PRESIDENCY UNIVERSITY

(Established under the Presidency University Act, 2013 of the Karnataka Act 41 of 2013)
[2022-23 EVEN/ WINTER SEMESTER]
COURSE HAND OUT [Revision 02 - Feb 2022]

SCHOOL: SOIS **DEPT: BCA** **DATE OF ISSUE: 01-Feb-2023**

NAME OF THE PROGRAM	**: SOIS**
P.R.C. APPROVAL REF.	**: BOS Document number which is being referred for this CHO**
SEMESTER/YEAR	**: 3rd / 2nd**
COURSE TITLE & CODE	**: Web 2.0 & CSA2009**
COURSE CREDIT STRUCTURE	**: 1-4-3**
CONTACT HOURS	**: 5 Periods per week**
COURSE IC	**: T Ramesh**
COURSE INSTRUCTOR(S)	**: T Ramesh**
COURSE URL	**: www.camu.in**
PROGRAM OUTCOMES	**: [LIST ALL POs BUT MAKE THE RELEVANT SELECTED OUTCOMES BOLD]**

PO1: Application of Domain Knowledge: Apply the domain knowledge such as mathematics, science and software engineering fundamentals into the Computer Application related professions.
PO2: Problem Solving & Analysis: Identify, Formulate, Analyze and Solve Complex Scenarios related to Computer Applications.
PO3: Design/development of Activities: Conceive, Design and Develop various activities of Computer Applications.
PO4: Conduct Investigations of Events: Carry out Investigation of an event and draw logical conclusions based on critical thinking and analytical reasoning.
PO5: Modern Tool usage: Effectively apply relevant ICT Tools and digital tools to carry out Computer Application Attributes.
PO6: Research: Identify suitable Research Methods and report the findings.
PO7: Profession and Society: Apply the knowledge of the values and beliefs of multicultural society and a global perspective in the profession.
PO8: Ethics: Identify ethical issues and embrace ethical values in conduct of Profession.
PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10: Communication: Express thoughts and ideas effectively in writing and oral communication.
PO11: Project management and finance: Ability to work independently, identify appropriate resources required for a project, and manage a project through to completion.
PO12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of societal and technological change.

COURSE PREREQUISITES: Programming fundamentals (any language), Knowledge of RDBMS, HTML, CSS, and JavaScript

COURSE DESCRIPTION: (Here briefly describe the purpose, nature, and the expected learning from the course as it is in the P.R.C.)
The purpose of this course is to introduce the next level of web design using Web 2.0 technologies. Web 2.0 is the business revolution in the computer industry caused by the evolution of social networking. Students will be trained in planning and designing effective web pages by writing code using current leading

trends in the web domain, enhancing web pages with the use of JavaScript frameworks. The major focus is on the key elements of web 2.0 like Rich internet applications, Service-oriented architecture, and social web.

Topics include PHP, MYSQL, JAVASCRIPT, XML, AJAX, JQUERY, ANGULAR JS, FLEX and web services.

COURSE OUTCOMES: On successful completion of the course the students shall be able to: (The outcomes are to be developed using the appropriate action verbs from the Bloom's Taxonomy-the list of verbs are attached)

TABLE 1: COURSE OUTCOMES

CO Number	CO	Expected BLOOMS LEVEL
CO1	Demonstrate database-driven web application with the server-side script using PHP	**Apply**
CO2	Employ JavaScript frameworks to develop rich internet applications	**Apply**
CO3	Demonstrate web application using XML, jQuery and Angular JS	**Apply**
CO4	Demonstrate web application using Flex architecture deployed to flash player	**Apply**

MAPPING OF C.O. WITH P.O. [Mark H/M/L Against each of the C.O. depending on the degree of contribution of the C.O.to the P.O.]
[H-HIGH , M- MODERATE, L-LOW]

