



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad -500 043

COMPUTER SCIENCE AND ENGINEERING

COURSE DESCRIPTION FORM

Course Title	SCRIPTING LANGUAGES			
Course Code	A80537			
Regulation	R13			
Course Structure	Lectures	Tutorials	Practicals	Credits
	4	-	-	4
Course Coordinator	Ms. T. Ramya, Assistant Professor, Department of CSE.			
Team of Instructors	Ms. T. Ramya, Assistant Professor, CSE.			

I. COURSE OVERVIEW:

The course demonstrates an in depth understanding of the tools and the scripting languages necessary for design and development of applications dealing with Bio- information/Bio-data. The instructor is advised to discuss examples in the context of Bio-Data/Bio-information application development.

II. PREREQUISITES:

Level	Credits	Periods / Week	Prerequisites
UG	4	4	Computer Programming, Web Technologies
UG	4	4	Data Structures

III. COURSE ASSESSMENT METHODS:

Session Marks	University End Exam Marks	Total Marks
Mid Semester Test There shall be two midterm examinations. Each midterm examination consists of subjective type and objective type tests. The subjective test is for 10 marks of 60 minutes duration. Subjective test shall contain 4 questions; the student has to answer 2 questions, each carrying 5 marks. The objective type test is for 10 marks of 20 minutes duration. It consists of 10 Multiple choice and 10 objective type questions, the student has to answer all the questions and each carries half mark. First midterm examination shall be conducted for the first two and half units of syllabus and second midterm examination shall be conducted for the remaining portion. Assignment Five marks are earmarked for assignments. There shall be two assignments in every theory course. Marks shall be awarded considering the average of two assignments in each course.	75	100

IV. EVALUATION SCHEME:

S. No	Component	Duration	Marks
1	I Mid Examination	80 minutes	20
2	I Assignment	-	5
3	II Mid Examination	80 minutes	20
4	II Assignment	-	5
5	External Examination	3 hours	75

V. COURSE OBJECTIVES:

At the end of the course, the students will be able to:

- I. Understand the concepts of scripting languages for developing web based projects.
- II. Illustrates object oriented concepts like PHP, PYTHON, PERL.
- III. Create database connections using PHP and build the website for the world.
- IV. Demonstrate IP address for connecting the web servers.
- V. Analyze the internet ware application, security issues and frame works for application.

VI. COURSE OUTCOMES:

After completing this course the student must demonstrate the knowledge and ability to:

1. Ability to understand the differences between scripting languages
2. Ability to apply your knowledge of the weaknesses of scripting languages to select implementation.
3. Create PHP authentication Methodology for security issues.
4. Ability to survey many of the modern and way cool language features that show up frequently in scripting languages.
5. Identify PHP encryption functions and Mcrypt Package.
6. Understand PHP Authentication and Methodologies
7. Explain syntax and variables in TCL.
8. Understand applications internet aware Nuts and Bolts Internet Programming
9. Able to gain some fluency programming in Ruby, JavaScript, Perl, Python, and related languages.
10. Master an understanding of python especially the object oriented concepts.

VII. HOW PROGRAM OUTCOMES ARE ASSESSED:

Program Outcomes		Level	Proficiency assessed by
PO1	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.	H	Assignments, Tutorials
PO2	Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.	H	Assignments
PO3	Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.	S	Mini Projects
PO4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.	S	Projects
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools	S	Mini Projects

Program Outcomes		Level	Proficiency assessed by
	including prediction and modeling to complex engineering activities with an understanding of the limitations.		
PO6	The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.	N	--
PO7	Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.	N	--
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.	N	--
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	N	--
PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.	N	--
PO11	Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.	N	--
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 technological change.	S	Projects

N= None

S= Supportive

H = Highly Related

VIII. HOW PROGRAM SPECIFIC OUTCOMES ARE ASSESSED:

Program Specific Outcomes		Level	Proficiency assessed by
PSO1	Professional Skills: The ability to research, understand and implement computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient analysis and design of computer-based systems of varying complexity.	H	Lectures, Assignments
PSO2	Problem-solving Skills: The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.	H	Projects
PSO3	Successful Career and Entrepreneurship: The ability to employ modern computer languages, environments, and platforms in creating innovative career paths, to be an entrepreneur, and a zest for higher studies.	S	Guest Lectures

N - None

S - Supportive

H - Highly Related

IX. SYLLABUS:

UNIT I

Introduction to PERL and Scripting: Scripts and Programs, Origin of Scripting , Scripting Today, Characteristics of Scripting Languages, Uses for Scripting Languages, Web Scripting, and the universe of Scripting Languages. PERL- Names and Values, Variables, Scalar Expressions, Control Structures, arrays, list, hashes, strings, pattern and regular expressions, subroutines.

UNIT II

Advanced PERL: Finer points of looping, pack and unpack, file system, eval, data structures, packages, modules, objects, interfacing to the operating system, Creating Internet ware applications, Dirty Hands Internet Programming, security Issues.

PHP Basics: PHP Basics- Features, Embedding PHP Code in your Web pages, Outputting the data to the browser, Data types, Variables, Constants, expressions, string interpolation, control structures, Function, Creating a Function, Function Libraries, Arrays, strings and Regular Expressions.

UNIT III

Advanced PHP Programming: PHP and Web Forms, Files, PHP Authentication and Methodologies -Hard Coded, File Based, Database Based, IP Based, Login Administration, Uploading Files with PHP, Sending Email using PHP, PHP Encryption Functions, the Mcrypt package, Building Web sites for the World.

UNIT IV

TCL: TCL Structure, syntax, Variables and Data in TCL, Control Flow, Data Structures, input/output, procedures, strings, patterns, files, Advance TCL- eval, source, exec and uplevel commands, Name spaces, trapping errors, event driven programs, making applications internet aware, Nuts and Bolts Internet Programming, Security Issues, C Interface.

