Presentation &amp; Teamwork</b> <ul style="list-style-type: none"> <li>➤ Clarity and effectiveness of the final project presentation</li> <li>➤ Team collaboration and role distribution</li> <li>➤ Ability to answer queries and justify design choices</li> </ul>	10
<b>Total</b>		<b>50</b>