CO. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12
CO1	**H**	**M**	**H**		**H**			**L**	**L**	**L**		**L**
CO2	**H**	**M**	**H**		**H**			**L**	**L**	**L**		**L**
CO3	**H**	**M**	**H**		**H**			**L**	**L**	**L**		**L**
CO4	**H**	**M**	**H**		**H**			**L**	**L**	**L**		**L**

COURSE CONTENT (SYLLABUS): (Arrange all the relevant topics in a sequential order in the form of modules/units, mention the module/unit no., Title of the module/unit, Number of Hours identified for coverage, and the selected Bloom's 'Level]

Module:1: Introduction to Web 2.0 **[15hrs] [Apply]**

Overview of internet and its evolution, Comparison of web 1.0 and web 2.0, characteristics of web 2.0, Introduction to server-side scripting-PHP, PHP and MySQL interaction, Web 2.0 technologies, Overview of JavaScript frameworks-AJAX. PHP example,

Module: 2: Fundamentals of JavaScript **[15 hrs][Apply]**

Introduction to JavaScript, Basic JavaScript Instructions, Functions, Methods & Objects, Decisions and Loops, Document Object Model, Event handling, handling window pop-ups, JavaScript validation, AJAX example

Module: 3: XML, JQuery and Angular JS **[15 hrs][Apply]**

Data interchange formats: XML, XML basics; XML Schema; Types, Sample program for XML, Overview of JQuery, JQuery example, Overview Angular JS

Module: 4: Flex and Flash player **[15 hrs][Apply]**

Overview of Flex architecture: Facebook, Angular JS example, Differences between HTML and Flex applications, Angular JS example, Flex example, Understanding ActionScript, Flex example,

differentiating between Flash player and Framework, Flex example, Understanding UI Components, Model View Controller

DELIVERY PROCEDURE (PEDAGOGY): [Here mention the procedure adopted in the course for delivering the content and also mention the self-learning topics, topics for Experiential Learning, topics for Participative Learning, and topics for Technology Enabled Learning and Problem Based Learning.

TABLE 3: SPECIAL DELIVERY METHOD/ PEDAGOGY PLANNED WITH TOPICS				
S. No	**Lecture Number**	**Subtopic as per lesson Plan**	**Pedagogy title/ short explanation of adopted pedagogy**	**** At end of semester please update whether activity was done**
1	**L1**	Overview of internet and its evolution, Comparison of web 1.0 and web 2.0		
2	**L2**	characteristics of web 2.0, Introduction to server-side scripting-PHP		
3	**L3**	PHP and MySQL interaction		
4	**L4**	Web 2.0 technologies, Overview of JavaScript frameworks.		
5	**L5**	AJAX. PHP example, AJAX example		
6	**L6**	Data interchange formats: XML, XML basics		
7	**L7**	XML Schema; Types, Sample program for XML		
8	**L8**	Overview of JQuery, JQuery example		
9	**L9**	Overview Angular JS, Overview of Flex architecture, Facebook, Angular JS example		
10	**L10**	Flex example, Understanding ActionScript, Flex example, differentiating between Flash player and Framework		
11	**L11**	Flex example, Understanding UI Components, Model View Controller		
12	**L12**	Communication Control Patterns, Predictive Fetch, Page Preloading Example, Submission Throttling		
13	**L13**	Incremental Form Validation Example, Incremental Field Validation Example, Periodic Refresh		
14	**L14**	Periodic Refresh, New Comment Notifier Example, Multi-Stage Download,		
15	**L15**	Fallback Patterns, Cancel Pending Requests, Try Again		

REFERENCE MATERIALS: Textbooks, reference books, any other resources, like webpages. (BOS Approved + others if needed)

SPECIFIC GUIDELINES TO STUDENTS: (Here mention a few tips to study this course effectively)

COURSE SCHEDULE: (This is a macro level planning. Mention the unit wise expected starting and ending dates along with the tests/assignments/quiz and any other activities)

[As per the teaching faculty team discussions with course IC, please allot planned slots for Delivery, for Evaluation Discussion, for Integrating the Modules to each other within the course and Course Integration of this course to the overall program]