Tk-Visual Tool Kits, Fundamental Concepts of Tk, Tk by example, Events and Binding, Perl-Tk.

UNIT V

Python: Introduction to Python language, python-syntax, statements, functions, Built-in-functions and Methods, Modules in python, Exception Handling.

Integrated Web Applications in Python – Building Small, Efficient Python Web Systems, Web Application Framework.

TEXT BOOKS:

1. The World of Scripting Languages, David Barron, Wiley Publications.
2. Python Web Programming, Steve Holden and David Beazley, New Riders Publications.
3. Beginning PHP and MySQL, 3rd Edition, Jason Gilmore, Apress Publications (Dream tech.).

REFERENCES:

1. Open Source Web Development with LAMP using Linux, Apache, MySQL, Perl and PHP, J.Lee and B.Ware(Addison Wesley) Pearson Education.
2. Programming Python, M.Lutz, SPD.
3. PHP 6 Fast and Easy Web Development, Julie Meloni and Matt Telles, Cengage Learning Publications.
4. PHP 5.1, I.Bayross and S.Shah, The X Team, SPD.
5. Core Python Programming, Chun, Pearson Education.
6. Guide to Programming with Python, M.Dawson, Cengage Learning.
7. Perl by Example, E.Quigley, Pearson Education.
8. Programming Perl, Larry Wall, T.Christiansen and J.Orwant, O'Reilly, SPD.
9. Tcl and the Tk Tool kit, Ousterhout, Pearson Education.
10. PHP and MySQL by Example, E.Quigley, Prentice Hall (Pearson).
11. Perl Power, J.P.Flynt, Cengage Learning.
12. PHP Programming solutions, V.Vaswani, TMH.

X. COURSE PLAN:

At the end of the course, the students are able to achieve the following course learning outcomes:

Lecture No	Course Learning Outcomes	Topics to be covered	Reference
1	Define about script and nature of script	Scripts and Programs	T1:1.1

Lecture No	Course Learning Outcomes	Topics to be covered	Reference
2-5	Explaining how to use scripting languages in designing.	Origin of Scripting , Scripting Today, Characteristics of Scripting Languages, Uses for Scripting Languages, Web Scripting, and the universe of Scripting Languages	T1:1.1-1.8
6-7	Explain names and values of a variable	PERL- Names and Values, Variables, Scalar Expressions	T1:2.3
8-15	Describing how to use internet ware applications.	Control Structures, arrays, list, hashes, strings, pattern and regular expressions, finer points of looping, pack and unpack, file system, eval, data structures, packages, modules, objects, interfacing to the operating system, Creating Internet ware applications	T1:2.6-3.7
16-17	Illustrating how to handle programming security issues	Dirty Hands Internet Programming, security Issues	T1:3.1.7-3.1.8
18-19	Defining PHP basics	PHP Basics- Features, Embedding PHP Code in your Web pages, Outputting the data to the browser	T3: 3.1
20-22	Defining data types, variables, constants, expressions.	Data types, Variables, Constants, expressions, string interpolation,	T3:3.1-3.2
23-24	Explaining functions, function libraries in PHP	Control structures, Function, Creating a Function, Function Libraries, Arrays, strings and Regular Expressions.	T3:3.4-3.8
25-26	Defining PHP authentications and methodologies	PHP and Web Forms, Files, PHP Authentication and Methodologies	T3:13-14
27-32	Explaining how to upload files in PHP	Hard Coded, File Based, Database Based, IP Based, Login Administration, Uploading Files with PHP	T3:14-15
33-43	Describing TCL structure, syntax and data structures	Sending Email using PHP, PHP Encryption Functions, the Mcrypt package, Building Web sites for the World. TCL Structure, syntax, Variables and Data in TCL, Control Flow, Data Structures, input/output, procedures , strings , patterns, files	T1:4.3-4.13
44-51	Illustrating the TCL/TK commands	Advance TCL- eval, source, exec and up level commands, Name spaces, trapping errors, event driven programs, making applications internet aware, Nuts and Bolts Internet Programming, Security Issues, C Interface. Tk-Visual Tool Kits, Fundamental Concepts of Tk, Tk by example, Events and Binding, Perl-Tk.	T1:5.1-6.4
52-59	Defining the syntax and statements in python	Introduction to Python language, python-syntax, statements	T2:1.1
60	Explaining Functions and methods	Functions, Built-in-functions and Methods	T2:2.2
61-63	Explaining modules in python	Modules in python, Exception Handling.	T2:3.2
64-65	Designing web based applications in python	Integrated Web Applications in Python Building Small, Efficient Python Web Systems, Web Application Framework.	T2:4.5

XI. MAPPING COURSE OBJECTIVES LEADING TO THE ACHIEVEMENT OF PROGRAM OUTCOMES:

Course Objectives	Program Outcomes												Program Specific Outcomes		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
I	H		S						S		S		H		
II	H											S	H	H	S
III	H		H		H				S		S		H	S	S
IV		H											S		
V	H		S	H											

S= Supportive

H = Highly Related

XII. MAPPING COURSE OUTCOMES LEADING TO THE ACHIEVEMENT OF PROGRAM OUTCOMES:

Course Outcomes	Program Outcomes												Program Specific Outcomes		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	H	H		S										S	S
2	H		S		S								S	S	
3	H	H	S										S		S
4			H	S	S								S	S	
5	H	S											S	S	
6		S	H	S	S				S				S	S	S
7		S	H	S	S								S	S	S
8	H												S		
9					S									S	
10		H			S										S

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Prepared by: Ms. T. Ramya, Assistant Professor, CSE

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