TABLE 4: COURSE BROAD SCHEDULE

Sl. No.	ACTIVITY	PLANNED STARTING DATE	PLANNED CONCLUDING DATE	TOTAL NUMBER OF PERIODS
01	**Over View of the course**	16/2/23	16/2/23	1
02	**Module : 01**	17/2/23	15/3/23	**15**
03	**Module : 02**	16/03/23	08/04/23	**15**
04	**Assignment/any other activity/Guest Lecture/ Field Visit**			
05	**Midterm**	10/4/23	15/4/23	
06	**Module:03**	**16/04/23**	**08/05/23**	**15**
07	**Module:04**	**10/05/23**	**02/06/23**	**15**

DETAILED SCHEDULE OF INSTRUCTION:
(This is a micro level planning and this is prepared unit wise. At the end of each Unit, mention unit is concluded.) [Here Mention the Self Learning component and the Innovative Methods if any.]
Please mention the main pedagogy here as a whole (PPT + Chalk Board and Lecture or other); Special Pedagogy methods for specific topics will come in separate table (TABLE 3) in pedagogy heading

TABLE 5: DETAILED COURSE SCHEDULE/ LESSON PLAN

Session no [date is not req, mention only lecture number, ERP will generate date as per faculty timetable	TOPIC	SUBTOPIC	CO Number	Reference
1	Introduction to Web 2.0	Overview of internet and its evolution, Comparison of web 1.0 and web 2.0		
2		Introduction to server-side scripting-PHP, PHP and MySQL interaction		
3		Web 2.0 technologies, Overview of JavaScript frameworks-AJAX. PHP example, AJAX example		
4	XML, JQuery and Angular JS	Data interchange formats: XML, XML basics; XML Schema; Types		
5		Sample program for XML		
6		Overview of JQuery, JQuery example		
7		Overview Angular JS		
8	Flex and Flash player	Overview of Flex architecture: Facebook, Angular JS example, Differences between HTML and Flex applications		
9		Angular JS example, Flex example, Understanding ActionScript		

10		Flex example, differentiating between Flash player and Framework		
11		Flex example, Understanding UI Components, Model View Controller		
12	Ajax Patterns	Communication Control Patterns, Predictive Fetch, Page Preloading Example		
13		Submission Throttling, Incremental Form Validation Example, Incremental Field Validation Example,		
14		Periodic Refresh, New Comment Notifier Example, Multi-Stage Download, Additional Information Links Example		
15		Fallback Patterns, Cancel Pending Requests, Try Again, Summary		

ASSESSMENT SCHEDULE: (Here mention the details of all the formal and informal evaluation methods. Formal evaluation refers to Test 1, Test 2 and the End Term Final Examination. All other evaluation components come under informal evaluation.)

[Some of the examples are: Midterm Exam, Term End Exam, Surprise Test, Open Book test, Pre Course and Post course ~~Test~~, Unit/Module wise Tests Quiz, … At least 2 methods apart from Midterm and End term to be planned]

TABLE 6 ASSESSMENT SCHEDULE

Sl.no	Assessment type	Contents	Course outcome Number	Duration In Hours	Marks	Weightage	Venue,DATE &TIME
1	Assignment 1	HTML and CSS frame works, Javascript	CO1 ,CO2	1 hour	20	10%	To be notified later
2	Quiz	Module 1, 2	CO1, CO2	30 Mins	10	5%	
2	Midterm	Modules 1,2	CO1, CO2, CO3	2 hours	50	25%	As received from COE
3	CA	Module 2,3	CO3, CO4,	1 hour	20	10%	To be notified later
4	Endterm	All modules	CO1, CO2, CO3, CO4,	3 hours	100	50%	As received from COE

COURSE CONTENT &TASK SCHEDULE FOR LABORATORY COMPONENT:

Sl. No.	Task No	Task	Level 01	Level 2	Number of Lab Sessions required to complete the	Skills to be developed	Course Outcome to be developed

					Task		
01	P1	Hands on PHP	✓		**1**	SK1,SK2,SK3,SK4,SK7	CO1
02	P2	Working on PHP with MySQL		✓	**1**	SK1,SK2,SK3,SK4,SK7	CO1
03	P3	Working on PHP with MySQL		✓	**1**	SK1,SK2,SK3,SK4,SK7	CO1
04	P4	Working with JavaScript	✓		**1**	SK1,SK2,SK3,SK4,SK7	CO1
05	P5	Working with AJAX		✓	**1**	SK1,SK2,SK3,SK4,SK7	CO1
06	P6	Working with PHP, MySQL and AJAX		✓	**1**	SK1,SK2,SK3,SK5,SK7,SK9SK10	CO1
07	P7	Working with XML	✓		**1**	SK1,SK2,SK3,SK5,SK7,SK9SK10	CO2
08	P8	Working with XML Schema		✓	**1**	SK1,SK2,SK3,SK5,SK7,SK9SK10	CO2
09	P9	Sample programs using XML	✓		**1**	SK1,SK2,SK3,SK5,SK7,SK9SK10	CO2
10	P10	Sample programs using XML	✓		**1**	SK1,SK2,SK3,SK5,SK7,SK9SK10	CO2
12	P11	Working with jQuery	✓		**1**	SK1,SK2,SK3,SK5,SK7,SK9SK10	CO2
11	P12	Working with jQuery	✓		**1**	SK1,SK2,SK3,SK5,SK7,SK9SK10	CO2
12	P13	Working with Angular JS		✓	**1**	SK1,SK2,SK3,SK5,SK7,SK9SK10	CO2
13	P14	Sample Programs using Angular JS		✓	**1**	SK1,SK2,SK3,SK5,SK7,SK9SK10	CO2

14	P15	Working on Flex with Facebook		✓	**1**	SK1,SK2,SK3,SK5,SK7,SK9SK10	CO3
15	P16	Working on Flex with Angular		✓	**2**	SK1,SK2,SK3,SK5,SK7,SK9SK10	CO3
16	P17	Mid Term		✓	**2**	SK1,SK2,SK3,SK5,SK7,SK9SK10	
17	P18	Flex Example1		✓	**1**	SK1,SK2,SK3,SK4,SK7,SK9,SK10	CO4
18	P19	Flex Example2		✓	**1**	SK1,SK2,SK3,SK4,SK7,SK9,SK10	CO4
19	P20	Working with Flex with Flash player		✓	**2**	SK1,SK2,SK3,SK4,SK7,SK9,SK10	CO4
20	P21	Continuous Assessment-2	✓		**1**	SK1,SK2,SK3,SK4,SK7,SK9,SK10	CO4
21	P22	Working with Model View Controller	✓		**1**	SK1,SK2,SK3,SK4,SK7,SK9,SK10	CO4
22	P23	Working with Communication Control Patterns		✓	**2**	SK1,SK2,SK3,SK4,SK7,SK9,SK10	CO4
23	P24	Page preloading Example		✓	**2**	SK1,SK2,SK3,SK4,SK7,SK9,SK10	CO5
24	P25	Communicating with Remote API, connecting the store to the view.		✓	**1**	SK1,SK2,SK3,SK4,SK7,SK9,SK10	CO5
25	P26	Submission Throttling, Incremental Form Validation Example		✓	**2**	SK1,SK2,SK3,SK4,SK7,SK9,SK10	CO5
26	P27	Working with Incremental Field Validation Example		✓	**2**	SK1,SK2,SK3,SK4,SK7,SK9,SK10	CO5
27	P28	Periodic Refresh, New Comment Notifier Example		✓	**2**	SK1,SK2,SK3,SK4,SK7,SK9,SK10	CO5
28	P29	Fallback Patterns, Cancel Pending Requests,Modalbox for adding modals.		✓		SK1,SK2,SK3,SK4,SK7,SK9,SK10	CO5

COURSE CLEARANCE CRITERIA:
"AS PER ACADEMIC REGULATIONS OF THE UNIVERSITY"
MAKEUP EXAM POLICY:
"AS PER ACADEMIC REGULATIONS OF THE UNIVERSITY"

CONTACT TIMINGS IN THE CHAMBER FOR ANY DISCUSSIONS: (Here mention the fixed slots on any of the week days for students to come and interact with you)

SAMPLE THOUGHT PROVOKING QUESTIONS: (Here type sample typical questions for students 'reference, **only a few but those few should be thought provoking type)**

TABLE 7: SAMPLE THOUGHT PROVOKING QUESTIONS

SL NO	QUESTION	MARKS	COURSE OUTCOME NO.	BLOOM'S LEVEL
1	Assume, if the naming convention feature is removed from XML Schema, Suggest an alternative for naming convention.	10	CO2	Application
2	*Explain the Flex Framework in web 2.0 with examples.*	10	CO4	Application

TARGET SET FOR COURSE OUTCOME ATTAINMENT:

TABLE 8: TARGET SET FOR ATTAINMENT OF EACH CO and ATTAINMENT ANALYSIS AFTER RESULTS

Sl.no	C.O. No.	Course Outcomes	Threshold Set for the CO	Target set for attainment in percentage	Actual C.O. Attainment In Percentage *	Remarks on attainment &Measures to enhance the attainment*
01	CO1	Demonstrate database-driven web application with the server-side script using PHP	50	65		
02	CO2	Employ JavaScript frameworks to develop rich internet applications	60	70		
03	CO3	Demonstrate web application using Flex architecture deployed to flash player	60	70		
04	CO4	Describe the concept of web application terminologies and internet tools for developing the social web	60	70		

Signature of the course Instructor In-Charge (s)

APPROVAL:
This course has been duly verified Approved by the D.A.C.

Signature of the Chairperson D.A.C.

Name and signature of the Instructor In-Charge (s) AFTER completing entries in Table number 3 and 8 at end of semester:

Name and signature of the DAC Chairperson AFTER completing entries in Table number 3 and 8 at end of semester:

BLOOM'S TAXONOMY SAMPLE VERBS

Learning Outcomes Verbs at Each Bloom Taxonomy Level to be used for writing the course Outcomes.

TABLE 9: REFERENCE SAMPLES OF BLOOMS TAXONOMY VERBS		
Cognitive Level	Illustrative Verbs	Definitions
Knowledge	arrange, define, describe, duplicate, identify, label, list, match, memorize, name, order, outline, recognize, relate, recall, repeat, reproduce, select, state	remembering previously learned information
Comprehension	classify, convert, defend, discuss, distinguish, estimate, explain, express, extend, generalize, give example(s), identify, indicate, infer, locate, paraphrase, predict, recognize, rewrite, report, restate, review, select, summarize, translate	grasping the meaning of information
Application	apply, change, choose, compute, demonstrate, discover, dramatize, employ, illustrate, interpret, manipulate, modify, operate, practice, predict, prepare, produce, relate schedule, show, sketch, solve, use write	applying knowledge to actual situations
Analysis	analyze, appraise, breakdown, calculate, categorize, classify, compare, contrast, criticize, derive, diagram, differentiate, discriminate, distinguish, examine, experiment, identify, illustrate, infer, interpret, model, outline, point out, question, relate, select, separate, subdivide, test	breaking down objects or ideas into simpler parts and seeing how the parts relate and are organized

Synthesis	arrange, assemble, categorize, collect, combine, comply, compose, construct, create, design, develop, devise, explain, formulate, generate, plan, prepare, propose, rearrange, reconstruct, relate, reorganize, revise, rewrite, set up, summarize, synthesize, tell, write	rearranging component ideas into a new whole
Evaluation	appraise, argue, assess, attach, choose, compare, conclude, contrast, defend, describe, discriminate, estimate, evaluate, explain, judge, justify, interpret, relate, predict, rate, select, summarize, support, value	making judgments based on internal evidence or external criteria